HEALTH, SAFETY, AND NUTRITION



Jennifer Paris
College of the Canyons

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Health, Safety, and Nutrition

Jennifer Paris

College of the Canyons

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TABLE OF CONTENTS

Licensing

Preface

Further Acknowledgements

I: Introduction

1: Children's Well-Being and Early Childhood Education

II: Safety

2: Preventing Injury and Protecting Children's Safety

3: Creating Safe Indoor Environments

4: Creating Safe Outdoor Environments

5: Caring for Minor Injuries and Preparing for and Managing Emergencies

6: Child Maltreatment

III: Health

7: Promoting Good Health and Wellness

8: Prevention of Illness

9: Supportive Health Care

10: Children with Special Health Care Needs

11: Children's Mental Health

IV: Nutrition

12: Basic Nutrition for Children

13: Protecting Good Nutrition and Physical Wellness

14: Providing Good Nutrition

15: Menu Planning and Food Safety

V: Appendices

Appendix A- 15 Must Haves for All Child Care Programs Checklist

Appendix B- Title 22 Licensing Regulation Highlights

Appendix C- Health and Safety Checklist

Appendix D- Example Injury/Incident Report Form

Appendix E- Example Playground Inspection Form

Appendix F- Example Emergency Self-Assessment Form

Appendix G- Example Emergency Response Plans

Appendix H- Emergency Mitigation Checklist

Appendix I- Developmental Milestones

Appendix J- Exclusion Form

Appendix K- Notice of Exposure to Contagious Disease

Appendix L- Individualized Health Care Plan

Appendix M- Infectious Disease Information

Appendix N- Self-Assessment for Positive and Healthy Meals and Snacks
Appendix O- Growth Charts
Appendix P- Food Allergy Management and Prevention Plan Checklist

Index

Glossary

Detailed Licensing

Ancillary Materials - Powerpoint Presentations

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Preface

Preface

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Language Choices Throughout This Book

Language has power and word choice matters. Please see the following about some of the language choices made for this book.

Terminology

As source content for this book was compiled from hundreds of sources, terminology doesn't always match up, even after efforts were made to provide consistency across the text.

You may notice there are several ways programs that provide care and education for young children are referred to in this book. In general, these all refer to programs in which children are cared for in groups by non-family members and are used interchangeably.

- Early care and education programs
- Early childhood education programs
- Child care centers or child care programs
- Out-of-home care
- And at times, just programs or centers

The adults that care for children in these programs may be referred to as:

- Early childhood educators or professionals
- Teachers
- Caregivers
- Staff (although this term is often used when including other employees that may work in an early childhood education program outside of the classroom).

Gendered Language

At times you may notice that a child or adult is referred to with the pronoun they or them. This is to be more gender inclusive. Unless specifically stated, when children or adults are gendered, it is not to be exclusionary (and likely is due to the language used in the source content).

Family Structures and Forms

Throughout this book, the word families has been used in place of parents in most places. This is to be as inclusive as possible of the different family structures in which the adults responsible for caring for children may not fit the label of parents. When the source content used the word parents (referring specifically to the adults that are responsible for a child), efforts were made to also use the words caregivers or guardians to be inclusive of all families.

Person First Language

Because people are not the situations they encounter (such as poverty) or may experience (such as disabilities or medical conditions), person-first language is used. This is not intended to discount characteristics that may be part of a person's identity but in an attempt to be respectful.

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I: INTRODUCTION

1: Children's Well-Being and Early Childhood Education

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1: Children's Well-Being and Early Childhood Education

Learning Objectives

At the end of this chapter, you should be able to:

- Explain why health and well-being in early childhood is so important.
- Describe qualities and benefits of high-quality early care and education programs.
- Outline what the book will be addressing in regards to safety, health, and nutrition.
- Discuss what licensing is and its role in keeping children safe and healthy.
- Compare and contrast Title 22 and Title 5 licensing requirements.

> A culture of wellness exists when staff and child health and safety are valued, supported, and promoted through health & wellness programs, policies, and environment.[1]

Introduction

Evidence shows that experiences in childhood are extremely important for a child's healthy development and lifelong learning. How a child develops during this time affects future cognitive, social, emotional, language, and physical development, which in turn influences school readiness and later success in life. Research on a number of adult health and medical conditions points to pre-disease pathways that have their beginnings in early and middle childhood.



Figure 1.1 - What happens when children are young can have a lifelong effect.[2]

During early childhood, the human brain grows to 90 percent of its adult size by age 3. Early childhood represents the period when young children reach developmental milestones that include:

- Emotional regulation and attachment
- Language development
- Cognitive development
- Physical development (motor skills)

All of these milestones can be significantly delayed when young children experience inadequate caregiving, environmental stressors, and other negative risk factors. These stressors and factors can affect the brain and may seriously compromise a child's

physical, social-emotional, and cognitive growth and development.

More than any other developmental periods, childhood sets the stage for:

- School success
- Health literacy
- Self-discipline
- The ability to make good decisions about risky situations
- Eating habits
- Conflict negotiation and healthy relationships with family and friends[3]

Understanding Childhood Health Concerns

Although young children are typically healthy, it is during this time that they are at risk for conditions such as:

- Developmental and behavioral disorders
- Child maltreatment
- Asthma and other chronic conditions
- Obesity
- Dental caries (cavities)
- Unintentional injuries



Figure 1.2 – Young children may develop dental caries (cavities).[4]

While typically nonfatal, these conditions affect children, their education, their relationships with others, and the health and well-being of the adolescents and adults they will become.[5]

Emerging Issues in Childhood Health

The keys to understanding childhood health are recognizing the important roles these periods play in adult health and well-being and focusing on conditions and illnesses that can seriously limit children's abilities to learn, grow, play, and become healthy adults.

Prevention efforts in early and middle childhood can have lasting benefits. Emerging issues in early and middle childhood include implementing and evaluating multidisciplinary public health interventions that address social determinants of health by:

- Fostering knowledgeable and nurturing families, parents, and caregivers
- Creating supportive and safe environments in home, schools, and communities

- Increasing access to high-quality health care[6]

Early Childhood Development and Education

Early childhood, particularly the first 5 years of life, impacts long-term social, cognitive, emotional, and physical development. Healthy development in early childhood helps prepare children for the educational experiences of kindergarten and beyond. Early childhood development and education opportunities are affected by various environmental and social factors, including:

- Early life stress
- Socioeconomic status
- Relationships with parents and caregivers
- Access to early education programs

Early life stress and adverse events can have a lasting impact on the mental and physical health of children. Specifically, early life stress can contribute to developmental delays and poor health outcomes in the future. Stressors such as physical abuse, family instability, unsafe neighborhoods, and poverty can cause children to have inadequate coping skills, difficulty regulating emotions, and reduced social functioning compared to other children their age.

Additionally, exposure to environmental hazards, such as lead in the home, can negatively affect a child's health and cause cognitive developmental delays. Research shows that lead exposure disproportionately affects children from minority and low-income households and can adversely affect their readiness for school.

The socioeconomic status of young children's families and communities also significantly affects their educational outcomes. Specifically, poverty has been shown to negatively influence the academic achievement of young children. Research shows that, in their later years, children from disadvantaged backgrounds are more likely to need special education, repeat grades, and drop out of high school. Children from communities with higher socioeconomic status and more resources experience safer and more supportive environments and better early education programs.

The Effects of Poverty on Education

"Despite being one of the most developed countries in the world, the United States has one of the highest rates of childhood poverty globally."[7] "Poverty has a particularly adverse effect on the academic outcomes of children, especially during early childhood."[8] Research has shown that children from families in poverty enter school with a readiness gap. Contributions to this gap include:

- Poor physical development and health (due to poor nutrition and lack of access to medical care)
- Challenges with concentration, memory, attentiveness, curiosity, and motivation[9] due to the chronic stress of living in poverty
- Greater risk for behavioral and emotional problems
- Exposure to environmental hazards (such as lead paint) and violence in their communities.

Two additional things that are important to note:

- This gap disproportionately affects Black and Latinx children.
- Families experiencing poverty have challenges finding affordable, high-quality early care and education programs and are often in districts with under-resourced schools. [10]

Early childhood programs are a critical outlet for fostering the mental and physical development of young children. According to the Center on the Development Child at Harvard University's *A Science-Based Framework for Early Childhood Policy,*

" The principal elements that have consistently produced positive impacts include:

- highly skilled teachers;
- small class sizes and high adult-to-child ratios;
- age-appropriate curricula and stimulating materials in a safe physical setting;
- a language-rich environment;
- warm, responsive interactions between staff and children; and

- high and consistent levels of child participation."[11]

The National Association for the Education for Young Children says that high quality programs:

- Create caring communities of learners in which children develop relationships with each and the teachers and each child and family are included.
- Teach to support children's development and learning by being intentional with the environmental design, materials, and activities and by providing positive guidance for children's behavior.
- Have developmentally appropriate curriculum that helps children learn and grow that sets challenging, yet achievable goals for children, balances adult instruction and group activities with play and child-chosen experiences, provides enough time for deep engagement, and is based on the children's interests, abilities, and knowledge.
- Regularly assesses children's development and learning to inform their environmental design, curriculum, and interactions with children and their families.
- Is founded on partnerships with families in which families are respected and valued, share their goals and concerns, are encouraged to participate, and with clear communication (in a family's home language whenever possible).[12]

And you can check out the checklist *15 Must-Haves for All Child Care Programs* published by The Administration for Children and Families Office of Child Care in Appendix A.

Early childhood development and education programs can also help reduce educational gaps. For example, Head Start is a federally funded early childhood program that provides comprehensive services for children from low–income families. Head Start aims to improve health outcomes, increase learning and social skills, and close the gap in readiness to learn for children from low–income families and at-risk children. Enrolling children in full-day kindergarten after the completion of preschool has also been shown to improve academic achievement.

Furthermore, extended early childhood programs for children up to 3rd grade, also referred to as booster programs, can provide comprehensive educational, health, and social services to complement standard early childhood and kindergarten programs. These programs help sustain and bolster early developmental and academic gains. Characteristic of such programs include:

- Low student-teacher ratio
- Teacher training
- Creation of school-family partnerships
- School meals
- Provision of transportation to and from school
- Health care services and referrals
- Home visitation
- Supportive social services

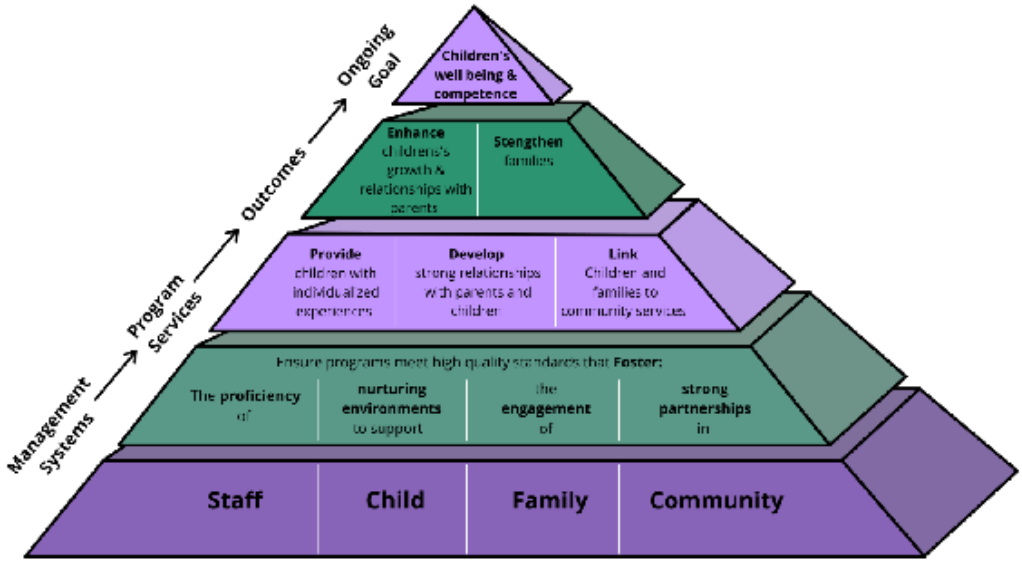


Figure 1.3 Early Head Start's "Framework for Programs Serving Infants and Toddlers and their Families." You can see how a compilation of services leads to children's well-being regardless of the age of the child.[13]

Quality education in elementary school is necessary to reinforce early childhood interventions and prevent their positive effects from fading over time. Research also shows that school quality has an impact on both the short- and long-term educational attainment of children, as well as on their health. For example, children who enroll in low-quality schools with limited health resources, safety concerns, and low teacher support are more likely to have poorer physical and mental health.

The developmental and educational opportunities that children have access to in their early years have a lasting impact on their health as adults. The Carolina Abecedarian Project found that the children in the study who participated in a high-quality and comprehensive early childhood education program, including health care and nutritional components, were in better health than those who did not. The study found that, at age 21, the people who participated in the comprehensive early education program exhibited fewer risky health behaviors—for example, they were less likely to binge drink alcohol, smoke cigarettes, and use illegal drugs. This group also self-reported better health and had a lower number of deaths.

Furthermore, by their mid-30s the children who participated in the comprehensive early childhood development and education program had a lower risk for heart disease and associated risk factors, including obesity, high blood pressure, elevated blood sugar, and high cholesterol. These studies show that quality early childhood development and education programs can play a key role in reducing risky health behaviors and preventing or delaying the onset of chronic disease in adulthood. We will look at what high quality programming looks like at the end of the chapter.

Early childhood development and education are key determinants of future health and well-being. Addressing the disparities in access to early childhood development and education opportunities can greatly bolster young children's future health outcomes.

Additional research is needed to increase the evidence base for what can successfully impact the effects of childhood development and education on health outcomes and disparities. This additional evidence will facilitate public health efforts to address early childhood development and education as social determinants of health.[14]

Importance of Considering Holistic Development

Early childhood education (ECE) is not a singular concept, but rather a holistic concept that focuses on several aspects of a child's development, including their cognitive, social, emotional, moral, spiritual, and physical well-being (American Academy of Pediatrics 2012; Chisholm 2004; Tinajero & Loizillon 2012). According to Shonkoff, *et al.* (2011), debates about early childhood education often focus on education and the enhancement of children's cognitive skills and later academic progress. However, these authors stress the importance of viewing children in a holistic manner as part of a bigger system. In this manner, early childhood education becomes a vehicle for enhancing the physical, cognitive, mental, social and economic well-being of individuals and the societies in which they live. Early care and education programs should enhance multiple interrelated dimensions of a child's life; including health and safety, nutrition, emotional well-being, and social competence.[15]

Focus on Wellness

Rather than waiting for health issues to arise, families and early childhood education programs should focus on supporting children's wellness. "Wellness describes the entirety of one's physical, emotional, and social health; this includes all aspects of functioning in the world (physiological, intellectual, social, and spiritual), as well as subjective feelings of well-being. A child who is doing well frequently experiences joy, delight, and wonder, is secure and safe in his/her family and community, and is continually expanding and deepening his/her engagement with the world around him/her."[16]



Figure 1.4 - Well children can engage in their environment and with others.[17]

Wellness is an active process. It requires awareness and directed, thoughtful attention to the choices we make. Early care and education programs can play a critical role in helping children, families and staff commit to and implement healthy lifestyle choices that promote both physical and mental well-being. The two, in fact, are closely linked. Our feelings, thoughts, and behaviors directly impact our physical health. Similarly, our physical health status has a direct impact on our feelings, thoughts, and behaviors.[18]

We must also support children's mental well-being and help them navigate everyday stress and adversity as well as trauma and significant sources of stress. The American Psychological Association shares that "[b]uilding resilience — the ability to adapt well to adversity, trauma, tragedy, threats or even significant sources of stress — can help our children manage stress and feelings of anxiety and uncertainty."[19]

It is important that children are in an environment that keeps them physically and emotionally safe and healthy and provides sound nutrition. As an early educator, providing these requires attention, planning, and intention.

Introduction to Safety, Health, and Nutrition

This book is divided into three sections. These include:

- Safety
- Health
- Nutrition

Safety

Children are curious and eager to learn. They depend on their caregivers to keep them safe by making sure that nothing within a child's reach can harm them. Injuries are a serious health risk to young children. But most injuries are predictable and preventable.[20]



Figure 1.5 - This playground protects children from falls and from the sun. But it fails to protect children by being enclosed with a fence and gate.[21]

ECE programs can prevent risks and unnecessary harm to children by committing to a culture of safety. A culture of safety prioritizes safety at all levels. It encourages programs to learn from past problems and prevent them in the future.[22] Programs should not assume that nothing will ever go wrong. In fact, they should plan that something is going to go wrong. And their goal is to make it as hard as possible for things to go wrong.[23]

Chapters 2 through 5 will focus on ways programs can protect children's safety.

- Chapter 2 discusses active supervision and creating a culture of safety
- Chapter 3 covers creating safe indoor environments
- Chapter 4 examines creating safe outdoor environments
- Chapter 5 addresses caring for minor injuries and managing emergencies
- Chapter 6 discusses child maltreatment (abuse and neglect)

Health

"Health is more than merely the absence of disease—it is an evolving human resource that helps children and adults adapt to the challenges of everyday life, resist infections, cope with adversity, feel a sense of personal well-being, and interact with their surroundings in ways that promote successful development."[24]



Figure 1.6 - These children are learning about handwashing to prevent the spread of illness.[25]

As mentioned at the beginning of the chapter, research is showing that many adult health issues, such as high blood pressure, heart disease, and diabetes, are linked to what happens during early childhood (and even prenatally!). We also know that during early childhood there are biological systems that are more sensitive to environmental factors (such as child maltreatment, malnutrition, and recurring issues to infectious disease).[26]

It is vital for children and their families to have support for children's physical, oral, and mental health. This happens through promoting health and protection from illness.

Chapters 7 through 11 focus on children's health.

- Chapter 7 examines promoting health
- Chapter 8 looks at preventing illness
- Chapter 9 addresses supportive health care
- Chapter 10 describes special health care needs during childhood
- Chapter 11 discusses children's mental health

Nutrition

Healthy eating and being active are essential to a child's well-being. Children who are under- or over-nourished are at risk for chronic health problems.[27] Early childhood is an important time for developing healthy habits for life. Children's bodies grow and develop in ways that affect the way they think, eat, and behave.[28]

A healthy diet not only affects growth, but also immunity, intellectual capabilities, and emotional well-being. Families and educators must ensure that children receive an adequate amount of needed nutrients to provide a strong foundation for the rest of their lives.[29]



Figure 1.7 - This teacher and child are setting the table for a meal.[30]

Chapters 12 through 15 focus on nutrition for children.

- Chapter 12 delves into basic nutrition for children
- Chapter 13 examines protecting nutrition and wellness
- Chapter 14 discusses providing good nutrition
- Chapter 15 addresses menu planning and food safety

Introduction to Licensing for Child Care Centers in California

Licensing for child care programs in the state of California is overseen by the Community Care Licensing Division of the California Department of Social Services, whose primary mission is to ensure the health and safety of all children enrolled in licensed child care facilities in California.

Licensing oversees the operation of licensed child care facilities in child care centers and family child care homes. By definition, both types of child care facilities provide nonmedical, age-appropriate care and supervision of infant to school-age children for less than 24 consecutive hours at a time.

Child care centers provide care in a large-group setting, usually operate in an institutional or commercial building, and must meet a number of requirements regarding their physical facilities, and the services they provide. For the most part, when this book refers to licensing requirements, it will be referencing licensing for child care centers.

Family child care homes provide care in small-group settings in the licensee's private house or apartment. They include two types of facilities: small family child care homes that care for no more than 8 children at any one time, and large family child care homes that care for no more than 14 children at any one time.

The key to licensing's effort to protect the health and safety of children in child care is a thorough and fair licensing and inspection program that ensures all facilities are in compliance. Community Care Licensing is mandated by law to ensure that licensed facilities meet established health and safety standards and that the licensee has access to all relevant information about the department.

Once a facility meets all the requirements to merit a license, licensing's principal way of helping facilities maintain compliance is through periodic unannounced site visits by licensing program analysts (LPAs). In addition to conducting these inspections, our LPAs work with licensees to address any needed changes, and conduct follow-up visits to confirm that problems have been eliminated. It is also the role of the LPA to investigate any complaints about a facility and consult with licensees to ensure they are aware of their rights and responsibilities.

Licensing also provides ready access to the child care advocate program. The advocates serve as a link between licensing and the community of licensees, provide information about licensed child care to families and the public, act as a liaison with businesses, child care organizations, and resource and referral agencies, and coordinate complaints and concerns on behalf of children in care. As a result, licensing is both an enforcement agency and a resource on health and safety requirements.[31]

The complete licensing regulations, often referred to as Title 22, can be found on the Community Care Licensing Division of the California Department of Social Services Child Care Regulations *Online California Code of Regulations, Title 22, Division 12 only* webpage (see Resources for Further Exploration). Highlights of the regulations can be found in Appendix B.

Licensing Requirements for Early Childhood Programs that are State-Subsidized

There are more stringent requirements for programs whose families get tuition assistance from the state of California, commonly referred to as Title 5. The most notable difference in Title 5 regulations is stricter adult-to-child ratios and staff qualifications. See Table 1.1 for a comparison of ratios.[32]

Table 1.1 – Title 22 and Title 5 Adult to Child Ratio Comparison[33,34,35]

Age Group	Title 22	Title 5
Infants	1 adult to 4 children	1 adult to 3 children
Preschoolers	1 adult to 12 children	1 adult to 8 children
School-Aged	1 adult to 14 children	1 adult to 14 children

Accreditation from the National Association for the Education of Young Children

While not legal regulations, there are even further requirements in place for programs that choose to pursue voluntary accreditation by the National Association for the Education of Young Children. One of the differences you will notice between licensing and accreditation is some levels of staff qualifications. See Table 1.2 for a comparison of staff qualifications.

Table 1.2A – Staff Qualifications Comparison for Teachers' Aides and Assistants[36,37,38,39]

Title 22	Must be at least 18 years old and be supervised at all times by a teacher
Title 5	Aide: same as Title 22 Assistant: Must have 6 ECE units
NAEYC Accreditation	Child Development Associate (CDA) or 12 units in early childhood education, child development, elementary education, and/or early childhood special education

Table 1.2B – Staff Qualifications Comparison for Teacher[36,37,38,39]

Title 22	Must have 12 ECE units and 6 months of experience

Title 5	Associate teacher: 12 ECE units Teacher: 24 ECE units and 16 GE units Master Teacher: Teacher requirements *and* 6 units in specialization area *and* 2 units in adult supervision
NAEYC Accreditation	A minimum of higher education degree in early childhood education, child development, elementary education, or early childhood special education or 60 units with 30 units in early childhood education, child development, elementary education, and/ or early childhood special education. (preferred accredited higher education institutions)

Table 1.2C – Staff Qualifications Comparison for Supervisor/ Director/ Administratorr[36,37,38,39]

Title 22	Must have 12 core ECE units and 3 administration units
Title 5	Site Supervisor: AA or 60 units with 24 ECE units *and* 5 administration units *and* 2 adult supervision units Director: BA *and* 24 ECE units *and* 6 administration units *and* 2 adult supervision units
NAEYC Accreditation	A minimum of a baccalaureate-level higher education degree in early childhood education, child development, elementary education, or early childhood special education; or 120 college units with 36 units in early childhood education, child development, elementary education, and/or early childhood special education.

While licensing regulations ensure that children stay safe and healthy, high quality care goes even further to provide the best start for young children. One reason that programs choose to become NAEYC accredited is to document the quality of care and education they provide children and families they serve. There are other processes and assessments that programs may use to ensure high quality, as well.

Pause to Reflect

As you progress through this book and course, what connections can you make about how being knowledgeable about health, safety, and nutrition will support early childhood educators in both following licensing and other applicable regulations and ensuring they provide high quality care for young children and their families?

Summary

Early childhood is a critical time in development. Many outcomes, both positive and negative, have their beginnings in these years. It is vital that children's health and safety be protected. High-quality early care and education programs can play a valuable role in improving outcomes for children.

Resources for Further Exploration

- National Resource Center For Health and Safety In Child Care and Early Education: https://nrckids.org/
- Caring for our Children 4th edition): https://nrckids.org/files/CFOC4%20pdf-%20FINAL.pdf
- Caring for our Children Checklist: https://eclkc.ohs.acf.hhs.gov/sites/...sment-tool.pdf
- Healthy Child Care: www.aap.org/en-us/advocacy-a...s/default.aspx
- National Scientific Council on the Developing Child: https://developingchild.harvard.edu/...eloping-child/

- American Institute of Stress: http://www.stress.org
- National Center for Children in Poverty: http://www.nccp.org
- Children's Mental Health: https://www.cdc.gov/childrensmentalhealth/
- Embedding Health and Safety in Your Program's Culture Head Start webinar: https://eclkc.ohs.acf.hhs.gov/video/...ograms-culture
- California Laws, Regulations, and Requirements: https://www.cde.ca.gov/sp/cd/lr/
- Title 22 Licensing Regulations: https://www.cdss.ca.gov/inforesource...ons/child-care.
- An Overview of Community Care Licensing (video): https://ccld.childcarevideos.org/
- Additional Videos on Licensing: https://ccld.childcarevideos.org/chi...ter-operators/
- NAEYC Early Learning Program Accreditation: https://www.naeyc.org/accreditation/...-accreditation
- A Science-Based Framework for Early Childhood Policy: http://developingchild.harvard.edu/w..._Framework.pdf

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II: SAFETY

2: Preventing Injury and Protecting Children's Safety
3: Creating Safe Indoor Environments
4: Creating Safe Outdoor Environments
5: Caring for Minor Injuries and Preparing for and Managing Emergencies
6: Child Maltreatment

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2: Preventing Injury and Protecting Children's Safety

Learning Objectives

By the end of this chapter, you should be able to:

- Explain what active supervision is and what it might look like.
- Discuss how to create a culture of safety.
- Identify common risks that lead to injury in children.
- Describe how understanding injuries can help create a safety plan that prevents future injury.
- Summarize strategies teachers can use to help children learn about and protect their own safety.
- Recall several ways to engage family in safety education.
- Analyze the value of allowing risk play.

Licensing Regulations

Title 22 Regulations that relate to this chapter include:

101216.3 TEACHER – CHILD RATIO

- There shall be a ratio of one teacher visually observing and supervising no more than 12 children in attendance. The total number of children shall not exceed licensed capacity.
- The licensee may use teacher aides in a teacher-child ratio of one teacher and one aide for every 15 children.
- A ratio of one fully qualified teacher and one aide for every 18 children is allowed if the aide has six semester units of early childhood education from an accredited college.
- A teacher should not perform housekeeping or maintenance duties that prevent him/her from performing duties related to providing care and supervision to children.
- (from 101230 ACTIVITIES AND NAPPING) A teacher-child ratio of one teacher or aide supervising 24 napping children is permitted, provided that the remaining teachers necessary to meet the overall ratios are immediately available at the center.

101216.4 TODDLER COMPONENT (RATIO)

- Licensees serving preschool-age children may create a special program component for children between the ages of 18 months and 30 months

101516.5 TEACHER-CHILD RATIO (SCHOOL-AGE)

- In addition to Section 101216.3, the following shall apply:

- One teacher to supervise no more than 14 children.
- One teacher and 1 aide can supervise no more than 28 children.
- Staffing for mixed-aged groups shall be based on the youngest child in the group.

101416.5 STAFF-INFANT RATIO

- There shall be a ratio of one teacher to every four infants.
- An aide may be substituted for a teacher if there is a fully qualified teacher directly supervising no more than 12 infants.
- When in activities away from the center there shall be a minimum of one adult to every two infants.
- There shall be one staff visually observing no more than 12 sleeping infants, as long as additional staff are available at the center to meet the above ratios when necessary.

101226 HEALTH-RELATED SERVICES

- The licensee shall immediately notify the child's authorized representative if the child becomes ill or sustains an injury more serious than a minor cut or scratch.
- The licensee shall document all minor injuries and notify the child's authorized representative of the nature of the injury when the child is picked up from the center.
- The licensee shall make prompt arrangements for obtaining medical treatment for any child as necessary.

101229 RESPONSIBILITY FOR PROVIDING CARE AND SUPERVISION

- The licensee shall provide care and supervision as necessary to meet the children's needs. No child shall be left without the supervision of a teacher at any time. Supervision includes visual observation.

Introduction

Keeping children safe must be a top priority for all early care and education programs. Active Supervision is the most effective strategy for creating a safe environment and preventing injuries in young children. It transforms supervision from a passive approach to an active skill. Staff use this strategy to make sure that children of all ages explore their environments safely. Each program can keep children safe by teaching all staff how to look, listen, and engage.

What is Active Supervision?

Active supervision requires focused attention and intentional observation of children at all times. Staff position themselves so that they can observe all of the children: watching, counting, and listening at all times. During transitions, staff account for all children with name-to-face recognition by visually identifying each child. They also use their knowledge of each child's development and abilities to anticipate what they will do, then get involved and redirect them when necessary. This constant vigilance helps children learn safely.

Strategies to Put Active Supervision in Place

The following strategies allow children to explore their environments safely. Infants, toddlers, and preschoolers must be directly supervised at all times. This includes daily routines such as sleeping, eating, and diapering or bathroom use. Programs that use active supervision take advantage of all available learning opportunities and never leave children unattended.

Set Up the Environment

Staff set up the environment so that they can supervise children and be accessible at all times. When activities are grouped together and furniture is at waist height or shorter, adults are always able to see and hear the children. Small spaces are kept clutter-free and big spaces are set up so that children have clear play spaces that staff can observe.



Figure 2.1 – Open shelving can make supervision easier.[40]

Position Staff

Staff carefully plan where they will position themselves in the environment to prevent children from harm. They place themselves so that they can see and hear all of the children in their care. They make sure there are always clear paths to where children are playing, sleeping, and eating so they can react quickly when necessary. Staff stay close to children who may need additional support. Their location helps them provide support, if necessary.

Scan and Count

Staff are always able to account for the children in their care. They continuously scan the entire environment to know where everyone is and what they are doing. They count the children frequently. This is especially important during transitions when children are moving from one location to another.

Listen

Specific sounds or the absence of them may signify reason for concern. Staff who are listening closely to children immediately identify signs of potential danger. Programs that think systematically implement additional strategies to safeguard children. For example, bells added to doors help alert staff when a child leaves or enters the room.

Anticipate Children's Behavior

Staff use what they know about each child's individual interests and skills to predict what he/she will do. They create challenges that children are ready for and support them in succeeding. But, they also recognize when children might wander, get upset, or take a dangerous risk. Information from the daily health check (e.g., illness, allergies, lack of sleep or food, etc.) informs staff's observations and helps them anticipate children's behavior. Staff who know what to expect are better able to protect children from harm.

Engage and Redirect

Staff use what they know about each child's individual needs and development to offer support. Staff wait until children are unable to problem-solve on their own to get involved. They may offer different levels of assistance or redirection depending on each individual child's needs. [41]



Figure 2.2 – This teacher is nearby and carefully watching the children.[42]

What Does Active Supervision Look Like?

To understand what active supervision might look like in your program, consider the following example:

Maria and Yasmin have taken their three-year-old classroom out to the playground for outdoor playtime. The 15-foot square playground has a plastic climber, a water/sand table and a swing set. Maria and Yasmin stand at opposite corners of the playground to be able to move quickly to a child who might need assistance. The children scatter through the playground to various areas. Some prefer the climber, while others like the swings. Many of the children play with the sand table because it is new. Maria and Yasmin have agreed on a supervision plan for which children they will observe and are always counting the children in the areas closest to them, occasionally raising their fingers to show each other how many children are close to them. This helps them keep track of where the children are, and to make sure no one is missing. If one child moves to a different area of the playground, they signal each other so that they are both aware of the child's change in location.

Maria has noticed that Felicity loves to play in the sand table. She hears children scolding each other and notices that Felicity throws the toys without looking. As Maria sees Felicity and Ahmed playing at the sand table, Maria stands behind Felicity and suggests she put the toy back in the basket when she is done with it. By remaining close, she is also able to redirect Ahmed who has never seen a sand table before and throws sand at his classmates. Kellan has been experimenting with some of the climbing equipment and is trying to jump off of the third step onto the ground. While he is able to do this, some of the other children whose motor skills are not as advanced also try to do this. To help them build these skills, Yasmin stands close to the steps on the climbing structure. She offers a hand or suggests a lower step to those who are not developmentally ready.

Maria and Yasmin signal to each other five minutes before playtime is over, then tell the children they have 5 minutes left to play. When the children have one minute left, Maria begins to hand out colors that match the colored squares they have painted on the ground. She asks Beto, a child who has trouble coming inside from playtime, to help her. When the children are handed a colored circle, they move to stand on the colored spot on the playground. As the children move to the line, Maria guides them to the right spot. When all children are in line, both Maria and Yasmin count the children again. They scan the playground to make sure everyone is in place, then move the children back into the classroom. They also listen to be sure that they do not hear any of the children still on the playground. Yasmin heads the line and Maria takes the back end, holding Beto's hand. When they return to the classroom, there are spots on the floor with the same colors that were on the playground. The children move to stand on their matching color in the classroom. Maria and Yasmin take a final count, then collect the circles and begin the next activity.

Both Yasmin and Maria are actively engaged with the children and each other, supporting the children's learning and growth while ensuring their safety. They use systems and strategies to make sure they know where children are at all times, and that support developmentally appropriate child risk-taking and learning.[43]

Pause to Reflect

Go back through the example and find the active supervision strategies that Yasmin and Maria used

Active Supervision for Infants and Toddlers

Infant/toddler care is responsive, individualized care. And it's important to think about infants and toddlers that are cared for in small groups with a primary-caregiver system of care and also to think about the flow of the day as being responsive to the individualized needs of the children. Staff work very closely with children throughout the day guiding them through individual or small-group routines and experiences. Staff are providing responsive, individualized care, and they will know each child well. That's an important piece of both individualized care and active and responsive supervision. They have a good sense of how each child gets through the day, what their abilities are, what their temperament is. Even as they grow and change from day to day, they're able to follow each child in their care with an understanding of how it is that they're growing.



Figure 2.3 – Knowing children well is the basis of responsive care and active supervision. [44]

In center-based programs or larger family child care homes, more than one caregiver is working together in a team. And the other thing that's important to remember is the kind of communication that develops between the two teachers in a classroom or a family-childcare provider and an assistant -- a communication that supports a child's safe movement throughout the day as well as their ability to explore and grow in a nurturing environment.

Adults provide support to each other, particularly at key times of the day, like transitions. All of those important, individualized routines require both adults to work together, such as individual sleeping times, going indoors and outdoors, changing times, feeding and eating times for infants and toddlers, and other times during the day when there may be a particular child that needs individualized care. It's so important that the staff working with them are working together to support continuity of care.

The environment itself can be a partner in caring for infants and toddlers, particularly when it comes to keeping children safe. We want to create environments that provide places for children to play and be both together and apart but always in full view and within easy reach of a caring and attentive adult.[45]

Creating an Environment of Yes!

An environment of “yes” means that everything infants and toddlers can get their hands on is safe and acceptable for them to use. One way to ensure this is to for adults to do ongoing safety checks in group care spaces and provide families with information about doing safety checks of their own. The teacher, home visitor, and the child’s family play a vital role in making sure everything is safe, then stepping back to allow exploration.

Sometimes infants and toddlers will use materials in creative ways that surprise us! When teachers feel uncomfortable about an activity, they should stop and ask themselves two questions:

- Is it dangerous?
- What are the children learning from this experience?

If it is decided that the activity is safe with supervision, they should stay nearby. They should be thoughtful and open to what the children might be learning. If the activity is not safe, they need to consider what else might address the infants’ and toddlers’ curiosity in the same way. For example, if young toddlers are delighted to discover that by shaking their sippy cups, liquid comes out; a teacher may be worried that this water on the floor will lead to a slippery accident. Instead, they might provide squeeze bottles outside or at the water table. The adult is responsible for keeping children safe *and* encouraging learning through curiosity.

Saying “no” to infants and toddlers or asking them to “share” is a strategy that rarely works. One way to prevent conflict is to reflect on, and then set up, the space where children play in ways that promote “yes!”

- What areas generate the most “no’s” or require the most adult guidance?
- What do the children need and enjoy the most when it comes to playtime?
- Do you have multiples of favorite toys?
- Do you have enough places where toddlers can play alone or with a few friends?

- Do you have adequate space for active play?
- Is the room appropriately child-proofed?[46]



Figure 2.4 – How might a teacher respond to this toddler pushing the stroller up here? Is this safe? What might he be curious about? [47]

Active Supervision for Preschoolers

It's important not to become complacent with safety practices. Teachers need to keep it fresh, thoughtful, and intentional. This begins with setting up the environment. Classrooms will have unique factors to consider. But some general considerations include making sure that there is a teacher responsible for every part of the space children are in, which may be referred to as zoning, and for every part of the day (including transitions).

How teachers position their bodies is really important. They should see all of the children in their care from any position in the room. And when in playing areas, their back should not be to the center of the room, but towards the wall. It is also important to move closer to children as needed (rather than staying in one place and potentially missing out on problems that may arise).

Teachers also need to talk to each other, using back-and-forth communication, so that safety information is easily spread through the room. It may seem strange at first, sometimes, for teachers to talk to each other; but, it's incredibly helpful for active supervision – when there are either changes in staff or children's routines, changes in roles, changes during transitions.

And one of the main purposes of zoning was created to help all children be engaged and to minimize unnecessary wait times. When all staff know their roles in the classroom with zoning and tasks are getting handled, children are engaged and the unsupervised wait time is really minimized.

During transitions or routine changes, teachers need to have a heightened awareness. Transitions are challenging times for both children and their teachers, so the risk to safety increases. One thing that teachers can think about is how they can minimize the number of changes so that there aren't as many transitions happening in the classroom. There should be plans what adults will do, before, during, and after transition times.[48]

Creating a Culture of Safety

The topic of keeping children safe is only partly about policies and rules, and oversight. Those things are important. But most important of all, this is about staff, the people who work directly with children and families. Those people must be supported with opportunities for reflection, professional development, chances to think about the work they do and why that work is so important. What is challenging in that work, and what comes to them easily. It's the ability of programs to recognize and analyze challenging conditions and be able to make improvements.

Programs must make sure that staff have that sense of commitment and responsibility, and that they have the ability to ensure children are thriving is critical. They have to help make sure staff remember why we do the work, to be curious about children's interests, needs, and ideas, to have the opportunity to be creative, to enjoy children and each other's humor every day. These things, in addition to the policies and procedures, will allow staff to be fully present with children. Adults who can be fully present

will keep children physically and emotionally safe and thriving.



Figure 2.5 – Being fully present with children protects their safety.[49]

The first step to doing this is to create a culture of safety. In this context, culture means the set of shared attitudes, values, goals, and practices that characterize a program; the way things work in that program and in that community. Experts and researchers have demonstrated that the culture of an organization plays a key role in all successful safety initiatives.

This is done by involving every staff member and committing to safety at all levels. Programs shouldn't assume that nothing will ever go wrong. In fact, they should plan that something is going to go wrong. The goal is to create environments where there is zero harm, making it as hard as possible for things to go wrong.

Directors, managers, staff, and families must all embrace the belief that children have a right to be safe. All the adults in the program, the program leaders and staff, know that they are responsible for every child, all day, every day. People understand their roles and responsibilities in keeping children safe and embrace each of the 10 actions outlined in Table 2.1, that together support a culture of safety. This approach is holistic. It's integrated, and community-centered. It isn't an add-on. It's not a burden. It's a way of doing business so children don't get hurt.[50]

Table 2.1: 10 Actions for a Culture of Safety[51]

1. **Use Data to Make Decisions**: Program and incident data serve as an important resource to help managers and staff evaluate children's safety.
2. **Actively Supervise**: Children are never alone or unsupervised. Staff position themselves so that they can observe, count, and listen at all times.
3. **Keep Environments Safe and Secure**: Programs create, monitor, and maintain hazard-free spaces.
4. **Make Playgrounds Safe**: Regularly inspected, well-maintained, age-appropriate and actively supervised outdoor play spaces allow children to engage in active play, explore the outdoors, and develop healthy habits.

5. **Transport Children Safely**: Programs implement and enforce policies and procedures for drivers, monitors, children, and families using school buses, driving to and from the program, or walking.
6. **Transport Children Safely**: Programs implement and enforce policies and procedures for drivers, monitors, children, and families using school buses, driving to and from the program, or walking.
7. **Be Aware of Changes that Impact Safety**: Staff anticipate and prepare for children's reactions to transitions and changes in daily routine, within and outside of the program.
8. **Model Safe Behaviors**: Staff establish nurturing, positive relationships by demonstrating safe behaviors and encouraging other adults and children to try them.
9. **Teach Families about Safety**: Staff engage families about safety issues and partner with them about how to reduce risks to prevent injuries that occur in the home.
10. **Know Your Children and Families**: Staff plan activities with an understanding of each child's developmental level and abilities, and the preferences, culture, and traditions of their families. This includes everything from maintaining current emergency contact information to understanding families' perceptions about safety and injury prevention.

Specific Risks for Injury

Child injuries are preventable, yet 8,110 children (from 0-19 years) died from injuries in the US in 2017.[52] Car crashes, suffocation, drowning, poisoning, fires, and falls are some of the most common ways children are hurt or killed. The number of children dying from injury dropped nearly 30% over the last decade. However, injury is still the number 1 cause of death among children.[53]

Children during early childhood are more at risk for certain injuries. Using data from 2000-2006, the CDC determined that:

- For children less than 1 year of age, two–thirds of injury deaths were due to suffocation.
- Drowning was the leading cause of injury death between 1 and 4 years of age.
- Falls were the leading cause of nonfatal injury for all age groups of less than 15 years of age.
- For children ages 0 to 9, the next two leading causes were being struck by or against an object and animal bites or insect stings.
- Rates for fires or burns and drowning were highest for children 4 years and younger.[54]

Injury in Early Care and Education/Child Care

Families "are naturally concerned for their child's safety, particularly when cared for outside of the home. However, children who spend more time in nonparental child care have a reduced risk of (unintentional) injury. This may be because child care centers and family day homes provide more supervision and/or safer play equipment. Nevertheless, injuries in child care settings remain a serious, but preventable, health care issue."[55]

In the next two chapters, we will examine creating safe environments indoors and outdoors that specifically reduce the risks of injuries, including those introduced in Table 2.2.

Table 2.2 – Preventing Injuries

Type of Injury	Prevention Tips
Sudden Infant Death	• Always put infants to sleep on their backs • Cribs, bassinets, and play yards should conform to safety standards and covered in a tight-fitting sheet • There should be no fluffy blankets, pillows, toys, or soft objects in the sleeping area • Don't allow children to overheat[56]
Choking	• Keeping objects smaller than 1½ inches out of reach of infants, toddlers, and young children. • Have children stay seated while eating • Cut food into small bites • Ensure children only have access to age-appropriate toys and materials[57, 58]
Drowning	• Make sure caregivers are trained in CPR • Fence off pools; gates should be self-closing and self-latching • Supervise children in or near water[59] • Inspect for any standing water indoors or outdoors that is an inch or deeper. • Teach children water safety behaviors.[60]
Burns	• Have working smoke alarms • Practice fire drills • Never leave food cooking on the stove unattended; supervise any use of microwave • Make sure the water heater is set to 120 degrees or lower[61] • Keep chemicals, cleaners, lighters, and matches securely locked and out of reach of children. • Use child-proof plugs in outlets and supervise all electrical appliance usage.[62]
Falls	• Make sure playground surfaces are safe, soft, and made of impact-absorbing material (such as wood chips or sand) at an appropriate depth and are well maintained • Use safety devices (such as gates to block stairways and window guards) • Make sure children are wearing protective gear during sports and recreation (such as bicycle helmets) • Supervise children around fall hazards at all times[63] • Use straps and harnesses on infant equipment.[64]
Poisoning	• Lock up all medications and toxic products (such as cleaning solutions and detergents) in original packaging out of sight and reach of children • Know the number to poison control (1-800-222-1222) • Read and follow labels of all medications • Safely dispose of unused, unneeded, or expired prescription drugs and over the counter drugs, vitamins, and supplements[65] • Use safe food practices.

Type of Injury	Prevention Tips
Pedestrian	• Do not allow children under 10 to walk near traffic without an adult • Increase the number of supervising adults when walking near traffic • Teach children about safety including: • Walking on the sidewalk • Not assuming vehicles see you or will stop • Crossing only in crosswalks • Looking both ways before crossing • Never playing in the road • Not crossing a road without an adult • Supervise children near all roadways and model safe behavior[66]
Motor-vehicle	• Children should still be safely restrained in a five-point harnessed car seat • Children should be in back seat • Children should not be seated in front of an airbag[67]

Creating a Safety Plan

Early care and education programs have an obligation to ensure that children in their care are in healthy and safe environments and that policies and procedures that protect children are in place. Using a screening tool, programs can identify where they need to make changes and improvements to ensure children are healthy and safe while in their care. A checklist such as the one modified from Head Start's Health and Safety Screener in Appendix C can be used for this purpose.[68]



Figure 2.6 – Early childhood programs can make a safety plan.[69]

Programs must become familiar with the hazards to children that are specific to their population and location. Considerations for this plan include the type of early education program, ages of the children served, surrounding community, and family environments.

If any hazards are found upon screening, programs can make modifications to remove hazards or use safety devices to protect children from hazards. Care should be taken to ensure that the modifications include children with disabilities and special needs.

It will also be important to use positive guidance to help modify behaviors that put children's safety at risk. Teachers can use role-modeling and communication to teach children how to respond to situations, including emergencies, that put their safety at risk.

Early childhood programs must continue to monitor for safety. This includes regular screening for safety and analysis of data surrounding injuries. Teachers must continuously monitor for conditions that may lead to children being injured and examine both the behaviors of children and adults in the environment.[70]

Documenting Injuries & Injury Prevention

When a child is injured, it is important to document the injury. This documentation is provided to families, typically in the form of an injury or incident report. See Appendix D for an example injury/incident report form. These should document:

- Who was involved in each injury? (child/children; staff, volunteers, family members)
- Where did the injury occur?
- What happened? (What was the cause?)
- What was the severity of each injury?
- When did each injury occur?
- Who – e.g., what staff were present and where were they at the time of each injury?
- What treatment was provided? How was the incident handled by staff?
- How could each injury have been prevented? What will be done in the future to prevent similar injuries?
- Who was notified in the child's family? When? How?

It is important to keep these reports to analyze them to:

- identify location(s) for high risk of injury.
- pinpoint systems and services that need to be strengthened.
- develop corrective action plans
- incorporate safety and injury prevention into ongoing-monitoring activities.[71]

Hazard Mapping

One such process to do this is hazard mapping, which is an approach to prevent injuries by studying patterns of incidents.

Step One – Identify High-Risk Injury Locations

1. Create a map of the classroom, center, or playground area. Label the various places and/or equipment in the location(s) that is being mapped. Make the map as accurate as possible.
2. Place a "dot" or "marker" on the map to indicate where each specific incident and/or injury occurred over the past 3-6 months (or sooner, if concerns arise).
3. Look at the severity of the injuries.
4. Identify where most incidents occur.

Step Two – Identify Systems and Services that Need to be Strengthened

1. Review the information on the injury/incident reports for areas with multiple dots.
2. Consider what policy and practices are contributing to injuries/incidents.

Step Three – Develop a Corrective Action Plan

1. Prioritize and select specific activities/strategies to resolve problem areas.
2. Develop an action plan to correct the problem areas you identified. Include each of the activities/strategies selected in this corrective action plan. Identify the steps, the individuals responsible, and the dates for completion.
3. Create a plan for sharing the corrective action plan with staff and families.

Step Four – Incorporate Hazard Mapping into Ongoing Monitoring

1. Determine if any additional questions should be added to injury/incident report forms to obtain this missing information.
2. When developing corrective action plans, consider prioritizing more serious injuries, even if they have occurred less often.
3. Make sure there reduction in injuries and/or incidents and the severity of the injuries with a corrective plan.[72]

Teaching Children about Safety

While it is the adult's responsibility to keep children safe and children should not be expected to actively protect themselves, teachers should help children develop safety awareness and the realization that they can control some aspects of their safety through certain actions. The earlier children learn about safety, the more naturally they will develop the attitudes and respect that lead to lifelong patterns of safe behavior.

Safety education involves teaching safe actions while helping children understand the possible consequences of unsafe behavior. Preschoolers learn through routines and daily practice and by engaging in language scripts and following simple rules. These scripts and rules may be communicated through voice, pictures, or signs. Children learn concepts and develop skills through repetition, then build upon these as concepts and skills become more complex.

Preschoolers need help to recognize that safe play may prevent injury. Teachers can promote independence and decision-making skills as children learn safe behaviors. Teachers can explain that children can make choices to stay safe, just as they wash their hands to prevent disease, brush their teeth to prevent cavities, and eat a variety of foods to help them grow strong and healthy.

Preschoolers can learn to apply a few simple and consistent rules, such as riding in a car seat and wearing seat belts, even though they are too young to understand the reasons for such rules. For example, four-year-old Morgan says, "Buckle up!" as she gets into a vehicle. Although Morgan lacks the skill needed to buckle the car seat buckle and does not understand the consequences of not being safely buckled into her car seat, she is developing a positive habit. Safety education in preschool focuses on behaviors the children can do to stay safe. It involves simple, concrete practices that children can understand.



Figure 2.7 – Young children can develop habits that keep them safe.[73]

The purpose of safety rules and guidance is to promote awareness and encourage developmentally appropriate behavior to prevent injury. Teachers may include separate rules for the classroom, playground, hallways, buses, or emergency drills. Limit the number of rules or guidelines, but foster consistency (e.g., three indoor rules, three playground rules) and base them upon the greatest hazards, threats, and needs in your preschool program and community.

Safety guidance is most effective when teachers have appropriate expectations and safety rules are stated in a positive manner. For example, an appropriate indoor safety rule might be stated, "We walk indoors," rather than the negative, "Do not run indoors." On the playground, a rule might state, "Go down the slide on your bottom, feet first." As children follow these rules, acknowledge them for specific actions with descriptive praise (e.g., "Kevin, you sat on the slide and went down really fast! That looked like fun!").

State rules clearly, in simple terms, and in children's home languages; include pictures or icons with posted rules to assist all children's understanding. Children often are more willing to accept a rule when they are given a brief explanation of why it is necessary. Gently remind children during real situations; with positive reinforcement, they will begin to follow safety rules more consistently. As children develop a greater understanding of safety rules, they begin to develop self-control and feel more secure.

Adults are fully responsible for children's safety and compliance with safety rules and emergency procedures. Safety education for children, which include rules and reinforcement of verbal and picture scripts in children's home languages (including sign language), is essential for handling emergency situations. Through practice and routines, children are better able to follow the teacher's instruction and guidance. It is essential that teachers evaluate each child's knowledge and skill in this area, and provide additional learning activities as needed to ensure that all children can follow emergency routines.

Here are some strategies that teachers can use to help children learn about safety:

- Incorporate safety into the daily routine.
- Involve children in creating rules
- Provide coaching and gentle reminders to help children follow safety rules.
- Acknowledge children's self-initiated actions to keep themselves and others safe (such as pushing chairs in and wiping up spills)
- Provide time for children to practice safety skills (such as buckling seat belts)
- Introduce safety concepts and behaviors in simple steps.
- Role-play safety-helpers.
- Define emergency and practice what children should do in emergency situations.
- Introduce safety signs.
- Incorporate musical activities and safety songs.

Because of their level of cognitive development, many young children cannot consistently identify dangerous situations. They may understand some safety consequences and can learn some scripts. But adults must be responsible for their safety. Children often act impulsively, without stopping to consider the danger. By learning and following simple safety rules (e.g., take turns, wear a helmet) and practicing verbal, visual, or sign-language scripts, children establish a foundation of lifelong safety habits.[74]

Engaging Families

- Share written and visual safety messages with families through newsletters, brochures, bulletin boards, Web pages, and take-home activities in the home languages of the families in the program. Emphasize safety issues that relate to your preschool program and community.
- Integrate parent information with children's learning about topics such as poisoning prevention and traffic safety.
- Provide safety information through workshops and during parent meetings; include information on a variety of topics, especially those that involve higher risk in specific communities, such as water safety, gun safety, or lead poisoning.
- Invite community safety personnel to participate in workshops and share resources and information about how to access community services.
- Address specific safety issues, such as vehicle safety and pedestrian safety, through one-on-one guidance during pickup and drop-off times.
- During family conferences, find out what messages family members would like teachers to reinforce at school.
- During home visits, offer to help families identify potential hazards in their family environment and ways to reduce possible injury.
- Post emergency plans on family bulletin boards and provide families with a written copy of the preschool program's emergency plan. Include responses to different scenarios (e.g., evacuation, shelters), location of the designated evacuation shelter, and a number to call if family members cannot reach the preschool.
- Routinely update families' emergency contact information.
- Encourage families to plan and practice emergency drills for fires, earthquakes, floods, violent encounters, or other situations that could occur in their home or community. Provide families with resources to develop a home evacuation plan and drill.
- Invite family members to attend the preschool or to serve as guest speakers as children learn about people who can help in emergency situations. Invited guests may include safety or medical personnel (e.g., firefighters, paramedics) or workers in related professions (e.g., construction workers, electricians, meteorologists, cleaning businesses).[75]

Risky Play and Children's Safety: Balancing Priorities for Optimal Child Development

Injury prevention plays a key role in promoting children's safety, which is considered to involve keeping children free from the occurrence or risk of injury. However, emerging research suggests that imposing too many restrictions on children's outdoor risky play may be hampering their development. Like safety, play is deemed so critical to child development and their physical and mental health that it is included in Article 31 of the United Nations Convention on the Rights of the Child. Thus, limitations on children's play opportunities may be fundamentally hindering their health and well-being.

Eager and Little describe a risk deprived child as more prone to problems such as obesity, mental health concerns, lack of independence, and a decrease in learning, perception and judgment skills, created when risk is removed from play and restrictions are too high. Findings from disciplines such as psychology, sociology, landscape architecture, and leisure studies, challenge the notion that child safety is paramount and that efforts to optimize child safety in all circumstances is the best approach for child development. And families, popular culture, the media, and researchers in other disciplines have expressed views that child safety efforts promote the overprotection of children. These have the potential to trigger a backlash against proven safety promotion strategies, such as child safety seats or necessary supervision, possibly reversing the significant gains that have been made in reducing child injuries.

Families, caregivers, and educators can work to create a balance by fostering opportunities to engage in outdoor risky play that align with safety efforts. An approach that focuses on eliminating hazards, that have hidden potential to injure, such as a broken railing, but that does not eliminate all risks, could be used. This allows the child to recognize and evaluate the challenge and decide on a course of action that is not dangerous but may still involve an element of risk. Adults can also provide children with unstructured (open-ended) play materials that can be freely manipulated in conventional playgrounds



Figure 2.8 – This is an example of an adventure playground.[76]

This approach is a central component of the Adventure Playground movement. Notably, European and Australian organizations and researchers appear to be attempting to put this idea in practice, with North American efforts lagging. For example, the National Institute for Health and Clinical Excellence in the U.K. released injury prevention guidelines that called for policies that counter "excessive risk aversion" and promote children's need "to develop skills to assess and manage risks, according to their age and ability." Both injury and play organizations, such as the U.K.'s Royal Society for the Prevention of Accidents and Play Safety Forum promote the idea of keeping children *as safe as necessary, not as safe as possible*. International collaboration would benefit from translating this into practice in a manner that is sensitive to concerns for child safety and children's developmental needs for risky play.[77]

Pause to Reflect

What do you think? What are your thoughts about keeping children as safe as necessary, not as safe as possible? What are appropriate ways for children to learn how to manage risk?

Summary

Active supervision is critical to keep young children safe. When programs create a culture of safety, they go beyond following regulations and policies, by making a commitment to protecting safety so that children don't get hurt. There are some common risks to safety that educators should be aware or (and that will be covered in more depth in the next two chapters). When early care and education programs create a safety plan using data they have gathered by documenting and analyzing the injuries children get, they can make changes to help protect children's safety.

While adults have the ultimate responsibility for safety, children can be taught about and families can be engaged in protecting children's safety. Teachers must also consider the value of risk play when making decisions about what action to take to keep children safe.

Resources for Further Exploration

- Caring for Our Children: National Health and Safety Performance Standards - Guidelines for Early Care and Education Programs: https://nrckids.org/files/CFOC4%20pdf-%20FINAL.pdf
- Head Start's Safety Practices in the Early Childhood Learning and Knowledge Center: https://eclkc.ohs.acf.hhs.gov/safety-practices
- Program Administrator Guide to Evaluating Child Supervision Practices: https://www.naeyc.org/sites/default/...Resource_0.pdf
- Supervising Children in Child Care Centers (Licensing video): https://ccld.childcarevideos.org/chi...-care-centers/
- Health domain in the California Preschool Curriculum Framework Volume 2: https://www.cde.ca.gov/sp/cd/re/docu...meworkvol2.pdf
- CDC: National Center for Injury Prevention and Control: www.cdc.gov/injury/index.htm
- Safe States Alliance: www.safestates.org/default.aspx

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3: Creating Safe Indoor Environments

Learning Objectives

By the end of this chapter, you should be able to:

- Connect classroom design to safety and injury prevention.
- Discuss ways to handle unsafe behavior by understanding the function of behaviors.
- Describe how teachers can ensure the toys and materials they offer children do not present injury risks and are nontoxic.
- Explain ways adults can support safe and developmentally appropriate use of technology.
- Lists ways to protect children from choking, poisoning, burns, drowning, and falls.
- Identify how to implement safe sleep practices to protect against Sudden Infant Death Syndrome.

Licensing Regulations

Title 22 Regulations that relate to this chapter include:

101171 FIRE CLEARANCE

- All Child Care Centers shall secure and maintain a fire clearance.

101238 BUILDINGS AND GROUNDS

- The center shall be clean, safe, sanitary and in good repair at all times.
- All children shall be protected against hazards.
- Disinfectants, cleaning solutions, poisons and items that could pose a danger to children shall be stored where inaccessible to children
- Storage areas for poisons shall be locked.
- Firearms and other weapons are not allowed on the premises.

101538.3 INDOOR ACTIVITY SPACE

- There shall be at least 35 square feet of indoor activity space per child based on the total licensed capacity.
- The floors of all rooms shall have a surface that is safe and clean.
- (from **101438.3** and **101538.3**) Spaces for infants and spaces for school-age children should be physically separated from indoor activity space

101239 FIXTURES, FURNITU6RE, EQUIPMENT, AND SUPPLIES

- All window screens shall be in good repair and free of insects and debris.
- Fireplaces and open-faced heaters shall be inaccessible.
- Tables and chairs scaled to the size of children must be provided.
- All play equipment and materials used by children must be age-appropriate.
- Furniture and equipment must be maintained in good condition.
- A baby walker shall not be allowed on the premises.

101439 INFANT CARE CENTER FIXTURES, EQUIPMENT AND SUPPLIES

- In addition to Section 101239, the following shall apply:

- There shall be appropriate furniture and equipment such as cribs, cots or mats, changing tables and feeding chairs.
- High chairs or low-wheeled feeding tables or any equipment used for seating an infant shall have broad-base legs.
- No infant shall be permitted to stand up in a high chair.

- Infant changing tables shall have a padded surface no less than 1 inch thick; raised sides at least 3 inches high; kept in good repair, within an arm's reach of a sink.
- Toy storage containers shall be safe and maintained in good condition and shall not be lockable
- Toys shall be safe and not have any sharp edges, or small parts.
- Fixtures, furniture, equipment or supplies shall not be made of or contain toxic substances.

1Ø1239.1 NAPPING EQUIPMENT

- Cots must be maintained in a safe condition.

1Ø1439.1 INFANT CARE CE6NTER NAPPING EQUIPMENT

- In addition to Section 1Ø1239.1, the following shall apply:

- A standard size six-year crib or porta-crib shall be provided for each infant who is unable to climb out of a crib.
- Cribs shall not limit the ability of staff to see the infant.
- Cribs shall not limit the infant's ability to stand upright.
- Crib mattresses shall be covered with vinyl or similar moisture- resistant material; shall be wiped and disinfected daily and when wet or soiled.
- Cribs shall be maintained in a safe condition.
- Cribs, mats or cots shall be arranged so as to provide a walkway and work space between the cribs, mats or cots sufficient to permit staff to reach each infant without stepping over any other infant

Introduction

Designing an effective and engaging classroom environment takes careful thought and planning, but it's important. A well-organized classroom that is interesting, orderly, and attractive contributes to children's participation and engagement with the learning materials and activities. This engagement, in turn, contributes to children's learning.

Let's look at it from a child's perspective. We want children to feel safe and comfortable in the classroom. We want them to be interested in the learning activities and to take full advantage of being at school and take full advantage of the activities you've planned and the materials you've selected. It can be helpful to get down at a child's level and take a look at the classroom. Does it feel welcoming and inviting? Is there enough room to move, make choices, and stay involved with a toy or activity or project? And does the room help the child know what to do and what's expected?



Figure 3.1 – This reading area is set up so it's clear what children should do in this space.[78]

Designing an Effective and Safe Classroom Environment

There are all sorts of classrooms. They differ by size and shape, amount of light and wall space, placement of sinks and counters, and amount of storage. Figuring out how to design the physical space and to maximize children's interactions within the space will take some time. Make a floor plan. Move things around. Take a look at other classrooms and see what works.

Here are a few things to think about when designing your space and making it as workable as possible. Think about the number of interest areas or centers that you want or need for the group of children. Arrange the space so that noisy areas are separated from quiet areas. Locate centers next to needed storage or equipment. Use furniture or other items to provide boundaries. But, make sure that the adults can see all of the areas of the room.[79]

Factors to Consider

Space and boundaries:

- Are the centers clearly defined with furniture, rugs, or shelves?
- Is there enough space for all children to easily move about the room?
- In each defined area, is there adequate space for the number of children using it?

Proximity and distance:

- Are the quiet and noisy areas in proximity or separated?
- Are centers located near things that children need to complete projects (art center near sink, puzzle or game shelves within reach of tables, etc.)?
- Are teachers able to view children in all centers?

Home and culture:

- What home-like features are included in the classroom?
- How is(are) the culture(s) of the local community reflected in the classroom?

Flexibility and permanence:

- How does the space accommodate gross motor activity?
- What aspects of the physical space cannot be changed (cost or structural issues) and are challenging to overcome (e.g., limited access to natural light, cumbersome cubbies, etc.)?

Engagement and challenging behaviors:

- Are there areas of the classroom where challenging behaviors are more likely to occur?
- Are there areas where typically children are positively engaged in classroom activities?

Traffic patterns:

- Can children move easily from space to space?
- Is running and wandering discouraged?

Material selection:

- Are materials chosen to support development and learning?
- Are they culturally relevant and meaningful to the children?
- Is there is a sufficient variety and quantity (without overwhelming children)? [80]

Pause to Reflect

So far, we haven't specifically called out safety much in our discussion of environmental design. Look at some of the listed items and brainstorm how they each might be related to safety? For example, why is looking at areas of the classroom where challenging behaviors are more likely to occur a safety consideration?

Tips for Environmental Designte

- Traffic patterns need to discourage running.

- Use furniture, rugs, and similar items to define boundaries.
- Ensure that teachers can see what is happening in all areas of the classroom.
- Cultural and home-like features are present in the room.
- Use spaces with as much flexibility as possible.
- Quiet and noisy centers are spaced appropriately.
- Ensure interesting classroom content selection is balanced with appropriate stimulation versus overstimulation.
- Each center provides enough information about what to do there and how to play.[81]



Figure 3.2 – This large space was transformed with this rug and arrangement of materials and furniture.[82]

Grouping of Children

Teachers want to be intentional about how they group children, whether it's a decision made in the moment or as part of lesson planning. Match the size of the group with the purpose of the activity. Think about the children who will be in the group. Young children need opportunities to participate and learn with the whole group, small groups, and they will thrive with a bit of one-on-one time with an adult.[83]

Large groups are good for:

- Introducing concepts
- Building community
- Conducting routine activities

Small groups are good for:

- Maximizing back and forth interactions

- Peer modeling of skills
- Guiding instruction

One-on-one interactions are good for:

- Tasks requiring complex skills
- Instance when a child needs specific direction and assistance[84]

Pause to Reflect

How is considering group size related to safety? What might teachers need to observe for to determine if the group sizes are working well for the children?

Every early childhood environment is full of pros and cons; it is how educators work with the many characteristics of a classroom that can make a tremendous difference. Teachers can be surprised by the results when they:

- Assess the spaces for both limitations and strengths.
- Strategize how to optimize what they have to work with in their classrooms.
- Try a different arrangement, see what happens, and then modify based on what is working and what is not.



Figure 3.3 – These shelves are in a classroom for 3-year-olds. What adjustments might need to be made to meet the needs of the children and keep them safe?[85]

Sometimes a modification can be minor (raising or lowering a shelf, “stop” signs over unavailable areas, masking tape to better define a space, etc.). This highlights the “work-in-progress” nature of early childhood environments. As the needs of children change, the room may need minor changes or have to be rearranged completely to meet those needs.[86]

A Few More Considerations for Environmental Design

When designing classroom environments, there are some other considerations to keep in mind:

Rotations:

- Avoid grouping the same children together all the time, especially when pairing skilled with less skilled children.
- Consider limiting the number of children per center and creating a system for rotating children through favorite areas.

- Regularly rotate some of the toys and materials to generate a sense of newness.
- Instruction can be tailored within small groups to meet educational goals. For example, one group of children that is working on learning numbers can read a counting book; another group working on fine motor skills can do beading; still another group of children working on social skills can practice joining play.
- Emphasize cooperation by choosing toys and activities that require it (e.g., large appliance boxes, games that need two or more players, balls for throwing back and forth, etc.).
- Whenever possible keep the design elements simple (both for the teacher's sake and because simple tends to be longer-lasting). Also, some aspects of designing can be done spontaneously and quickly (spur of the moment) and still be effective. [87]

Interpersonal Safety

Children can behave in ways that hurt themselves or others so teachers must prepared to handle unsafe behaviors in their duty to protect children from injury. An important way to think about behavior is as a form of communication. Young children let us know their wants and needs through their behavior long before they have or can use words in the heat of the moment. They give us cues to help us understand what they are trying to communicate.

Early childhood educators can help children by interpreting their cues and responding to meet their needs. The following example illustrates the importance of responding to the possible meaning behind behavior:

Javon bites Blair because he wants the block she is playing with and we remove Javon from the situation. Not only are we not responding to his want or need, but we are taking him out of the context where he can learn to communicate his feelings in a way that doesn't hurt others.

Forms and Functions of Behavior

There are many reasons a child might use specific behaviors. This is why it is important for adults to carefully observe children, pay attention to their cues, get to know them, and know what part of the schedule gives them a hard time to better understand what they are trying to tell us through their behavior.[88]

Each behavior has a:

FORM = the behavior the child is using to communicate

AND A FUNCTION = the reason or purpose the child is using that behavior[89]

Table 3.1 – Forms and Functions of Behavior[90]

Forms of Communication	Function of Communication
• Crying • Cooing • Reaching for caregiver • Kicking their legs • Gaze aversion (looking away) • Squealing Biting • Tantrums • Pointing • Smiling • Pulling adult • Clapping • Words • Jumping	• Obtain an object, activity, person • Request help • Initiate social interaction • Request information • Seek sensory stimulation • Escape demands • Escape activity • Avoid a person • Escape sensory stimulation • Express emotion • Express pain or illness

Here are some examples of form and functions of infants, toddlers, and preschoolers:

Table 3.2 – Examples of Forms and Possible Functions of Behaviors[91]

Form of Communication	Possible Functions of Communication
Toddler biting	• I want the dinosaur Joseph is playing with • I'm teething • This is my space—I don't want you in my space • I am really frustrated • You just told me "no" and I don't like it • I want to play with you
Preschooler hitting	• I feel mad and don't know how to express it • I don't want to stop playing • I don't want to share my favorite toy • I want to play by myself

Form and function are also shaped by culture. Children are socialized to express their feelings in culturally acceptable ways. It is important to talk with families so you can look for acceptable ways that children express themselves in a culturally respectful way.

As you have probably already experienced—it is not always easy to figure out the meaning of a child's behavior. To add to the complexity of understanding the meaning of behavior:

- A single form of behavior may serve more than one function. For example, a toddler might use biting (form) for different functions ("I want the toy you have." "I want to play with you but don't know how to let you know." "I'm tired." "I'm frustrated because you don't understand what I am trying to tell you." "I want some attention.")
- Several forms of behavior may serve one function. For example, a child's purpose (function) may be to build with their favorite blocks, but they use different forms of behavior (biting, yelling, grabbing, running away with the blocks, sharing) based on how they feel that day, who is playing in the block area, or based on their cultural expectations.
- The meaning of behavior is shaped by culture, family, and the unique makeup and experiences of the individual child. For example, some cultures may express sadness by crying or by having a nonchalant facial expression. Some cultures may express happiness by laughing and being exuberant, while others may expect more restrained behaviors.

Some of these functions of communication become a concern for children's safety (of the child communicating, the other children, and other people in the environment). Early childhood educators must take the time to understand a behavior's meaning so that they can help the child replace unsafe forms of communication with forms that don't hurt others or harm the environment. Pausing to try to figure out the meaning behind a child's behavior—instead of just reacting to the behavior—can change the way we see a child, the way we respond to a child, and the way we teach a child. Becoming a "behavior has meaning" detective who is always on the lookout for the meaning of behavior will help you keep children safe.[92] Take a look at the following example of an unsafe behavior, what it might mean, and what an educator might do to support the child.

Emilia and Saraee

Teacher Emilia says about a child Sarae, "I have to watch her like a hawk or she'll run down the hall or go out the gate, down the street, and I don't know where."

What This Might Mean

So, we could reframe this to: Sarae is an active child. She may naturally be a kinesthetic learner, who needs to move and shake, has extra energy.

What the Teacher Might Do

A teacher can give Sarae positive ways to exercise the way she loves to be. So, whether that's during choice time, that there is an opportunity for her to dance, for example. Or, there' s an obstacle course set up for her to maneuver through.



Figure 3.4 – Help keep children stay safe by figuring out the function of their behavior/communication.[93]

When they are outdoors, the teacher can create opportunities for structured play so that is running with an intention; such as part of a game with her peers. If it's hard to get her back inside, give her a leadership role. Maybe she's the one who has the bell that cues everybody that it's time to line up. So now she's going to make sure she finds her friends and is the one responsible for bringing the whole group together to go inside.

The Potential Result

Reframing the behavior and provide positive outlets will not only keep Sarae safe, but it will also communicate to her that how she feels is okay and that she's being supported, acknowledged, and encouraged.[94]

Taking a Closer Look at Behavior

You may also find it valuable to examine behavior much the way you would injuries and traffic patterns. Gather data about unsafe behaviors:

- When are they happening? Are there specific times of day that children are finding it more challenging to behave/communicate in safe ways?
- Where are they happening? Are there hot spots for challenging behavior? What in the environment might be the focus of the unsafe behavior/communication?
- Why they are happening? What happened before the led up to the behavior? What happened after?
- Who are the behaviors happening between? All children will have times where they communicate with unsafe behavior, but some children may need more adult support in certain contexts (time of day, activity, groupings of children, etc.).

Look for patterns. Reflect on what can be changed in the physical environment, schedule/routine, groupings, and supervision to help prevent children from hurting themselves or others when trying to communicate their needs.

Biting

Biting is a common but upsetting behavior of toddlers. Here is some information and tips for responding to biting:

When a child bites another child Intervene immediately between the child who bit and the bitten child. Stay calm don't overreact, yell or give a lengthy explanation.

Use your voice and expression to show that biting is not acceptable**.** Look into the child's eyes and say calmly but firmly, "I do not like it when you bite people." For a child with more limited language, just say "No biting people." Point out how the biter's behavior affected the other person. "You hurt him and he's crying." Encourage the child who was bitten to tell the biter "You hurt me." Encourage the child who bit to help the other child by getting the ice pack, etc.

Offer the bitten child comfort and first aid**.** Wash broken skin with warm water and soap. Observe general precautions if there is bleeding. Apply an ice pack or cool cloth to help prevent swelling. If the bitten child is a guest, tell the families what happened. Suggest the bitten child be seen by a health care provider if the skin is broken or there are any signs of infection (redness or swelling).

Preventing biting

Reinforce desired behavior**.** Notice and acknowledge when you like what your child is doing, especially for showing empathy or social behavior, such as patting a crying child, offering to take turns with a toy or hugging gently. Do not label, humiliate or isolate a child who bites.

Discourage play which involves "pretend" biting, or seems too rough and out of control. Help the child make connections with others.

Why do children bite and what can we do?

Children bite for many different reasons, so in order to respond effectively, it's best to try and find out why they are biting. If a child:

- experiments by biting immediately say "no" in a firm voice, and give him a variety of toys to touch, smell and taste and encourage sensory-motor exploration.
- has teething discomfort, provide cold teething toys or safe, chewy foods.
- is becoming independent, provide opportunities to make age-appropriate choices and have some control (the bread or the cracker, the yellow or the blue ball), and notice and give positive attention as new self-help skills and independence develop.
- is using muscles in new ways, provide a variety of play materials (hard/soft, rough/smooth, heavy/light) and plan for plenty of active play indoors and outdoors.
- Is learning to play with other children, try to guide behavior if it seems rough (take the child's hand and say, "Touch Jorge gently—he likes that") and reinforce prosocial behavior (such as taking turns with toys or patting a crying child).

- is frustrated in expressing his/her needs and wants, state what she is trying to communicate ("you feel mad when Ari takes your truck" or "you want me to pay attention to you").
- is threatened by new or changing situations such as a parent returning to work, a new baby, or parents/caregivers separating, provide special nurturing and be as warm and reassuring as possible, and help him or her talk about feelings even when he or she says things like "I hate my new baby."[95]

Safe Toys, Materials, and Equipment

Play is a natural activity for every young child. Play provides many opportunities for children to learn and grow – physically, mentally, and socially. If play is the child's work, then the toys, materials, and equipment in the environment are what will enable children to do their work well and safely.[96]

Safe Toys

Protecting children from unsafe toys is the responsibility of everyone. Careful toy selection and proper supervision of children at play are still—and always will be—the best ways to protect children from toy-related injuries.[97]

It is important that educators consider both safety and durability when choosing toys for children. Toys should be constructed to withstand the uses and abuses of children in the age range for which the toy is appropriate.

The U.S. Consumer Product Safety Commission (CPSC) has safety regulations for certain toys. Manufacturers must design and manufacture their products to meet these regulations so that hazardous products are not sold (see Table 3.3).

Table 3.3 – Mandatory Toy Safety Regulations[98]

Age	Regulations
For All Ages	• No shock or thermal hazards in electrical toys • Amount of lead paint is severely limited • No toxic materials in or on toys • All materials for children 12 and under are non-hazardous • Latex balloons and product with balloons are labeled as choking and suffocation hazard
Under Age 3	• Unbreakable – will withstand use and abuse • No small parts or pieces which become lodged in throat • Rattles large enough not to become lodged in the throat and will not separate into small pieces • No balls with diameters 1.75 inches or less
Ages 3-6	• All toys and games with small parts must be labeled to warn of the choking hazard to young children
For 3 years and older	• Ball and toys with balls smaller than 1.75 inches in diameter and marbles or toys with marbles must be labeled to warn of the choking hazard
Under Age 8	• No electrically operated toys with heating elements • No sharp points or edges on toys

In addition to the mandatory standards, many toy manufacturers also adhere to the toy industry's voluntary safety standards (see

Table 3.4).[99]

Table 3.4 – Voluntary Standards for Toy Safety[100]

Voluntary Standards for Toy Safety[101]
Puts age and safety labels on toys
Puts warning labels on crib gyms advertising that they should be removed from cribs when infants can push up on hands and knees to prevent strangulation
Makes squeeze toys and teethers large enough not to become lodged in an infant's throat
Assures that the lid of a toy chest will stay open in any position to which it is raised and not fall unexpectedly on a child
Limits string length on crib and playpen toys to reduce the risk of strangulation

Toys should be chosen with care. Teachers should look for quality design and construction. Safety labels to look for include "Flame retardant/Flame resistant" on fabric products and "Washable/hygienic materials" on stuffed toys and dolls. Watch for the hazards listed in Table 3.5[102].

Table 3.5 – Hazards to Avoid in Toys[103]

Hazards	Description
Sharp Edges	New toys intended for children under eight years of age should be free of sharp glass and metal edges. With use, however, older toys may break, exposing cutting edges.
Small Parts	The law bans small parts in toys intended for children under three. This includes removable small eyes and noses on stuffed toys and dolls and small, removable squeakers on squeeze toys.
Loud Noises	Some noise-making toys can produce sounds at noise levels that can damage hearing.
Cords And Strings	Toys with long strings or cords are dangerous for infants and very young children. The cords can become wrapped around an infant's neck, causing strangulation. Never hang toys with long strings, cords, loops, or ribbons in cribs or playpens where children can become entangled. Remove crib gyms from the crib when the child can pull up on hands and knees; some children have strangled when they fell across crib gyms stretched across the crib.

Hazards	Description
Sharp Points	Toys that have been broken may have dangerous points or prongs. Stuffed toys may have wires inside the toy which could cut or stab if exposed. A CPSC regulation prohibits sharp points in new toys and other articles intended for use by children under eight years of age.
Propelled Objects	Projectiles—guided missiles and similar flying toys—can be turned into weapons and can injure eyes in particular. Children should never be permitted to play with hobby or sporting equipment that has sharp points.

Check all toys periodically for breakage and potential hazards. A damaged or dangerous toy should be thrown away or repaired immediately.

Age Appropriate Toys

Teachers must keep in mind the ages of children they are choosing toys for, including their typical interests and skill levels. The manufacturer's age recommendation is a good starting place to ensure that toys are age-appropriate. Warnings such as "Not recommended for children under 3" should be followed.[104] See Table 3.6 for some age-appropriate toys to consider. Please note that toys appear on the list when they become appropriate and are not repeated in later ages.

Table 3.6 – Age Appropriate Toys[105]

Age	Some Age Appropriate Toys
From 6 weeks to around 4 months these toys become appropriate	• Simple rattles • Teethers • Light, sturdy cloth toys and dolls • Squeeze toys • Texture and soft squeeze balls
Between 4 to 6 months these toys become appropriate	• Soft blocks • Keys on rings • Interlocking plastic rings • Small hand-held manipulatives • Toys on suction cups

Age	Some Age Appropriate Toys
Between 7 to 12 months these toys become appropriate	• Rubber or rounded wood blocks • Push toys (simple cars, animals on wheels, etc.) • Squeeze-squeak toys • Roly-poly toys • Activity boxes and cubes • Containers with objects to empty and fill • Transparent, chime, flutter, and action balls • Large rubber or plastic pop beads • Simple nesting cups • Stacking rings • Graspable unbreakable mirror toys • Simple floating toys • Paper and large crayons for scribbling • Cloth, plastic, and board books
These toys become appropriate for 1-year-olds	In addition to above • Push toys with large handles • Toys to push on the floor • Doll carriages and wagons • Stable ride-on toys with no pedals • Small stacking blocks • Unit blocks • Hollow blocks • Large plastic bricks to press together • Simple puzzles (at 1, 2-3 pieces and 1½, 3-5 pieces) • Pegboards with large pegs • Hidden object toys • Simple pop-up toys • Simple shape sorters • Pounding and hammering toys • Simple matching toys • Simple lock boxes and toys • Large beads for stringing • Funnels and colanders • Small sand toys • Dolls and simple accessories • Rhythm instruments operated by shaking and banging • Simple dress-up clothes and role-play toys • Child-sized dramatic play equipment • Picture books • More detailed toy vehicles • Trains with simple coupling systems

Age	Some Age Appropriate Toys
These toys become appropriate for 2-year-olds	• Pull toys • Small, light-weight wheelbarrows • Push toys that look like adult equipment (lawnmower, vacuum, etc.) • Small tricycles • 4 to 5 and then 6-12 piece puzzles • Magnetic boards with shapes, animals, and people • Fit together toys • Large balls • Smelling jars • Feeling bags • Lacing cards • Frames for buttoning, lacking, snapping, and hooking • Small boats • Water/sand mills • More realistic dolls • Small hand puppets • All rhythm instruments • Non-toxic paints • Clay • Markers • Blunt-end scissors • Chalk and chalkboard • Costumes and dress-up clothing • Realistic dramatic play props • Larger trucks and construction vehicles • Pop-up books • Hidden picture books
These toys become appropriate at around 3 years of age	• Fit in frame puzzles up to 20 pieces • Simple jigsaw puzzles • Number boards with smaller pegs • Frames to tie • Large sandbox tools • Realistic dolls • Stuffed toys with accessories • Music box toys • Simple sock, mitten, and finger puppets • Toy telephone, camera, doctor kit • Cash register and equipment to play store • Xylophone • Paintbrushes • Paste and glue • Simple block printing • Simple board, lotto, and card games

Age	Some Age Appropriate Toys
These toys become appropriate around 4 years of age	• Mosaic boards • Felt boards • Matching toys • Geometrical concept toys • Sand molds • Wood-working tools • Audio equipment
These toys become appropriate around 5 years of age	• Simple weaving loom • Simple sewing kit (with a blunt-tipped needle) • Paper dolls • Dramatic play equipment that works • Watercolor paint • Science materials • Toy typewriter

Pause to Reflect

Look at these toys that might be given to children. Do you know enough about them to know whether or not they are safe? If not, what would you need to know and do to make sure they are safe? How would you determine what age of children they are safe for?



Figure 3.7 – Toy #3[198]

Nontoxic Art Materials

Federal law requires that all art materials offered for sale to consumers of all ages in the United States undergo a toxicological review of the complete formulation of each product to determine the product's potential for producing adverse chronic health effects. It also requires that the art materials be properly labeled for acute and chronic hazards, as required by the Labeling of Hazardous Art Materials Act(LHAMA) and the Federal Hazardous Substances Act (FHSA), respectively.

In addition to the LHAMA requirements, art materials – such as paintbrushes and stencils – that are designed or intended primarily for children 12 years of age or younger, are also required, like all children's products, to comply with the requirements of the Consumer Product Safety Improvement Act of 2008 (CPSIA).[109] Under the FHSA, most children's products that contain a hazardous substance are banned, whether the hazard is based on chronic toxicity, acute toxicity, flammability, or other hazard identified in the statute.

Children's products that meet the FHSA's definition of an art material include, but are not limited to, crayons, chalk, paint sets, colored pencils, and modeling clay. Non-toxic art and craft supplies intended for children are readily available. Read the labels and only purchase art and craft materials intended for children and that are labeled with the statement "Conforms to ASTM D-4236."[110]

One such label will come from the Art and Creative Materials Institute's (ACMI) certification program. "ACMI-certified product seals…indicate that these products have been evaluated by a qualified toxicologist and are labeled in accordance with federal and state laws… The AP (Approved Product) Seal identifies art materials that are safe and that are certified in a toxicological evaluation by a medical expert to contain no materials in sufficient quantities to be toxic or injurious to humans, including children, or to cause acute or chronic health problems."[111]



Figure 3.8 – ACMI's AP seal means an art material is safe for children.[112]

Pause to Reflect

Look at each of the labels of art supplies. Can you find the label or seal on each? Can you find the warning on one of these materials that you would want to pay attention to if purchasing it to use with young children?



Figure 3.13 – Crayons, colored pencils, and markers[117]

Safety Risks from Art Materials

For certain chemicals and exposure situations, children may be especially susceptible to the risk of injury. For example, since children are smaller than adults, children's exposures to the same amount of a chemical may result in more severe effects. Further, children's developing bodies, including their brains, nervous systems, and lungs may make them more susceptible than adults. Differences in metabolism may also affect children's responses to some chemicals.

Children's behaviors and cognitive abilities may also influence their risk. For example, children under the age of 12 are less able to remember and follow complex steps for safety procedures, and are more impulsive, making them more likely to ignore safety precautions. Children have a much higher chance of toxic exposure than adults because they are unaware of the dangers, not as concerned with cleanliness and safety precautions as adults, and are often more curious and attracted to novel smells, sights, or sounds. Children need regular and consistent reminders of safety rules, and there is no substitute for direct supervision.

Guidelines for Selecting Art and Craft Materials

Here are some helpful reminders about choosing art materials for children:

- Note that even products labeled 'non-toxic' when used in an unintended manner can have harmful effects.
- Products with cautionary/warning labels should not be used with children under age 12.
- Avoid solvents and solvent-based supplies, which include turpentine, paint thinner, shellac, and some glues, inks, and a few solvent-containing permanent markers.
- Avoid products or processes that produce airborne dust that can be inhaled (including powdered tempera paint).
- Avoid old supplies, unlabeled supplies, and be wary of donated supplies with cautionary/warning labels and that do not contain the statement "Conforms to ASTM D4236."
- Look for products that are clearly labeled with information about intended uses.
- Give special attention to students with asthma or allergies, which may elevate the students' sensitivities to fumes, dust, or products that come into contact with the skin.[118]
- Gather your supplies beforehand so that you can continue to supervise their use without needing to step away.
- Instruct children on safety practices before you begin (such as, modeling how to cut safely with scissors).
- Do activities in well-ventilated areas.
- Use protective equipment (such as smocks).
- Assume that anything you use should be safe enough that it won't harm children if it gets on their skin or in their mouths and/or eyes.[119]

Using Technology and Media Safely

Developmentally appropriate use of technology can help young children grow and learn, especially when families and early educators play an active role. Early learners can use technology to explore new worlds, make-believe, and actively engage in fun and challenging activities. They can learn about technology and technology tools and use them to play, solve problems, and role play. But how technology is used is important to protect children's health and safety.

Technology can be a Tool for Learning

What exactly is developmentally appropriate when it comes to technology for children? In *Technology and Interactive Media as Tools in Early Childhood Programs Serving Children from Birth through Age 8*, the National Association for the Education of Young Children (NAEYC) and the Fred Rogers Center state that "appropriate experiences with technology and media allow children to control the medium and the outcome of the experience, to explore the functionality of these tools, and pretend how they might be used in real life[120]."

Lisa Guernsey, author of *Screen Time: How Electronic Media—From Baby Videos to Educational Software—Affects Your Young Child*, also provides guidance for families and early educators. For example, instead of applying arbitrary, "one-size-fits-all" time limits, families and early educators should determine when and how to use various technologies based on the Three C's: the content, the context, and the needs of the individual child. They should ask themselves the following questions:

- Content—How does this help children learn, engage, express, imagine, or explore?
- Context—What kinds of social interactions (such as conversations with families or peers) are happening before, during, and after the use of the technology? Does it complement, and not interrupt, children's learning experiences and natural play patterns?
- The individual child—What does this child need right now to enhance his or her growth and development? Is this technology an appropriate match with this child's needs, abilities, interests, and development stage?[121]

Early childhood educators should keep in mind the developmental levels of children when using technology for early learning. That is, they first should consider what is best for healthy child development and then consider how technology can help early learners achieve learning outcomes. Technology should never be used for technology's sake. Instead, it should only be used for learning and meeting developmental objectives, which can include being used as a tool during play.

When technology is used in early learning settings, it should be integrated into the learning program and used in rotation with other learning tools such as art materials, writing materials, play materials, and books, and should give early learners an opportunity for self-expression without replacing other classroom learning materials. There are additional considerations for educators when technology is used, such as whether a particular device will displace interactions with teachers or peers or whether a device has features that would distract from learning. Further, early educators should consider the overall use of technology throughout a child's day and week, and adhere to recommended guidelines from the Let's Move initiative, in partnership with families. Additionally, if a child has special needs, specific technology may be required to meet that child's educational and care needs. And dual language learners can use digital resources in multiple languages or translation to support both their home language and English development.



Figure 3.14 – These children and their teacher in a bilingual preschool classroom are using an app to create a "story" with photos of their recent field trip.[122]

For Infants and Toddlers

Research shows that unstructured playtime is particularly important for infants and toddlers because they learn more quickly through interactions with the real world than they do through media use and, at such a young age, they have limited periods of awake time. At this age, children require "hands-on exploration and social interaction with trusted caregivers to develop their cognitive, language, motor, and social-emotional skills."

For children under the age of 2, technology use in early learning settings is generally discouraged. But if determined appropriate by the IFSP team under Part C of the IDEA, children with disabilities in this age range may also use technology, for example, an assistive technology device to help them communicate with others, access and participate in different learning opportunities, or help them get their needs met.

For Preschoolers

For children ages 2-5, families and early educators need to take into account that technology may be used at home and in early learning settings. New recommendations in the AAP's 2016 Media and Young Minds Brief suggest that one hour of technology use is appropriate per day, inclusive of time spent at home and in early learning settings and across devices.[123] The Department of Health and Human Services supports more limited technology use in early care settings, and more information on their recommendations can be found in *Caring for Our Children: National Health and Safety Performance Standards*.[124] However, time is only one metric that should be considered with technology use for children in this age range. Early educators should also consider the quality of the content, the context of use, and opportunities the technology provides to strengthen or develop relationships.

For School-Aged Children

For children ages 6-8 in school settings, technology should be used as a tool for children to explore and become active creators of content. If children have more than one teacher, those teachers should be aware of how much screen time is being used across subject areas and at home. Students should learn to use technology as an integrated part of a diverse curriculum.

Active versus Passive Engagement

Early childhood educators should understand the differences between passive and active use of technology. Passive use of technology generally occurs when children are consuming content, such as watching a program on television, a computer, or a

handheld device without accompanying reflection, imagination, or participation.

Active use occurs when children use technologies such as computers, devices, and apps to engage in meaningful learning or storytelling experiences. Examples include sharing their experiences by documenting them with photos and stories, recording their own music, using video chatting software to communicate with loved ones, or using an app to guide playing a physical game. These types of uses are capable of deeply engaging the child, especially when an adult supports them. While actions such as swiping or pressing on devices may seem to be interactive, if the child does not intentionally learn from the experience, it is not considered to be active use. To be considered active use, the content should enable deep, cognitive processing, and allow intentional, purposeful learning at the child's developmental level.

Pause to Reflect

Do these children look like they are using technology actively or passively? What do you need to see or know to accurately make this determination?



Figure 3.15 – Two children on a computer[125]

Early childhood educators also need to think of ways they can reduce the sedentary nature of most technology use. Technology can encourage and complement physical activity, such as doing yoga with a video or learning about the plants outdoors with a nature app.

The Digital Divide

Research points to a widening digital use divide, which occurs when some children have the opportunity to use technology actively while others are asked primarily to use it passively. The research showed that children from families with lower incomes are more likely to complete passive tasks in learning settings while their more affluent peers are more likely to use technology to complete active tasks.

For low-income children who may not have access to devices or the internet at home, early childhood settings provide opportunities to learn how to use these tools more actively. For example, research shows that preschool-aged children from low-income families in an urban Head Start center who received daily access to computers and were supported by an adult mentor displayed more positive attitudes toward learning, improved self-esteem and self-confidence, and increased kindergarten readiness skills than children who had computer access but did not have support from a mentor.

Co-Viewing of Technology

Most research on children's media usage shows that children learn more from content when parents/caregivers or early educators

watch and interact with children, encouraging them to make real-world connections to what they are viewing both while they are viewing and afterward.



Figure 3.16 – Interacting with children and technology is the best way to make technology use effective. [126]

There are many ways that adult involvement can make learning more effective for young children using technology. Adult guidance that can increase active use of more passive technology includes, but are not limited to, the following:

- Prior to the child viewing content, an adult can talk to the child about the content and suggest certain elements to watch for or pay particular attention to;
- An adult can view the content with the child and interact with the child in the moment;
- After a child views the content, an adult can engage the child in an activity that extends learning such as singing a song they learned while viewing the content or connecting the content to the world.



Figure 3.17 – Here are some ways adults can effectively use technology with children.[127]

Safety Risks of Technology

In addition to the health risks of sedentary activity (in place of active play), there are concerns about privacy and security with any technology. The rights of children under 13 and technology in school are governed by federal laws, but looking at privacy policies is important.

Software and apps may also include advertising and in-app purchasing (generally inappropriate for young children). So early childhood educators should choose software and apps that avoid advertising and in-app purchases.

What is Digital Citizenship?

In the Ed Tech Developer's Guide, released by the Office of Educational Technology in April 2015, digital citizenship is defined as "a set of norms and practices regarding appropriate and responsible technology use... and requires a whole-community approach to thinking critically, behaving safely, and participating responsibly online."[128]

As early learners reach an appropriate age to use technology more independently, they must be taught about cyber safety, including the need to protect and not share personal information on the internet, the goals and influence of advertisements, and the need for caution when clicking on links. These skills are particularly important for older children who may be using a parent's device unsupervised. Early childhood educators and administrators should ensure that the proper filters and firewalls are in place so children cannot access materials that are not approved for a school setting.[129]

Not all technology is appropriate for young children and not every technology-based experience is good for young children's development. To ensure that technology has a positive impact, adults who use technology with children should continually update their knowledge and equip themselves to make sophisticated decisions on how to best leverage these technology tools to enhance learning and interpersonal relationships for young children.

Access to technology for children is necessary in the 21st century but not sufficient. To have beneficial effects, it must be accompanied by strong adult support.[130]

Preventing Injuries Indoors

Some injuries that early childhood educators should be aware of and intentionally act to prevent in the last chapter were presented in the previous chapter and earlier in this chapter during the discussion about safe toys and art materials. Here is some further information about injuries that are more likely to happen indoors.

Choking

Choking occurs when an object blocks the airway, preventing breathing.[131] Infants have the highest rates of choking (140 per 100,000). That risk decreases as they get older and their airway increases in size, with 90% of fatal choking happening in children less than 4 years of age.[132]

Reducing the Risks of Choking

The main way to prevent choking is to recognize that objects that are 1½ inches or less in diameter are higher risk. [133] Foods are the most common cause of choking. Having children sit during snacks and meals at an unhurried pace, allowing time for children to properly chew their food helps prevent choking on food. Food is safest when cut into small pieces or served in small amounts. See Table 3.7 for foods that commonly cause choking.

Table 3.7 – Common Choking Hazards[134]

Foods	Other Items
• Cubed cheese • Fruits (especially when the skin is left on) • Peanut butter • Popcorn • Pretzels • Raisins • Vegetables (especially when raw) • Ice cubes • Candy	• Balloons • Batteries • Coins • Bottle caps • Small balls • Office supplies

Toys, and other items that children may play with, are another common source of choking hazards. Ensuring children only have access to age-appropriate toys is an important step. See Table 3.7 for items that should be kept out of reach of young children.

Teachers can use a small parts tester, a commercial product commonly known as choke tube, to test whether or not an object is a choking hazard. Recognizing and responding to choking will be addressed in Chapter 5.[135]



Figure 3.18 – This is a small parts tester (or choke tube). If an item/toy fits inside, it's a choking hazard.[136]

Poisoning

There are many hazards that put children at risk for accidental poisoning, both indoors and outdoors. Poisoning can occur at any time a harmful substance is intentionally or unintentionally ingested. Poisons come in many forms including plants, cleaning supplies, spoiled food, and medications. Children, who are naturally curious and like to explore, are in particular at risk for poisoning.

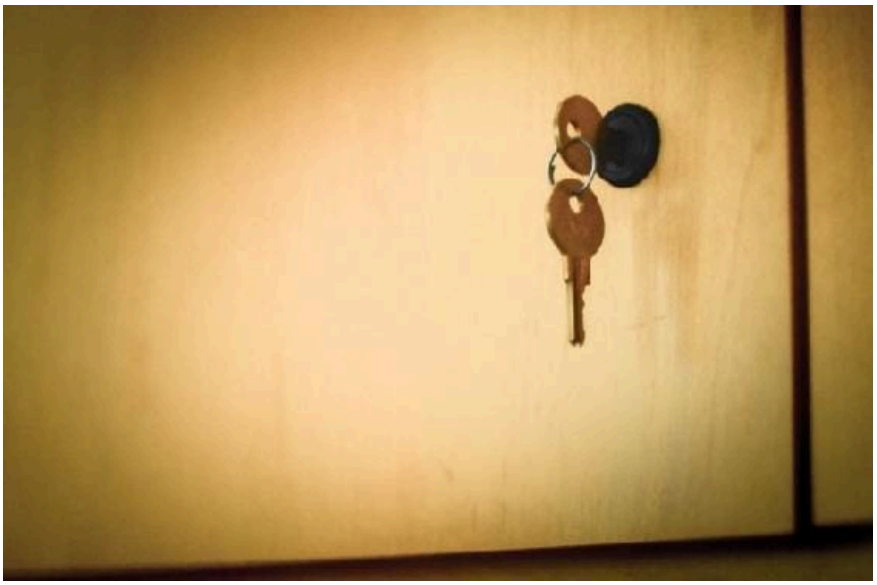


Figure 3.19 –Lock up harmful substances in cabinets that are out-of-reach of children to prevent poisoning.[137]

Guidelines to Prevent Poisoning

- Keep all cleaning supplies and chemicals locked.
- All medications should be kept in a locked storage area, out of reach.
- Check medications periodically for expiration dates and properly dispose of expired medications. Some medications become toxic when they are past their expiration date.
- Do not tell children that medication is “candy” as this makes it look more attractive to them.
- Ensure all medications and chemicals are properly labeled. Childproof caps should be on medicine bottles.
- Use safe food practices. (see Chapter 15)
- Never use cans that have bulges or deep dents in them.
- Keep poisonous plants out of reach of children and pets. (see Table 3.8)
- Keep the number for Poison Control near a telephone.[138]

Caution: Poison Control

1-800-222-1222

Table 3.8 Poisonous Plants[139]

Common Name	Botanical Name
Azalea, rhododendron	Rhododendron
Caladium	Caladium
Castor bean	Ricinis communis

Common Name	Botanical Name
Daffodil	Narcissus
Deadly nightshade	Atropa belladonna
Dumbcane	Dieffenbachia
Elephant Ear	Colocasia esculenta
Foxglove	Digitalis purpurea
Fruit pits and seeds	contain cyanogenic glycosides
Holly	Ilex
Iris	Iris
Jerusalem cherry	Solanum pseudocapsicum
Jimson weed	Datura stramonium
Lantana	Lantana camara
Lily-of-the-valley	Convalleria majalis
Mayapple	Podophyllum peltatum
Mistletoe	Viscum album
Morning glory	Ipomoea
Mountain laurel	Kalmia iatifolia

Common Name	Botanical Name
Nightshade	Salanum spp.
Oleander	Nerium oleander
Peace lily	Spathiphyllum
Philodendron	Philodendron
Pokeweed	Phytolacca americana
Pothos	Epipremnum aureum
Yew	Taxus

Burns

Every day, over 300 children ages 0 to 19 are treated in emergency rooms for burn-related injuries and two children die as a result of being burned.

Younger children are more likely to sustain injuries from scald burns that are caused by hot liquids or steam, while older children are more likely to sustain injuries from flame burns that are caused by direct contact with fire. [140]

Causes of Burns

Burns can be caused by dry or wet heat, chemicals, or electricity (both indoors and outdoors).

- Burns from dry heat can occur from fire, irons, hairdryers, curling irons, and stoves (American Institute for Preventive Medicine, 2012; Leahy, Fuzy & Grafe, 2013).
- Burns from wet or moist heat occur from hot liquids, such as hot water or steam (American Institute for Preventive Medicine; Leahy, Fuzy & Grafe). These types of burns are called scalds. Scalds can occur within seconds and cause serious injury.
- Chemical burns occur from chemical sources and can also cause serious burns when exposed to skin, or if swallowed, whether intentionally or unintentionally.
- Electrical burns can cause very serious injury as they can burn both the outside and inside of the person's body, causing injury that cannot be seen, and which can be life-threatening.
- Radiation burns can also occur from sources of radiation such as sunlight (American Institute for Preventive Medicine).[141]

Types of Burns

Burns are divided into first, second, and third degree burns.

First degree burns affect only the outer layer of the skin (epidermis). These types of burns are the least serious as they are only on the surface of the skin. First degree burns usually appear red, dry, and slightly swollen (MedlinePlus, 2014). Blisters do not occur

with this type of burn. They should heal within a couple of days (American Institute for Preventive Medicine, 2012). A first degree burn is pictured in the bottom left of Figure 3.20.

Second degree burns affect the top layer of the skin and the second layer of skin underneath (dermis). These are more serious than first degree burns. The skin may appear very swollen, red, moist, (MedlinePlus, 2014) and may have blisters or look watery and weepy (American Institute for Preventive Medicine, 2012). A second degree burn is pictured in the bottom middle of Figure 3.20.

Third degree burns are the most serious burn. A third degree burn affects all layers of the skin and may affect the organs below the surface of the skin. The skin may appear white or black and charred (MedlinePlus, 2014). The person may deny pain because the nerve endings in their skin have been burned away (American Institute for Preventive Medicine, 2012). Third degree burns require immediate medical treatment. If teachers suspect a child has a third degree burn, they should immediately call 911. A third degree burn is pictured in the bottom right of Figure 3.20.[142]

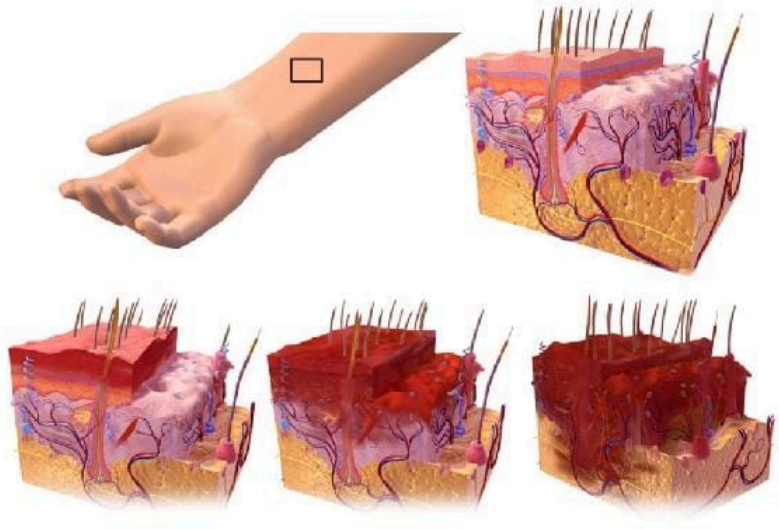


Figure 3.20 – This image shows first, second, and third degree burns.[143]

Chemical burns can occur anytime a liquid or powder chemical comes into contact with skin or mucous membranes that line the eyes, nose, or throat. Chemical burns may also occur if a chemical is swallowed. These burns can cause serious injury and emergency services should be contacted. If a person receives a chemical burn, the chemical should be removed from the skin by using a gloved hand to brush it off and then wash the area with plenty of cool water. Electrical burns can occur if a person has been using an electrical appliance and is exposed to water or if an electrical short occurs while using the electrical appliance. Using faulty or frayed cords on electrical appliances can result in electrical burns. Electrical burns are a serious injury. Emergency medical services (EMS) should be immediately activated.

Never use oils such as butter or vegetable oil on any type of burn as this can cause further injury. For first or second degree burns flush the area with plenty of cool (not ice cold) water for about 15 minutes or until the pain decreases and cover with a clean, dry bandage. Using ice or ice-cold water can cause frostbite (American Institute for Preventive Medicine, 2012). For major burns remove any clothing that is not stuck to the skin, cover the burned area with a dry, clean cloth, and seek emergency assistance.[144]

Guidelines to Prevent Burns

- Install and regularly test smoke alarms.
- Practice fire drills.[145]
- Train staff to use fire extinguishers.
- Teach children to stop, drop, and roll.[146]
- Never allow children to use electrical appliances unsupervised.
- Never use electrical appliances near water sources.

- Never use electrical appliances in which the cord appears to be damaged or frayed.
- Never pull a plug from the cord. Always remove a cord from an outlet by holding the base of the plug.
- Cover electrical outlets with childproof plugs. Never allow children to put anything inside an electrical outlet.
- Ensure stoves and other appliances are turned off when finished with them.
- Turn pot handles inward so that a person cannot accidentally bump a handle and spill hot liquids.
- Do not use space heaters and other personal heaters.
- Check to be sure the hot water heater is not set too high. To avoid scalds from hot tap water, hot water heaters should be set to 120 degrees or less (MedlinePlus, 2014).
- Keep chemicals, cleaning solutions, and matches and lighters securely locked and out of reach of children.[147]

Safe Sleeping

Sudden Infant Death Syndrome (SIDS) is identified when the death of a healthy infant occurs suddenly and unexpectedly, and medical and forensic investigation findings (including an autopsy) are inconclusive. SIDS is the leading cause of death in infants 1 to 12 months old, and approximately 1,500 infants died of SIDS in 2013 (CDC, 2015). Because SIDS is diagnosed when no other cause of death can be determined, possible causes of SIDS are regularly researched. One leading hypothesis suggests that infants who die from SIDS have abnormalities in the area of the brainstem responsible for regulating breathing (Weekes-Shackelford & Shackelford, 2005).[148]

This is a very important topic for early childhood educators as one study found that while data suggests that only 7% of incidents of SIDS should occur while children are in child care, 20.4% actually did.[149]



Figure 3.21– A baby sleeping safely.[150]

Risk Factors for SIDS

Babies are at higher risk for SIDS if they:

- Sleep on their stomachs
- Sleep on soft surfaces, such as an adult mattress, couch, or chair or under soft coverings
- Sleep on or under soft or loose bedding
- Get too hot during sleep
- Are exposed to cigarette smoke in the womb or in their environment, such as at home, in the car, in the bedroom, or other areas
- Sleep in an adult bed with parents/caregivers, other children, or pets; this situation is especially dangerous if:

- The adult smokes, has recently had alcohol, or is tired.
- The baby is covered by a blanket or quilt.
- The baby sleeps with more than one bed-sharer.
- The baby is younger than 11 to 14 weeks of age.

Important Facts About SIDS

- SIDS happens in families of all social, economic and ethnic groups.
- Most SIDS deaths occur between one and four months of age.
- SIDS occurs in boys more than girls.
- The death is sudden and unexpected, often occurring during sleep. In most cases, the baby seems healthy.
- Although it is not known exactly what causes SIDS, researchers know that it is not caused by suffocation, choking, spitting up, vomiting, or immunizations.
- SIDS is not contagious.[151]

Reducing the Risks

Although the sudden and unexpected death of an infant cannot be predicted or prevented, research shows that certain infant care practices can help reduce the risk of a baby dying suddenly and unexpectedly. Early childhood educators can help lower the risk of SUID for infants less than one year of age by following these risk reduction guidelines.

Sleeping Position

The chance of an infant dying suddenly and unexpectedly in childcare is higher when a baby first starts the transition from home to care. Research shows if a baby has been placed on his/her back by the families, and the childcare provider places the baby to sleep on his/her stomach, there is a higher risk of death in the first weeks of child care. One of the most important things you can do to reduce the risk of sudden unexpected death is to place babies to sleep on their backs.

Healthy babies do not choke when placed to sleep on their backs. By reflex, babies swallow or cough up fluids to keep the airway clear. Since the windpipe (trachea) is positioned on top of the esophagus, fluids are not likely to enter the airway. (See Figure 3.21)

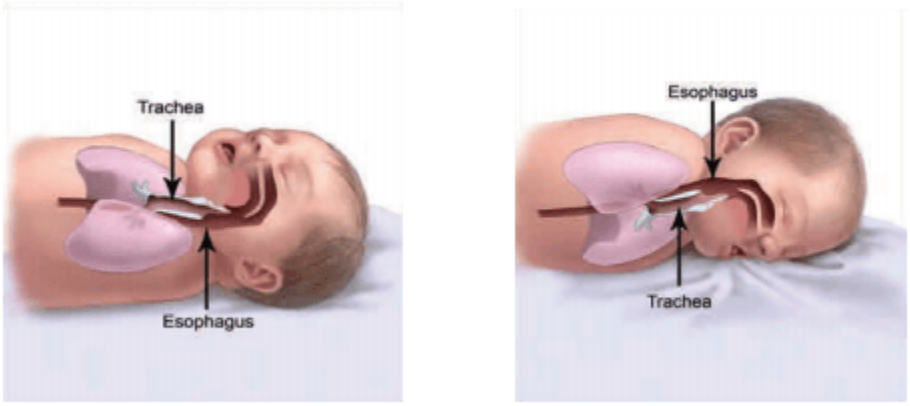


Figure 3.22 – Airway positioning when infants sleep on their backs (left) and on their stomachs (right)[152]

Babies who are able to roll back and forth between their back and tummy should be placed on their backs for sleep and allowed to assume their sleep position of choice. When infants fall asleep while playing on their tummies, move the baby to a crib onto his/her back to continue sleeping.

Cribs, Sleep Surface and Bedding

Infants should sleep in a crib, bassinet, portable crib or play yard that conforms to the safety standards of the Consumer Product Safety Commission (CPSC). The mattress should be firm, fit tightly, and be covered with a tight fitted sheet. Babies should not sleep on adult beds, waterbeds, couches, beanbag chairs or other soft surfaces. Do not use fluffy blankets or comforters under the baby, or put the baby to sleep on a sheepskin, pillow or other soft materials. Keep stuffed toys, bumper pads, loose bedding and other toys and soft objects out of the crib.

Temperature

Babies should be kept warm, not hot. Babies should be dressed with only one additional layer than you are wearing for warmth. In areas where babies sleep, keep the temperature so that it feels comfortable to you. If needed, infants can be dressed in blanket sleepers for warmth. This ensures that the baby's head will be uncovered during sleep.

Smoke Free

No one should smoke around children. California Child Care Licensing Regulations prohibit smoking in childcare centers. Smoke in the infants' environment is a major risk factor for SIDS.

Pacifiers

If the family provides a pacifier, it should be offered to the infant. If a pacifier is used, it should never be attached to a string. Infants should not be forced to take a pacifier and if it falls out during sleep it doesn't need to be given back to the infant.

Breastfeeding

Breastfeeding has many health benefits for mother and baby, including a reduced risk of SIDS. Childcare programs should be breastfeeding friendly. [153]

Other Things Caregivers and Teachers Can Do To Reduce the Risks

- Families should be asked about their infant's usual sleep position. Teachers should discuss the recommended back sleeping position with families and share the program's policy is to place infants on their back to sleep.
- Policies should be developed to address sleep position. If a family insists their baby sleep on the side or stomach, they should be referred to their health care provider for further information. Programs should request that a medical care professional provide a signed statement for infants who have a medical reason for not being placed to sleep on their backs.
- Teachers can attend education programs to learn more about sudden unexpected infant deaths. Training and education for childcare providers may be available through local public health Resource and Referral agency or Public Health Department at no cost.
- Programs should be aware of resources for additional support and make them available to families as appropriate. It is vital to stay up-to-date with the latest recommendations for safe infant sleep.
- For education and informational materials, contact the California SIDS Program: 800-369-SIDS (7437).[154]

Indoor Falls

While most falls occur outdoors, and this topic is addressed in Chapter 4, they can also happen indoors. Teachers (and adults at home) can prevent falls indoors by

- Installing stops on windows that prevent them from being opened more than four inches or install window guards on lower parts of windows. Removing furniture from near windows. Screens should not be relied on to prevent a fall.
- Installing safety gates at the top and bottom of staircases. Installing lower rails on stairs that children can reach and use. Making sure the surface of the stairs stays clear.
- Using safety straps and harnesses on baby equipment and furniture. Children should not be left unattended in high chairs or on changing tables.
- Baby walkers should not be used (licensing prohibits these).
- Teaching children to walk where surfaces may be slick. Preventing these surfaces as much as possible, such as wiping up spills.[155]

Indoor Water Safety

Small children are top-heavy; they tend to fall forward and headfirst when they lose their balance. They do not have enough muscle development in their upper body to pull themselves up out of a bucket, toilet or bathtub, or for that matter, any body of water. Even a bucket containing only a few inches of water can be dangerous for a small child.

It's important that early childhood educators follow the safety practices outlined in Chapter 4 for water safety both indoors and outdoors, keep children under active supervision, and be very aware of containers of water.[156]

Pause to Reflect

What are your top five tips for protecting children from safety hazards indoors? These can relate to toy safety, safe art materials, preventing poisoning, preventing choking, preventing burns, safe sleep, protecting from indoor falls, water safety, or any other hazard/area of safety.

Summary

Teachers need to create safe indoor environments in which children engage, explore, and interact. By recognizing that behavior is communication, they can help children use safe behaviors to get their needs met. Teachers should choose age-appropriate toys and materials that are well constructed, hazard-free, and nontoxic. With adult support, children can navigate media and technology safely. Teachers must work to prevent injuries that may occur indoors, such as choking, poisoning, burns, drowning, and falls. And teachers that care for infants must follow practices to reduce the risk of Sudden Infant Death Syndrome.

Resources for Further Exploration

- U.S. Consumer Product Safety Commission: https://www.cpsc.gov/
- Center on the Social and Emotional Foundations for Early Learning: http://csefel.vanderbilt.edu/
- Technical Assistance Center on Social Emotional Intervention for Young Children: http://www.challengingbehavior.org/
- Guiding Principles for Use of Technology with Early Learners: https://tech.ed.gov/earlylearning/principles/ •
- Common Sense Media: https://www.commonsensemedia.org/
- Child Injury Prevention: https://www.cdc.gov/safechild/index.html
- What Child Care Providers and Other Caregivers Should Know: Sudden Unexpected Infant Deaths: https://cchealth.org/sids/pdf/Child-...DS-Booklet.pdf
- Sudden Infant Death Syndrome (SIDS) Program: https://www.cdph.ca.gov/Programs/CFH...s/default.aspx

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4: Creating Safe Outdoor Environments

Learning Objectives

By the end of this chapter, you should be able to:

- Illustrate why outdoor play is essential to health and well-being.
- Describe elements of a safe outdoor play space.
- Recognize the importance of impact absorbing surfacing under equipment.
- Explain what use zones are.
- List age appropriate outdoor play equipment for each age group.
- Identify hazards on outdoor play equipment
- Develop a safety checklist to monitor the safety of the outdoor space.
- Outline ways to protect children from the weather, the sun, insects, drowning, and poisoning.
- Discuss how to keep children safe as pedestrians, in motor vehicles, and while on field trips.

Licensing Regulations

Title 22 Regulations that relate to this chapter include:

101238 BUILDINGS AND GROUNDS

- Licensees shall ensure the inaccessibility of pools and all bodies of water.

101238.2 OUTDOOR ACTIVITY SPACE

- There shall be at least 75 square feet per child of outdoor activity space. The outdoor space shall provide a shaded rest area and permit children to reach the activity space safely.
- The surface of the activity space shall be in a safe condition and free of hazards.
- The areas around and under climbing equipment, swings, slides and similar equipment shall be cushioned with material that absorbs falls.
- Sandboxes shall be inspected daily and kept free of foreign materials.
- The playground shall be enclosed by a fence at least four feet high.
- Hazardous equipment such as a fuse box shall be inaccessible.
- (from 101538.2 and 101438.2) Spaces for infants and spaces for school-age children should be physically separated from space provided for other children

101239 FIXTURES, FURNITURE, EQUIPMENT, AND SUPPLIES

- All play equipment and materials used by children must be age-appropriate.
- Furniture and equipment must be maintained in good condition.
- Permanent playground equipment must be securely anchored to the ground

101239.2 DRINKING WATER

- Drinking water must be readily available both indoors and outdoors.
- Children must be free to drink as they wish.

101416.8 STAFFING FOR INFANT WATER ACTIVITIES

- A ratio of one adult to two infants shall be required during activities near a swimming pool or any body of water.

101225 TRANSPORTATION

- Only drivers licensed for the type of vehicle operated shall be permitted to transport children.
- Motor vehicles used to transport children shall be maintained in safe operating condition.
- All vehicle occupants shall be secured in an appropriate restraint system. Children shall not be left in parked vehicles.

Introduction

There are countless benefits to outdoor play for children. Research shows that children who play outside regularly have healthier body weight, improved vision, and immune function, reduced stress, better sleep, improved motor skills. There are substantial immediate and long-term health consequences for children who aren't able to play outside or get enough physical activity such as increased obesity and chronic diseases. The research also shows us that kids who play outdoors have increased school readiness because outdoor play contributes to better social skills such as cooperation, increased attention span, improved school attendance, and improved brain development and cognition. Physical activity plays a critical role in supporting health and learning.

Being aware of the benefits of outdoor learning as they relate to overall health and school readiness is important so that teachers remember that the outdoor environment is an essential extension of the indoor environment. All the learning that takes place indoors can also take place outdoors. Anything programs do indoors can have an outdoor component.

Consider for just a moment how a program can increase the benefits of outdoor play while also minimizing injury. Reducing risk does not mean limiting play equipment or enforcing rules that restrict children's ability to move and explore their environment. An ideal playground is one that encourages children to challenge themselves while also preventing little risk for injury. In fact, studies show that playgrounds that are high challenge but low risk are the very best at promoting the goals of outdoor learning. Children get more physical activity, develop better physical, cognitive, social skills and are happier and more resilient when their outdoor play environment is challenging *and* safe.[157]



Figure 4.1 – Safe outdoor play is very beneficial to children.[158]

Playground Safety

When designing an outdoor space for children, it is critical to reduce the risk of injury while increasing the challenge. The first step is knowing what aspects of the actual learning environment are most likely to cause injuries.

Falls from, into, or on equipment are the most common cause of injury. Falls are most likely to occur on equipment that is not appropriate for the age and development of the children. And injuries are most likely to occur when the surface on which a child falls is not sufficiently shock-absorbing. The equipment pieces that are associated with the most injuries include climbers, such as monkey bars or overhead ladders, swings, and slides. About 85% of all playground injuries occur on these three pieces of

equipment. And the most common cause of death on playgrounds is strangulation, that's an injury that chokes the child.

It's important to understand that injuries are not accidents. Most injuries are predictable and preventable. Programs can take steps to prevent serious injuries by

- choosing developmentally-appropriate play equipment to ensure children do not fall from a high level and the challenges on the playground are matched with their ability.
- installing proper surfacing to minimize the severity of an injury if a child does fall.
- providing intentional and active supervision by maintaining close proximity to children, especially in places that are high risk for injury from a fall such as the slide or monkey bars).
- encouraging safe behaviors by introducing safety habits to children.

Reinforcing these safe behaviors in an early care and education program provides lifelong lessons about safety and injury prevention. As consultants, you can work with your program and teachers to predict and prevent many injuries and allow children to play.

Designing for Safety

Safe outdoor play space starts with selecting and correctly installing safe and age and developmentally-appropriate structures. The play space design should not be a hazard and should separate active play areas such as swings and slides from quieter activities such as the sandbox, nature-based learning, and dramatic play areas. Only equipment that is manufactured for public playgrounds or child care facilities should be used. So, home playground equipment like Little Tykes brand or plastic sets that home use at local stores are not appropriate.

To assess whether equipment is safe, you should look for these labels. Equipment must meet Consumer Product Safety Commission or CPSC recommendations and the American Society for Testing and Materials, or ASTM, standards. These are two organizations that set standards for design and manufacturing that ensure the equipment is safe. These logos can give you some peace of mind and knowing the equipment has been developed with the highest safety standards. And of course, it also needs to be installed according to the manufacturer's instructions and properly maintained.



Figure 4.2 – Logos that denote playground equipment complies with safety standards.

Once playgrounds are installed, they should be inspected at least once each year by an inspector or local regulatory agency and whenever changes are made to the equipment or the intended users change. The inspection will identify hazards, check for proper equipment, installation, and maintenance, and provide a report that identifies and prioritize corrective actions to take to address any concerns. Together with a program, the consultant can review, discuss, and make a plan to address the inspector's concerns that are immediate right now as well as how to plan to prevent any issues in the future. [159]

Importance of Impact Absorbing Surfaces

The playground surface is the material that lies under and around playground equipment. The surface material under the equipment should be able to cushion a child's fall. Injuries from falls occur not because children fall, but because the surface on which they fall isn't able to adequately absorb the impact of their fall. Proper surfacing is prevention of predictable injuries.

There isn't a single *best* surface to use on playgrounds. The best surface is the one that:

- the program can afford
- the program is able to appropriately maintain
- meets the needs of the children based on their age
- is workable given the climate where the program is located
- consistently meets the standard for depth that is based on the height of the equipment on the playground.

Surfaces such as asphalt, cement, dirt, and grass, however, are not acceptable surfaces. Grass is not an impact-absorbing surface. If a child falls onto grass, they are far more likely to get hurt than they are if they fall onto an appropriate impact absorbing surface.

There are two types of appropriate, impact-absorbing playground surfaces, unitary and loose-fill. Let's look at each.

Unitary material such as tiles, mats, or a rubber surface is engineered to be sufficiently shock-absorbing.[160] There are many options. If a program wants to use a unitary surface, it's important that one is chosen for the appropriate height of equipment and that the manufacturer's instructions are followed closely (and some require professional installation).[161] Table 4.1 shows some examples of unitary surfacing materials.

Table 4.1 - Examples of Unitary Surfacing Materials

 Tiles[162]	 Poured solid surface[163]

Loose fill surfaces, such as sand, pea gravel, shredded rubber, or engineered wood fiber and mulch, when installed correctly, will also safely cushion a child's fall.[164] Table 4.2 shows examples of each of these and Table 4.3 details the depth and protection provided by these materials.

Table 4.2 – Loose-Fill Surfacing Materials

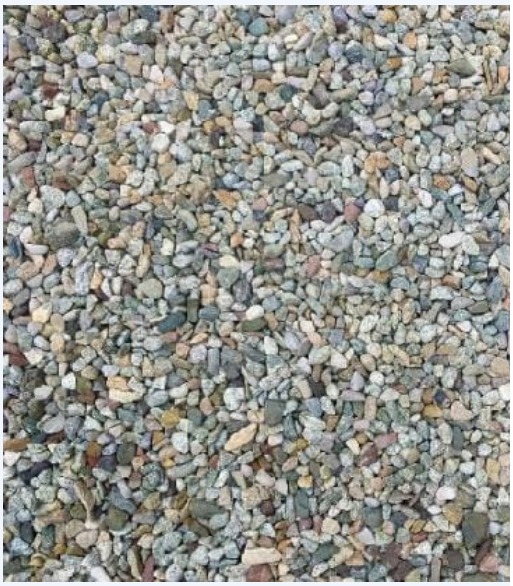
 Engineered wood fiber[165]	 Rubber mulch[166]
 Sand[167]	 Pea gravel[168]

Table 4.3 – Minimum Compressed Loose-Fill Surfacing Depths[169]

Depth of surfacing	Loose-Fill Material	Protects up to Fall Height
6 inches	Shredded/recycled rubber	10 feet

Depth of surfacing	Loose-Fill Material	Protects up to Fall Height
9 inches	Sand	4 feet
9 inches	Pea Gravel	5 feet
9 inches	Wood mulch	7 feet
9 inches	Wood chips	10 feet

Programs need to consider how data can help inform a decision about which surfacing is best for a particular playground. It's important to think about who will be using the space and for what.

- Some surfaces like pea gravel are not an appropriate choice for infants and toddlers who might put it in their mouths since it can be a choking hazard.
- Few of the loose fill materials are accessible for wheelchair users without significant accommodation, such as a special wheelchair. Engineered wood fibers provide a little bit better access, but solid or unitary materials are best if you have children on the playground with mobility impairments.
- Will the staff be able to maintain the playground surface? All loose fill surfacing required daily raking to maintain depth.
- Consider how tall the equipment is because sand and pea gravel can't be used at fall heights that are greater than four to five feet.
- The climate is also an important consideration. Factor in temperature, wind conditions, and precipitation, because they all impact the surface materials you choose.

- Sand can harden when frozen.
- Artificial surfaces can get really hot, in fact, hot enough to cause burns when they're exposed to direct sunlight.
- Loose fill material, with the exception of rubber mulch, compress about 25 percent over time due to use and weathering.

The protective surfacing has to extend for the full use zone, which is the area under and around equipment where children might fall as a playground surface can't protect a child who falls onto a hard object such as a tricycle instead of onto the protective surface.[170]

Pause to Reflect

Think of a local playground or playgrounds you played on as a child? What type of surface was underneath the equipment? Was it well maintained? Did it protect children from injuries due to falls? Did the materials used caused any other hazards (such as overflowing sand that caused slipping or a surface that got too hot to safely touch skin)?

Use Zones

The use zone is the space that encompasses the activity/piece of equipment and the area around that activity/equipment that will keep children from colliding and provides enough separation between different pieces of equipment and types of play. It is also sometimes referred to as a fall zone. The use zone should be free of movable hazards like trikes and toys, rocks, and groups of children who might cluster and fixed hazards such benches.

Use zones vary depending on the size and the type of equipment. For most stationary equipment on the playground, the use zone should extend six feet in all directions (see Figure 4.3).[171] Equipment that is taller than 30 inches should be at least nine feet from other pieces of equipment. And the use zone for swings should extend from the front and rear of the swings twice the height

of the swing (see Figure 4.4). [172]

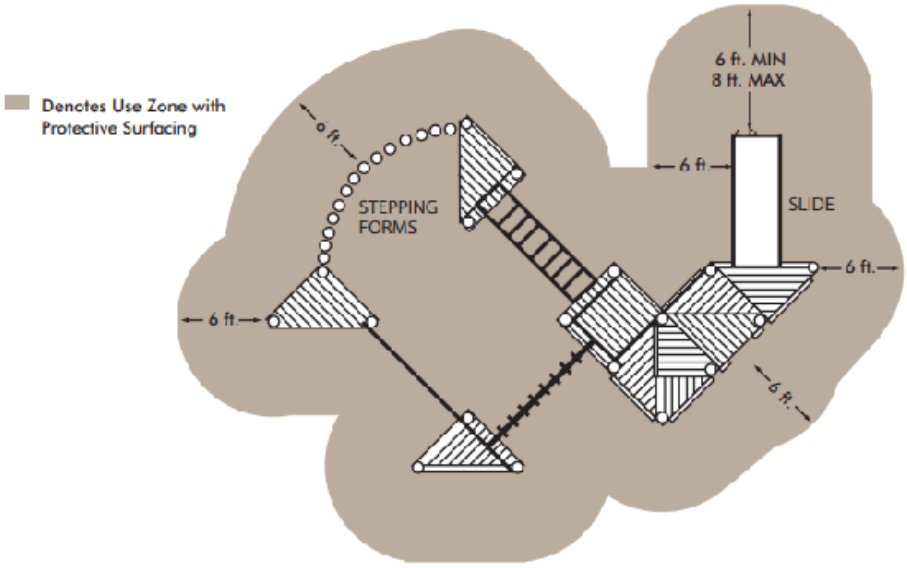


Figure 4.3 - The use zone around a playground structure.[173]

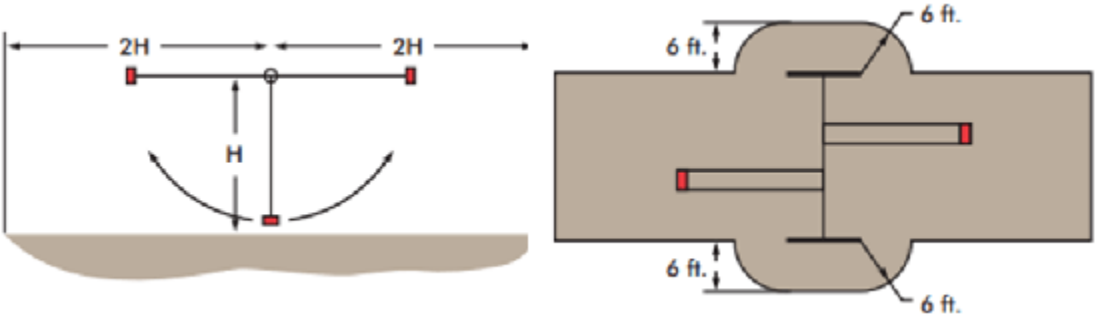


Figure 4.4 – the use zone around swings.[174]

Age Appropriateness

Age-appropriate equipment provides children with opportunities to safely practice gross motor skills without putting them at risk for unnecessary injury. This takes us back to the notion of creating playgrounds that are high challenge but low risk.

Children are less likely to fall when equipment is only used with the age group for which it is designed. Equipment that is made according to the ASPM or CPSC standards will clearly be marked with the age group for which it is intended. And that's usually either 6 to 23 months of age, 2 to 5 years of age, and 5 to 12 years of age. So, any equipment that is marked for 5 to 12 years of age is not acceptable on a preschool playground.[175]

Table 4.4 – Age-Appropriate Equipment[176]

	Age	Age Appropriate Equipment
	6 to 23 months	• equipment under 32 inches high • ramps • single-file stepladders • spring rockers • slides • bucket swings
	2 to 5 years	• climbers up to 60 inches in height • rung ladders • belt and tire swings • balance beams
	5 to 12 years	• arch climbers • flexible climbers • overhead rings and ladders • poles

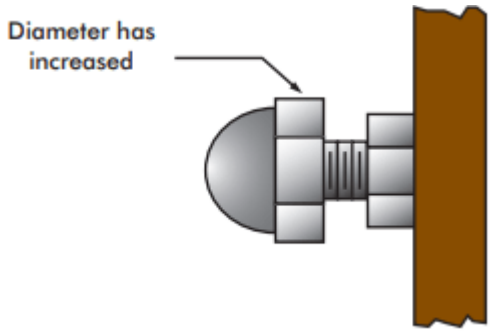
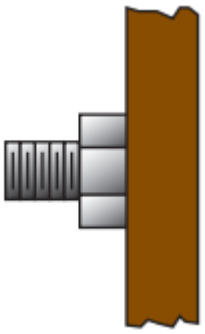
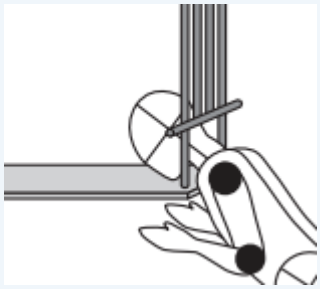
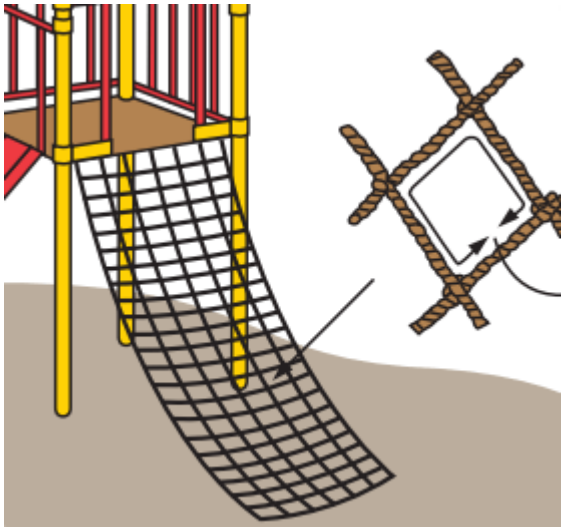
	Age	Age Appropriate Equipment
	Not appropriate for any age	• trampolines • swinging gates • climbing ropes that are not secured at both ends • animal figure swings • multiple occupancy swings • rope swings • trapeze bars

Hazards on Playgrounds

Gaps in equipment such as the space between the platform and the top of the slide or hooks can entangle clothing or entrap body parts, causing trips, falls, or strangulation. Head entrapment into gaps that are large enough for a child's body to pass through (bigger than 3.5 inches) but too small for a child's head to pass through (smaller than 9 inches) can injure a child's neck or choke a child.

Equipment that spins and moves such as steering wheels or springs on rockers can pinch, cut, or crush fingers or other body parts. So, you want to make sure that any equipment that spins or moves is not accessible for little fingers. Broken parts or improperly installed equipment can cause injuries if the equipment tips over, breaks during use, or has sharp or loose parts that can cut or entrap a child. And railings to prevent falls can break if bolts are loose. See Table 4.5 for examples of dangers to watch for on playgrounds.

Table 4.5 – Playground Hazards[177]

 Example of a hazardous projection that increases in diameter from plane of initial surface and forms an entanglement hazard and may also be an impalement hazard.	 Example of a hazardous projection that extends more than 2 threads beyond the nut and forms an impalement/laceration hazard and may also be an entanglement hazard.
 If the distance between the platform and bottom of the railing is between 3.5 and 9 inches, it is an entrapment hazard.	 If the distance between an opening (such as this railing) is between 3.5 and 9 inches, it is an entrapment hazard.
 Entrapment hazard: when the perimeter of the net openings is between 17 inches and 28 inches	 Strings on children's clothing can create entanglement hazards and hood drawstrings can create strangulation hazards.

Pause to Reflect

Think of that playground again. Did it offer adequate use zones around the different pieces of equipment? Was the equipment used by the appropriate age groups (or did older children play on equipment designed for young children or vice versa)? How well did it protect children from the hazards mentioned (trips and falls, entrapment, impalement, entanglement, or strangulation)?

Riding Toys

All children older than age 1 should wear properly fitted and approved helmets when they are riding toys with wheels or using any wheeled equipment. Helmets should be removed as soon as children stop riding the wheeled toys or using the equipment. Approved helmets should meet the standards of the U.S. Consumer Product Safety Commission (CPSC)[179] and should pass the three-point check for a proper fit as shown in Table 4.6.

Table 4.6 – Three Point Check for Proper Helmet Fit

1. Helmet is level on the head, 1 to 2 finger-widths about eyebrows. 2. Straps are even and create a "Y" under each ear with straps laying flat against the head. 3. Chinstrap is buckled loose enough to fit one finger between the buckle and chin, but tight enough the opening the mouth should pull the helmet downward.	

Figure 4.5 – Helmet positioning is important.[180]

"Helmets provide the best protection against head and brain injury, whether [the] child is riding a bike, scooter or skateboard, or using skates. However, a helmet will only protect when it fits well."[181]

Keeping Children Safe by Monitoring

Early care and education programs need to develop a routine inspection process to identify and prevent hazards. Outdoor play spaces are subject to a lot of wear and tear from use, sometimes misuse, from weather conditions. So, even if a program has correctly installed safe and age and developmentally-appropriate equipment, it still requires regular inspections and maintenance.

The outdoor space, including the playground, should be inspected using checklists such as the ones in Appendix E. It should be inspected upon initial installment.



Figure 4.6 – Checklists are used to monitor outdoor safety.[182]

It should also be inspected on a daily basis to identify hazards that may have appeared suddenly. It will also alert staff to any pieces of equipment that may have broken or become worn since last being used. Some general items to include in a daily inspection may include ensuring that

- any broken equipment is removed from children's access or repaired
- the playground is free from

- glass, needles, cigarette butts, animal feces, and trash
- standing water
- trip hazards

- the use zones are free from obstacles that may have been moved into them, such as tricycles or movable benches
- displaced loose fill surfacing is raked
- platforms and pads are free of sand and surfacing debris and any tripping hazards
- the area is scanned for

- insects or insect nests
- broken equipment
- weather-related hazards such as hot surface or equipment, ice, or other damage from weather

A monthly inspection would include:

- checking for loose or missing hardware, checking
- inspecting equipment for broken parts, splinters, rust, or sharp edges,
- replenishing loose fill surfacing if needed, and
- examining vegetation for hazardous or poisonous plants.

There has to be a system in place to conduct inspections and then respond in a timely manner when something is identified. It's too common for someone to notice a hazard but to forget to report it or for somebody to report a hazard but then people forget to follow through to correct it. Many checklists include space for writing down a corrective action plan. Once the hazard is identified the person completing the form will write down what steps should be taken to correct the problem, including identifying who will fix it, what needs to be done, and when it will be done. The process should also include a system to check that the problem was fixed in a timely manner.

A record of any injury reported to have occurred on the playground should also trigger an additional inspection of that piece of equipment (this was previously discussed in Chapter 2). This will help identify potential hazards or dangerous design features that should be corrected.

Active Supervision

The most important tool for reducing playground injuries is active supervision (which is also addressed in Chapter 2). Early childhood educator should be actively supervising children at all times. Active supervision is a specific child supervision technique that requires focused attention and intentional observation of children at all times. Active supervision includes six basic strategies.

1. Plan and set up the environment to ensure clear sightlines and easy access to the children and the equipment at all times while they're out on the playground.
2. Teachers are positioned among the children in their care, changing positions as needed so that they can keep an eye on the children.
3. They are communicating about which children they're observing and any issues that divert their attention so that they know other teachers are taking up the slack and watching the other children.
4. Teachers are watching, counting, and listening to children at all times
5. They also use their knowledge of each child's development and abilities to anticipate what a child might do or to anticipate areas on the playground where a child might need some additional support.
6. And if needed, they get involved and they redirect children when necessary or they provide that additional support if needed.[183]



Figure 4.7: If this teacher is engaging with these two children, she would communicate this so the other teachers could make sure they are effectively supervising the other children outside.

Other Safety Considerations for the Outdoors

In addition to designing and maintaining a safe playground for children, you also need to monitor environmental factors such as weather, the sun, insects, animals, poisonous plants or materials, and water. [184]

Sun Safety

Children need protection from the sun's harmful ultraviolet (UV) rays whenever they're outdoors. Shade and sunscreen protect children from sun exposure and can help to reduce the risk of some skin cancers.

According to the Centers for Disease Control and Prevention (CDC), even a few major sunburns can increase the risk of skin cancer later in life. The American Academy of Pediatrics recommends the following guidelines regarding sun safety and the selection and application of sunscreen:

- If possible, use play areas that provide some shade to help children stay cool.
- Protect infants under 6 months from direct sunlight by keeping them in a shady spot under a tree, umbrella, or stroller canopy.

- Limit children's sun exposure between 10 a.m. and 4 p.m. when UV rays are the strongest.
- Encourage families to dress children in cool clothing such as lightweight cotton pants and long-sleeved shirts. A hat will protect their face, ears, and the back of their neck.
- Obtain written permission from children's parents/ guardians to use a sunscreen with a SPF (sun protection factor) of at least 15. That is "broad-spectrum" sunscreen to screen out both UVB and UVA rays.
- Apply sunscreen at least 30 minutes before going outdoors so it is absorbed into the skin. It will need to be reapplied every two hours if children are outside for more than an hour, and more frequently if they are playing in water.
- Each child should have their own labeled bottle of sunscreen.
- For children older than 6 months, apply sunscreen to all exposed areas, including children's ears if they are wearing a cap instead of a hat.
- For children younger than 6 months, use sunscreen on small areas of the body, such as the face and the backs of the hands if protective clothing and shade are not available.



Figure 4.9 – Shade over climbing structures helps protect children

from the sun and the heat when the temperature is high.

Hydration

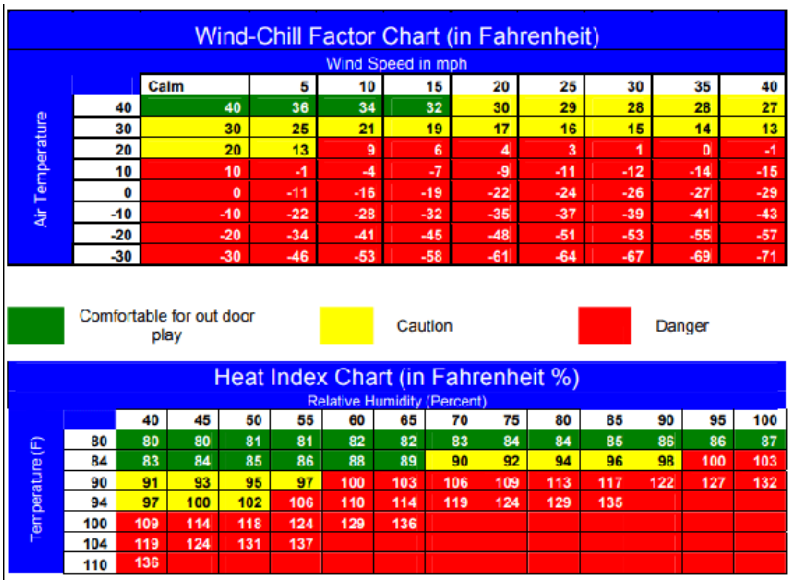
Toddlers and preschool children cannot regulate their body temperatures well and need additional water when the weather is hot. Provide regularly scheduled water breaks to encourage all children to drink during active play, even if they don't feel thirsty. Fluoridated water (bottled or from the faucet) can reduce the risk of early childhood caries, and is the best drink choice for young children in between meals. Each child should be provided their own cup or bottle. Staff may offer additional breast milk or formula to infants as water is not recommended, especially for infants younger than six months of age.[185]

Weather

Teachers should be aware of local weather conditions and monitor the temperature, humidity, and air quality. To stay up to date on current conditions:

- Check the Air Quality Index and limit play outdoors when there is poor air quality.
- Check the forecast for the UV Index to limit exposure to the sun on days when the Index is high.
- Check current and forecasted weather to be aware of the temperature and other weather conditions that may make the outdoors hazardous to children's health.

The charts in Figure 4.8 are from the Iowa Department of Public Health's Child Care Weather Watch that will help you protect children from extreme temperatures.



Wind-Chill Factor Chart (in Fahrenheit)

Wind Speed in mph

Air Temperature	Calm	5	10	15	20	25	30	35	40
40	40	36	34	32	30	29	28	28	27
30	30	25	21	19	17	16	15	14	13
20	20	13	9	6	4	3	1	0	-1
10	10	-1	-4	-7	-9	-11	-12	-14	-15
0	0	-11	-15	-19	-22	-24	-26	-27	-29
-10	-10	-22	-28	-32	-35	-37	-39	-41	-43
-20	-20	-34	-41	-45	-48	-51	-53	-55	-57
-30	-30	-46	-53	-58	-61	-64	-67	-69	-71

Comfortable for out door play | Caution | Danger

Heat Index Chart (in Fahrenheit %)

Relative Humidity (Percent)

Temperature (F)	40	45	50	55	60	65	70	75	80	85	90	95	100
80	80	80	81	81	82	82	83	84	84	85	85	86	87
84	83	84	85	86	88	89	90	92	94	96	98	100	103
90	91	93	95	97	100	103	106	109	113	117	122	127	132
94	97	100	102	106	110	114	119	124	129	135			
100	109	114	118	124	129	136							
104	119	124	131	137									
110	136												

Figure 4.8 Wind-Chill Factor and Heat Index Charts[186]

Protecting Children from Heat-Related Illness

Children's bodies heat up three to five times faster than adults.[187] It's important to help children during hot weather. Here are some tips from the American Academy of Pediatrics.

- Air conditioning should be provided when temperatures are high.
- Children need to stay hydrated.
- Children sweat less than adults, so they should wear light clothes in no more than one layer.
- Extra downtime to rest and recover from the heat should be provided
- Activities that will help children cool off (such as water play) can be planned.[188]

Protecting Children from Cold Weather

There is no set time that is safe for children to play safely when the weather is cold. Teachers will have to use their best judgment. Use the chart in Figure 4.8 to ensure it is safe to go outside.

When playing outdoors in the cold it is important for children to bundle up. They are at greater risk for frostbite than adults. They should dress in layers. Wet clothing should be removed. Scarves must be tucked into coats to avoid becoming a strangulation hazard. Gloves/mittens and socks must stay dry to protect fingers and toes from frostbite. Children should come in periodically to warm up. And even though it's cold, sunscreen and hydration are still important.[189]

Protecting Children from Insects

Children and adults can be protected from insect bites by

- Checking for and removing insect nests and spiders under slides, in bushes and in the ground.
- Making sure there is no standing water near play areas for mosquitoes to lay their eggs.
- Checking for ticks after outdoor play. The Center for Disease Control provides instructions about Tick Removal (see Figure 4.10).
- Consulting with the local health department, Health Services Advisory Committee, or a child care health consultant about whether to use insect repellent when local insects are likely to carry diseases.



Figure 4.10 – Remove a tick by gripping it with tweezers as close to the skin as possible, pulling upward with steady pressure. After removal, clean the bite area and your hands with sanitizer or soap and water and dispose of the tick by putting it in alcohol, placing it in a sealed bag/ container, wrapping it tightly in tape, or flushing it down the toilet.[190]

Water Safety

Drowning is a major cause of death among children under 5 years of age in California. Water safety presents a particular challenge to child care providers. Most drownings in this age group occur in home swimming pools. Water-filled bathtubs, wading pools, toilets, buckets or other containers are also places where top-heavy young children can drown. Water safety presents its own set of challenges to the child care environment.

Children between the ages of 1 and 4 years are at greatest risk from drowning. These children are just learning to walk and explore. They excel at getting out from under the watchful eye of the provider.

Wading in bodies of freshwater may carry the additional risk of injury from cuts, puncture wounds and infections. Standing bodies of water such as swimming pools, wading pools and hot tubs also have the potential for spreading disease, so they are not recommended for use with young children. Instead, the use of sprinklers is recommended.



Figure 4.11 Children love playing in the water.[191]

Reducing the Risk of Drowning

Reduce water hazards and prevent access to water

- Safety precautions must be taken to keep any water in the child care environment as risk-free as possible.
- Any body of water poses a threat and young children can drown in as little as one inch of water,
- The indoor and outdoor environments should be thoroughly screened to detect hazards that may lead to the risk of drowning

Promote safe behaviors

- Because children move quickly, are curious and do not understand their physical abilities, they must be watched carefully around even small bodies of water.

- The majority of drownings occur within a surprisingly short period of time.
- Never, ever, leave a child alone, even for a moment, when there is a body of water in the environment.
- When near water, always reinforce safety for the children.
- Plan water play when children are the least tired and most alert.
- Teach children safe practices for swimming and playing in the water.
- Have a telephone within easy reach at all times.

Learn proper response if there is a water emergency and act immediately

- Pull the child from the water and place the child on his/her back.
- Check for breathing, and clear mouth and nose of any obstructions.
- Get another adult to call for emergency help.
- Begin rescue breathing or CPR as needed until the child is revived or help arrives.

Preventing Drownings

- Never leave a child alone in or near any body of water (tub, wading pools, shower, pool, water table or even a bucket).
- Always provide careful, direct and constant supervision of young children if there is a body of water present in the environment.
- Never expect swimming instruction to eliminate the risk of drowning in children.
- Supervise children in the water even if they are wearing flotation devices. These devices are not substitutes for constant supervision.
- Any hazard should be enclosed with a fence that is at least five feet tall and not easy to climb. A door or sliding glass door is not a safe substitute for a fence.
- Gates should have locks that are at least 55 inches high and self-closing. Keep gate keys in a safe place away from children.
- Never leave pool covers partially in place because children can become trapped beneath them. Pool covers are not a substitute for fencing.
- Keep chairs, tables and climbing equipment away from pool fences to prevent children from climbing over the fence into the pool.
- Learn CPR and keep rescue equipment at poolside, including a life preserver, shepherd's crook and cordless telephone to call 9-1-1.
- If a portable wading pool is used in child care (although it is not recommended), it should be filled with water, used immediately, drained and put away as soon as children leave the pool.
- Never leave infants or children unattended around five-gallon buckets containing even a small amount of liquid. Empty buckets when not in use.
- Children with seizure disorders are particularly vulnerable to drowning. Know your children's medical history.
- Teach children water safety behaviors:

- Do not run, push or play around swimming areas.
- Do not swim with anything in your mouth.
- Do not swim in very cold water because it increases the risk of drowning.
- Look out for other children who might be in danger.
- Do not go near a pool unless supervised.
- Do not scream for help unless you mean it.
- Do not roughhouse in the water.[192]

Preventing Poisoning Outdoors

This topic was covered in Chapter 3, but it is important to note that poisonous materials are also found outdoors, including some of the plants in Table 3.8.

Storing Toys, Materials, and Equipment Safely

In order to protect toys, materials, and equipment from the elements, they should be safely stored when not in use. Keep storage areas clean and dry to prevent mold and infestations of insects, spider, rodents, or other pests.

Pedestrian Safety

Each year for more than a decade, more than 700 children have died from injuries sustained while walking, over 500 of these in traffic. Although the fatality rate has declined somewhat during this period, it could be attributable to improvements in pre-hospital and emergency medical care or to a decline in walking as a mode of transportation. As we want children (and their educators and families) to get out and walk to for both health reasons and for opportunities to explore and learn about their communities, we must make sure that they have a safe environment in which to do so. Children under 10 should always have adult supervision.[193]



Figure 4.12 – If these children were younger, would they need additional safety considerations?[194]

Teaching Children about Pedestrian Safety

Before going on a walk, teachers should talk to children about the safety practices that they will be using (see Table 4.7). Children need close adult supervision and proximity while walking because they may do the unexpected (like suddenly dart off the sidewalk).[195]

Table 4.7 – Safety Practices While Walking[196,197]

Always walk on the sidewalk (if there is one).
If there is no sidewalk, walk facing traffic.
Be safe and be seen (bright clothing during the day, lights and reflectors at night).
Walk safely. Don't run, don't push or roughhouse. Be aware and don't let toys distract you.
Watch for cars pulling in and out of driveways. Make sure drivers make eye contact with you.

When it is time to cross the street, show children a good place to safely cross the street. Explain how to safely cross the street

(see Figure 4.13). If there is a button at the crosswalk, have them push it.[200]

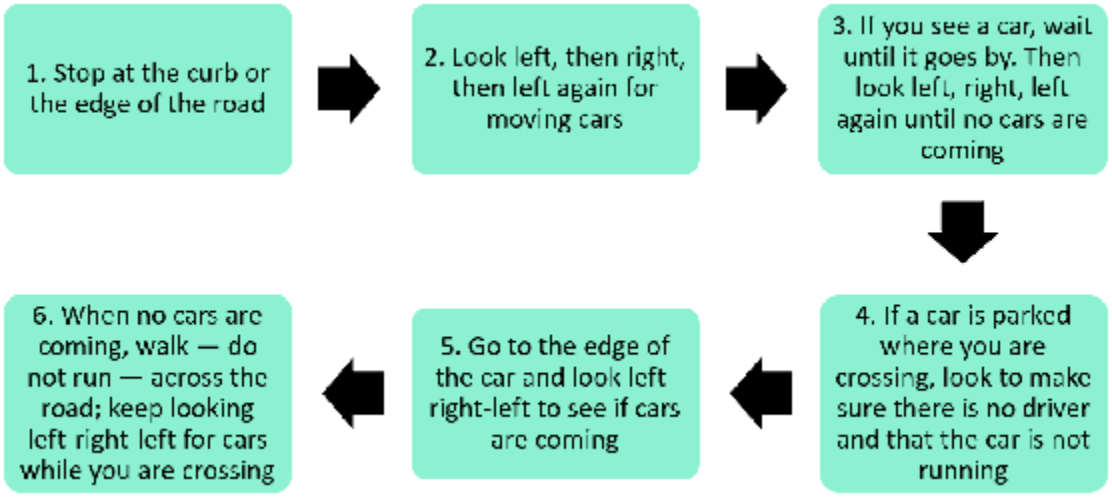


Figure 4.13 – Steps for Crossing the Road Safely[201]

Motor Vehicle Safety

Motor vehicle injuries are a leading cause of death among children in the United States. But many of these deaths can be prevented.

- In the United States, 723 children ages 12 years and younger died as occupants in motor vehicle crashes during 2016, and more than 128,000 were injured in 2016.
- One CDC study found that, in one year, more than 618,000 children ages 0-12 rode in vehicles without the use of a child safety seat or booster seat or a seat belt at least some of the time.
- Of the children ages 12 years and younger who died in a crash in 2016 (for which restraint use was known), 35% were not buckled up.[202]

Safely Transporting Children

Any licensed driver transporting children should be trained in safety practices and if alone, have CPR and first aid training. They should have a safe driving record and their license should authorize them to drive the type of vehicle being driven.[203]



Figure 4.14 – Drivers must be licensed, trained, and have a clean driving record.[204]

The interior of vehicles used to transport children for field trips and out-of-program activities should be maintained at a temperature comfortable for children. All vehicles should be locked when not in use, headcounts of children should be taken before and after transporting to prevent a child from being left in a vehicle, and children should never be left in a vehicle unattended.[205]

Caution: Hot Car Warning!

"Never leave children in a car or in another closed motor vehicle. The temperature inside the car can quickly become much higher than the outside temperature—a car can heat up about 19 degrees in as little as 10 minutes and continue rising to temperatures that cause death." [206]

Passenger Safety in Motor Vehicles

When children are driven in a motor vehicle other than a bus, all children should be transported only if they are restrained in a developmentally appropriate car safety seat, booster seat, seat belt, or harness that is suited to the child's weight and age in accordance with state and federal laws and regulations. The child should be securely fastened, according to the manufacturer's instructions. The child passenger restraint system should meet the federal motor vehicle safety standards and carry notice of compliance. Child passenger restraint systems should be installed and used in accordance with the manufacturer's instructions and should be secured in back seats only.

Car safety seats should be replaced if they have been recalled, are past the manufacturer's "date of use" expiration date, or have been involved in a crash that meets the U.S. Department of Transportation crash severity criteria or the manufacturer's criteria for replacement of seats after a crash.[207]

Buckling children in age- and size-appropriate car seats, booster seats, and seat belts reduces the risk of serious and fatal injuries:

- Car seat use reduces the risk of injury in a crash by 71-82% for children when compared to seat belt use alone.
- Booster seat use reduces the risk for serious injury by 45% for children aged 4–8 years when compared with seat belt use alone.
- For older children and adults, seat belt use reduces the risk of death and serious injury by approximately half.[208]

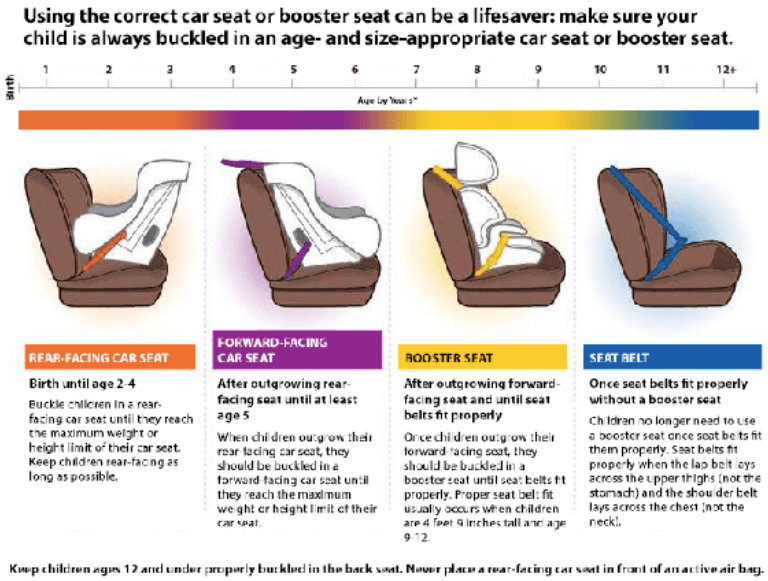


Figure 4.15 – The different types of car seats based on age.[209]

Tips for Safe Field Trips

Early care and education programs can be enriched through carefully planned field trips. It is important that the destination be appropriate for the age and developmental level of each child that will be attending. Any special arrangements needed to make sure that all children can safely be included should be made ahead of time.

All staff and background-checked volunteers that will be attending should be made familiar with the travel plans, the field trip location, rules, and their responsibilities. The children should also be prepared for the trip. Teachers can review and practice safety precautions and emergency procedures.

Families should be made aware of the field trip and provide consent for their child to attend. Emergency information for every child should be kept with staff off-site at all times. An accurate list of all children in attendance must be kept as well (at the field trip destination and at the school/center).

Adults should be assigned small groups of children. All adults should be made aware of the chosen regrouping location and checkpoints. Information is also provided in Chapter 6 about preventing lost children on field trips.[210]

Summary

Safe, outdoor play is vital to children's health and well-being. Environments that are well designed, with age appropriate, hazard-free equipment, impact absorbing surfaces, and use zones around equipment will protect children from many injuries. Supervising children and actively monitoring the outdoor space are also key to preventing injuries. Having knowledge about the weather, implementing sun safety practices, protecting children from insects, following safe practices around water play, and storing toys safely are also important for children's safety. When going off site (and during drop off and pick up times), it's important to remember pedestrian safety and how to safely transport children in motor vehicles.

Resources for Further Exploration

- Safe Kids Worldwide: https://www.safekids.org/
- National Recreation and Park Association: https://www.nrpa.org/
- National Program for Playground Safety: https://playgroundsafety.org/
- Public Playground Safety Handbook by the Consumer Product Safety Commission: https://www.cpsc.gov/s3fs-public/325.pdf
- Child Care Weather Watch: https://idph.iowa.gov/Portals/1/File...atherwatch.pdf
- Sun Safety for Schools: https://www.cdc.gov/cancer/skin/basi...ps-schools.htm
- Shade Planning for America's Schools: https://www.cdc.gov/cancer/skin/pdf/...e_planning.pdf

- Child Passenger Safety: https://www.cdc.gov/motorvehiclesafe...ety/index.html

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5: Caring for Minor Injuries and Preparing for and Managing Emergencies

Learning Objectives

By the end of this chapter, you should be able to:

- List items to include in first aid and emergency kits.
- Outline the responses to minor cuts and scrapes, burns, broken bones, head injuries, bites, and foreign objects in the body.
- Describe the lifesaving responses to severe bleeding, choking, and not breathing or being without a pulse.
- Discuss lost or missing child prevention and response.
- Explain response to unauthorized persons on the premises.
- Identify potential disasters and emergencies that early care and education programs should prepare for.
- Summarize the three phases of emergency management (preparedness, response, and recovery).
- Distinguish when to use each type of emergency response (evacuation, sheltering in place, and lockdown).

Licensing Regulations

Title 22 Regulations that relate to this chapter include:

101174 DISASTER AND MASS CASUALTY PLAN

- Each licensee shall have a disaster plan of action in writing.
- Disaster drills shall be documented and conducted every six months.

101216.1 TEACHER QUALIFICATIONS

- A teacher shall complete 15 hours of health and safety training, if necessary, pursuant to Health and Safety code, Section 1596.866.

101224 TELEPHONES

- All Child Care Centers shall have working telephone service onsite.

101229.1 SIGN IN AND SIGN OUT

- The licensee shall develop, maintain and implement a written procedure to sign the child in/out of the center. The person who signs the child in/out shall use his/her full legal signature and shall record the time of day. All sign in/out sheets shall be kept for one month.

Introduction

An emergency is a situation that poses an immediate risk to health, life, property, or environment. Most emergencies require urgent intervention to prevent a worsening of the situation. Some emergencies will be obvious (such as natural disasters), but others will require early childhood educators to decide if it truly is an emergency.[211]

Once an emergency has been identified, it's important to know what to do. This chapter introduces different first aid and emergency medical responses, the phases of a disaster, and more information about a few different types of emergencies.

Basic First Aid

“Minor accidents and unintentional childhood injuries are not unusual in the child care setting. Even with careful supervision, children frequently sustain scrapes, bruises, cuts, bites, and falls in the normal course of their day. Less frequently, medical emergencies…may require immediate intervention and treatment.”[212]

First Aid Kits

Here is a recommended list of supplies for the first aid kit (modified from the Emergency First Aid Guidelines for California Schools):

- Current National American Red Cross First Aid Manual or equivalent.
- American Academy of Pediatrics First Aid Chart.
- Pocket mask/face shield for CPR
- Disposable gloves (including latex-free gloves for persons with a latex allergy)
- Soap (plain)
- Cotton tipped applicators, individually packaged
- Assorted Band-Aids (1”x3”)
- Gauze squares (2”x2”’; 4”x4”), individually packaged
- Adhesive tape (1” width)
- Gauze bandage (2” and 4” widths) rolls
- Ace bandage (2” and 4” widths)
- Splints (long and short)
- Cold packs
- Triangular bandages for sling & Safety pins
- Tongue blades
- Disposable facial tissues
- Paper towels
- Sanitary napkins[213]

Minor Cuts and Scrapes

Before performing first aid for minor cuts and scrapes, early childhood educators should wash their hands and apply gloves. The cut or scrape should then be washed with cool water. The surrounding area can be washed with soap, but soap should not get into the wound. The cool water will wash away any debris that may be in the wound and will help blood vessels to constrict (become narrower), which helps to stop bleeding. Once the area is clean and the blood has decreased, place gentle pressure on the wound with a clean and sterile gauze pad. If the first gauze saturates with blood, add additional gauze pads. Gauze pads should not be removed, as this could cause any clots that have begun to form to be removed and bleeding to continue. When the wound has stopped bleeding, the cut or scrape can be covered by a clean bandage. Be sure to document the injury and communicate what happened with families.[214,215]



Figure 5.1 – You can care for a minor burn by running it under cool water.[216]

Burns

The treatment of burns depends on the type of burn (refer back to Figure 3.20). The first step for any burn is to remove the source of heat. For minor burns that are limited to a small area, a clean cool towel or cloth can be applied to the skin or the skin can be flushed with cool water. Do not use ice. A clean, dry sterile piece of gauze can then be taped over the area when the burn is cooled and is only first degree. Ointments, grease, and oils should never be put on a burn. And blisters should not be broken. Children with second degree burns should be referred for medical care. Emergency care must be sought (call 911) any time a child receives a third degree burn. [217,218]

Broken Bones

If a child breaks a bone, it will require medical treatment. The child should be comforted and not be moved any more than necessary. Any bleeding should be stopped (apply pressure with a sterile bandage or clean cloth), the area should be immobilized, and the family should be contacted to seek medical care. If the child is not conscious, there is heavy bleeding, the bone has pierced the skin, or the break is suspected in the back, neck, or head, emergency medical care should be sought.[219]

Head Injuries

Most trauma to the head is minor and will not require first aid. But trauma that is associated with symptoms of a concussion (such as nausea, unsteadiness, headaches) needs to be evaluated by a medical professional. More serious injury indicated by the following warrant calling for emergency medical care (911). Keep the child skill, stop any bleeding, and monitor vital signs (and start CPR if needed).

Symptoms of severe head injury:

- Severe bleeding or bleeding from nose or ears
- Change in consciousness
- Not breathing
- Confusion or slow response to questions
- Dizziness, balance problems, or trouble walking
- Unequal pupil size
- Slurred speech
- Seizures
- Persistent crying
- Refusing to eat
- Repeated vomiting

- Bulge in an infant's soft spot[220,221]

Injuries to the Mouth

Injuries to the head, face, and mouth are common in young children. Even when families do their best to keep children safe, oral injuries can happen. Most oral injuries happen when young children are learning to walk. The top front teeth are injured most often.

If the child's tongue or lip is injured, the area should be cleaned. Ice wrapped in a clean cloth can be placed on the area to reduce swelling. If the bleeding doesn't stop after 30 minutes, medical attention should be sought.

If a child has an injury to a tooth, families should contact a dentist for advice. Teeth that are knocked out should not be put back in the mouth.[222]

Injuries to the Nose and Nosebleeds

Nosebleeds are not unusual and not usually a health concern. If a child gets a nosebleed they should be reassured. They should sit upright and gently pinch the soft part of the nose for about 10 minutes (or the bleeding may start back up). Discourage nose-blowing, picking, or rubbing.[223]

If a nosebleed is heavy and won't stop after 30 minutes, the child feels lightheaded, or the nosebleed is the result of an injury that may indicate a broken nose emergency medical care should be sought.[224]

Pause to Reflect

What experiences do you have with first aid (giving or receiving)? How might this affect how you respond to a child getting injured?

In addition to providing treatment for the injury, what else might an injured child need from a caring adult to feel emotionally safe?

Poisoning

If a child ingests a potentially poisonous substance, Poison Control should be contacted at 1-800-222-1222. They will advise about the effects of the substance that has been ingested and what the proper response should be.

Bites

How you will respond to bites depends on what bit (or stung) the child and how severe the injury is. Table 5.1 provides more information.

Table 5.1 – First Aid for Bites and Stings

Type of Bite/Sting	First Aid Response
Insect bites and stings[225]	For mild reactions: • Move stinger (if needed) • Wash with soap and water • Can apply a cold compress For severe reactions: • Use epi-pen (if the child has one) • Call 911 • Being CPR if needed
Animal bites[226,227]	• Wash wound with soap and water • Apply antibiotic ointment and bandage • If unsure if the skin was punctured have family consult a physician
Venomous snakebites[228]	• Remove the child from the area of the snake • Get a good description of the snake • Elevate area of snakebite and keep child calm • Call 911
Human bites[229]	If the bite doesn't break the skin: • Wash with soap and water If the skin is broken: • Stop any bleeding • Wash with soap and water • Apply clean bandage • Have family consult a physician

Foreign Objects in the Body

Foreign objects may end up on the inside of a child's body. Table 5.2 lists ways to safely respond when this happens.

Table 5.2 – First Aid for Foreign Objects in Body

Location of Foreign Object	First Aid Response
Foreign object swallowed[230]	• Most swallowed items will pass through the digestive tract • If the object is a battery, magnet, or sharp object medical care should be sought • If blocking the airway, treat according to choking first aid

Location of Foreign Object	First Aid Response
Foreign object in the nose[231]	• Have child blow nose gently (not hard or repeatedly) • Do NOT probe or have child inhale it • If easily visible and graspable, remove with tweezers • Child will need medical care if the object remains in the nose
Foreign object in the ear[232]	• If the object is visible and graspable, remove with tweezers • Do NOT probe ear • Try using gravity by tipping the head to the affected side • If those fail to dislodge the object, refer to the family for additional methods of removal or to have them seek medical assistance
Foreign object in the eye[233]	• Flush eye with a clean stream of warm water • Don't try to remove an embedded object • Don't allow the child to rub the eye • If unable to remove with irrigation have family seek medical care
Foreign object in the skin[234]	If the object is small, such a splinter or thorn just under the surface of the skin • Wash hands • Use tweezers to remove the object If the object is more deeply embedded in the skin or muscle • Don't try to remove it • Bandage the wound by wrapping it with gauze without applying extra pressure

Lifesaving First Aid

Sometimes children will experience incidents or injuries that are a threat to their life. It's important that early childhood educators know how to respond in these situations. It is recommended that every person working with children become certified in emergency response through an agency such as the Red Cross (licensing requires one staff member that is certified to be on-site at all times).

Situations such as the following are considered medical emergencies and early childhood educators should contact emergency medical services (911) if a child exhibits these symptoms:

- Bleeding that will not stop
- Breathing problems (difficulty breathing, shortness of breath)
- Change in mental status (such as unusual behavior, confusion, difficulty arousing)
- Choking
- Coughing up or vomiting blood
- Loss of consciousness
- Sudden dizziness, weakness, or change in vision
- Swallowing a poisonous substance[235]

While waiting for paramedics, early childhood educators will need to follow appropriate lifesaving procedures. Three of those responses are introduced below (but are not a substitute for becoming CPR and First Aid certified)

Caution

These instructions are not intended to be a substitute for becoming certified in first aid and CPR.

Responding to Severe Bleeding

Bleeding from most injuries can be stopped by applying direct pressure to the injury. This keeps from cutting off the blood supply to the affected limb. This procedure was introduced earlier in the section on responding to minor cuts and scrapes.[236]

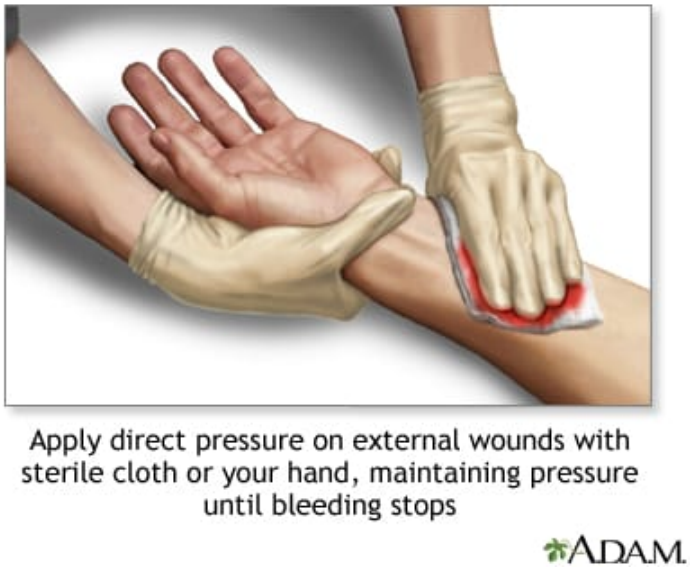


Figure 5.2 – Apply direct pressure on external wounds with a sterile cloth or your gloved hand, maintaining pressure until bleeding stops.[237]

Responding to Choking

If a child is not able to breathe, not able to cry, talk, or make noise, turning blue, or grabbing at their throat, or coughing and gagging the early childhood educator should call 911. If they are able to cough or gag (which indicates they are breathing), no further response is needed. If they are not breathing, an immediate response is important.[238] The response to choking is called the Heimlich maneuver and varies based on the age of the person that is choking. If the child loses consciousness at any point start CPR (which is covered in the next section).

Responding to a Choking Infant (under 1 year of age)

1. Lay the infant face down, along your forearm. Use your thigh or lap for support. Hold the infant's chest in your hand and jaw with your fingers. Point the infant's head downward, lower than the body.
2. Give up to 5 quick, forceful blows between the infant's shoulder blades. Use the heel of your free hand.[239]
3. If the object is not dislodged, turn the infant face up. Use your thigh or lap for support. Support the head.
4. Place 2 fingers on the middle of his breastbone just below the nipples.
5. Give up to 5 quick thrusts down, compressing the chest 1/3 to 1/2 the depth of the chest.
6. Continue this series of 5 back blows and 5 chest thrusts until the object is dislodged or the infant loses consciousness.[240]



Figure 5.4 Positioning for back blows[241]



Figure 5.5 Positioning for chest thrusts[242]

Responding to a Choking in a Child (over 1 year of age)

1. Lean the child forward and make 5 blows to their back with the heel of your hand.
2. If this does not work, stand behind the child and wrap your arms around the child's waist.
3. Make a fist with one hand. Place the thumb side of your fist just above the child's navel, well below the breastbone.[243]
4. Grasp the fist with your hand.
5. Make 5 quick, upward and inward thrusts with your fists.
6. Alternate between 5 blows to the back and 5 thrusts to the abdomen until the object is dislodged and the child breathes or coughs on their own.[244]





Figure 5.3 – Here is the positioning for performing the Heimlich maneuver on a child.[245]

Responding to Children Who are Not Breathing or Without a Pulse

CPR stands for cardiopulmonary resuscitation. It is a lifesaving procedure that is done when a child's breathing or heartbeat has stopped. This may happen after drowning, suffocation, choking, or an injury. CPR involves:

- Rescue breathing, which provides oxygen to a child's lungs
- Chest compressions, which keep the child's blood circulating

Permanent brain damage or death can occur within minutes if a child's blood flow stops. Therefore, you must continue CPR until the child's heartbeat and breathing return, or trained medical help arrives.

CPR is best done by someone trained in an accredited CPR course. The newest techniques emphasize compression over rescue breathing and airway management, reversing a long-standing practice. The procedures described here are NOT a substitute for CPR training.

Machines called automated external defibrillators (AEDs) can be found in many public places and can be purchased for homes and early care and education programs. These machines have pads or paddles to place on the chest during a life-threatening emergency. They use computers to automatically check the heart rhythm and give a sudden shock if, and only if, that shock is needed to get the heart back into the right rhythm. When using an AED, follow the instructions exactly.

CPR for Infants (under 1 year of age)

1. Check for responsiveness. Shake or tap the infant gently. See if the infant moves or makes a noise. Shout, "Are you OK?"

2. If there is no response, shout for help. Send someone to call 911. Do not leave the infant yourself to call 911 until you have performed CPR for about 2 minutes.
3. Carefully place the infant on their back. If there is a chance the infant has a spinal injury, two people should move the infant to prevent the head and neck from twisting.[246]
4. Perform chest compressions:

- Place 2 fingers on the breastbone -- just below the nipples. Make sure not to press at the very end of the breastbone.
- Keep your other hand on the infant's forehead, keeping the head tilted back.
- Press down on the infant's chest so that it compresses about 1/3 to 1/2 the depth of the chest.
- Give 30 chest compressions. Each time, let the chest rise completely. These compressions should be FAST and hard with no pausing. Count the 30 compressions quickly: "1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15, 16, 17, 18, 19, 20, 21, 22, 23, 24, 25, 26, 27, 28, 29, 30, off."[247]

5. Open the airway. Lift up the chin with one hand. At the same time, push down on the forehead with the other hand.
6. Look, listen, and feel for breathing. Place your ear close to the infant's mouth and nose. Watch for chest movement. Feel for breath on your cheek.
7. If the infant is not breathing:

- Cover the infant's mouth and nose tightly with your mouth.
- Alternatively, cover just the nose. Hold the mouth shut.
- Keep the chin lifted and head tilted.
- Give 2 breaths. Each breath should take about a second and make the chest rise.

8. Continue CPR (30 chest compressions followed by 2 breaths, then repeat) for about 2 minutes.
9. After about 2 minutes of CPR, if the infant still does not have normal breathing, coughing, or any movement, leave the infant to call 911.
10. Repeat rescue breathing and chest compressions until the infant recovers or help arrives.

If the infant starts breathing again, place them in the recovery position (see Figure 5.12). Periodically re-check for breathing until help arrives.[248]



Figure 5.6 – Check for breathing.[249]



Figure 5.7 – Position for compressions[250]



Figure 5.8 – Position for giving rescue breaths.[251]

CPR for Children (1 to 8 years of age)

1. Check for responsiveness. Shake or tap the child gently. See if the child moves or makes a noise. Shout, "Are you OK?"
2. If there is no response, shout for help. Send someone to call 911 and retrieve an automated external defibrillator (AED) if one is available. Do not leave the child alone to call 911 and retrieve an AED until you have performed CPR for about 2 minutes.
3. Carefully place the child on their back. If there is a chance the child has a spinal injury, two people should move the child to prevent the head and neck from twisting.[252]
4. Perform chest compressions:

- Place the heel of one hand on the breastbone -- just below the nipples. Make sure your heel is not at the very end of the breastbone.
- Keep your other hand on the child's forehead, keeping the head tilted back.
- Press down on the child's chest so that it compresses about 1/3 to 1/2 the depth of the chest.
- Give 30 chest compressions. Each time, let the chest rise completely. These compressions should be FAST and hard with no pausing. Count the 30 compressions quickly:"1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15, 16, 17, 18, 19, 20, 21, 22, 23, 24, 25, 26, 27, 28, 29, 30, off."[253]

5. Open the airway. Lift up the chin with one hand. At the same time, push down on the forehead with the other hand.
6. Look, listen, and feel for breathing. Place your ear close to the child's mouth and nose. Watch for chest movement. Feel for breath on your cheek.
7. If the child is not breathing:

- Cover the child's mouth tightly with your mouth.
- Pinch the nose closed.
- Keep the chin lifted and head tilted.
- Give two breaths. Each breath should take about a second and make the chest rise.

8. Continue CPR (30 chest compressions followed by 2 breaths, then repeat) for about 2 minutes.
9. After about 2 minutes of CPR, if the child still does not have normal breathing, coughing, or any movement, leave the child if you are alone and call 911. If an AED for children is available, use it now.
10. Repeat rescue breathing and chest compressions until the child recovers or help arrives.
11. If the child starts breathing again, place them in the recovery position (See Figure 5.9). Periodically re-check for breathing until help arrives. [254]



Figure 5.9 – Check for breathing[255]



Figure 5.10 – Position for compressions[256]



Figure 5.11 – Position for giving rescue breaths.[257]



Figure 5.12 Recovery position: The mouth is downward so that fluid can drain from the child's airway; the chin is well up to keep the airway open. Arms and legs are locked to stabilize the position of the child.[258]

Lost or Missing Child

The best way to prevent children from going missing is to establish and follow procedures to monitor attendance. The following suggestions have been modified from New York City Health Code.

- Identify who is responsible for taking attendance
- Identify when attendance will be taken
- Identify how attendance is going to be confirmed, documented, and reported
- Make sure that staffing schedules ensure that adult-to-child ratios are maintained at all times
- Have clear procedures for any times children are transitioning between classrooms and outdoor spaces
- Follow procedures for transitioning children that arrive late or leave early
- Train all staff in procedures
- For special events and field trips

- A coordinator should be identified
- Ensure staff are familiar with the destination prior to event/trip
- Follow procedures for documenting parental approval
- Increase ratios with extra staff or volunteers (who have background clearance)
- Determine communication procedures with dependable methods (develop communication tree)
- Monitor attendance and take headcounts often
- Maintain trip attendance log
- Assign small groups of children to specific staff

- Establish areas for regrouping
- Take attendance before departure

And here are the procedures to follow if a child does go missing:

- Establish instructions for reporting (when, how, and by whom)
- Establish procedures for searching for the child while maintaining supervision of all other children
- Document the incident
- Develop actions to be taken in response to the event[259]

Unauthorized Adult Attempting or Gaining Access

There should also be policies and procedures in place to keep children safe from unauthorized persons on grounds of the early care and education program. Programs may choose to have entrances that are locked and only accessed through codes (each authorized person should have their own code) or by being buzzed in by a member of program staff.



Figure 5.13 – Secure entrances can be accessed by authorized persons with their own code.[260]

Programs can also use cameras to monitor and record the entrances of the building, common spaces, hallways, classrooms, and outdoor spaces. Alarms and panic buttons are also something programs can consider using for added protection (and alarms protect the grounds even after hours of operation).

The front desk/entrance should be staffed with someone who can check each person entering to ensure they have been authorized to have access by matching their ID to the child's record of authorized persons. Sign-in sheets should be used to document who is dropping each child off and who has picked them up. It is important to note that, unless the program has received a court order limiting the parent's rights to custody, children cannot be kept from a parent.

The one exception to this is that according to California law, a program can deny access to an adult whose behavior presents a risk to children in the program. According to the California Department of Social Services and the Child Care Advocate Program, if a parent comes to pick up their child while inebriated or under the influence of drugs, child care providers must:

- Make every effort to prevent the parent from taking the child by taking the recommended steps
- Attempt to delay departure until you can contact another authorized person to pick the child up.
- Consider calling the police if the person refuses to cooperate or acts in a threatening manner
- If the child is taken, write down a description of the vehicle and the license plate and report the situation to the parent/legal guardian and/or police.[261]

Response to Unauthorized Person's Attempt to Pick Up Child

According to the Public Counsel Law Center: Early Care and Education Law Project's *Guidelines for Releasing Children*, if an unauthorized person attempts to pick up a child, a program should:

- Resist their demands
- Calmly request their ID and explain that the law requires that the enrolling parent/legal guardian authorize any person that will be permitted to pick up a child
- Call the custodial parent right away and let them know what is happening
- If the person refuses to comply, the police may need to be called
- If the child is taken by force, get a detailed description of the person and vehicle to report authorities immediately[262]

Disasters and Emergencies

Early care and education programs should consider how to prepare for and respond to emergency situations or natural disasters that may require evacuation, lock-down, or shelter-in-place and have written plans, accordingly. Written plans should be posted in each classroom and areas used by children. The following topics should be addressed, including but not limited to regularly scheduled practice drills, procedures for notifying and updating families, and the use of the daily class roster(s) to check attendance of children and staff during an emergency or drill when gathered in a safe space after exit and upon return to the program. All drills/exercises should be recorded.[263]

Emergencies often happen suddenly and can be devastating to programs and communities. Emergency preparedness is the process of taking steps to ensure your early care and education program is safe before, during, and after an emergency. Whether a natural disaster such as a tornado hits or a man-made emergency such as the appearance of a violent intruder occurs, early childhood educators need to know how to respond quickly and appropriately to situations that could happen in their program, center, or home. It's important for every program to create an emergency preparedness plan specific to their location, building, and grounds.

Early care and education programs play an important role in supporting children and families in their local communities before, during, and after an emergency through three phases of emergency management:

- Preparedness—Takes place before an emergency. It includes being informed about any likely emergencies in your area; mitigating any existing concerns at your facility that could make an emergency worse; making plans to respond to emergencies before they happen; and building, maintaining, and updating supply kits you will take or keep with you during an emergency.
- Response—Begins the moment you are alerted to an impending emergency and continues as the emergency occurs.
- Recovery—Happens as soon as the emergency is over, when efforts are focused on food, water, shelter, safety, and the emotional needs of those affected. Recovery is also the process of rebuilding your program and returning to normalcy after an emergency, which is why it can last hours, weeks, months, or even years in the most extreme cases.



Figure 5.14 – Programs need to make a plan.[264]

Preparedness

Ensuring you are prepared and ready for everyday activities is essential, and it is something you do every day in your program. Preparing and planning for emergencies is no different. Use the self-assessment in Appendix F to determine the steps you may need to take to develop a comprehensive and effective emergency-preparedness plan.

You will also need to consider the types of emergencies your program could experience. What types of emergencies have previously occurred in your area? Is your program in a flood zone or an area commonly threatened by wildfire? Do you experience severe weather events? Is there a history of violence in your community? Here are some possible emergencies to consider:

- Tornado
- Earthquake
- Hurricane
- Flooding
- Tsunami
- Thunderstorm
- House Fire/Wildfire
- Active Shooter/Violent Intruder (Prepared for?)
- Blackout/Power Outage
- Extreme Heat
- Winter Storm/Extreme Cold
- Landslide/Mudslide
- Volcanic Eruption



Figure 5.15 – One threat to consider is wildfires[265]

Your emergency plan should address all aspects of your early childcare education program, including the number and ages of enrolled children and any special health care needs or concerns of children and staff. While developing your emergency plan, use community resources for different perspectives and recommendations on preparedness, response, and recovery efforts. These resources can include but are not limited to:

- Child care health consultants
- Mental health consultants
- Child care resource and referral agencies (CCR&Rs)
- First responders, such as fire, law enforcement, and emergency medical personnel
- State/territory child care licensing agency
- Public health departments
- School district personnel, if your program is located within a school
- Community physicians who are disaster experts

Making Your Emergency Response Plan

Working together and communicating what to do during an event is essential. Understanding everyone's role during an emergency before the emergency occurs helps make the response procedure quicker and more efficient. Establishing responsibilities can be addressed during training sessions and planning meetings before an emergency or drill, to ensure staff are comfortable with the procedures.

Types of Emergency Responses

There are many types of emergencies. The key to remember is that each is a method to put effective barriers between you and a threat. The difference is in the types of threats and what kind of barrier is called for.

- Evacuating is a means to leave a dangerous situation or area (e.g., because of a fire).
- Sheltering in place is the use of a structure and its indoor atmosphere to temporarily separate you from a hazardous outdoor atmosphere (e.g., tornadoes, earthquakes, severe weather, landslides, or debris flow). It entails closing all doors, windows, and vents and taking immediate shelter in a readily accessible location.
- A lockdown is a shelter-in-place procedure that is used in situations with intruders or emergencies that involve potential violence. Lockdown requires children and adults to shelter in a safe room, lock doors, and remain quiet until the event is over.

See a sample evacuation plan and example blank plans for evacuation, shelter-in-place, and lockdown in Appendix G.



Figure 5.16 – These school-aged children are taking part in an earthquake drill.[266]

Building an Emergency Kit

Building an emergency supply kit is an important part of preparedness. This kit ensures that your program has sufficient supplies and food if you and the children need to shelter in place or evacuate in an emergency for at least 72 hours. Make sure that all items are up to date and not expired. Consider appointing someone to be responsible for routinely checking expiration dates of the food in your kit. Here are some items you might consider including in your kit:

- Emergency contact information for children and staff
- Attendance sheet
- Facility floor plan with evacuation routes outlined
- Printed directions to evacuation sites
- Medication list with dosing instructions for each child who takes medication
- Battery- or hand-powered weather radio
- Battery-powered walkie-talkies to communicate with staff
- Fully charged cell phone and charger
- Flashlight and batteries
- First aid kit
- Diapers, toilet paper, diaper wipes
- Sanitary wipes and hand sanitizer
- Non-latex medical gloves
- Dry or canned infant formula
- Bottled water
- Non-perishable food
- Work gloves
- Paper towels
- Blankets
- Alternative power source for electric medical devices (if needed)
- Whistle
- Wrench or pliers for the director to turn off utilities
- Matches in a waterproof container
- Games or activities to entertain children

Practice Your Plan

Practicing your emergency plan in advance helps everyone respond quickly and appropriately when an emergency situation arises. You won't know if the plan works unless you try it out, so practice with all children and adults. If you have enrolled children or staff

with special health care needs or disabilities, address these specific needs with community partners during practice.



Figure 5.17 – Practicing an evacuation drill.[267]

Regular emergency drills, both announced and unannounced, help everyone become familiar with emergency procedures and activities. This can reduce panic and fear during an actual emergency, freeing participants to focus on how to evacuate, shelter in place, or lockdown.

Reunification Procedures

An effective method of reuniting children with their parents and guardians after an emergency is an often-overlooked component of an emergency plan, but it is very important. Including up-to-date emergency contact information for each child in your emergency kit can help provide structure around this process. Reunification procedures that should be communicated to families:

- Evacuation or shelter-in-place locations
- What the program will do during a lockdown response
- What families should do during a lockdown response
- Who will contact families before, during, and after an emergency
- How families will be contacted (e.g., text, email, phone call)
- Procedures if a child needs to be transported for medical care (e.g., who will accompany the child, where they will go)

It is important for programs to have procedures in place if children cannot be reunited with their families immediately. Roads close, care gets delayed, and work shifts go into overtime during emergencies for parents/guardians working in hospitals or as first responders. Having a plan in case you need to take care of a child overnight is a critical part of your reunification procedures.

What is Mitigation?

Mitigation is similar to preparedness and involves reducing the seriousness or severity of disasters or emergencies. It is also a way of preventing future emergencies or disasters. Use the following checklist in Appendix H to ensure you are mitigating your program's risks.[268]

Response

The goals of the response phase are to:

- Determine that an emergency is occurring
- Determine appropriate response (evacuation, shelter in place, or lockdown)

- Activate the emergency response plan
- Maintain communication with all staff and first responders
- Establish what information needs to be communicated to staff, teachers, assistants, children, families, and the community
- Provide emergency first aid as needed

Refer to Figure 5.18 to see the process responses should follow.

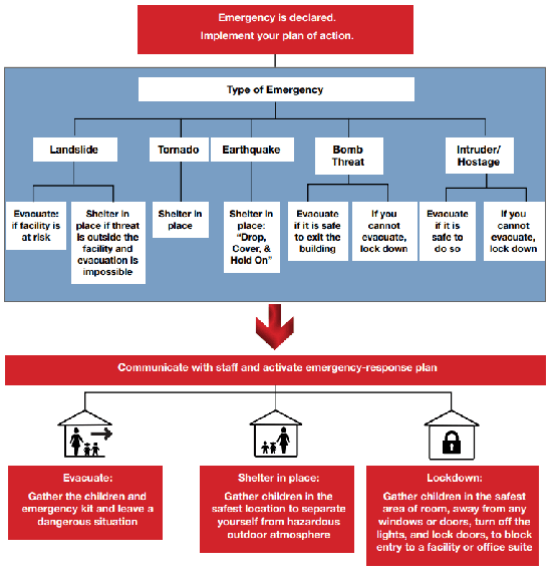


Figure 5.18 – Emergency response flow chart[269]

Response is directly related to preparedness—the more you prepare and practice your emergency response, the more efficient your response will be. After performing an emergency all involved parties should reflect upon how the drill went and provide feedback on what worked and what did not work. Updates and revisions to the plan and procedures should be made based on that feedback. Teachers should also discuss the drill with the children afterward, so the children can ask questions and understand what happened.[270]

Responding to Fires and Earthquakes

Earthquake Response – Drop, Cover, and Hold On

In order to be prepared to respond when there is an earthquake, teachers should identify safe places. A safe place could be under a sturdy table or desk or against an interior wall away from windows, bookcases or tall furniture that could fall on teachers and children. The shorter the distance to move to safety, the less likely that someone will be injured.

Everyone should practice drop, cover, and hold on. Have children go under a table (or desk if school-age) and hold on to one leg of the table or desk. Have them protect their eyes by keeping their head down.



Figure 5.19 – Drop, Cover, and Hold graphic.[271]

If an earthquake occurs inside, everyone should drop, cover, and hold on until the shaking stops. Teachers should then check everyone for injuries and look for things that may have fallen or broken that may now be a hazard (including fire). If evacuation is necessary, everyone should use stairs.

If an earthquake occurs when people are outdoors, they should stay outside, moving away from buildings, trees, streetlights and overhead lines, crouching down and covering their heads. Many injuries occur within ten feet of the entrance to buildings. Bricks, roofing and other materials can fall from buildings, injuring persons nearby. Trees, streetlights and overhead lines may also fall, causing damage or injury.[272]

Fire Response

Programs should have clear escape routes drawn on floor plans that note all doors, windows, and potential barriers. Every room should have two escape routes, which should be kept open/accessible at all times. And the evacuation site (and a backup evacuation site/temporary shelter) should be identified. These plans should be posted in every room and all program staff and families should be familiar with these (and regularly practice them).

If a fire occurs, 911 should be called immediately. A designated staff person should get the current record of the attendance and the emergency contact information for all of the children. As the children and staff evacuate, each should be noted so that no one is left behind. No one should go back into the building once it has been evacuated

Everyone should proceed to the evacuation site or temporary shelter. For children that cannot yet walk (infants, toddlers, or children with mobility impairments) a large wagon, or emergency crib on wheels, or similar equipment can be used for evacuation.

Recovery

The recovery phase refers to the actions taken from the time the emergency ends until the needs of staff, children, and families are met. It includes helping affected families resume their daily activities and helping all those affected cope with the aftermath of the emergency. Recovery can last for a few days, weeks, months, or even years. The goals of the recovery phase are to:

- Rebuild your facility or home if necessary, and restore services as quickly as possible.
- Meet the needs (physical, health, emotional) of children, families, and staff.
- Provide a supportive and caring environment that brings normalcy back into children's lives.

Incorporating recovery resources into your emergency-preparedness plan can help you reach these goals more quickly while providing mental health and emotional support to children, families, and staff.

Reunification

Safely returning children to their families after an emergency begins to bring children and families back to normalcy. Preparing for this by keeping up-to-date emergency contact information for each child in your emergency kit can help provide structure around this process. As discussed in previous chapters, make sure you are communicating with families throughout the emergency, if

possible. This communication may help the reunification process begin more quickly, as families may be able to safely pick up their children sooner.

Damage and Needs Assessment

A damage assessment of your facility or home after an emergency is crucial for your early childcare education program to open again. Assessments will differ based on the type of emergency your program, center, or home experienced. Resources to help you complete a damage assessment: b Flooding: usa.childcareaware.org/flooding/ b Hurricane: usa.childcareaware.org/hurricanes b Tornado: www.ready.gov/tornadoes Ensure that your early childcare education program has been given the all-clear from licensing and emergency officials before reopening.

Continuation of Services

After conducting your damage and needs assessment, an action plan is needed for how your early childcare education program will resume services to families. Use community resources, they can connect you to resources that can help you re-open your early care and education program or provide children with temporary child care. Resources related to the continuation of services: b childcareta.acf.hhs.gov/resource/continuation-child-careservices-louisianas-experience

Mental Health and Emotional Needs

Mental health support is a high priority after an emergency. Children and adults who have experienced stress and/or loss, either at the child care program or at home, may have difficulty coping. By offering a safe place and resources like mental health consultants, early care and education programs support children, families, and staff coping with fear, anger, and grief and help them resume their lives in a healthy way.

Coping with Disaster, Emergencies, and Tragedies

Keep in mind the following:

- Everyone who sees or experiences an emergency is affected by it in some way.
- It is normal to feel anxious about your own safety and that of your family and close friends.
- Profound sadness, grief, and anger are normal reactions during or after an emergency.
- Everyone has different needs and different ways of coping.
- Acknowledging feelings and focusing on your strengths and abilities can help recovery.
- Difficult memories of the disaster can be triggered by certain loud noises, weather events, or news clips from the emergency. This may be true even years later.

Engaging Families in Supporting Their Children After a Disaster

Further resources about how families can help children cope after a disaster:

- This webpage can help guide conversations with children about tragedies and emergencies: https://www.healthychildren.org/English/family-life/Media/Pages/Talking-To-Children-About-Tragedies-and-Other-News-Events.aspx
- This webpage has several resources for helping children cope with both natural disasters and emergencies: www.brighthorizons.com/talking-to-children
- This tip sheet helps explain why children may be acting differently in response to an emergency or disaster: https://eclkc.ohs.acf.hhs.gov/publication/childrens-responses-crises-tragic-events
- This tip sheet provides examples and explanations about how to talk to children when they are coping after a disaster: https://eclkc.ohs.acf.hhs.gov/publication/helping-your-child-cope-after-disaster

Summary

When early care and education programs have staff that are knowledgeable about how to identify and respond to injuries and

emergencies, they are prepared to keep children safe. This chapter provided basic information on responding to injuries. This content is not a replacement for the certification that teachers and other staff members should pursue.

It's important to remember that emergencies can take many forms. Early care and education programs should be ready to act in the event of any type of emergency by being prepared and by knowing how to respond and recover.[273]

Resources for Further Exploration

- Emergency First Aid Guidelines for California Schools: https://emsa.ca.gov/wp-content/uploa...tive_Final.pdf
- Learn CPR by the University of Washington School of Medicine http://depts.washington.edu/learncpr/index.html
- Basic Life Support Participant's Manual: https://www.redcross.org/content/dam...0IC-010319.pdf
- Public Counsel Law Center: Early Care and Education Law Project's Guidelines for Releasing Children: http://www.publiccounsel.org/tools/a...d-May-2010.pdf
- Emergency Preparedness Manual for Early Childhood Programs: https://eclkc.ohs.acf.hhs.gov/sites/...d-programs.pdf
- Agencies in your community: www.fema.gov/emergencymanagement-agencies
- Administration for Children and Families Early Childhood Disaster Resources: www.acf.hhs.gov/ohsepr/early-childhood
- American Academy of Pediatrics Children and Disasters website: www.aap.org/disasters
- California Childcare Health Program, Health, and Safety Notes: https://cchp.ucsf.edu/sites/g/files/...061406_adr.pdf
- Child Care Aware® of America: Emergency Preparedness website: www.childcareprepare.org
- Early Childhood Learning & Knowledge Center Emergency Preparedness page: eclkc.ohs.acf.hhs.gov/safety...y-preparedness
- Emergency Planning for Students with Special Needs, Minnesota: www.mnlowincidenceprojects.org/documents/pi_Region10_EmergEvacPlanning.pdf
- Evacuation for persons with disabilities: https://emergency.vanderbilt.edu/vu/...n-disabled.php
- Office of Child Care: Child Care Resources for Disasters and Emergencies: www.acf.hhs.gov/occ/resource/child-care-resources-for-disastersand-emergencies
- Ready.gov: www.ready.gov
- How to Plan for Emergencies & Disasters A Step-by-Step Guide for California Child Care Providers: https://cchp.ucsf.edu/sites/g/files/...y-Disaster.pdf
- Sesame Street in Communities Emergency Preparedness Page: https://sesamestreetincommunities.or...-preparedness/
- Emergency Preparedness Manual for Early Childhood Programs: health.mo.gov/safety/childca...odPrograms.pdf

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6: Child Maltreatment

Caution

This chapter contains information about child abuse which may be triggering for some readers.

Learning Objectives

By the end of this chapter, you should be able to:

- Define the four types of child maltreatment (physical abuse, emotional abuse, sexual abuse, and neglect).
- Identify risk factors for child maltreatment.
- Discuss protective factors and prevention strategies.
- List signs of each type of maltreatment.
- Explain what mandated reporting is and who it applies to.

Licensing Regulations

Title 22 Regulations that relate to this chapter include:

101170 CRIMINAL RECORD CLEARANCE

- The Department will conduct a criminal record review of all persons working in a child care facility including:

- Adults responsible for administration or supervision of staff.
- Any person, other than a child, residing in the facility.
- Any person who provides care and supervision to children.
- Any staff person who has contact with the children.

- Relatives and legal guardians of a child in the facility are exempt.
- A volunteer or student who is always directly supervised by a fingerprinted staff, and who spends no more than 16 hours per week at the facility is exempt.
- Prior to employment, residence or initial presence in the child care facility, all individuals subject to a criminal record review shall obtain a Department of Justice clearance, or request a transfer of a current clearance to be associated with the facility.

101170.2 CHILD ABUSE CENTRAL INDEX

- A Child Abuse Central Index review shall be conducted on the applicant and all individuals subject to a criminal record review prior to licensure, employment or initial presence in the facility.

101212 REPORTING REQUIREMENTS

- The licensee shall report the following incidents to the Department:

- Any injury to any child that requires medical treatment.
- Any unusual incident or child absence that threatens safety.
- Any suspected physical or psychological abuse of any child.

Mandated Reporter Laws

> Child care providers are included in the professions that are required to report suspected child maltreatment by the Child Abuse and Neglect Reporting Act (CANRA) pursuant to Penal Codes 11164 through 11174.3.[274]

Introduction

One more responsibility early childhood educators have to protect children's safety is to understand what child maltreatment is, risk factors for child maltreatment, signs of different forms of child maltreatment, and what they should do to support children and families and what they must legally do if they suspect child maltreatment.

Looking at the Data

In 2017, there were 674,000 substantiated victims of child abuse and neglect across the U.S. The youngest children are the most vulnerable to maltreatment. Nationally, states report that more than one-quarter (28.5%) of victims are younger than 3 years old. The victimization rate is highest for children younger than 1-year-old at 25.3 per 1,000 children.

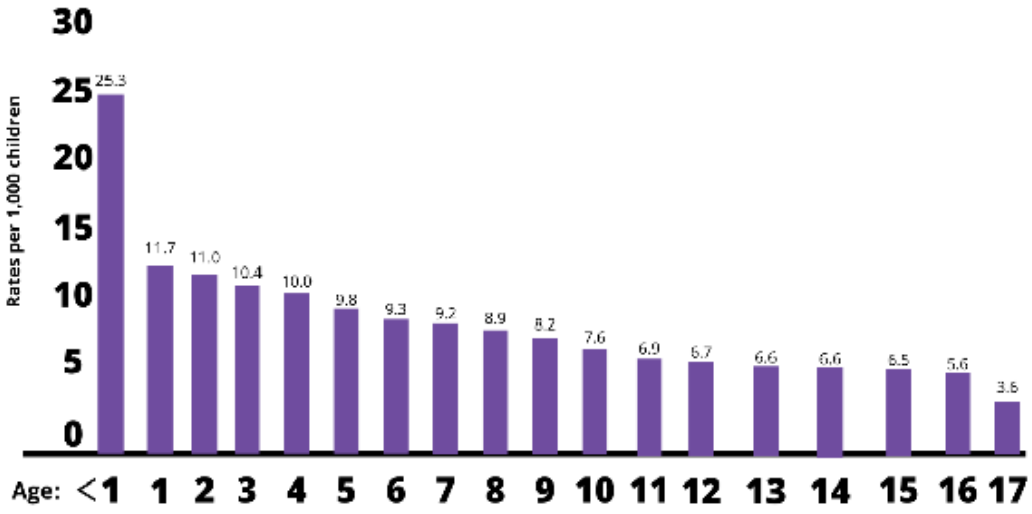


Figure 6.1 – Victims of child maltreatment by age in 2017.[275]

The percentages of child victims are similar for both boys (48.6%) and girls (51.0%). Sixty-nine percent of victims are maltreated by a mother, either acting alone (40.8%) or with a father and/or nonparent (28.2%). More than 13.0 percent (13.5%) of victims are maltreated by a perpetrator who was not the child's parent. The largest categories in the nonparent group are relative (4.7%), partner of parent (2.9%), and "other" (2.7%).

The effects of child abuse and neglect are serious, and a child fatality is the most tragic consequence. In 2017, a national estimate of 1,720 children died from abuse and neglect at a rate of 2.32 per 100,000 children in the population.[276]

Definitions

Child maltreatment includes all types of abuse and neglect of a child under the age of 18 by a parent, caregiver, or another person in a custodial role (such as clergy, a coach, a teacher) that results in harm, potential for harm, or threat of harm to a child. There are four common types of abuse and neglect: physical abuse, sexual abuse, emotional abuse, and neglect.[277]

Physical Abuse

Physical abuse is a nonaccidental physical injury to a child caused by a parent, caregiver, or other person responsible for a child and can include punching, beating, kicking, biting, shaking, throwing, stabbing, choking, hitting (with a hand, stick, strap, or other

object), burning, or otherwise causing physical harm. Physical discipline, such as spanking or paddling, is not considered abuse as long as it is reasonable and causes no bodily injury to the child. Injuries from physical abuse could range from minor bruises to severe fractures or death.

Abusive Head Trauma

Abusive head trauma (AHT), which includes shaken baby syndrome, is a preventable and severe form of physical child abuse that results in an injury to the brain of a child. AHT is most common in children under age five, with children under one year of age at most risk. It is caused by violent shaking and/or with blunt impact. The resulting injury can cause bleeding around the brain or on the inside back layer of the eyes.

Nearly all victims of AHT suffer serious, long-term health consequences such as vision problems, developmental delays, physical disabilities, and hearing loss. At least one of every four babies who experience AHT dies from this form of child abuse.



Figure 6.2 – Long-term damage or death are the consequence of almost all victims of AHT.[278]

AHT often happens when a parent or caregiver becomes angry or frustrated because of a child's crying. The caregiver then shakes the child and/or hits or slams the child's head into something in an effort to stop the crying.

Crying, including long bouts of inconsolable crying, is normal behavior in infants. Shaking, throwing, hitting, or hurting a baby is never the right response to crying.

How Can Abusive Head Trauma Be Prevented?

Anyone can play a role in preventing AHT by understanding the dangers of violently shaking or hitting a baby's head into something, knowing the risk factors and the triggers for abuse, and finding ways to support families and caregivers in their community.[279]

The Bottom Line

Shaking a baby can cause death or permanent brain damage. It can result in life-long disability.

Healthy strategies for dealing with a crying baby include:

- finding the reason for the crying
- checking for signs of illness or discomfort, such as diaper rash, teething, tight clothing;
- feeding or burping;

- soothing the baby by rubbing its back; gently rocking; offering a pacifier; singing or talking;
- taking a walk using a stroller or a drive in a properly-secured car seat;
- or calling the doctor if sickness is suspected

All babies cry. Caregivers often feel overwhelmed by a crying baby. Calling a friend, relative, or neighbor for support or assistance lets the caregiver take a break from the situation. If immediate support is not available, the caregiver could place the baby in a crib (making sure the baby is safe), close the door, and check on the baby every five minutes.[280]

If an early childhood educator is growing frustrated with a child's crying or other behaviors, it's important that they follow the same advice they would give a parent/caregiver or find a co-worker to relieve them while they calm down.

Sexual Abuse

Child sexual abuse is a significant but preventable adverse childhood experience and public health problem. Sexual abuse includes activities by a parent or other caregiver such as fondling a child's genitals, penetration, incest, rape, sodomy, indecent exposure, and exploitation through prostitution or the production of pornographic materials. Sexual abuse is defined by the Federal Child Abuse Prevention and Treatment Act as "the employment, use, persuasion, inducement, enticement, or coercion of any child to engage in, or assist any other person to engage in, any sexually explicit conduct or simulation of such conduct for the purpose of producing a visual depiction of such conduct; or the rape, and in cases of caretaker or interfamilial relationships, statutory rape, molestation, prostitution, or other form of sexual exploitation of children, or incest with children"[281]

About 1 in 4 girls and 1 in 13 boys experience child sexual abuse at some point in childhood. And 90% of child sexual abuse is perpetrated by someone the child or child's family knows.[282]

Emotional Abuse

Emotional abuse (or psychological abuse) is a pattern of behavior that impairs a child's emotional development or sense of self-worth. This may include constant criticism, threats, or rejection as well as withholding love, support, or guidance. Emotional abuse is often difficult to prove, and, therefore, child protective services may not be able to intervene without evidence of harm or mental injury to the child (Prevent Child Abuse America, 2016). [283]

Neglect

Neglect is the failure of a parent or other caregiver to provide for a child's basic needs. Neglect generally includes the following categories:

- Physical (e.g., failure to provide necessary food or shelter, lack of appropriate supervision)
- Medical (e.g., failure to provide necessary medical or mental health treatment, withholding medically indicated treatment from children with life-threatening conditions)
- Educational (e.g., failure to educate a child or attend to special education needs)
- Emotional (e.g., inattention to a child's emotional needs, failure to provide psychological care, permitting a child to use alcohol or other drugs)

Sometimes cultural values, the standards of care in the community, and poverty may contribute to what is perceived as maltreatment, indicating the family may need information or assistance. It is important to note that living in poverty is not considered child abuse or neglect. However, a family's failure to use available information and resources to care for their child may put the child's health or safety at risk, and child welfare intervention could be required. In addition, many states provide an exception to the definition of neglect for parents/caregivers who choose not to seek medical care for their children due to religious beliefs.

Abandonment is considered in many states as a form of neglect. In general, a child is considered to be abandoned when the parent's identity or whereabouts are unknown, the child has been left alone in circumstances where the child suffers serious harm, the child has been deserted with no regard for his or her health or safety, or the parent has failed to maintain contact with the child or provide reasonable support for a specified period of time. Some states have enacted laws—often called safe haven laws—that provide safe places for parents to relinquish newborn infants.



Figure 6.3 – This is a Safe Surrender Site sign on a San Francisco firehouse.[284]

Pause to Reflect

Come up with a situation that would be an example of each type of abuse and each type of neglect. Keep these in mind to revisit in another Pause to Reflect feature later in the chapter.

Risk Factors

Risk factors are those characteristics linked with child abuse and neglect—they may or may not be direct causes. A combination of individual, relational, community, and societal factors contribute to the risk of child abuse and neglect. Although children are not responsible for the harm inflicted upon them, certain characteristics have been found to increase their risk of being abused and or neglected.

Individual Risk Factors for Victimization

- Children younger than 4 years of age
- Special needs that may increase caregiver burden (e.g., disabilities, mental health issues, and chronic physical illnesses)

Risk Factors for Perpetration

There are different levels of risk factors for the perpetrators of child maltreatment

Individual Risk Factors

- Families' lack of understanding of children's needs, child development and parenting skills
- Parental history of child abuse and or neglect
- Substance abuse and/or mental health issues including depression in the family
- Parental characteristics such as young age, low education, single parenthood, a large number of dependent children, and low income
- Nonbiological, transient caregivers in the home (e.g., mother's male partner)
- Parental thoughts and emotions that tend to support or justify maltreatment behaviors

Family Risk Factors

- Social isolation
- Family disorganization, dissolution, and violence, including intimate partner violence
- Parenting stress, poor parent-child relationships, and negative interactions



Figure 6.4 – Intimate partner violence is a family risk factor for child maltreatment.[285]

Community Risk Factors

- Community violence
- Concentrated neighborhood disadvantage (e.g., high poverty and residential instability, high unemployment rates, and high density of alcohol outlets), and poor social connections.[286]

Protective Factors

Protective factors may lessen the likelihood of children being abused or neglected. Protective factors have not been studied as extensively or rigorously as risk factors. Identifying and understanding protective factors are equally as important as researching risk factors.

Family Protective Factors

- Supportive family environment and social networks
- Concrete support for basic needs
- Nurturing parenting skills
- Stable family relationships
- Household rules and child monitoring
- Parental employment
- Parental education
- Adequate housing
- Access to health care and social services
- Caring adults outside the family who can serve as role models or mentors

Community Protective Factors

- Communities that support families and take responsibility for preventing abuse287

Preventative Strategies

Child abuse and neglect are serious problems that can have lasting harmful effects on its victims. The goal in preventing child abuse and neglect is to stop this violence from happening in the first place.

Child abuse and neglect are complex problems rooted in unhealthy relationships and environments. Preventing child abuse and neglect requires addressing factors at all levels of the social ecology–the individual, relational, community, and societal levels.[288] As you can see in Figure 6.5, early care and education has a direct role to play in one of the National Center for Injury Prevention and Control, Division of Violence Prevention's strategies and can support families in some of the others. Families who have access to quality childcare, which increases the likelihood that children will experience safe, stable, nurturing relationships and environments. Access to affordable childcare also reduces parental stress and maternal depression, which are risk factors for child abuse and neglect.[289]

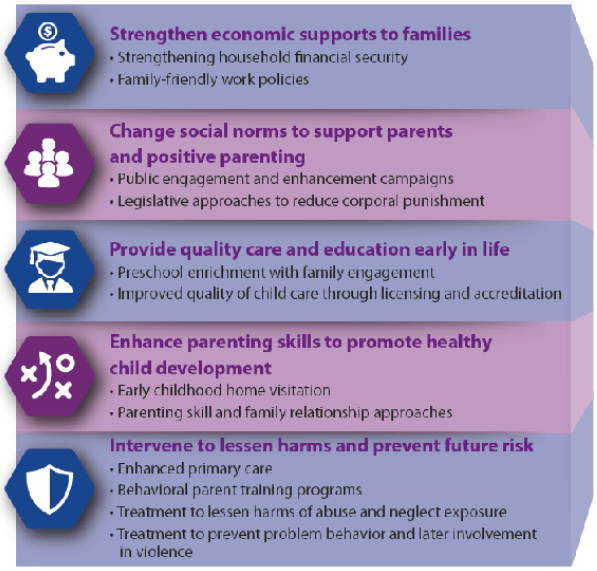


Figure 6.5 – Prevention Strategies and Approaches[290]

Domestic Violence

Given the magnitude of the problem of children's exposure to violence, including the co-occurrence of domestic violence and child maltreatment, early care and education programs are serving children and families impacted by violence. Here are some key facts about domestic violence and intimate partner violence:

1. Intimate partner violence describes physical, sexual, or psychological harm by a current or former partner or spouse. This type of violence can occur among heterosexual or same-sex couples and does not require sexual intimacy. Intimate partner violence can vary in frequency and severity. It occurs on a continuum ranging from one hit that may or may not impact the victim to chronic, severe beating.
2. Domestic violence is the second leading cause of death for pregnant women, and some 25 to 50 percent of adolescent mothers experience partner violence before, during, or just after their pregnancy.
3. Witnessing family assault is among the most common victimizations experienced by toddlers (ages 2 to 5). Other common forms of victimization are assault by a sibling and physical bullying.
4. In 30 to 60 percent of families where either child abuse or domestic violence is present, child abuse and domestic violence co-occur.

Children may very well experience the violence themselves; however, even when they are not directly injured, exposure to traumatic events can cause social, emotional, and behavioral difficulties. Children exposed to domestic violence have often been found to develop a wide range of problems, including externalizing behavior problems, interpersonal skill deficits, and

psychological and emotional problems such as depression and post-traumatic stress disorder (PTSD). In addition, a Michigan study of preschool-aged children found that those exposed to domestic violence at home are more likely to have health problems, including allergies, asthma, frequent headaches and stomach-aches, and generalized lethargy.

What Early Care and Education Programs Should Do to Help

It is critical that early childhood educators be prepared to work with and guide these children and families to needed services. Teachers and administrators can support the child and family during times of stress by making hotline and other domestic violence information available to families.

The early childhood workforce is currently comprised of about 1 million center-based teachers and caregivers, 1 million home-based teachers and caregivers, and an additional 2.7 million unpaid home-based teachers and caregivers. This workforce consists largely of women, and women are disproportionately affected by domestic violence. Therefore, information about appropriate services and programs should be made available for both staff and families.[291]

Signs of Child Maltreatment

It is important to recognize high-risk situations and the signs and symptoms of maltreatment. If you suspect a child is being harmed or the child directly discloses that they have experienced abuse or neglect, reporting suspicions may protect him or her and help the family receive assistance. Any concerned person can report suspicions of child abuse or neglect. Reporting your concerns is not making an accusation; rather, it is a request for an investigation and assessment to determine if help is needed.

Table 6.1 – Signs of General Maltreatment

Child	• Shows sudden changes in behavior or school performance • Has not received help for physical or medical problems brought to the families' attention • Has learning problems (or difficulty concentrating) that cannot be attributed to specific physical or psychological causes • Is always watchful, as though preparing for something bad to happen • Lacks adult supervision • Is overly compliant, passive, or withdrawn • Comes to school or other activities early, stays late, and does not want to go home • Is reluctant to be around a particular person • Discloses maltreatment
Parent/caregiver	• Denies the existence of—or blames the child for—the child's problems in school or at home • Asks teachers or other caregivers to use harsh physical discipline if the child misbehaves • Sees the child as entirely bad, worthless, or burdensome • Demands a level of physical or academic performance the child cannot achieve • Looks primarily to the child for care, attention, and satisfaction of the parent's emotional needs • Shows little concern for the child
Parent/caregiver and child	• Touch or look at each other rarely • Consider their relationship entirely negative • State consistently they do not like each other

It is important to pay attention to other behaviors that may seem unusual or concerning. Additionally, the presence of these signs does not necessarily mean that a child is being maltreated; there may be other causes. They are, however, indicators that others should be concerned about the child's welfare, particularly when multiple signs are present or they occur repeatedly.

Signs of Specific Forms of Child Maltreatment

Table 6.2 – Signs of Physical Abuse[293]

Scenario	Characteristics
A child who exhibits the following signs may be a victim of physical abuse:	• Has unexplained injuries, such as burns, bites, bruises, broken bones, or black eyes • Has fading bruises or other noticeable marks after an absence from school • Seems scared, anxious, depressed, withdrawn, or aggressive • Seems frightened of his or her parents/caregivers and protests or cries when it is time to go home • Shrinks at the approach of adults • Shows changes in eating and sleeping habits • Reports injury by a parent or another adult caregiver • Abuses animals or pets
Consider the possibility of physical abuse when a parent or other adult caregiver exhibits the following	• Offers conflicting, unconvincing, or no explanation for the child's injury or provides an explanation that is not consistent with the injury • Shows little concern for the child • Sees the child as entirely bad, burdensome, or worthless • Uses harsh physical discipline with the child • Has a history of abusing animals or pets



Figure 6.6 – Not all forms of abuse leave visible marks.[294]

Table 6.3 – Signs of Sexual Abuse [295]

Scenario	Characteristics
A child who exhibits the following signs may be a victim of sexual abuse:	• Has difficulty walking or sitting • Experiences bleeding, bruising, or swelling in their private parts • Suddenly refuses to go to school • Reports nightmares or bedwetting • Experiences a sudden change in appetite • Demonstrates bizarre, sophisticated, or unusual sexual knowledge or behavior • Becomes pregnant or contracts a sexually transmitted disease, particularly if under age 14 • Runs away • Reports sexual abuse by a parent or another adult caregiver • Attaches very quickly to strangers or new adults in their environment
Consider the possibility of sexual abuse when a parent or other adult caregiver exhibits the following	• Tries to be the child's friend rather than assume an adult role • Makes up excuses to be alone with the child • Talks with the child about the adult's personal problems or relationships

Table 6.4 – Signs of Emotional Abuse[296]

Scenario	Characteristics
A child who exhibits the following signs may be a victim of emotional abuse:	• Shows extremes in behavior, such as being overly compliant or demanding, extremely passive, or aggressive • Is either inappropriately adult (e.g., parenting other children) or inappropriately infantile (e.g., frequently rocking or head-banging) • Is delayed in physical or emotional development • Shows signs of depression or suicidal thoughts • Reports an inability to develop emotional bonds with others
Consider the possibility of emotional abuse when a parent or other adult caregiver exhibits the following	• Constantly blames, belittles, or berates the child • Describes the child negatively • Overtly rejects the child

Table 6.5 – Signs of Neglect[297]

Scenario	Characteristics
A child who exhibits the following signs may be a victim of neglect:	• Is frequently absent from school • Begs or steals food or money • Lacks needed medical care (including immunizations), dental care, or glasses • Is consistently dirty and has severe body odor • Lacks sufficient clothing for the weather • Abuses alcohol or other drugs • States that there is no one at home to provide care
Consider the possibility of neglect when a parent or other adult caregiver exhibits the following	• Appears to be indifferent to the child • Seems apathetic or depressed • Behaves irrationally or in a bizarre manner • Abuses alcohol or other drugs

Pause to Reflect

Think back to your example situations. What signs might a teacher or caregiver notice for each of these?

Mandated Reporting of Child Maltreatment in California

A list of persons whose profession qualifies them as "mandated reporters" of child abuse or neglect is found in California Penal Code Section 11165.7. The list is extensive and continues to grow. It includes all school/district employees, administrators, and athletic coaches. All persons hired into positions included on the list of mandated reporters are required, upon employment, to be provided with a statement, informing them that they are a mandated reporter and their obligations to report suspected cases of abuse and neglect pursuant to California Penal Code Section 11166.5.

All persons who are mandated reporters are required, by law, to report all known or suspected cases of child abuse or neglect. It is not the job of the mandated reporter to determine whether the allegations are valid. If child abuse or neglect is reasonably suspected or if the child shares information with a mandated reporter leading him/her to believe abuse or neglect has taken place, the report must be made. No supervisor or administrator can impede or inhibit a report or subject the reporting person to any sanction.

To make a report, an employee must contact appropriate local law enforcement or county child welfare agency, listed below. This legal obligation is not satisfied by making a report of the incident to a supervisor or to the school. An appropriate law enforcement agency may be one of the following:

- A Police or Sheriff's Department (not including a school district police department or school security department).
- A County Probation Department, if designated by the county to receive child abuse reports.
- A County Welfare Department/County Child Protective Services.

The report should be made immediately over the telephone and should be followed up in writing. The law enforcement agency has special forms for this purpose that they will ask you to complete. If a report cannot be made immediately over the telephone, then an initial report may be made via e-mail or fax.



Figure 6.7 –When an early childhood educator suspects abuse, it should be reported immediately.[298]

Rights to Confidentiality and Immunity

Mandated reporters are required to give their names when making a report. However, the reporter's identity is kept confidential. Reports of suspected child abuse are also confidential. Mandated reporters have immunity from state criminal or civil liability for reporting as required. This is true even if the mandated reporter acquired the knowledge, or suspicion of abuse or neglect, outside his/her professional capacity or scope of employment.

Consequences of Failing to Report

A person who fails to make a required report is guilty of a misdemeanor punishable by up to six months in jail and/or up to a $1,000 fine (California Penal Code Section 11166[c]).

After the Report is Made

The local law enforcement agency is required to investigate all reports. Cases may also be investigated by Child Welfare Services when allegations involve abuse or neglect within families.

Child Protective Services

Child Protective Services (CPS) is the major organization to intervene in child abuse and neglect cases in California. Existing law provides services to abused and neglected children and their families. More information can be found at Child Protective Services.[299]

The Impact of Childhood Trauma on Well-Being

Child abuse and neglect can have lifelong implications for victims, including on their wellbeing. While the physical wounds may heal, there are many long-term consequences of experiencing the trauma of abuse or neglect. A child or youth's ability to cope and thrive after trauma is called "resilience." With help, many of these children can work through and overcome their past experiences.

> Children who are maltreated may be at risk of experiencing cognitive delays and emotional difficulties, among other issues, which can affect many aspects of their lives, including their academic outcomes and social skills development (Bick & Nelson, 2016). Experiencing childhood maltreatment also is a risk factor for depression, anxiety, and other psychiatric disorders (FullerThomson, Baird, Dhrodia, & Brennenstuhl, 2016).[300]
>
> We will look more closely at this when we examine mental health, social and emotional well-being, adverse childhood events, and trauma informed care in Chapter 11.

Working with Children that Have Been Abused

Children who have experienced abuse or neglect need support from caring adults who understand the impact of trauma and how to help. Adverse childhood experiences and trauma-informed care will be addressed more in Chapter 11). Early childhood educators should consider the following suggestions:

- Help children feel safe. Support them in expressing and managing intense emotions. Help children understand their trauma history and current experiences (for example, by helping them understand that what happened was not their fault, or helping them see how their current emotions might be related to past trauma).
- Assess the impact of trauma on the child, and address any trauma-related challenges in the child's behavior, development, and relationships.
- Support and promote safe and stable relationships in the child's life, including supporting the child's family and caregivers if appropriate. Often parents and caregivers have also experienced trauma.
- Manage your own stress. Providers who have histories of trauma themselves may be at particular risk of experiencing secondary trauma symptoms.
- Refer the child to trauma-informed services, which may be more effective than generic services that do not address trauma.[301]

Summary

Child maltreatment results from the interaction of a number of individual, family, societal, and environmental factors. Child abuse and neglect are not inevitable—safe, stable, and nurturing relationships and environments are key for prevention. Preventing child abuse and neglect can also prevent other forms of violence, as various types of violence are interrelated and share many risk and protective factors, consequences, and effective prevention tactics.[302] When there is suspicion that maltreatment has occurred, it's critical that early childhood educators report that. And being educated on trauma-informed care can help you support children who have been the victims of child maltreatment.

Resources for Further Exploration

- What is Child Abuse and Neglect?: www.childwelfare.gov/pubpdfs/whatiscan.pdf
- Children's Bureau: https://www.acf.hhs.gov/cb/focus-are...-abuse-neglect
- Children's Bureau's Office on Child Abuse and Neglect Prevention Guide: www.childwelfare.gov/pubPDFs/guide_2018.pdf
- CDC: https://www.cdc.gov/violencepreventi...ect/index.html
- California Department of Education's Child Abuse Identification & Reporting Guidelines: https://www.cde.ca.gov/ls/ss/ap/chil...rtingguide.asp
- Los Angeles County Department of Children and Family Services' Electronic Mandated Reporter: mandreptla.org/cars.web/
- National Center on Shaken Baby Syndrome: https://www.dontshake.org/family-res...0head%20trauma
- American Professional Society on the Abuse of Children: http://www.apsac.org
- Child Welfare League of America (CWLA): http://www.cwla.org
- Prevent Child Abuse America: http://www.preventchildabuse.org

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III: HEALTH

7: Promoting Good Health and Wellness
8: Prevention of Illness
9: Supportive Health Care
10: Children with Special Health Care Needs
11: Children's Mental Health

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7: Promoting Good Health and Wellness

Learning Objectives

By the end of this chapter, you should be able to:

- Summarize what goes into child and staff health records.
- Describe the process of daily health checks.
- Explain good dental hygiene practices in the classroom.
- Discuss the importance of sleep.
- Identify different screenings early care and education programs can implement.
- Relate the importance of developmental screening.
- Recall ways to engage families in the screening process.

Licensing Regulations

Title 22 Regulations that relate to this chapter include:

101220 CHILD'S MEDICAL ASSESSMENTS

- Prior to, or within 30 calendar days following enrollment, the licensee will obtain a licensed physician's written medical assessment of the child. The assessment must be less than one year old.

101220.1 IMMUNIZATIONS

- Prior to admission to a Child Care Center, children shall be immunized against diseases as required by the California Code of Regulations, Title 17.
- A child who does not meet any of these requirements shall not be admitted to a Child Care Center.
- The licensee must document and maintain each child's immunizations records for as long as the child is enrolled.

101221 CHILD'S RECORDS

- A separate, complete and current record for each child must be maintained.

101226.1 DAILY INSPECTION FOR ILLNESS

- The licensee shall be responsible for ensuring the children with obvious symptoms of illness are not accepted.
- No child shall be accepted without contact between center staff and the person bringing the child to the center.

Introduction

Healthy development continues to support learning throughout childhood and later life. "Health in the earliest years...lays the groundwork for a lifetime of well-being..."[303] To promote the health of children in early care and education programs, it's important to keep records of both children's and staff's health. Programs can support children's oral health and healthy sleep habits. And they can help identify developmental and health concerns with screening.



Figure 7.1 – Healthy children thrive![304]

Children's Health Records

"The health and safety of individual children requires that information regarding each child in care be kept and available when needed. Children's records consist of various documentation such as a child's medical and immunization history, emergency medical care information, and parental permission to participate in specific activities...Each child care facility must keep accurate records on each child receiving care in child care."[305]

Health records can help early care and education programs identify preventative health measures, develop care plans for children with special needs, and determine whether or not a child should be excluded from care due to illness.

California Title 22 Child Care licensing requirements list the following health-related items to include in the child's records:

- Medical assessment and the following health information:

- Dietary restrictions and allergies.
- Instructions for action to be taken in case the child's authorized representative, or the physician designated by the authorized representative, cannot be reached in an emergency.
- A signed consent form for emergency medical treatment

- Record of any illness or injury requiring treatment by a physician or dentist and for which the center provided assistance to the child in meeting his/her necessary medical or dental needs.
- Record of current medications, including the name of the prescribing physician, and instructions, if any, regarding control and custody of medications.
- Current and updated immunization records[306]

The National Health and Safety Standards recommends that the following also be included in the child's records:

- A health history completed by the family at admission
- The child's health insurance information[307]



Figure 7.2 – Keeping health records for children and staff is important.[308]

Staff Health Records

It is also important for records to be kept to document the health of all staff in an early care and education program. Licensing requires the following health-related items to be in staff records:

- Health Screening Report
- TB Clearance[309]

In September of 2016, Senate Bill 792 was passed that requires staff or volunteers in an early care and education program to provide records of immunizations (or immunity) for

- Pertussis
- Measles
- Influenza (annually between August 1 and December 1 of each year; can decline in writing)[310]

The Importance of Keeping Staff Healthy

A culture of wellness is a working environment where an employee's health and safety is valued, supported, and promoted through worksite, health and wellness programs, policies, benefits, and environmental supports. A culture of wellness for staff is really going to be the foundation for creating a culture of health and safety for children.

Staff have health problems such as obesity and depression at rates above the national average. Early care and education salaries are often low, creating personal financial stress. Staff turnover rates are high. In general, early childhood educators are undervalued for the important and high-demand work they do.

Staff wellness and stability will affect the quality of services a program is able to deliver to families and children. Children need consistent, sensitive, caring, and stable relationships with adults. Adults who are well, physically and mentally, are more likely to engage in positive relationships. When we support staff well-being, we strengthen early care and education.

Programs can use the CDC's Workplace Health Model to support the health of their staff.[311] It is outlined in this image (and a link is provided in the Further Resources to Explore feature at the end of the chapter).

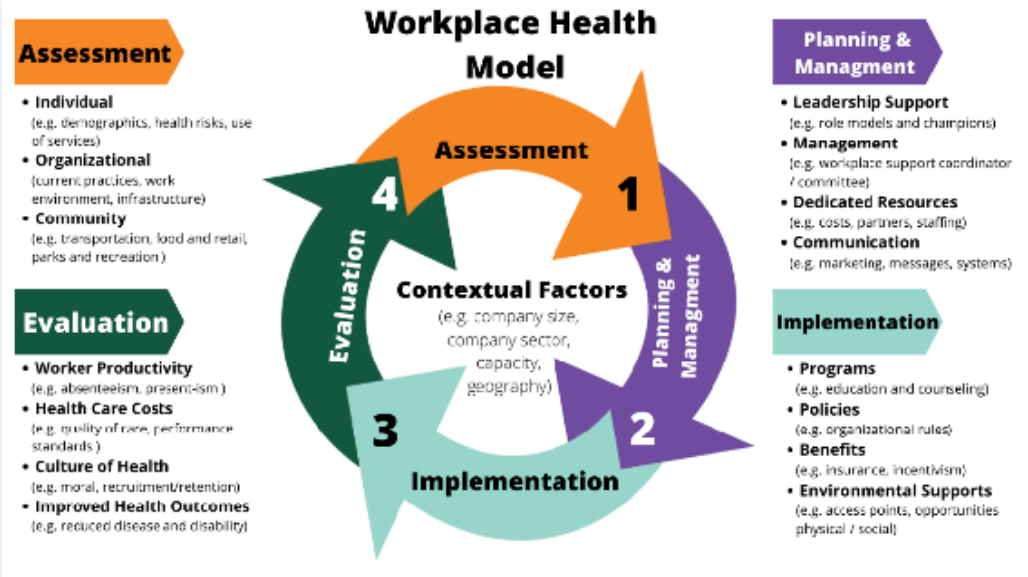


Figure 7.3 – The CDC's Workplace Health Model of assessment, planning and management, implementation, and evaluation.[312]

Pause to Reflect

What does staying healthy mean to you? What do you do (or could you do) to manage your stress, reinforce your resilience, and keep yourself physically healthy (nutrition, activity, etc.)? How could your employer help you stay healthy?

Daily Health Checks

Every day an informal, observation-based quick health check should be performed on every child (before the parent/caregiver leaves). Early childhood educators should use their knowledge about what is normal for a child to identify any concerns about the child's well-being (but not as an attempt to formally diagnose illness). It is not a process that formally excludes children from illness, but following up concerns noticed at a health check may find reasons to exclude children.

"In a child care setting where lots of people are coming at the same time, it is hard to take a moment with each child. However, this welcoming routine can establish many things and is a good child development policy. This contact will help [teachers] better understand each child, help the children feel comfortable and good about themselves, reduce the spread of illness by excluding children with obvious signs of illness, and foster better communications with [families]."[313]



Figure 7.4 – Teachers should do a health check when each child is dropped off.[314]

Conducting the Daily Health Check

Teachers should use all of their senses to check for signs of illness. This includes:

- Listening to what families tell you about how their child is feeling and what the child sounds like (hoarse voice, coughing, wheezing, etc.)
- Looking at the child from head to toe (with a quick scan) to see if the child looks flushed, pale, has a rash, has a runny nose or mucus in the eyes
- Feeling the child's cheek or neck (as part of a greeting) for warmth or clamminess
- Smelling the child for unusual smelling breath or a bowel movement.

Here are the signs to observe for:

- General mood and atypical behavior
- Fever (elevated temperature)
- Rashes or unusual spots, itching, swelling, and bruising
- Complaints of not feeling well
- Symptoms of illness (coughing, sneezing, runny nose, eye or ear discharge, diarrhea, vomiting, etc.)
- Reported illness in child or family members[315,316]

Dental Hygiene

Dental hygiene is important to prevent Early Childhood Caries (ECC), which is a term used to describe tooth decay, including filled or extracted teeth due to decay, in the primary teeth (baby teeth). It is important to rethink the way we "treat" dental caries. Traditionally, we would wait until a child had a cavity and "treat" the cavity with a filling. In order to prevent ECC, we must intervene before the first cavity develops.[317] Early care and education programs can teach children and families about dental hygiene and oral care as well as implement good dental hygiene practices. Here are some ideas:

- Use teaching practices that engage children and promoting thinking critically. Consider asking questions such as:

- How do you brush your teeth?
- Why do you brush your teeth?
- What else can you do to keep your mouth and teeth healthy?
- What happens if you don't brush your teeth?
- Tell me about your last visit to the dentist.

- Integrate oral health into activities (in addition to tooth brushing). Some possibilities include:

- Having children separate pictures of foods that are good for oral health from pictures of foods that are high in sugar.
- Reading books with positive oral health messages to children.
- Having children pretend they are visiting a dental office.
- Singing songs about oral health

- Engage families in promoting oral health at home. Some ways to do this include:

- Working with families to find the best ways to position their child for tooth brushing. Remind families that young children cannot brush their teeth well until age 7 to 8. It is also important for a parent to brush their child's teeth or help them with brushing.
- Asking families to take photographs of their child brushing his teeth and helping the child write stories about his experience.
- Helping families choose and prepare foods that promote good oral health.
- Encouraging families to ask their child what she learned about oral health in school that day.
- Offering families suggestions for at-home activities that support what children are learning about oral health at school.[318]

Classroom Tooth Brushing Steps

1. Sitting at a table in a circle, children brush teeth as a group activity every day.
2. Give each child a small paper cup, a paper towel, and a soft-bristled, child-sized toothbrush.
3. Put a small (pea-sized) dab of fluoride toothpaste on the inside rim of each cup, and have children use their toothbrushes to pick up the dabs of toothpaste.
4. Brush together for two minutes, using an egg timer or a song that lasts for about two minutes.
5. Brush your teeth with the children to set an example, and remind them to brush all of their teeth, on all sides.
6. When the two minutes are up, have the children spit any extra toothpaste into their cups, wipe their mouths and throw the cups and paper towels away.
7. Children can go to the sink in groups to rinse their toothbrushes and put the toothbrushes in holders to dry.[319]



Figure 7.5 – Group tooth brushing in early care and education.[320]

Sleep Hygiene

It's important to get enough sleep. Sleep supports mind and body health. Getting enough sleep isn't only about total hours of sleep. It's also important to get good quality sleep on a regular schedule to feel rested upon waking.

Sleep is an important part of life! Young children spend around half of their time asleep.[321]

- Babies need to sleep between 12 and 16 hours a day (including naps).
- Toddlers need to sleep between 11 and 14 hours a day (including naps).

- Preschoolers need to sleep between 10 and 13 hours a day (including naps).
- School-aged children need 9 to 12 hours of sleep each night.[322]

We know how busy they are when they are awake, but what are they doing during all of those restful hours? Actually, sleep has many purposes.

- Growth: Growth hormone is released when children sleep (Berk 2002, 302). Young children are growing in their sleep, and since they have a lot of growing to do, they need all the sleep they can get.
- Restoration: Some sleep researchers have found that sleep is important for letting the brain relax and restore some of the hormones and nutrients it needs (Jenni & O'Conner 1995, 205).
- Memory: Sleep is also a time when the brain is figuring out what experiences from the day are important to remember (Jenni & O'Conner 1995, 205).
- Health: One study found that infants and toddlers need at least 12 hours of sleep in a 24 hour day. When infants and toddlers had less than 12 hours they were more likely to be obese by the age of 3 (Taveras et. al. 2008, 305).[323]

The Culture of Sleep and Child Care

Across the world people sleep in different ways. Some people sleep inside, some sleep outside. Some people sleep in beds, others in hammocks or on mats on the floor. Some people sleep alone, some sleep with a spouse or children or both. Some people sleep only at night, while others value a nap during the day. How, when, and where people choose to sleep has a lot to do with their culture, traditions, and customs. This can include where they live, how their family sleeps, even how many bedrooms are in their home. Teachers have a role in providing a sleep environment that is comfortable and safe for the children in their care, while honoring families' cultural beliefs.

What can teachers do to help young children feel more "at home" when it is time for them to rest?

- Think of sleep and sleep routines as part of the child's individualized curriculum.
- Classroom teachers should meet with a family before a child enters your care. This is an opportunity to find out about a child's sleep habits before they join the classroom. When you know how a baby sleeps at home, you can use that information to plan for how they might sleep best in your care.
- Brainstorm ways to adapt your classroom to help a child feel "at home" during rest times. For example, a baby who is used to sleeping in a busy environment might nap better if you roll a crib into the classroom. Some mobile infants and toddlers might have a hard time sleeping in child care because they think they will miss something fun! These children benefit from having a very quiet place to fall asleep. When you have a positive relationship with a baby it will be easier to know what will help them relax into sleep.
- Encourage families to bring in "a little bit of home" to the program – like a stuffed animal or special blanket. A comfort item from home can help children feel connected to their families. They might want that comfort all day. The comfort item from home can also help children make the transition to sleep while in your care. Make sure that infants under one year of age do not have any extra toys or blankets in the crib with them.
- Share with families what you learn about their child. Use pick up and drop off times to ask questions about sleep at home. Families can share information that could make their child more comfortable in your care. You can be a resource for families about sleep and their child. Remember that families are the experts about their child.

Napping and Individual Differences

Have you noticed that some children will fall asleep every day at the same time no matter what else is going on? These kids could fall asleep into their lunch if it is served too late! Have you known children who seem to fall asleep easily some days and other times just can't settle into sleep? These children might need a very stable routine. Some toddlers nap less and sleep more at night while others need to have a long sleep during the day.

Temperament and Sleep

Some of the different patterns in children's sleep has to do with their temperament (Jenni & O'Connor 2005, 204). Temperament is like the personality we are born with. Some children are naturally easy-going and adapt to new situations while others really need a routine that is the same every day. One child might fall asleep easily just by putting her in her crib or cot when she is drifting off to sleep. Another child might fall asleep in your arms but startle awake the moment he realizes he has been laid down

alone.

Circadian Rhythms and Sleep

Something else that can make nap time easy or difficult for young children has to do with their natural sleep cycles. Everyone has a kind of “clock” inside of their bodies that tells them when they are hungry or sleepy. The cycle of this clock is called circadian rhythms. Circadian rhythms are the patterns of sleeping, waking, eating, body temperature and even hormone releases in your body over a twenty-four hour period. How much children need to sleep, when they feel tired, and how easily they can fall asleep are all related to their circadian rhythms (Ferber 2006, 31).

Meeting Each Individual Child’s Sleep Needs

Thinking about the circadian rhythms and temperament reminds us how each child is different. That is why it is important to have nap times that meet the needs of all children in your care. Helping young children to learn to recognize their bodies’ needs and find ways to meet those needs is the very important skill of self-regulation.[324]



Figure 7.6 – Children may get tired at times other than nap/rest time.[325]

Individualizing Nap Schedules

Creating a space for sleepy children can allow them to relax or nap when their body tells them they are tired. It can take some creativity to figure out how to let a young child nap or rest when they are tired.

What do you do if a child won’t nap when others are? How does one child rest quietly in a busy classroom?

Two-and-a-half-year-old Henry is new to your classroom. His mother has shared with you that he does not nap during the day with her. When nap time comes around you can tell that Henry does not seem very tired.

What can you do for Henry, or other children like him, while the rest of the class sleeps?

- Do you have a “cozy corner” that could also be a one child nap area?
- Are there soft places to sit and relax with a book or stuffed animal?
- Are books or other quiet activities provided if a child isn’t able to rest or settle when other children are?
- Are children provided techniques and strategies for calming their bodies e.g. deep breathing, tensing and relaxing their bodies, feeling their heartbeat, etc?[326]

Developmental and Health Screenings

There are specific health conditions that impact learning and development, which can be identified and treated early. These conditions can be identified through early health screening.[327]

Screening is the first step in getting to know a child at the beginning of each enrollment year. This "baseline data" helps staff plan and individualize services. It also helps them identify "red flags" for further examination or evaluation. When concerns go unidentified, they can lead to bigger problems.[328]

Screening helps staff and families:

- Celebrate milestones: Every family looks forward to seeing a child's first smile, first step, and first words. Regular screenings with early childhood professionals help raise awareness of a child's development, making it easier to celebrate developmental milestones.
- Promote universal screening: All children need support in the early years to stay healthy and happy. Just like regular hearing and vision screenings can assure that children are able to hear and see clearly, developmental and behavioral screenings can assure that children are making progress in areas such as language, social, or motor development.
- Identify possible delays and concerns early: With regular screenings, families, teachers, and other professionals can assure that young children get the services and supports they need as early as possible to help them thrive.
- Enhance developmental supports: Families are children's first and most important teachers. Tools, guidance, and tips recommended by experts, can help families support their children's development.[329]

Screening is part of a larger process professionals use to learn about children's health and development. In partnership with families, developmental monitoring (or surveillance), screening, and assessment keep children on track developmentally.

What is the Difference Between Screening, Assessment, and Evaluation

Screening

The screening process is the preliminary step to determine if sensory, behavioral, and development skills are progressing as expected. The screening itself does not determine a diagnosis or need for early intervention.

Assessment

Assessment is an on-going process to determine a child's and family's strengths and needs. The assessment process should be continued throughout a child's eligibility and be used to determine strategies to support the development of the child in the classroom and at home. This can be both a formal or informal process.

Evaluation

A formal evaluation is performed by a qualified professional to identify or diagnose a developmental, sensory, or behavioral condition or disability requiring intervention. Only children who were identified through screening and ongoing assessment as possibly having a condition or disability might require intervention. The Early Intervention Part C agency or Local Education Agency in your community must be notified for a formal evaluation to determine his or her eligibility for early intervention, special education or other related services.[330]

A couple of important things to remember about screening:

- Children develop rapidly during the first three years of life, so keeping a watchful eye on health and development for infants and toddlers is critical.
- Most early childhood programs serve diverse families. Therefore, the best screening tools gather information in ways that respond to culture and language.[331]
- Developmental screening using research-based standardized developmental screening instruments that are valid and reliable for the population and purpose for which they will be used; age, developmentally, culturally, and linguistically appropriate, and appropriate for children with disabilities, as needed; and conducted by qualified and trained personnel. Currently, standardized screening instruments for children birth to age 5 are widely available in English and Spanish, but are

virtually unavailable for children whose families speak other languages.[332]

Engaging Families in Screening and Follow-Up

Families can be your most powerful ally and asset throughout the screening process. They are the expert on their child and can provide meaningful and reliable information. Screenings are also an opportunity to support families to focus on their child and increase their understanding of their child's development.

When families are active partners in the assessment (and intervention) process, staff and families are able to share an understanding of what is best for the child, the families ' priorities, and goals for the child's learning and development.

You can engage families by:

- Discussing and explaining the screening process and results. Make sure to include an explanation of the tools you used and any relevant developmental, linguistic or cultural accommodations made for their child.
- Listening to parent feedback and concerns on the screening and assessment system. What was useful or confusing to them?
- Helping families navigate follow up. Does the child need a formal evaluation? If so, how can you help the parent begin this process?
- Engaging your Parent Committee to inform a program's screening procedures. How can our program make this easier for families?
- Partnering with families to determine individual health services appropriate for their child.[333]

Developmental Monitoring and Screening

The first years of life are so important for a child's development. Early experiences make a difference in how young children's brains develop and can influence lifelong learning and health. Early childhood educators spend a great deal of time with young children and are instrumental in determining many of the kinds of experiences they will have. Developmental monitoring means observing and noting specific ways a child plays, learns, speaks, acts, and moves every day, in an ongoing way. Developmental monitoring often involves tracking a child's development using a checklist of developmental milestones.

Teachers are in a unique position to monitor the development of each child in their care. They may be the first one to observe potential delays in a child's development. Working with groups of same-aged children can help teachers recognize children who reach milestones early and late. Working with children of different ages can help teachers notice if a child's skills are more similar to those of a younger or older child than to those of his or her same-aged peers. Because teachers spend their day teaching, playing with, and watching children, they may find themselves concerned that a child in their care is not reaching milestones that other children his or her age have, or they may have families ask them if they are concerned about their child's development. [334]

> The first time I heard the term "developmental monitoring," I was really intimidated and thought, "this sounds really complicated and time-consuming. How am I going to do that on top of everything else I have to do during the day?"
>
> I was so relieved when I found out that "developmental monitoring" is just a fancy way of saying "watch, observe and record what the kids are doing to make sure they're on track." I just mark on a simple checklist when children meet milestones.
>
> We observe children every day anyway. We watch what they're doing when they play in the classroom or outside, when they eat, and so on. Monitoring is just that: watching and observing, and recording what you see. Making a check on a list when a child meets a milestone takes about two seconds, and it's easier than just about anything else we do all day. It's definitely easier than getting a room full of toddlers to sleep at naptime, and it's a lot more fun than changing diapers!
>
> And if that's all it takes to really make sure each child is on track and to make sure I'm not missing anything in all the hubbub each day, I'm all over it!
>
> -Ms. Carolyn (an early childhood educator)[335]

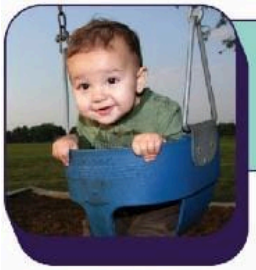
A complete list of developmental milestones for children from birth to age 8 is in Appendix I, but here are some examples of children birth to age 5 that showcase typical milestones for their age.



Two-month-old, Joy can hold her head up. She holds her hands in fists. She loves faces and has begun to follow objects with her eyes. She coos and turns her head towards sounds. She smiles at people.



Valentina is four months old. She holds her head steady unsupported and rolls from her tummy to her back. She brings her hands to her mouth and holds toys with a palmar grasp. She lets you know if she is happy or sad. She now babbles and likes to play with people.



6-month-old Jose rolls in both directions and is starting to sit with support and bounces when stood. He reaches with his arms and brings things to his mouth. He looks for toys that have been partially hidden or dropped. He babbles. He enjoys looking at himself in a mirror.



Amir is 9-months-old. He pulls himself to stand and now crawls. He can use a pincer grip to pick objects up and smoothly move them between his hands. He plays peek-a-boo and copies other gestures and sounds. He understands "no." He is clingy with his parents and afraid of strangers.



12 month-old Jae Hwa walks holding on to furniture and stands alone. She enjoys banging objects together and explores by poking with her index finger. She finds hidden things easily and responds to simple spoken requests. Her favorite words are "mama" and "uh-oh!" She cries when her mom leaves and has a favorite toy.



18-month-old Tiara walks alone and is beginning to run. She climbs onto and down from furniture. She scribbles and can stack up to 4 blocks. She points to and names a few names body parts and speaks in two-word sentences. She has temper tantrums. She loves to explore with her family nearby.



Connor just turned two years old. He runs and walks up and down stairs holding on. He is left-handed and loves to play in the water and pour and dump sand. He is skilled with the shape-sorting toy and can make items in picture books. He speaks in 2 to 4 word sentences and follows simple instructions. He gets excited by other children, but still mostly plays near them (rather than with them). He doesn't always do as he is told (showing defiance).

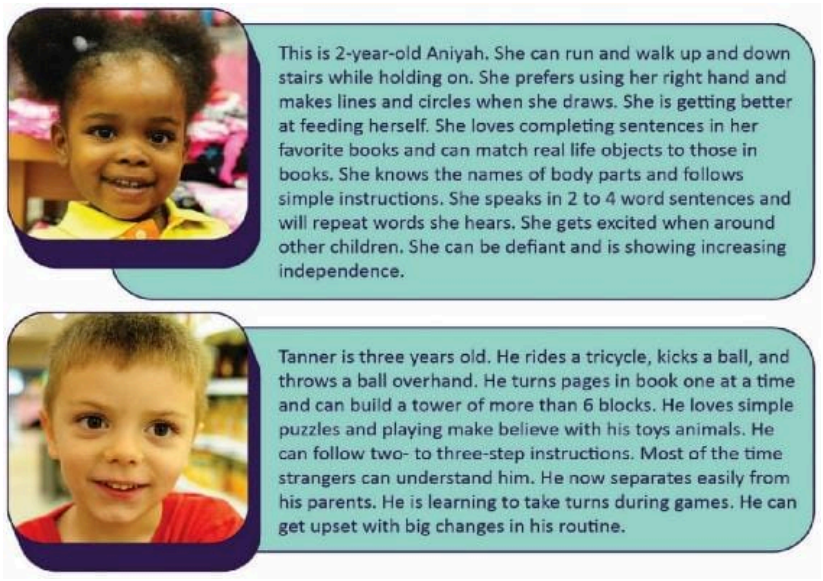


Figure 7.7 – What children might be like at each age.[336]

Pause to Reflect

Do you feel like you are less knowledgeable about or have less experience with a specific age of children (refer to Appendix I to see detailed milestones from 2 months through 12 years of age)? What can you do to improve your familiarity with the milestones for children that age? Why would this be important?

Developmental screening is a more formal process that uses a validated screening tool at specific ages to determine if a child's development is on track or whether he or she needs to be referred for further evaluation.[337]

Screening alone is not enough to identify a developmental concern. Rather, it helps staff and families decide whether to refer a child for more evaluation by a qualified professional. The earlier a possible delay is identified, the earlier a program can refer a child for further evaluation and additional supports and services.[338]

Most children with developmental delays are not identified early enough for them to benefit from early intervention services; early care and education programs can help change that. Although about 1 in 6 children has a developmental disability, less than half of these children are identified as having a problem before starting school.

Too often, adults don't recognize the signs of a potential developmental disability, they are not sure if their concern is warranted, or they don't have resources to help make their concern easier to talk about. But pinpointing concerns and talking about them is very important to get a child the help he or she might need.[339]

Developmental screening involves:

- Research-based, standardized developmental screening tools
- Information from family members, teachers, and other staff who know the child
- Written parental consent before starting the screening
- Communication with families in their home language

Appropriate Screening Tools

When searching for screening tools, keep the following in mind.

- Screening tools must be research-based and designed to be a brief measure of development that identifies if the child needs a more in-depth evaluation.
- Screening tools should be

- Age-appropriate
- Culturally appropriate
- Sensitive to the family's home language
- Used by trained and qualified personnel
- Valid for the intended results
- Reliable across users
- Clearly identified for use in screening

Programs need to make careful and informed decisions about whether to screen a child who is a dual language learner (DLL) in their home language, English, or both. Some skills may look different depending on the child's culture and background. Use a screening tool that considers the child's cultural context. When a culturally appropriate screening tool is not available, asking families about their child's typical behavior becomes even more critical. This information helps staff interpret screening results.

Timing

Programs should complete the first developmental screening in the first month or two of care. Programs may keep track of a child's development with an annual screening after that. Also, a child and family's primary health care provider may do developmental screening, autism spectrum disorder screening, and developmental surveillance.

After Screening

These are examples of the next steps a program might take based on the results of the screening.

Results: There are no concerns.

Action: The child participates in ongoing, individualized care. Staff do ongoing child assessments.

Results: The results are unclear or there may be additional concerns.

Action: The child participates in ongoing, individualized care. Staff do ongoing child assessments. The family and staff closely observe the child's development over time to decide if they should re-screen or evaluate the child.

Results: The screening or information collected from family members, teachers, and other program staff found some concerns.

Action: The child participates in ongoing, individualized care. Program staff work with the family to refer the child for a free evaluation. Infants and toddlers go to the appropriate Individuals with Disabilities Education Act (IDEA) Part C agency and preschool children go to the appropriate Part B agency, usually a school district. Families may need support to navigate the

referral and evaluation process.[340]

If a delay or disability is diagnosed, early treatment is important. Speech therapy, physical therapy, and other services are available in every state for free or at low cost to families. However, if a developmental concern is not identified early, families can't take advantage of these services.[341]

Vision Screening

Families and early care and education staff cannot always tell when a child has trouble seeing. Observation alone isn't enough. This is why implementing evidence-based vision screening throughout early childhood is important.

Timely vision screening (coupled with an eye examination2 when indicated) is an important step toward early detection of any possible vision problems. Early detection can lead to an effective intervention and help to restore proper vision. Young children rarely complain when they can't see well because to them, it's normal.

Engaging Families

It is easier for families to partner with early care and education staff and health care providers when they understand how vision influences their child's development and learning. Preparing families about what to expect from a vision screening helps them know how to prepare their child. It is also important to talk about who will have access to their child's screening results. One of the best ways to promote children's vision health is by developing and implementing policies and procedures that both define and support ways for staff to collaborate with families.

Include questions on the program's family health history form to identify children who may have a higher risk of vision problems. For example is there a family history of amblyopia, strabismus, or early and serious eye disease?

Provide resources to help families learn more about healthy eyes and the importance of early detection of vision problems. Do families know that it isn't always possible to tell if children have a vision problem just by looking at their eyes? Or that young children seldom complain when they can't see well?

In addition to assuring timely vision screening, programs can support children and families who have been given treatment recommendations from an eye specialist (such as wearing glasses or patching one eye for amblyopia), as well as reminding families of follow-up visits to the eye doctor whenever recommended.



Figure 7.8 – Programs can support children who wear glasses to correct their vision.[342]

Rescreening

Programs that perform vision screenings will need to determine when to rescreen children who do not pass. Some children may be unable to pay attention, cooperate or understand what they need to do during the first attempt at screening. This is especially

true for visual acuity testing. These children may not have “failed” their vision screening. They may be considered “untestable.”

Research shows that preschool children who are “untestable” are almost twice as likely to have a vision problem as those who successfully pass a screening. They should be rescreened as soon as possible, but not longer than 6 months later. If a child fails or is untestable at the second attempt, consider referring the child for a full eye examination.

Ongoing Care

It is important to remember that screening only provides a vision assessment at one moment in time. Occasionally a family member or teacher will identify a new or different vision concern after a child has been previously screened. In addition, as children grow their eyes change and new signs of an eye problem or blurred vision can arise as they mature. Programs should address this new concern with the parent and the health care provider promptly.[343]

Hearing Screening

Families and early care and education staff cannot always tell when a child is deaf or hard of hearing. Observation alone isn’t enough. This is why implementing evidence-based hearing screening throughout early childhood is important.

Hearing helps us communicate with others and understand the world around us. However, about 2 to 3 of every 1,000 children in the United States are born deaf or hard of hearing. A child may also experience a decline in hearing ability at any time caused by illness, physical trauma, or environmental or genetic factors. It is estimated that the incidence of permanent hearing loss doubles by the time children enter school. A child may have difficulty hearing in one ear or both ears. The difficulty may be temporary or permanent. It may be mild or it may be a complete inability to hear spoken language and other important sounds.

Any inability to hear clearly can get in the way of a child’s speech, language, social and emotional development, and school readiness. Intervention may improve social and emotional and academic achievement when children who are deaf or hard of hearing are identified early.



Figure 7.9 – This child is undergoing a hearing screening. [344]

An evidence-based hearing screening is a way to identify children who need an evaluation to determine if they are deaf or hard of hearing. Prior to discharge from the hospital, almost all newborns are screened and an evaluation is necessary for those who do not pass the screening.

Engaging Families

It is easier for families to partner with early care and education staff and health care providers when they understand how hearing influences their child’s speech and language development, socialization, and learning. Preparing families about what to expect

from a hearing screening helps them know how to prepare their child. It is also important to talk about who will have access to their child's screening results. When a child does not pass a hearing screening, programs can provide support to help families follow up with referrals and any recommended treatment. If a child is identified as deaf or hard of hearing, collaboration between the family, the early care and education program, and the child's audiologist and other early intervention providers will be helpful. Share information with the family about the importance of hearing for children's language development and communication. This supports a family's health literacy, and it may help them complete the follow-up steps.

Rescreening

If your program performs a hearing screening and a child does not pass, it is important for you to collaborate with and support the family to complete all recommended follow-up steps.

- The child is typically screened a second time within about 2 weeks.
- If the child does not pass, the child should be referred to a health care provider for a middle ear evaluation. A health care provider can diagnose and treat common problems such as earwax buildup or middle ear infections. A third screening is necessary after the medical examination.
- If a child still does not pass, programs should recommend for a referral to a pediatric audiologist for a complete diagnostic evaluation.

It is also important for programs to support families to follow up if the program obtains results from the child's health care provider indicating that the child did not pass a hearing screening.[345]

Pause to Reflect

Do you remember getting your vision or hearing screened during your childhood? If you were diagnosed with vision or hearing impairments, how was it discovered? At what age did that happen?

Lead Screening

Lead screening measures the level of lead in the blood. Lead is a poison that is very dangerous for young children because of their small size and rapid growth and development. It can cause anemia, learning difficulties, and other medical problems.

Children can inhale or swallow lead through exposure to:

- Home or child care environments, including those:
- Built before 1960 with peeling paint or renovation
- Located near a highway or lead industry
- Family members who work with lead or have been treated for lead poisoning
- Imported ceramic pottery for cooking, storing, or serving food
- Home remedies with lead
- Certain candies, which may contain high levels of lead in the wrapper or stick. Be cautious when providing imported candies to children.
- Eating paint chips or dirt
- Water pumped through lead-based pipes

Lead screening involves a blood lead test, from a finger stick or a venous blood draw. It is recommended at 12 months and 24 months of age. Children from 3 to 6 years of age should have their blood tested if they have not been tested

Symptoms of Lead Poisoning

Most children with lead poisoning show no symptoms. However, you might notice:

- Developmental delay
- Learning Difficulties
- Irritability

- Headaches
- Poor appetite or stomachache
- Weight loss
- Fatigue and sluggishness
- Slow growth and development
- Vomiting
- Constipation
- Hearing loss

Follow-Up to Lead Screening
New recommendations from the Centers for Disease Control and Prevention (CDC) state that if screening indicates a lead level of five micrograms per deciliter or more, the child should be referred to a health professional. [346]

Lead has negative outcomes on a variety of things, including:

- Attention (easily distracted, challenges with sustained attention, hyperactivity)
- executive functions (problems with planning, impulse control, flexible thinking, etc.)
- visual-spatial skills (problems related to visual perception, memory, organization, and reasoning with visually presented information)
- social behavior (aggression, disruptive behavior, poor self-regulation)
- speech and language (problems with phonological and sentence processing and spoken word recognition)
- fine and gross motor skills (unsteadiness, clumsiness, and problems with coordination, visual-motor control, and dexterity)[347]

Depending on the effects of lead poisoning, early care and education programs can implement intervention services to support the child. Other treatments include:

- Nutrition counseling
- Iron supplements
- Medication to remove the lead from the blood
- Follow-up testing of the child's blood
- Referral for developmental testing[348]

Social and Emotional and Behavioral Screening

Young children are learning to get along with others and manage their own emotions. When a child enters a program, staff get to know what social and emotional skills children are working on. They can use social and emotional or behavioral screening tools to gather that information.[349]

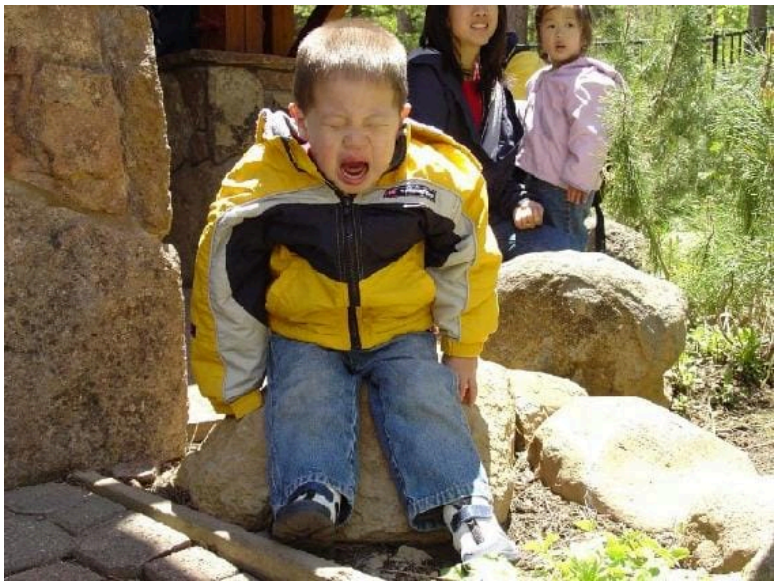


Figure 7.10 – Screening will help you provide optimal

support for children's social and emotional health.[350]

Social and emotional health—the ability to form strong relationships, solve problems, and express and manage emotions—is critical for school readiness and lifelong success. Without it, young children are more likely to:

- Have difficulty experiencing or showing emotions, which may lead to withdrawal from social activities and maintaining distance from others
- Have trouble making friends and getting along with others
- Have behaviors, such as biting, hitting, using unkind words, or bullying—behaviors that often lead to difficulty with learning, suspension or expulsion, and later school dropout[351]

More information about this topic can be found in other parts of this book. Behavior has been addressed in Chapter 3 in the section on Interpersonal Safety and children's mental health is the focus of Chapter 11.

Summary

By keeping accurate records, conducting daily health checks, supporting children's development of good dental hygiene, and by providing for individual children's sleep needs early care and education programs can help promote good health on a daily basis. When programs monitor and screen children, they can ensure that conditions or situations that might interfere with a child's health or well-being can be identified and supports put in place to mitigate potential negative effects.

Resources for Further Exploration

- Head Start's Health Literacy: Tips for Health Managers: https://eclkc.ohs.acf.hhs.gov/public...ealth-managers
- Staff Health in Early Care and Education Programs: https://cchp.ucsf.edu/sites/g/files/...ealth_0606.pdf
- Licensing's Records to be Maintained at the Facility: https://www.cdss.ca.gov/cdssweb/entr...sh/LIC311A.pdf
- The Culture of Sleep and Child Care: https://eclkc.ohs.acf.hhs.gov/sites/...-sleep-pdf.pdf
- Center on the Developing Child at Harvard University (2010). The Foundations of Lifelong Health Are Built in Early Childhood. http://www.developingchild.harvard.edu
- The Foundations of Lifelong Health Are Built in Early Childhood https://46y5eh11fhgw3ve3ytpwxt9r-wpe...ong-Health.pdf
- Birth to 5: Watch Me Thrive! An Early Care and Education Provider's Guide for Developmental and Behavioral Screening https://www2.ed.gov/about/inits/list...-march2014.pdf
- Prevent Blindness: 18 Vision Development Milestones From Birth to Baby's First Birthday https://eclkc.ohs.acf.hhs.gov/sites/...-in-year-1.pdf
- CDC's Hearing Loss in Children https://www.cdc.gov/ncbddd/hearingloss/index.html
- Early Childhood Hearing Outreach http://www.infanthearing.org/earlychildhood/

- Developmental Screening and Assessment Instruments with an Emphasis on Social and Emotional Development for Young Children Ages Birth through Five https://ectacenter.org/~pdfs/pubs/screening.pdf
- Links to Commonly Used Screening Instruments and Tools toolkits.solutions.aap.org/s...creening_tools
- Educational Interventions for Children Affected by Lead https://www.cdc.gov/nceh/lead/public...ed_by_lead.pdf
- Watch Me! Celebrating Milestones and Sharing Concerns course from CDC https://www.cdc.gov/ncbddd/watchmetr...g-2019-508.pdf
- CDC's Developmental Milestones http://www.cdc.gov/ncbddd/actearly/p...checklists.pdf
- CDC's "Learn the Signs. Act Early.": https://www.cdc.gov/ncbddd/actearly/...materials.html

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8: Prevention of Illness

Learning Objectives

By the end of this chapter, you should be able to:

- Describe each of the five ways illness is transmitted.
- Explain how immunization prevents illness.
- Identify standard precautions to prevent illness.
- Discuss practices to protect children from environmental hazards.

Licensing Regulations

Title 22 Regulations that relate to this chapter include:

101226.2 ISOLATION FOR ILLNESS

- A center shall be equipped to isolate and care for any child who becomes ill during the day.
- The child's authorized representative shall be notified immediately when the child becomes ill enough to require isolation, and shall be asked to pick up the child as soon as possible.
- (from 101426.2) In addition to 101226.2, the isolation area for infants must have a crib, cot, mat or playpen for each ill infant. This isolation area must be under constant visual supervision by staff.

101231 SMOKING PROHIBITION

- Smoking is prohibited on the premises of a Child Care Center.

101238 BUILDINGS AND GROUNDS

- The center shall be clean, safe, sanitary and in good repair at all times.

101238.4 STORAGE SPACE

- Each child shall have an individual storage space for personal items.

101239.1 NAPPING EQUIPMENT

- Cots must be maintained in a safe condition.
- Floor mats used for napping must be at least ¾ inch thick, covered with vinyl or similar material that can be wiped, and marked to distinguish the sleeping side from the floor side.
- Bedding must be individually stored and kept clean

101428 INFANT CARE PERSONAL SERVICES

- There shall be a written toilet-training plan for each infant being toilet trained.
- Whenever a potty chair is used, it shall be placed on the floor and promptly emptied, cleaned and disinfected after each use.
- No child shall be left unattended while on a potty chair or seat.
- Each child shall receive instruction and assistance in hand washing after use of the toilet. The infant shall be kept clean and dry at all times.
- Soiled or wet clothing provided by the infant's representative shall be placed in an airtight container and given to the representative at the end of the day.
- Towels and washcloths used for cleaning infants shall not be shared and shall be washed after each use.
- The changing table shall be disinfected after each use.

101438.1 INFANT CARE GENERAL SANITATION

- All items used by pets and animals shall be kept out of the reach of infants.
- Each caregiver shall wash his/her hands with soap and water before feeding and after each diaper change.
- Areas that infants have access to shall be washed, cleared and sanitized as follows: floors shall be vacuumed or swept and mopped daily and as often as necessary. Carpeted floors shall be vacuumed daily and cleaned at least every 6 months. Walls shall be washed with disinfecting solution at least weekly.
- The diaper changing area shall be disinfected including walls and floors. After each diaper change, counter tops, sinks, drawers and cabinets near diaper changing area shall be washed.
- Objects that are used by infants that are mouthed shall be washed and disinfected.
- Only dispenser soap in an appropriate dispenser shall be used.
- Only disposable paper towels in an appropriate holder or dispenser shall be used for hand drying.

Healthy Schools Act

A California law called the Healthy Schools Act requires certain rules to be followed when anyone applies pesticides at the child care facility.[352]

Introduction

Science and experience tell us that infectious disease, especially gastrointestinal disease, which means vomiting and diarrhea, and respiratory disease, including coughs, colds, sore throats, and runny noses, are increased among children who are cared for in out-of-home group settings. In addition, such children may be at increased risk for certain other infections that may be transmitted by insects or by body fluids. It's also true that children who are cared for in group out-of-home settings are more likely to experience infectious illnesses that are more severe and more prolonged (although 90% of those infections are mild and self-limited, requiring no special treatment).

But there's good news, too. Infectious illnesses such as pneumonia and influenza, which together were the leading causes of death among U.S. children in the early 20th century, have declined 99.7 percent. Common childhood illnesses such as diphtheria, whooping cough, measles, mumps, and rubella are rare except in communities where immunization rates are low, and polio is unheard of in our country today.

Although younger children are more susceptible to infectious illness because their immune systems are immature, as they grow older, the incidents of infectious disease decreases as their immune systems mature. Furthermore, children who experience more infectious disease at an early age in group out-of-home care have a decreasing incidence of infectious disease as they grow older. In fact, they have less infectious illnesses in kindergarten than children who were taken care of exclusively at home. Illness also decreases with years of attendance in out-of-home early care and education settings.

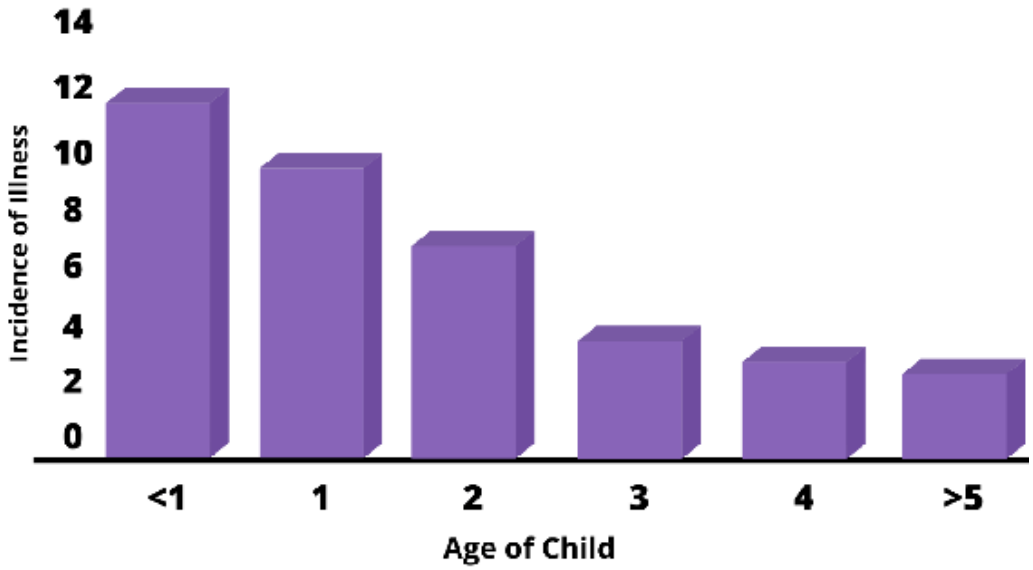


Figure 8.1 – As children get older, they get sick less often.[353]

There are negative consequences of childhood illness, including:

- It's unpleasant to be sick (for children or the adults that may also become infected).
- Illnesses that are minor in children can be much more serious for adults and pregnant women.
- Some illnesses have severe effects (and can even be life-threatening).
- There are short-term medical costs.
- There may also be additional child care costs or lost wages for parents/caregivers of children that must be excluded from group care.
- Overuse of antibiotics in an effort to get children well contributes to antibiotic resistance among common bacteria.

To prevent illness we need to understand the different ways illness is spread, how immunizations protect children, and what universal precautions early care and education program staff can take to prevent the spread of illness.

How Illnesses are Transmitted

Bacteria, viruses, fungi, and parasites that cause illness can be transmitted in five ways, including through:

1. the respiratory route
2. the fecal-oral route
3. the direct contact route
4. the bodily fluid route (including blood, urine, vomit, and saliva)
5. the vector-borne route

Respiratory Transmission

Most respiratory germs stay in the nose, sinuses, mouth and throat, or possibly the middle ear. Upper respiratory illnesses (colds) are the most common and the most likely to be transmitted in early care and education settings.

The more common respiratory illnesses include:

- Sinusitis
- Sore throat
- Common cold
- Recurrent middle ear infection
- Strep throat
- RSV

- Pneumonia
- Bronchitis

Pneumonia and bronchitis are rarely the result of an infection picked up in an early education setting. We also have immunizations for many respiratory diseases that are rarely transmitted in early care and education settings today, including:

- Mumps
- Measles
- Bacterial meningitis
- Chicken pox
- Diphtheria
- Pertussis
- Pneumonia
- Seasonal flu

If we could actually see what comes out of a child's mouth along with a cough or a sneeze, we might appreciate the respiratory route of infectious disease transmission more.



Figure 8.4 – What it might look like if we could see what a child coughs or sneezes.[354]

The germs that are in this contaminated cloud of exhalation can wind up on surfaces and hands and be transmitted to others. Staff and children who are able to are encouraged to cough into their sleeves. Covering your mouth with your hand only transfers these germs to your hand. This will be addressed more in depth later in the chapter.

Fecal-Oral Transmission

When organisms that live in our intestines get into our mouths they can cause illness. Usually, this happens via someone's hands, usually our own. Fecal-oral routes diseases include:

- Hepatitis A
- diarrhea
- hand, foot, and mouth disease
- pinworms
- rotavirus
- norovirus
- giardia
- shigella
- cryptosporidiosis

That is why it is so important that everyone wash hands after using the bathroom, changing diapers, when preparing food, and before eating.

Food Poisoning

E. coli and salmonella are two of the germs that you may also have heard mentioned in the news when grocery stores send back fresh vegetables, meat, or poultry. These organisms originate with farm animals themselves and they can cause diarrhea and vomiting if children or staff eat contaminated food. Properly preparing and serving fresh produce, meat, and poultry is essential to prevent food poisoning.

Direct Contact Transmission

Direct contact with another person's skin (or hair) puts infants and children at risk of illnesses such as:

- cold sores
- conjunctivitis
- pink eye
- impetigo
- lice
- scabies
- ringworm (a fungus, not a worm).

Bodily Fluid Transmission

Bodily fluids, including saliva, urine, vomit, and blood, can cause illness, such as:

- Dental caries (by saliva)
- Cytomegalovirus or CMV (by urine)
- Hepatitis B (preventable by vaccine)
- Hepatitis C (rare in children)
- HIV (no cases of transmission in an early education setting)

Vector-Borne Transmission

A vector is a living thing that can transmit disease. We know, for example, that ticks can transmit Lyme disease and Rocky Mountain spotted fever. Fleas are known to transmit Bubonic plague and typhus. Mosquitoes can infect people with St. Louis encephalitis (SLE), dengue fever, Zika virus, and West Nile disease. Rats and mice can transmit leptospirosis, trichinosis, hantavirus, and bacterial food poisoning. Raccoons can spread raccoon roundworm.

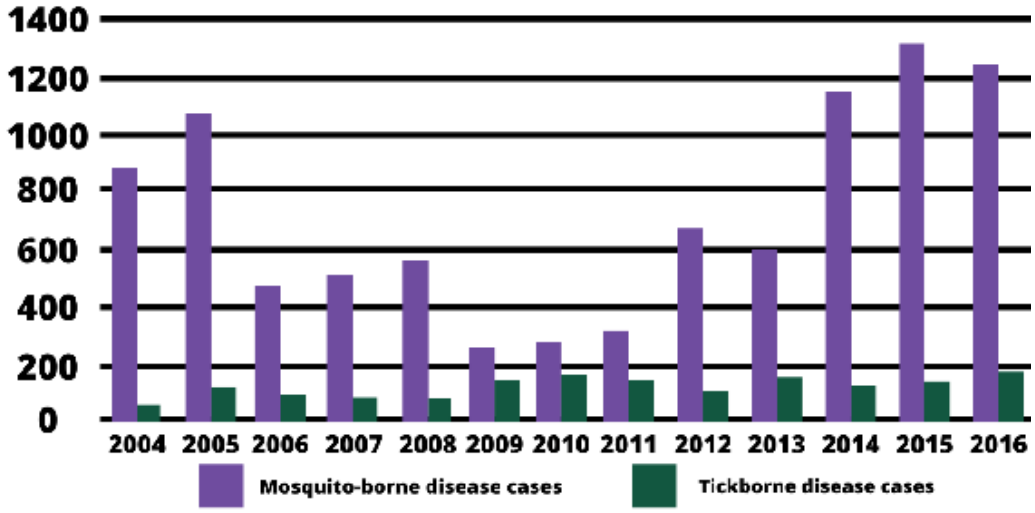


Figure 8.5 – Cases of disease caused by mosquitos and ticks in California from 2004-2016.[355]

While these illnesses are relatively uncommon, the risk reminds us of the importance of

- utilizing integrated pest management techniques to keep insects and rodents out of buildings (covered later in this chapter)
- using insect repellant specifically recommended for children during outdoor activities
- removing standing water in which mosquitoes can lay their eggs
- checking for and removing ticks (addressed in Figure 4.10) in centers when children come back in after playing in or near heavily wooded areas[356]

Pause to Reflect

Why is it important to understand how illnesses and diseases are spread?

Immunizations

Prevention of infectious disease starts with immunizations (or vaccines). Immunizations are considered the number one public health intervention of the 20th century and one of the top 10 interventions of the first decade of the 21st century.[357]

On-time vaccination throughout childhood is essential because it helps provide immunity before children are exposed to potentially life-threatening diseases. Vaccines are tested to ensure that they are safe and effective for children to receive at the recommended ages.[358] See Figure 8.X for the current schedule of immunizations.

Fully vaccinated children in the U.S. are protected against sixteen potentially harmful diseases (see Figure 8.X). Vaccine-preventable diseases can be very serious, may require hospitalization, or even be deadly — especially in infants and young children.[359]

Here is the schedule from the CDC to ensure a child is fully vaccinated:

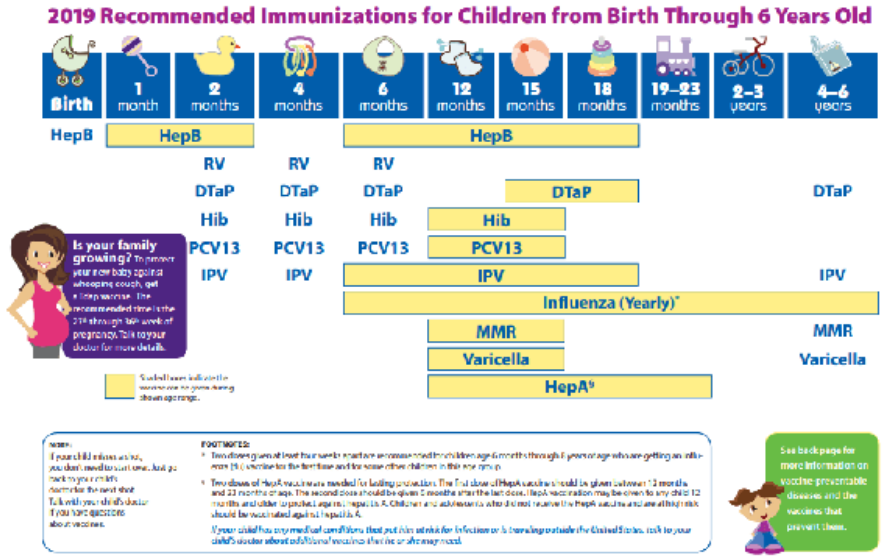


Figure 8.6 – Immunization schedule.[360]

The current schedule of vaccines (see Figure 8.6) protects children from the illnesses listed in Table 8.1)

Table 8.1 – Vaccine-Preventable Diseases.[361]

Disease	Vaccine	Disease Spread By	Disease Symptoms	Disease Complications
Chick-pox	Varicella vaccine protects against chick pox	Air, direct contact	Rash, tiredness, headache, fever	Infected blisters, bleeding disorders, encephalitis (brain swelling), pneumonia (infection in the lungs)
Diphtheria	DtaP* vaccine protects against diphtheria	Air, direct contact	Sore throat, mild fever, weakness, swollen glands in neck	Swelling Of the heart muscle, heart failure, coma, Paralysis, death
HiB	Hib vaccine protects against Haemophilus Influenza type b	Air, direct contact	May be no symptoms unless bacteria enter the blood	Meningitis (infection of the covering around the brain and spinal cord), intellectual disability. epiglottitis (life-threatening infection that can block the windpipe And lead to serious breathing problems), pneumonia (infection in the lungs), death
Hepatitis A	HepA vaccine protects against hepatitis A.	Direct contact, contaminated food or water	May be no symptoms - fever, stomach pain, loss of appetite. Fatigue, vomiting, jaundice (yellowing of skin and eyes). dark urine	Liver failure. arthralgia (joint pain), kidney, pancreatic, and blood disorders

Disease	Vaccine	Disease Spread By	Disease Symptoms	Disease Complications
Hepatitis B	HepB vaccine protects against hepatitis B.	Contact With body fluids	May be no symptoms fever, headache, weakness, vomiting, jaundice (yellowing of skin and eyes), joint pain	Chronic liver infection, liver failure, liver cancer
Influenza (Flu)	Flu vaccine protects against influenza.	Air, direct contact	Fever, muscle pain, sore throat, cough, extreme fatigue	Pneumonia (infection in the lungs)
Measles	MMR* vaccine protects against measles.	Air, direct contact	Rash, fever, tough, runny nose, pinkeye	Encephalitis (brain swelling), pneumonia (infection in the lungs). death
Mumps	MMR* vaccine protects against mumps.	Air, direct contact	Swollen salivary glands (under the jaw), fever, headache, tiredness, muscle pain	Meningitis (infection of the covering around the brain and spinal cord) , encephalitis (brain swelling), inflammation Of testes or ovaries, deafness
Pertussis	DTap* vaccine protects against pertussis (whooping cough).	Air, direct contact	Severe cough, runny nose, apnea (a pause in breathing in infants)	Pneumonia (infection in the lungs), death
Polio	IPV vaccine protects against polio.	Air. direct contact, through the mouth	May be no symptoms, sore throat, fever, nausea. headache	Paralysis, death

Disease	Vaccine	Disease Spread By	Disease Symptoms	Disease Complications
Pneumococcal	POII 3 vaccine protects against pneumococcus.	Air, direct contact	May be no symptoms -. pneumonia (infection in the lungs)	Bacteremia (blood infection), meningitis (infection of the covering around the brain and spinal cord). death
Rotavirus	RV vaccine protects against rotavirus.	Through the mouth	Diarrhea, fever, vomiting	Severe diarrhea, dehydration
Rubella	MMR* vaccine protects against rubella.	Air, direct contact	Children infected with rubella virus sometimes have a rash, fever. swollen nodes	Very serious in pregnant women—can lead to miscarriages, stillbirth, premature delivery, birth defects
Tetanus	DTap* vaccine protects against tetanus.	Exposure through cuts in skin	Stiffness in neck and muscles, difficulty swallowing, muscle spasms, fever	Broken bones, breathing difficulty, death

How Vaccines Work

The immune system helps the human body fight germs by producing substances to combat them. Once it does, the immune system “remembers” the germ and can fight it again. Vaccines contain germs that have been killed or weakened. When given to a healthy person, the vaccine triggers the immune system to respond and thus build immunity.

Before vaccines, people became immune only by actually getting a disease and surviving it. Immunizations are an easier and less risky way to become immune.

Vaccines are the best defense we have against serious, preventable, and sometimes deadly contagious diseases. Vaccines are some of the safest medical products available, but like any other medical product, there may be risks. Accurate information about the value of vaccines as well as their possible side effects helps people to make informed decisions about vaccination.

Potential Side Effects

Vaccines, like all medical products, may cause side effects in some people. Most of these side effects are minor, such as redness or swelling at the injection site. Read further to learn about possible side effects of vaccines.

Any vaccine can cause side effects. For the most part, these are minor (for example, a sore arm or low-grade fever) and go away within a few days.[362] Serious side effects after vaccination, such as severe allergic reaction, are very rare.[363]

Remember, vaccines are continually monitored for safety, and like any medication, vaccines can cause side effects. However, a

decision not to immunize a child also involves risk and could put the child and others who come into contact with him or her at risk of contracting a potentially deadly disease.

How Well Do Vaccines Work?

Vaccines work really well. No medicine is perfect, of course, but most childhood vaccines produce immunity about 90–100% of the time.

What about the argument made by some people that vaccines don't work that well and that diseases would be going away on their own because of better hygiene or sanitation, even if there were no vaccines?

That simply isn't true. Certainly better hygiene and sanitation can help prevent the spread of disease, but the germs that cause disease will still be around, and as long as they are they will continue to make people sick.

All vaccines must be licensed (approved) by the Food and Drug Administration (FDA) before being used in the United States, and a vaccine must go through extensive testing to show that it works and that it is safe before the FDA will approve it. Among these tests are clinical trials, which compare groups of people who get a vaccine with groups of people who get a control. A vaccine is approved only if FDA makes the determination that it is safe and effective for its intended use.

If you look at the history of any vaccine-preventable disease, you will virtually always see that the number of cases of disease starts to drop when a vaccine is licensed. Vaccines are the most effective tool we have to prevent infectious diseases.

Opposition to Vaccines

In 2010, a pertussis (whooping cough) outbreak in California sickened 9,143 people and resulted in 10 infant deaths: the worst outbreak in 63 years (Centers for Disease Control 2011b). Researchers, suspecting that the primary cause of the outbreak was the waning strength of pertussis vaccines in older children, recommended a booster vaccination for 11–12-year-olds and also for pregnant women (Zacharyczuk 2011). Pertussis is most serious for babies; one in five needs to be hospitalized, and since they are too young for the vaccine themselves, it is crucial that people around them be immunized (Centers for Disease Control 2011b). Several states, including California, have been requiring the pertussis booster for older children in recent years with the hope of staving off another outbreak.

But what about people who do not want their children to have this vaccine, or any other? That question is at the heart of a debate that has been simmering for years. Vaccines are biological preparations that improve immunity against a certain disease. Vaccines have contributed to the eradication and weakening of numerous infectious diseases, including smallpox, polio, mumps, chickenpox, and meningitis.



Figure 8.7 – These two young children contracted polio.[364]

However, many people express concern about the potential negative side effects of vaccines. These concerns range from fears about overloading the child's immune system to controversial reports about devastating side effects of the vaccines.[365]

Although children continue to get several vaccines up to their second birthday, these vaccines do not overload the immune system. Every day, an infant's healthy immune system successfully fights off thousands of antigens – the parts of germs that cause their immune system to respond. Even if your child receives several vaccines in one day, vaccines contain only a tiny amount of antigens compared to the antigens your baby encounters every day.

This is the case even if your child receives combination vaccines. Combination vaccines take two or more vaccines that could be given individually and put them into one shot. Children get the same protection as they do from individual vaccines given separately—but with fewer shots.[366]

One misapprehension is that the vaccine itself might cause the disease it is supposed to be immunizing against.[367] Vaccines help develop immunity by imitating an infection, but this "imitation" infection does not cause illness. Instead, it causes the immune system to develop the same response as it does to a real infection so the body can recognize and fight the vaccine-preventable disease in the future. Sometimes, after getting a vaccine, the imitation infection can cause minor symptoms, such as fever. Such minor symptoms are normal and should be expected as the body builds immunity.[368]

Another commonly circulated concern is that vaccinations, specifically the MMR vaccine (MMR stands for measles, mumps, and rubella), are linked to autism. The autism connection has been particularly controversial. In 1998, a British physician named Andrew Wakefield published a study in Great Britain's Lancet magazine that linked the MMR vaccine to autism. The report received a lot of media attention, resulting in British immunization rates decreasing from 91 percent in 1997 to almost 80 percent by 2003, accompanied by a subsequent rise in measles cases (Devlin 2008). A prolonged investigation by the British Medical Journal proved that not only was the link in the study nonexistent, but that Dr. Wakefield had falsified data in order to support his claims (CNN 2011). Dr. Wakefield was discredited and stripped of his license, but the doubt still lingers in many parents' minds.

In the United States, many parents still believe in the now-discredited MMR-autism link and refuse to vaccinate their children. Other parents choose not to vaccinate for various reasons like religious or health beliefs. In one instance, a boy whose parents opted not to vaccinate returned home to the U.S. after a trip abroad; no one yet knew he was infected with measles. The boy exposed 839 people to the disease and caused 11 additional cases of measles, all in other unvaccinated children, including one infant who had to be hospitalized.



Figure 8.8 – An infant with measles[369]

According to a study published in Pediatrics (2010), the outbreak cost the public sector $10,376 per diagnosed case. The study further showed that the intentional non-vaccination of those infected occurred in students from private schools, public charter schools, and public schools in upper-socioeconomic areas (Sugerman et al. 2010).[370]

What about the Flu Vaccine?

There are many reasons to get an influenza (flu) vaccine each year. Below is a summary of the benefits of flu vaccination, and selected scientific studies that support these benefits.

- Flu vaccination can keep you from getting sick with flu.
- Flu vaccination can reduce the risk of flu-associated hospitalization.
- Flu vaccination is an important preventive tool for people with chronic health conditions.
- Flu vaccination helps protect women during and after pregnancy and helps protect the baby from flu for several months after birth.
- Flu vaccination can be life-saving in children.
- Flu vaccination has been shown in several studies to reduce the severity of illness in people who get vaccinated but still get sick.
- Getting vaccinated yourself may also protect people around you, including those who are more vulnerable to serious flu illness, like babies and young children, older people, and people with certain chronic health conditions.[371]

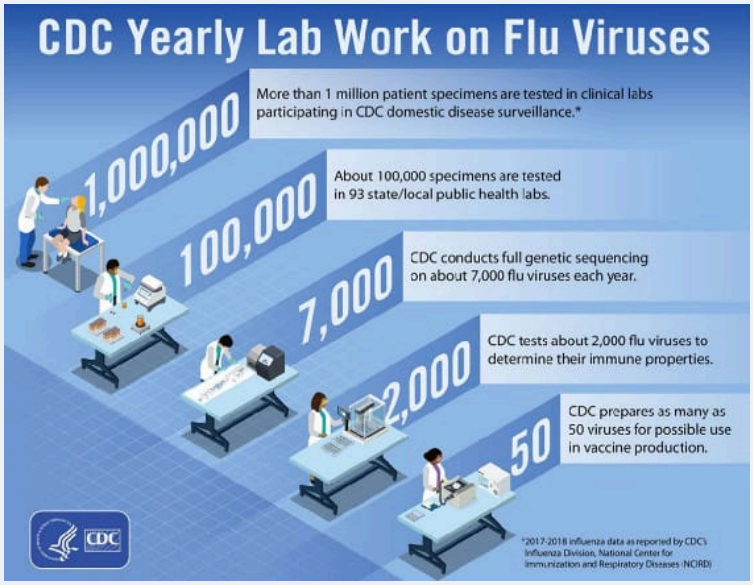


Figure 8.9 – What does into the flu vaccine each year.[372]

Pause to Reflect

Using the information that has been provided about immunizations, think of ways you could respond to the following:

1. "I don't believe in giving all of the vaccines, like chicken pox. It's better for children to just get the disease like we all did when we were kids."
2. "Why do they have to give vaccines so early? It seems like it's too much, too quickly."
3. "I have heard that vaccines give some kids autism. And even if they don't, the side effects are just too scary."

Universal Precautions to Prevent the Spread of Illness

There are some standard practices that prevent, or reduce the risk of, the spread of illness in early care and education programs. These are modeled after practices in health care, where everyone is treated as being potentially infected with something that is contagious. Many illnesses are actually contagious before the infected person is symptomatic, so waiting until you see signs of illness is an ineffective way of preventing its spread. Child care providers can practice these four things to help control the spread of illness.

1. Hand washing

2. Use of disposable nonporous gloves when working with bodily fluids
3. Disinfecting potentially contaminated surfaces
4. Proper disposal of potentially contaminated waste[373]

Handwashing

Regular handwashing is an important step to minimizing the spread of germs. Hands pick up germs from all of the things they touch and then spread them from one place to another. Germs that are on hands can also enter the body when a person eats or when they touch their eyes, nose, mouth, or any area on the body where the skin is broken (because of a cut, rash, etc.).

All that is needed for handwashing is soap and clean, running water. Handwashing with soap and water removes visible dirt and hidden germs. Studies have demonstrated that handwashing reduced the number of diarrheal illnesses by 31 percent and respiratory illnesses by 21 percent.

Hands should be washed:

- before eating, feeding, or preparing food. This prevents germs from getting into the mouth from hands. (Hygiene practices related specifically to food safety will be addressed in Chapter 15.)
- after touching saliva (after feeding or eating), mucus (wiping a nose, using a tissue), bodily fluids (toileting, diapering), food, or animals
- when visibly dirty, after touching garbage, or after cleaning

The Center for Disease Control recommends the following handwashing steps:

1. “Wet your hands with clean, running water (warm or cold) and apply soap.”
2. “Rub your hands together to make a lather and scrub your hands well; be sure to scrub the backs of your hands, between your fingers, and under your nails.”
3. “Continue rubbing your hands for at least 20 seconds. Need a timer? Hum the “Happy Birthday” song from beginning to end twice.”
4. “Rinse your hands well under running water.”
5. “Dry your hands using a clean towel or air dry them.”



Figure 8.10 – Illustrations of the 5 steps of handwashing.[374]

Infants and young children will need help with handwashing. *Caring for Our Children* recommends that caregivers:

- Safely cradle an infant in one arm to wash their hands at a sink.
- Provide assistance with handwashing for young children that cannot yet wash their hands independently.
- Offer a stepping stool to young children so they may safely reach the sink.[375]

Wearing Disposable Gloves

Teachers and caregivers should wear gloves when they anticipate coming into contact with any of the following (on a child’s body or a contaminated surface)

- Blood or bodily substances (i.e., fluids or solids)
- Mucous membranes (e.g., nasal, oral, genital area)
- Non-intact skin (e.g., rashes or cuts and scrapes)[376]

Once the gloves are soiled, it’s important to remove them carefully.

1. Using a gloved hand, grasp the palm area of the other gloved hand and peel off the first glove.
2. Hold the removed glove in the gloved hand.
3. Slide fingers of the ungloved hand under the remaining glove at the wrist and peel off the second glove over the first glove.
4. Discard the gloves in a waste container.[377]

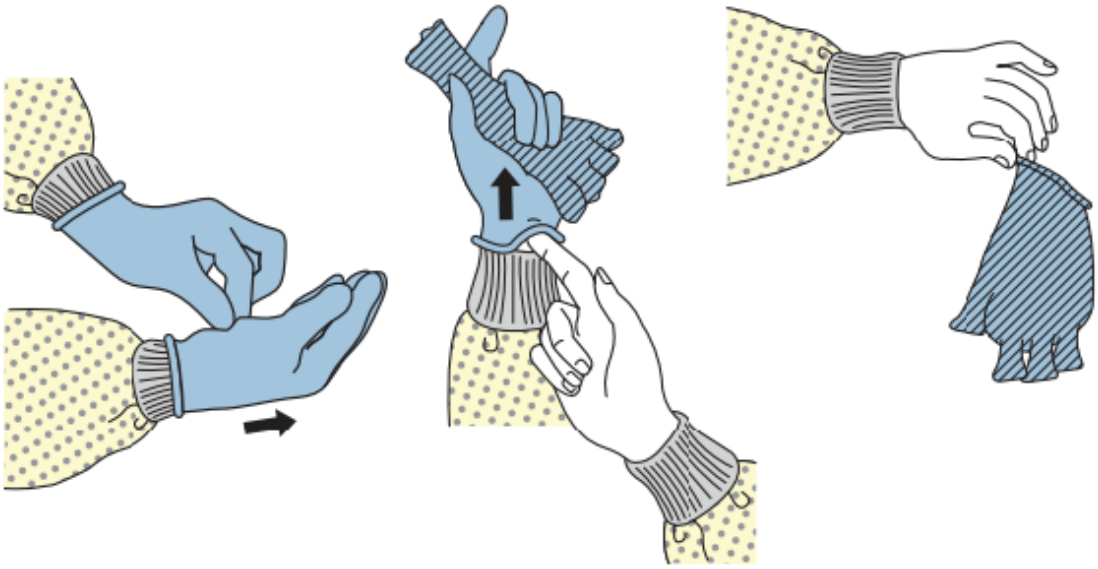


Figure 8.11 – Safe glove removal.[378]

After you remove your gloves you should wash your hands. “Do not reuse the gloves: this can spread germs from one child to another…Gloves provide added protection from communicable disease only if used correctly. If you use gloves incorrectly, you actually risk spreading more germs than if you don’t use gloves at all. Pay attention to your gloving technique so that you do not develop a false sense of security (and carelessness) when wearing gloves.”[379]

Cleaning and Disinfecting

Washing Surfaces Germs spread onto surfaces from hands and objects (tissues or mouthed toys) or from a sneeze or cough. It is important to clean all surfaces well, including toys and any surface that a young child puts in his mouth, because germs cannot be seen and it is easy to overlook surfaces that do not look soiled or dirty.

Toileting and diapering involve germs from bodily fluids and fecal material. These germs spread easily in a bathroom onto hands, flushers, and faucets. Routinely washing bathroom surfaces removes most germs and prevents them from spreading. The kitchen is another area of the home where it is important to clean surfaces well.

The terms “cleaning,” “sanitizing,” and “disinfecting” deserve close attention.

Cleaning removes visible soil, dirt, and germs. Soap and water will clean most surfaces.

Sanitizing reduces, but does not totally get rid of, germs to a level that is unlikely to cause disease. Sanitizers may be appropriate to use on surfaces where you eat (such as a table or high chair tray) and with toys that children place in their mouths. It is important to follow the instructions on the label, which may also include rinsing surfaces after using the sanitizing product.

Disinfecting destroys or inactivates infectious germs on surfaces. Disinfectants may be used on diaper-changing tables, toilets, and counter tops.[380]

Early care and education programs can create a bleach and water solution of one tablespoon household bleach to one quart water for surfaces that need to be sanitized or disinfected. To use effectively, the surface must be wetted with the solution and allowed to air dry. A fresh bleach solution should be made each day to maintain effectiveness, and stored in a clearly labeled spray bottle out of children’s reach. Research shows that other chemicals (e.g., ammonia, vinegar, baking soda, Borax) are not effective against some bacteria.[381] “Items that can be washed in a dishwasher or hot cycle of a washing machine do not have to be disinfected

because these machines use water that is hot enough for a long enough period of time to kill most germs."[382]

Cleaning and disinfecting are essential. Studies have shown that some germs, including influenza virus, can survive on surfaces for two to eight hours; rotavirus can survive up to 10 days.[383]

Table 8.2 – Schedule for Cleaning and Disinfecting[384]

Surface/Item	Clean	Disinfect	Frequency
Countertops and Tabletops	X	X	Daily and when soiled
Food prep and service areas	X	X	Before and after use; between prep of raw and cooked food
Floors	X	X	Daily and when soiled
Door and cabinet handles	X	X	Daily and when soiled
Carpets and large rugs	X		Vacuum daily; clean monthly for infants, every 3 months for other ages and when soiled
Small rugs	X		Shake or vacuum daily; launder weekly
Utensils, surfaces, and toys that go in the mouth or have been in contact with bodily fluids	X	X	After each child's use
Toys not contaminated with bodily fluids	X		Weekly
Dress up clothes not worn on the head	X		Weekly
Hats	X		After each child's use
Sheets and pillowcases	X		Weekly and when visibly soiled
Blankets and sleeping bags	X		Monthly and when visibly soiled
Cubbies	X		Weekly

Surface/Item	Clean	Disinfect	Frequency
Cribs	X		Weekly
Handwashing sinks including faucet, soap dispenser, and surrounding area	X	X	Daily or when soiled
Toilet seats, handles, door knobs or handles in toileting area, floors	X	X	Daily and immediately is soiled
Toilet bowls	X	X	Daily
Changing tables	X	X	After each child's use
Potty chairs (discouraged in child care because of contamination risks)	X	X	After each child's use
Any surface contaminated with bodily fluids (saliva, mucus, vomit, urine, stool, or blood)	X	X	Immediately
Water containers	X	X	Daily

Disposal of Waste

Proper disposal and storage of garbage waste prevent the spread of disease, odors, and problems with pests. Disposable items (diapers, gloves, paper towels, and facial tissues) should be thrown away immediately in an appropriate container. Make sure the container is water and rodent-proof, operated with a foot pedal, is lined with a plastic bag, within reach of diaper changing area, handwashing sink, and food preparation areas, out-of-reach of and unable to be knocked over by infants and toddlers. The containers should be emptied, cleaned, and sanitized daily. [385]

Diaper Changing

Diaper changing areas should be smooth and nonporous (such as a plastic-covered pad), have a raised edge to prevent children from falling, be near a sink, be out of reach from children, and away from food preparation areas.[386]

The following diaper changing procedure should be posted in the changing area and followed to protect the health and safety of children and staff:

- **Step 1**: Before bringing the child to the diaper changing area, perform hand hygiene (including putting on gloves, if using) and bring supplies to the diaper changing area, and place a disposable liner on the changing area.
- **Step 2**: Carry/bring the child to the changing table/surface, keeping soiled clothing away from you and any surfaces you cannot easily clean and sanitize after the change. Always keep a hand on the child.
- **Step 3:** Remove the soiled diaper and clothing without contaminating any surface not already in contact with stool or urine.

Put soiled diaper in covered waste container. Put any soiled clothing in a plastic bag that is securely closed to give to family.

- **Step 4**: Clean the child's diaper area with disposable wipes and place soiled wipes into a covered waste container.
- **Step 5:** Removed the disposable liner and gloves and place in waste container
- **Step 6**: Use facial tissue to apply any creams or ointments. Slide clean diaper under the child and fasten it and dress the child.
- **Step 6**: Wash the child's hands and return the child to a supervised area.
- **Step 7**: Clean and disinfect the diaper-changing surface and any equipment or supplies that were touched (and any other area child soiled before changed).
- **Step 8**: Perform hand hygiene and record the diaper change, diaper contents, and/or any problems.

Caregivers/teachers should never leave a child unattended on a table or countertop. A safety strap or harness should not be used on the diaper changing table/surface.[387]

If Using Potty Chairs

Due to being hard to clean and disinfect, potty chairs are not ideal in a child care environment. If they are used, they should be used in the bathroom only. After each use:

- Empty contents immediately into the toilet
- Rinse with water and dump water into the toilet
- Wash with soap and water (with a paper towel) and empty soapy water into the toilet
- Rinse again and empty into the toilet
- Spray with bleach solution
- Air dry
- Wash and disinfect sink
- Wash hands (child and adult)[388]

Pause to Reflect

You are at a job interview to become a teacher in an infant room and the director asks you what you would do to prevent the spread of illness in your classroom. What might you want to mention?

Environmental Health

Sometimes the threat to health comes from the environment itself. Air quality, chemical hazards, drinking water, mold, and pest management are all topics early care and education providers should be aware of.

Outdoor Air Quality

Children are more susceptible to the effects of contaminated air because they breathe in more oxygen relative to their body weight than adults.[389] Therefore, they "can be exposed to a lot of pollution. Children should be kept inside when air quality is poor, or should at least be discouraged from intense outdoor activity. Educators and parents should be aware that nearby construction and traffic can increase pollution. Mowing school lawns should never occur during school hours since this can cause an allergy or asthma attack. Insecticides should never be sprayed while children are in care. Outdoor air can include odors, pollutants from vehicles, and fumes from stored trash, chemicals, and plumbing vents."[390]

Indoor Air Quality

There are so many sources of indoor air pollution in childcare facilities that the air is considered to be two to five times more polluted than outdoor air. Common sources of indoor air pollution include combustion sources such as oil, gas, kerosene, coal, wood, and tobacco products; building materials and furnishings as diverse as deteriorated, asbestos-containing insulation, wet or damp carpet, and cabinetry or furniture made of certain pressed wood products; products for household cleaning and maintenance, personal care, or hobbies; central heating and cooling systems and humidification devices; and outdoor sources

such as radon, pesticides, and outdoor air pollution.[391]

Environmental Tobacco Smoke & Dangers of E-Cigarettes



Figure 8.13 – Secondhand smoke from e-cigarettes isn't safe either. [394]

Scientists are still working to understand more fully the health effects and harmful doses of e-cigarette contents when they are heated and turned into an aerosol, both for active users who inhale from a device and for those who are exposed to the aerosol secondhand. Another risk to consider involves defective e-cigarette batteries that have been known to cause fires and explosions, some of which have resulted in serious injuries. Most of the explosions happened when the e-cigarette batteries were being charged.[395]

Mold

Mold is a fungus that thrives indoors when excessive moisture or water accumulates indoors or when moisture problems remain undiscovered or un-addressed. There are molds that can grow on wood, paper, carpet, and foods. There is no practical way to eliminate all mold and mold spores in the indoor environment. The way to control indoor mold growth is to control moisture.

Mold needs to be controlled in childcare settings to avoid possible health impacts for infants and children, including allergic reactions, asthma, and other respiratory issues.[396]

Integrated Pest Management

Exposure to pests such as cockroaches, rodents, ants, and stinging insects in childcare centers may place children at risk for disease, asthma attacks, bites, and stings. Improper use of pesticides can also place children at risk. A recent study of pesticide use in child care centers revealed that 75% of centers reported at least one pesticide application in the last year. Several factors increase both children's exposures and their vulnerability to these exposures compared to adults. Children spend more time on the floor, where residues can transfer to skin and be absorbed.

Young children also frequently place their hands and objects in their mouths, resulting in the non-dietary ingestion of pesticides. Children are less developed immunologically, physiologically, and neurologically, and therefore may be more susceptible to the adverse effects of chemicals and toxins. There is increasing evidence of adverse effects of pesticides on young children, particularly on neurodevelopment.[397]

Integrated Pest Management (IPM) is an effective and environmentally sensitive approach to pest management that relies on a combination of common-sense practices. IPM programs use current, comprehensive information on the life cycles of pests and their interaction with the environment.

Integrated Pest Management "(IPM) is a safer, more effective, longer-lasting method of pest control that emphasizes pest prevention by eliminating pests' access to food, water, and shelter. When using IPM, properly identify the pest and know why it's there so an appropriate combination of different pest control methods can be used for better effectiveness in controlling the pest."[398] This information, in combination with the last toxic available pest control methods, is used to manage pest damage by the most economical means, and with the least possible hazard to people, property, and the environment.[399]



Figure 8.14 – Using traps can help a program determine what insects they are dealing

with in order to take the most effective and least hazardous steps to get rid of them.[400]

Chemical Hazards

A child born today will grow up exposed to more chemicals than a child from any other generation in our nation's history. Of the 85,000 synthetic chemicals in commerce today, only a small fraction has been tested for toxicity on human health.

A 2005 study found 287 different chemicals in cord blood of 10 newborn babies - chemicals from pesticides, fast food packaging, coals, gasoline emissions, and trash incineration. Children are more vulnerable to toxic chemicals because their bodies are still growing and developing.[401]

Plastics in Child Care Settings

Certain types of plastics contain chemicals such as phthalates, bisphenol A (BPA), polyvinyl chloride (PVC), and polystyrene that may be toxic to children. These plastics can be found in baby bottles, sippy cups, teething rings, pacifiers, and toys. When these items are in a child's mouth or when they are heated (such as in a microwave), children can be exposed to harmful chemicals that have the potential to mimic or suppress hormones and disrupt normal growth and development.[402]

Drinking Water

The United States has one of the safest public drinking water supplies in the world. Over 286 million Americans get their tap water from a community water system. The US Environmental Protection Agency (EPA) regulates drinking water quality in public water systems and sets maximum concentration levels for water chemicals and pollutants.

Sources of drinking water are subject to contamination and require appropriate treatment to remove disease-causing contaminants. Contamination of drinking water supplies can occur in the source water as well as in the distribution system after water treatment has already occurred. There are many sources of water contamination, including naturally occurring chemicals and minerals (for example, arsenic, radon, uranium), local land use practices (fertilizers, pesticides, concentrated feeding operations), manufacturing processes, and sewer overflows or wastewater releases.

The presence of contaminants in water can lead to adverse health effects, including gastrointestinal illness, reproductive problems, and neurological disorders.[403] Young children are at particular risk for exposure to contaminants in drinking water because, pound for pound, they drink more water than adults (including water used to prepare formula), and because their immature body systems are less efficient at detoxification. Exposure to lead in drinking water is a serious health concern, especially for young children and infants since elevated lead levels in children may result in delays in physical or mental

development, lower IQ, and even brain damage.[404]



Figure 8.15 – It's important for children to have access to safe drinking water.[405]

Under the federal regulations of the Safe Drinking Water Act, all water suppliers must notify consumers quickly when there is a serious problem with water quality. Water systems serving the same people year-round must provide annual consumer confidence reports on the source and quality of their tap water. National drinking water standards are legally enforceable, which means that both U.S. EPA and states can take enforcement actions against water systems not meeting safety standards. [406]

Pause to Reflect

What are five important things that early care and education programs should remember about environmental health to keep children healthy?

Summary

Understanding how illness is spread, helps early care and education programs prevent the spread of illness. Immunizations also play an important role in preventing illness. And when program staff use universal precautions, including handwashing, cleaning and disinfecting, and proper disposal of waste, they also prevent the spread of illness.

Programs must also be aware of environmental hazards that present a threat to children's health. These include both indoor and outdoor air quality, mold, and chemicals. Programs should use integrated pest management and make sure that their drinking water is safe as well.

Engaging Families

Teachers can use the following strategies to help families to develop their children's health habits:

- Provide families with concise, accurate information about ways to promote and develop good health habits in children; information should be presented in English and the families' home languages. Capture their interest by addressing topics related to their children's age and development, as well as topics related to common health risks for children, such as childhood obesity, asthma, and dental caries. Injury prevention and first-aid topics, such as treating burns, bleeding, and choking, are also relevant. Provide written informational materials that are brief and easy to read.

- Provide individualized information, as well as general health information, to all families through daily contact, workshops, and parent meetings. All information should be presented in English and in the families' home languages. Accommodate family schedules by providing workshops and meetings at various times (e.g., morning, afternoon, evening), and arrange for child care during meetings.
- Show family members what the children are learning by sending home examples of work, encouraging families to visit the preschool and observe children in action, and sharing children's portfolios during home visits. Reinforce children's learning about health habits through take-home activities, lending libraries of read-aloud books in the languages of the families in the group, and displays of children's work.
- As you introduce health routines (e.g., handwashing, tooth brushing), invite family members to participate and model. Encourage families to contribute ideas or materials to interest areas that reflect diverse health habits at home.
- Identify community resources related to health habits (e.g., handwashing, tooth brushing) and invite community personnel to participate in and bring resources to family workshops or parent meetings. Emphasize the role of home and family members in helping children to develop health habits, and inform all parents of the availability of free and low-cost community resources.
- Be sensitive to and respectful of different values or beliefs, as well as varying levels of access to health products and services. Gather information on available and accessible resources in the community, including those for children with special needs, and provide this information to all families, translated into their home languages.

Resources for Further Exploration

- Health and Safety in the Child Care Setting: Prevention of Infectious Disease A Curriculum for the Training of Child Care Providers (3rd edition): https://cchp.ucsf.edu/sites/g/files/...2018-FINAL.pdf
- Safe and Healthy Child Care Centers: https://www.epa.gov/sites/production...y2012_ENGa.pdf
- Handwashing: https://www.cdc.gov/handwashing/index.html
- Vaccines: https://www.cdc.gov/vaccines/
- Environmental Health in Child Care: https://www.epa.gov/childcare
- California Childcare Health Program's Publications and Resources: https://cchp.ucsf.edu/content/resources
- Air Quality: https://legacy.azdeq.gov/function/ab.../indoorair.pdf
- Mold Remediation in Schools: https://www.epa.gov/mold/mold-remedi...uildings-guide
- Integrated Pest Management in Child Care Centers: https://www.epa.gov/sites/production...ts/IPM_CCC.pdf
- California School & Child Care Integrated Pest Management (IPM): apps.cdpr.ca.gov/schoolipm/
- Healthy Schools Act Compliance Packet for Childcare Centers: apps.cdpr.ca.gov/schoolipm/s...are_packet.pdf
- EPA's 3TsWater Quality Tool Kit: https://www.epa.gov/ground-water-and-drinking-water/3ts-reducing-lead-drinking-water-toolkit

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9: Supportive Health Care

Learning Objectives

By the end of this chapter, you should be able to:

- Identify symptoms of infectious disease that is common during early childhood.
- Outline criteria for exclusion from care for ill children and staff.
- Describe considerations programs must make regarding caring for children that are mildly ill.
- Recall licensing requirements for handling medication in early care and education programs.
- Explain the communication about illness that should happen between families and early care and education programs.

Licensing Regulations

Title 22 Regulations that relate to this chapter include:

101212 REPORTING REQUIREMENTS

- The licensee shall report specified illnesses to the local department of health

101226 HEALTH-RELATED SERVICES

- The licensee shall immediately notify the child's authorized representative if the child becomes ill.
- The licensee shall make prompt arrangements for obtaining medical treatment for any child as necessary.
- In centers where the licensee chooses to handle medication:

- Medications must be kept inaccessible to children.
- Prescription medications must be administered in accordance with the label directions as prescribed by the child's physician and there must be written approval and instructions from the child's authorized representative before giving medication to the child.
- Nonprescription medications must be administered in accordance with the product label and there must be written approval and instructions from the child's authorized representative before giving medication to the child.

101226.2 ISOLATION FOR ILLNESS

- A center shall be equipped to isolate and care for any child who becomes ill during the day.
- The child's authorized representative shall be notified immediately when the child becomes ill enough to require isolation, and shall be asked to pick up the child as soon as possible.
- (from 101426.2) the isolation area for programs caring for infants must have a crib, cot, mat or playpen for each ill infant. This isolation area must be under constant visual supervision by staff.

Illness in Early Care and Education Programs

The most frequent infectious disease symptoms that are reported by early care and education settings are sore throat, runny nose, shortness of breath or cough, fever, vomiting and diarrhea (gastroenteritis), earaches, and rashes.

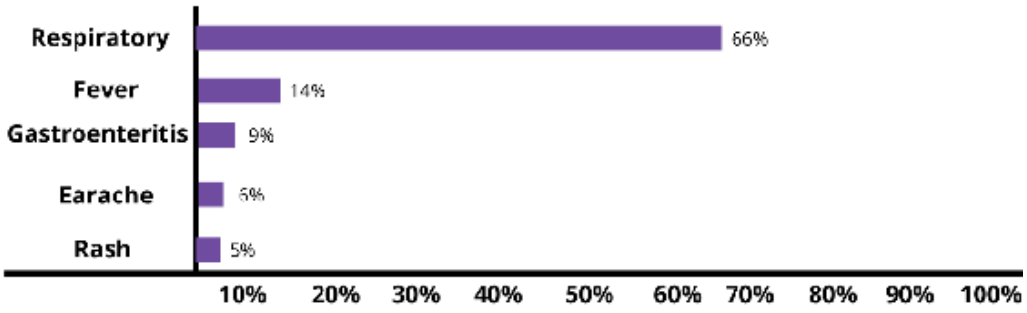


Figure 9.1 – Respiratory symptoms are by far the most common for children in care.[407]

However, these are not the symptoms that necessarily lead to absences. In fact, although respiratory symptoms are most common, it's rashes and gastrointestinal disease that more often keep children from attending their early education programs. This is more a reflection of exclusion policies than real risk of serious illness.[408]

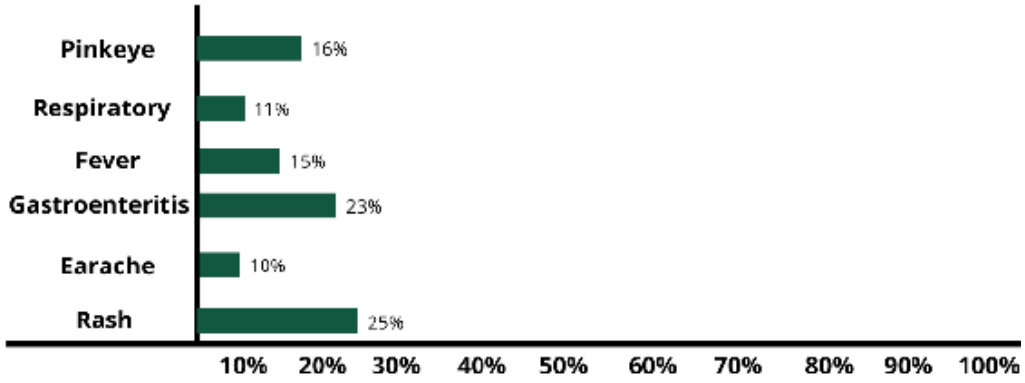


Figure 9.2 – Rashes, vomiting, and diarrhea results in the most absences from care.[409]

It's important for early childhood programs to identify illness accurately and respond in ways that protect all children and staff health (whether it be to allow them to stay in care or to exclude them from care).

Identifying Infectious Disease

When you are familiar with different infectious diseases, it's easier to identify them in children and know whether or not children (and staff) who are affected should be excluded from the early care and education program.

Common Cold

A child is sneezing and has a stuffy, runny nose. It's quite likely that they have a common cold. As presented in Chapter 8, children

get sick many times a year, probably between 4 and 12 times, depending on age and amount of time in child care. Many of these are likely due to the common cold. More than 200 viruses can cause a cold, but rhinoviruses are the most common type.

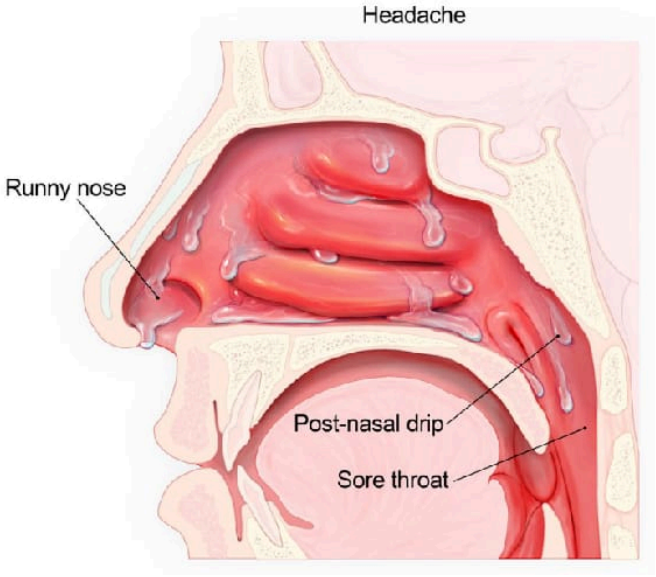


Figure 9.3 – When you have a cold, mucus fills your nose andc ould cause post-nasal drip, headache, and a sore throat.[410]

Symptoms of a cold usually peak within 2 to 3 days and can include:

- Sneezing
- Stuffy nose
- Runny nose
- Sore throat
- Coughing
- Mucus dripping down your throat (post-nasal drip)
- Watery eyes
- Fever (although most people with colds do not have fever)

When viruses that cause colds first infect the nose and air-filled pockets in the face (sinuses), the nose makes clear mucus. This helps wash the viruses from the nose and sinuses. After 2 or 3 days, mucus may change to a white, yellow, or green color. This is normal and does not mean an antibiotic is needed. Some symptoms, particularly runny nose, stuffy nose, and cough, can last for up to 10 to 14 days, but those symptoms should be improving during that time.

There is no cure for a cold. It will get better on its own—without antibiotics. When a child with a cold is feeling well enough to participate and staff are able to provide adequate care for them and all of the other children, the child does not need to be excluded from care.

Because colds can have similar symptoms to flu, it can be difficult to tell the difference between the two illnesses based on symptoms alone. Flu and the common cold are both respiratory illnesses, but they are caused by different viruses.[411]

Influenza (Flu)

In general, flu is worse than a cold, and symptoms are more intense. People with colds are more likely to have a runny or stuffy nose. Colds generally do not result in serious health problems, such as pneumonia, bacterial infections, or hospitalizations. Flu can have very serious associated complications.[412]

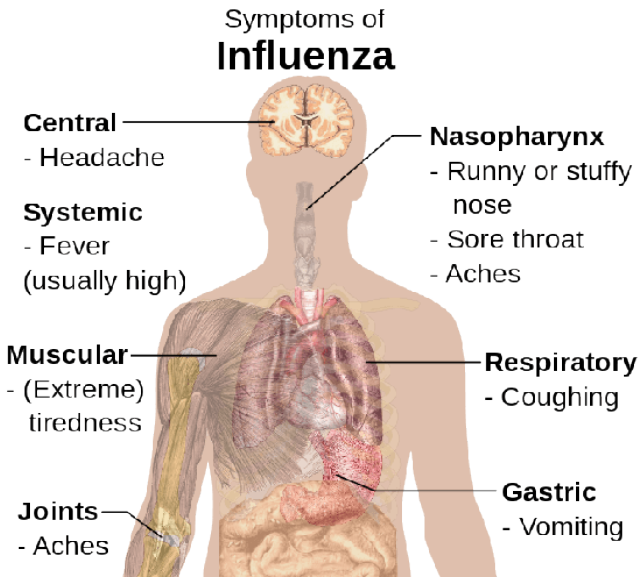


Figure 9.4 – Flu symptoms.[413]

Flu can cause mild to severe illness, and at times can lead to death. Flu usually comes on suddenly. People who have flu often feel some or all of these symptoms:

- Fever (common, but not always) or feeling feverish/chills
- cough
- sore throat
- runny or stuffy nose
- muscle or body aches
- headaches
- fatigue (tiredness)
- some people may have vomiting and diarrhea, though this is more common in children than adults.

Most people who get flu will recover in a few days to less than two weeks, but some people will develop complications (such as pneumonia) as a result of flu, some of which can be life-threatening and result in death.

Sinus and ear infections are examples of moderate complications from flu, while pneumonia is a serious flu complication that can result from either influenza virus infection alone or from co-infection of flu virus and bacteria. Other possible serious complications triggered by flu can include inflammation of the heart (myocarditis), brain (encephalitis) or muscle (myositis, rhabdomyolysis) tissues, and multi-organ failure (for example, respiratory and kidney failure). Flu virus infection of the respiratory tract can trigger an extreme inflammatory response in the body and can lead to sepsis, the body's life-threatening response to infection. Flu also can make chronic medical problems worse. For example, people with asthma may experience asthma attacks while they have flu.[414]

A yearly flu vaccine is the first and most important step in protecting against influenza and its potentially serious complications for everyone 6 months and older. While there are many different flu viruses, flu vaccines protect against the 3 or 4 viruses that research suggests will be most common. Flu vaccination can reduce flu illnesses, doctors' visits, missed school due to flu, prevent flu-related hospitalizations, and reduce the risk of dying from influenza. Also, there are data to suggest that even if someone gets sick after vaccination, their illness may be milder.[415]

Once a person has the flu, their health care provider may recommend antiviral drugs. When used for treatment, antiviral drugs can lessen symptoms and shorten the length of sickness by 1 or 2 days. They also can prevent serious flu complications, like pneumonia. For people at high risk of serious flu complications (including children), treatment with antiviral drugs can mean the difference between milder or more serious illness possibly resulting in a hospital stay. CDC recommends prompt treatment for people who have influenza infection or suspected influenza infection and who are at high risk of serious flu complications.[416]

As with a cold, a child with the flu does not need to be excluded if staff can care for them and all of the other children and they feel well enough to participate.

Avoiding Spreading Germs to Others

Early care and education programs should teach children and model good cough and sneeze etiquette. Always sneeze or cough into a tissue that is discarded after use. If a tissue is not available, use your upper sleeve, completely covering the mouth and nose. Always wash hands after coughing, sneezing, and blowing noses. [417]



Figure 9.5 –Cover coughs and sneezes, but not with your hand.[418]

Sinusitis (Sinus Infection)

Sinus infections happen when fluid builds up in the air-filled pockets in the face (sinuses), which allows germs to grow. Viruses cause most sinus infections, but bacteria can cause some sinus infections.

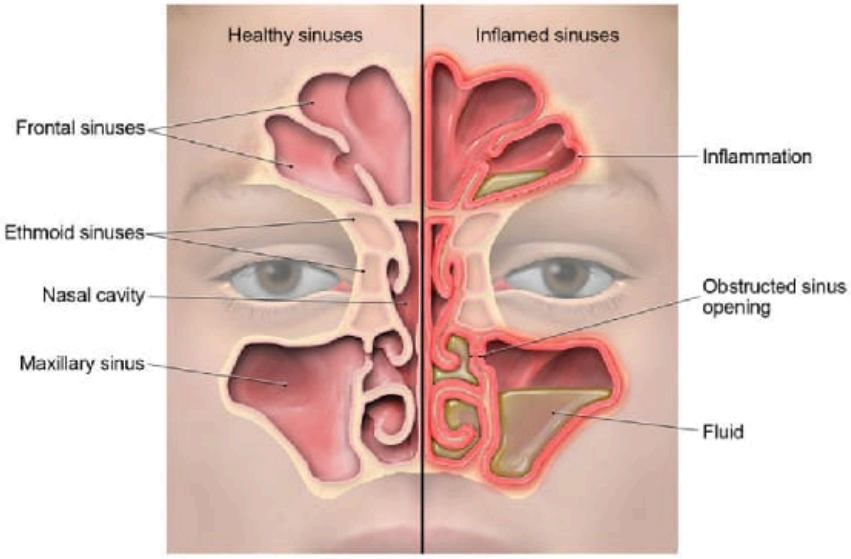


Figure 9.6 – When you have a sinus infection, one or more of your sinuses becomes inflamed and fluid builds up, causing congestion and runny nose.[419]

Common symptoms of sinus infections include:

- Runny nose

- Stuffy nose
- Facial pain or pressure
- Headache
- Mucus dripping down the throat (post-nasal drip)
- Sore throat
- Cough
- Bad breath

Most sinus infections usually get better on their own without antibiotics.[420] As with colds and flu, a child does not need to be automatically excluded from care for a sinus infection.

Pause to Reflect

What was your last experience with an upper respiratory infection (such as cold, flu, or sinus infection? If a child had the same symptoms as you, would they have needed to be excluded from care?

Sore Throat

A sore throat can make it painful to swallow. A sore throat can also feel dry and scratchy. Sore throat can be a symptom of the common cold, allergies, strep throat, or other upper respiratory tract illness. Strep throat is an infection in the throat and tonsils caused by bacteria called group A *Streptococcus* (also called *Streptococcus pyogenes*).

Infections from viruses are the most common cause of sore throats. The following symptoms suggest a virus is the cause of the illness instead of the bacteria called group A strep:

- Cough
- Runny nose
- Hoarseness (changes in your voice that makes it sound breathy, raspy, or strained)
- Conjunctivitis (also called pink eye)

The most common symptoms of strep throat include:

- Sore throat that can start very quickly
- Pain when swallowing
- Fever
- Red and swollen tonsils, sometimes with white patches or streaks of pus
- Tiny red spots on the roof of the mouth
- Swollen lymph nodes in the front of the neck

A doctor can determine the likely cause of a sore throat. If a sore throat is caused by a virus, antibiotics will not help. Most sore throats will get better on their own within one week and are not cause for exclusion from child care.

Since bacteria cause strep throat, antibiotics are needed to treat the infection and prevent rheumatic fever and other complications. A doctor cannot tell if someone has strep throat just by looking in the throat. If a doctor suspects strep throat, they may test to confirm diagnosis. A child with strep throat should be excluded from care until they no longer have fever AND have taken antibiotics for at least 24 hours.[421]

Ear Infection

There are different types of ear infections. Middle ear infection (acute otitis media) is an infection in the middle ear.

Another condition that affects the middle ear is called otitis media with effusion. It occurs when fluid builds up in the middle ear *without* being infected and without causing fever, ear pain, or pus build-up in the middle ear.

When the outer ear canal is infected, the condition is called swimmer's ear, which is different from a middle ear infection.

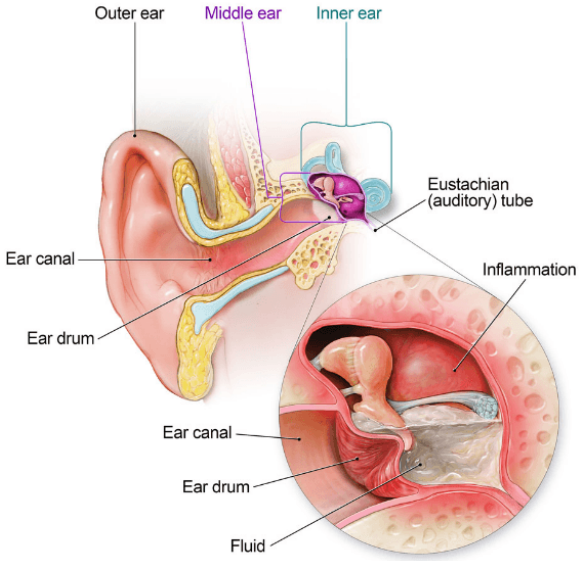


Figure 9.7 – A healthy ear and an infected ear, including outer, middle, and inner ear, showing inflammation and fluid in the ear.[422]

Middle Ear Infection

A middle ear infection may be caused by:

- Bacteria, like *Streptococcus pneumoniae* and *Haemophilus influenza* (nontypeable) – the two most common bacterial causes
- Viruses, like those that cause colds or flu

Common symptoms of middle ear infection in children can include:

- Ear pain
- Fever
- Fussiness or irritability
- Rubbing or tugging at an ear
- Difficulty sleeping

A can make the diagnosis of a middle ear infection by looking inside the child's ear to examine the eardrum and see if there is pus in the middle ear. Antibiotics are often not needed for middle ear infections because the body's immune system can fight off the infection on its own. However, sometimes antibiotics, such as amoxicillin, are needed to treat severe cases right away or cases that last longer than 2–3 days.[423]

Swimmer's Ear

Ear infections can be caused by leaving contaminated water in the ear after swimming. This infection, known as "swimmer's ear" or otitis externa, is not the same as the common childhood middle ear infection. The infection occurs in the outer ear canal and can cause pain and discomfort for swimmers of all ages.

Symptoms of swimmer's ear usually appear within a few days of swimming and include:

- Itchiness inside the ear.
- Redness and swelling of the ear.
- Pain when the infected ear is tugged or when pressure is placed on the ear.
- Pus draining from the infected ear.

Although all age groups are affected by swimmer's ear, it is more common in children and can be extremely painful. If swimmer's

ear is suspected, a healthcare provider should be consulted. Swimmer's ear can be treated with antibiotic ear drops.[424]

Head Lice

Head lice are parasitic insects that live on the head. They survive by feeding on human blood. Lice infestations are spread most commonly by close person-to-person contact. Lice move by crawling; they cannot hop or fly. Adult head lice are 2–3 mm in length. Head lice infest the head and neck and attach their eggs to the base of the hair shaft. Lice move by crawling; they cannot hop or fly.[425]



Figure 9.9 – Adult head louse.[426]

Symptoms of a head lice infestation include:

- Tickling feeling of something moving in the hair.
- Itching, caused by an allergic reaction to the bites of the head louse.
- Irritability and difficulty sleeping; head lice are most active in the dark.
- Sores on the head caused by scratching. These sores can sometimes become infected with bacteria found on the person's skin.

Head-to-head contact with a person who already has an infestation is the most common way to get head lice. Head-to-head contact is common during play at school, at home, and elsewhere (sports activities, playground, slumber parties, camp).

Although uncommon, head lice can be spread by sharing clothing or belongings. This happens when lice crawl, or the nits that are attached to shed hair hatch, and get on the shared clothing or belongings. Examples include:

- Sharing clothing (hats, scarves, coats, sports uniforms) or articles (hair ribbons, barrettes, combs, brushes, towels, stuffed animals) recently worn or used by a person with an infestation;
- Or lying on a bed, couch, pillow, or carpet that has recently been in contact with a person with an infestation.

Dogs, cats, and other pets do not play a role in the spread of head lice.

The diagnosis of a head lice infestation is best made by finding a live nymph or adult louse on the scalp or hair of a person. Because nymphs and adult lice are very small, move quickly, and avoid light, they can be difficult to find. Use of a magnifying lens and a fine-toothed comb may be helpful to find live lice.

If crawling lice are not seen, finding nits firmly attached within a ¼ inch of base of the hair shafts strongly suggests, but does not confirm, that a person is infested and should be treated. Nits that are attached more than ¼ inch from the base of the hair shaft are almost always dead or already hatched. Nits are often confused with other things found in the hair such as dandruff, hair spray droplets, and dirt particles. If no live nymphs or adult lice are seen, and the only nits found are more than ¼-inch from the scalp, the infestation is probably old and no longer active and does not need to be treated.[427]



Figure 9.10 –Louse as a nit (egg), nymph (juvenile), and adult compared to a penny.[428]

Treatment for head lice is recommended for persons diagnosed with an active infestation. All household members and other close contacts should be checked; those persons with evidence of an active infestation should be treated with an over-the-counter or prescription medication (following the provided instructions).

Hats, scarves, pillow cases, bedding, clothing, and towels worn or used by the person with the infestation in the 2-day period just before treatment is started can be machine washed and dried using the hot water and hot air cycles because lice and eggs are killed by exposure for 5 minutes to temperatures greater than 128.3°F. Items that cannot be laundered may be dry-cleaned or sealed in a plastic bag for two weeks. Items such as hats, grooming aids, and towels that come in contact with the hair of a person with an infestation should not be shared. Vacuuming furniture and floors can remove hairs that might have viable nits attached. Head lice do not survive long if they fall off a person and cannot feed.

After treatment, it's important to check the hair and comb with a nit comb to remove nits and lice every 2–3 days which will decrease the chance of self–reinfestation. Checking for 2–3 weeks will ensure that all lice and nits are gone.[429]

NoteNo More "No Nits" Policies

Children diagnosed with live head lice do not need to be sent home early from early care and education programs or school; they can go home at the end of the day, be treated, and return to class after appropriate treatment has begun. Nits may persist after treatment, but successful treatment should kill crawling lice.

Head lice can be a nuisance but they have not been shown to spread disease. Personal hygiene or cleanliness in the home or school has nothing to do with getting head lice.

Both the American Academy of Pediatrics (AAP) and the National Association of School Nurses (NASN) advocate that "no-nit" policies should be discontinued. "No-nit" policies that require a child to be free of nits before they can return to schools should be discontinued for the following reasons:

- Many nits are more than ¼ inch from the scalp. Such nits are usually not viable and very unlikely to hatch to become crawling lice, or may in fact be empty shells, also known as 'casings'.
- Nits are cemented to hair shafts and are very unlikely to be transferred successfully to other people.
- The burden of unnecessary absenteeism to the students, families and communities far outweighs the risks associated with head lice.
- Misdiagnosis of nits is very common during nit checks conducted by nonmedical personnel.[430]

Pause to Reflect

What experience with or knowledge do you have about policies that specific early education and care program and schools have on head lice? Are (or were) those policies "no nits" or in line with the recommendations above?

Other Illnesses

To learn more about the following illnesses, go to Appendix J.

- Bronchitis
- Chickenpox
- Conjuctivitis (Pink Eye)
- Fifth Disease (Slapped Cheek)
- Hand, Foot, and Mouth Disease
- Hepatitis A
- Impetigo
- Measles
- Meningitis
- Molluscum Contagiosum
- Mumps
- Norovirus
- Pertussis
- Pinworms
- Respiratory Syncytial Virus
- Ringworm
- Roseola
- Rotavirus
- Rubella (German Measles)
- Shigella
- Tuberculosis

Danger of Infectious Disease for Adults

Because early care and education program employees are around children who are at higher risk of infectious diseases and have limited understanding of hygiene practices, those employees are also at greater risk for getting sick.

While most illness that are spread in early care and education programs are not serious, some can be very dangerous. Knowledge about illness and how to prevent its spread helps. Being fully immunized (from childhood illness and or vaccines) protects adult health as well.

Employees that are or could become pregnant want to be especially careful because first time exposure to chickenpox, cytomegalovirus (CMV), Fifths disease, and Rubella can cause major damage to fetal health, birth defects, and even fetal death.[431]

Reportable Diseases

Some diseases are enough of a threat to the community that it is required that diagnosed cases are reported to the local health department. See Table 9.1 for which diseases must be reported, how, and how quickly.

Table 9.1 – Diseases Reportable to Local Health Department (required by Licensing in California)[432]

How to Report	Disease
Report immediately by phone	• Anthrax • Avian Influenza (human) • Botulism (infant, foodborne or wound) • Brucellosis • Cholera • Ciguatera Fish Poisoning • Dengue • Diarrhea of the Newborn (outbreak) • Diphtheria • Domoic Acid Poisoning (Amnestic Shellfish Poisoning) • Escherichia coli: shiga toxin producing (STEC) including E.coli 0157 • Hantavirus infections • Hemolytic Uremic Syndrome • Meningococcal infections • Paralytic shellfish poisoning • Plague (human or animal) • Rabies (human or animal) • Scombroid fish poisoning • Severe Acute Respiratory Syndrome (SARS) • Shia toxin (detected in feces) • Smallpox (Variola) • Tularemia • Viral hemorrhagic Fever (e.g. Crimean-Congo, Ebola, Lassa and Marburg Viruses) • Yellow Fever • Two or more cases or suspected cases of foodborne disease from separate households are suspected to have the same source of illness • Occurrence of any unusual disease • Outbreaks of any disease (Including diseases not listed here)

How to Report	Disease
Report by fax, telephone, or mail within one (1) working day of identification	• Amebiasis • Babesiosis • Campylobacteriosis • Chickenpox (only hospitalizations and deaths) • Colorado Tick Fever • Conjunctivitis, Acute Infectious of the Newborn • Cryptosporidiosis • Encephalitis—viral, bacterial, fungal, or parasitic • Foodborne Disease • Haemophilus influenzae invasive disease (report an incident less than 15 years of age) • Hepatitis A • Listeriosis • Malaria • Measles (Rubeola) • Meningitis—viral, bacterial, fungal, parasitic • Pertussis (whooping cough) • Poliomyelitis, paralytic • Psittacosis • Q fever • Relapsing Fever • Salmonellosis • Shigellosis • Staphylococcus aureus infection (outbreaks of any type and individual cases in food handlers and dairy workers only) • Syphilis • Trichinosis • Tuberculosis • Typhoid Fever (cases and carriers) • Vibrio infections • Water-Associated Disease(e.g., Swimmer's Itch or Hot Tub Rash) • West Nile Virus (WNV) Infection • Yersiniosis

How to Report	Disease
Report by fax, telephone, or mail within seven (7) calendar days of identification	• Chancroid • Chlamydial Infections (including Lymphogranulom Venereum (LGV)) • Coccidioidomycosis • Creutzfeldt-Jakob Disease (CJD) and other Transmissible Spongiform Encephalopathies (TSE) • Cysticercosis or Taeniasis • Ehrlichiosis • Giardiasis Gonococcal infections • Hepatitis, viral • Hepatitis B (specify acute case or chronic) • Hepatitis C (specify acute case or chronic) • Hepatitis D (Delta) • Hepatitis, other, acute • Human Immunodeficiency Virus (HIV) • Influenza deaths (report an incident of less than 18 years of age) • Kawasaki Syndrome (Mucocutaneous Lymph Node Syndrome) • Legionellosis • Leprosy (Hansen's disease) • Leptospirosis • Lyme disease • Mumps • Pelvic Inflammatory Disease (PID) • Rheumatic Fever, acute • Rocky Mountain Spotted Fever • Rubella (German Measles) • Rubella Syndrome, Congenital • Tetanus • Toxic Shock Syndrome • Toxoplasmosis • Typhus Fever

Exclusion Policies

Most children with mild illnesses can safely attend child care. "Many health policies concerning the care of ill children [including exclusion policies] have been based upon common misunderstandings about contagion, risks to ill children, and risks to other children and staff. Current research clearly shows that certain ill children do not pose a health threat. Also, the research shows that keeping certain other mildly ill children at home or isolated at the child care setting will not prevent other children from becoming ill."[433]

But there are times when exclusion is the right answer. Licensing states that a child may be too sick to attend if:

- The child does not feel well enough to participate comfortably in the program's activities.
- The staff cannot adequately care for the sick child without compromising the care of the other children.
- The child has any of the following symptoms unless a health provider determines that the child is well enough to attend and that the illness is not contagious:

- Fever (above 100° F. axillary or above 101° F. orally) accompanied by behavior change and other signs or symptoms of illness (i.e., the child looks and acts sick)
- Signs or symptoms of possibly severe illness (e.g., persistent crying, extreme irritability, uncontrolled coughing, difficulty breathing, wheezing, lethargy)
- Diarrhea: Changes from the child's usual stool pattern--increased frequency of stools, looser/watery stools, stool runs out of the diaper, or child can't get to the bathroom in time.

- Vomiting more than once in the previous 24 hours
- Mouth sores with drooling
- Rash with a fever or behavior change

- The child has any of the following diagnoses from a health provider (until treated and/or no longer contagious):

- Infectious conjunctivitis/pink-eye (with eye discharge)-until 24 hours after treatment started
- Scabies, head lice, or other infestation-until 24 hours after treatment and free of nits
- Impetigo-until 24 hours after treatment started
- Strep throat, scarlet fever, or other strep infection-until 24 hours after treatment started and the child is free of fever
- Pertussis-until five days after treatment started
- Tuberculosis (TB)-until a health care provider determines that the disease is not contagious
- Chicken pox-until six days after start of rash or all sores have crusted over
- Mumps-until nine days after start of symptoms (swelling of "cheeks")
- Hepatitis A-until seven days after start of symptoms (e.g., jaundice)
- Measles-until six days after start of rash
- Rubella (German measles)-until six days after start of rash
- Oral herpes (if child is drooling or lesions cannot be covered)-until lesions heal
- Shingles (if lesions cannot be covered)-until lesions are dry[434]

If there is an outbreak of any reportable illness (See Table 9.X), a child or staff member who meets the following criteria as determined by the local health department or a health care provider to be:

- contributing to transmission of the illness
- not adequately immunized when the disease is vaccine-preventable
- at increased risk due to the pathogens being circulated.

They can be readmitted when the health department official or that health care provider decides that the risk of transmission is no longer present.[435]

What to do When a Child Requires Exclusion

When a child becomes ill enough to be excluded, they should be immediately isolated from other children. Early care and education programs are required to be equipped to isolate and care for any child who becomes ill during the day. The isolation area shall be located to afford easy supervision of children by center staff and equipped with a mat, cot, couch or bed for each ill child (or a crib if caring for infants).

The child's authorized representative shall be notified immediately when the child becomes ill enough to require isolation, and shall be asked to have the child picked up from the center as soon as possible.[436] See Table 9.2 for a list of illnesses that require exclusion and when children who are diagnosed with those illnesses can return to care.

Table 9.2 – Conditions that Require Exclusion[437]

Condition	Exclusion Criteria
Chickenpox	Until 6 days after the beginning of the rash or once the sores have dried or crusted over.
Shingles	Only sores is cannot be covered with bandages or clothing. If not, until sores are dry and have crusted over.
Rash with fever or joint pain	Until 6 days after the beginning of the rash.

Condition	Exclusion Criteria
Measles and Rubella	Until diagnosed not be measles or rubella.
Pertussis	If two or more episodes in 24 hours or if accompanied by a fever, until vomiting resolves or is determined not be caused by contagious illness.
Mumps	Until 9 days after the glands begin to swell.
Diarrheal Illness	It three or more episodes in the past 24 hours or if accompanied by a fever, until diarrhea resolves.
Hepatitis A	As directed by health department.
Impetigo	Until 24 hours after treatment begins and lesions are not draining.
Active Tuberculosis	Until local health department approves the return to care.
Strep Throat (and other streptococcal infections)	Until 24 hours after treatment and fever is gone.
Head lice	Until after first treatment
Scabies	Until treatment is completed
Haemophilus Influenza Type b (Hib)	Until antibiotic treatment has begun.
Respiratory Illness	If the child is not well enough to participate and/or caring for the child limits the provider from caring for the other children or if it compromises the health and safety of the other children.
Herpes cold sores	Only if sores are not able to be covered (or kept from being touched).
Other conditions mandated by state public health law	As required by local health department.

Pause to Reflect

Consider the following situations. Should each child be excluded from care or not? If so, why and when should the child return? If not, what should the teacher/caregiver do?

1. Mario's dad drops him off and let's Ms. Michelle know that he is a little under the weather. He is not running a fever, but has a mild cough and a runny nose. But he ate a good breakfast and has a pretty typical level of energy.
2. About an hour into the day, Li vomits. Mr. Abraham checks and she has a fever of 101.3°. She looks a little pale and just wants to lay down. As he goes to call Li's family, she vomits again.
3. When Latanya goes to change Daniel's diaper she notices a rash on his stomach. She checks his temperature and he is not running a fever. He is not scratching at it or seemingly in any discomfort. She remembers that he has a history of eczema and contact dermatitis.
4. Apurva wakes up from naptime with discharge coming from a slightly swollen and bloodshot right eye. She tells Ms. Maria that her eye hurts and is "kind of itchy."

Now, come up with your own examples of a child that should be excluded from care and that should not automatically be excluded.

Caring for Mildly Ill Children

Because young in early care and education programs have high incidence of illness and may have conditions (such as eczema and asthmas), providers should be prepared to care for mildly ill children, at least temporarily. And since we know that excluding most mildly ill children doesn't prevent the spread of illness and can have negative effects on families, programs should consider whether they can care for children with mild symptoms (not meeting the exclusion policy). The California Childcare Health Program poses the following questions to consider:

- Are there sufficient staff (including volunteers) to provide minor modifications that a child might need (such as quiet activities or extra fluids)?
- Are staff willing and able to care for the child's symptoms (such as wiping a runny nose and checking a fever) without neglecting the care of other children in the group?
- Is there a space where the mildly ill child can rest if needed?
- Are families able or willing to pay extra for sick care if other resources are not available, so that you can hire extra staff as needed?
- Have families made alternative arrangements for someone to pick up and care for their ill children if they cannot?"

It's important that programs recognize the families have to weigh many things when trying to decide whether or not to send a child to child care. They must consider how the child feels (physically and emotionally), whether or not the program can provide care for the specific needs of the child, what alternative care arrangements are available, as well as the income they may lose if they have to stay home.[438]

Responding to Illness that Requires Medical Care

"Some conditions, require immediate medical help. If the parents can be reached, tell them to come right away and to notify their medical provider.

Call Emergency Medical services (9-1-1) immediately and also notify parents if any of the following things happen:

- You believe a child needs immediate medical assessment and treatment that cannot wait for parents to take the child for care.
- A child has a stiff neck (that limits his ability to put his chin to his chest) or severe headache and fever.
- A child has a seizure for the first time.
- A child who has a fever as well as difficulty breathing.
- A child looks or acts very ill, or seems to be getting worse quickly.
- [A child has s]kin or lips that look blue, purple or gray.
- A child is having difficulty breathing or breathes so fast or hard that he or she cannot play, talk, cry or drink.

- A child who is vomiting blood.
- A child complains of a headache or feeling nauseous, or is less alert or more confused, after a hard blow to the head.
- Multiple children have injuries or serious illness at the same time.
- A child has a large volume of blood in the stools.
- A child has a suddenly spreading blood-red or purple rash.
- A child acts unusually confused.
- [A child is u]nresponsive or [has] decreasing responsiveness.

Tell the parent to come right away, and get medical help immediately, when any of the following things happen. If the parent or the child's medical provider is not immediately available, call 9-1-1 (EMS) for immediate help:

- A fever in any child who appears more than mildly ill.
- An infant under 2 months of age has an axillary ("armpit") temperature above 100.4° F.
- An infant under four months of age has two or more forceful vomiting episodes (not the simple return of swallowed milk or spit-up) after eating.
- A child has neck pain when the head is moved or touched.
- A child has a severe stomach ache that causes the child to double up and scream.
- A child has a stomach ache without vomiting or diarrhea after a recent injury, blow to the abdomen or hard fall.
- A child has stools that are black or have blood mixed through them.
- A child has not urinated in more than eight hours, and the mouth and tongue look dry.
- A child has continuous, clear drainage from the nose after a hard blow to the head.
- A child has a medical condition outlined in his special care plan as requiring medical attention.
- [A child has a]n injury that may require medical treatment such as a cut that does not hold together after it is cleaned."[439]

Administering Medications

Some children in your early care and education setting may need to take medications during the hours you provide care for them. It's important that early care and education programs have a written policy for the use of prescription and nonprescription medication.[440]

According to licensing, programs that choose to handle medications must abide by the following:

- All prescription and nonprescription medications shall be centrally stored in a safe place inaccessible to children, with an unaltered label, and labeled with the child's name and date
- A refrigerator shall be used to store any medication that requires refrigeration.
- Prescription medications may be administered with written permission by the child's authorized representatives in accordance with the label instructions by the physician
- Nonprescription medications may be administered without approval or instructions from the child's physician with written approval and instructions from the child's authorized representative and when administered in accordance with the product label directions.



Figure 9.11 – Medication must be given according to the label.[441]

Valid reasons for an early care and education program to consider administering medication.

- Some medication dosing cannot be adjusted to be taken before and after care (and keeping them out of care when otherwise well enough to attend, would be a hardship for families.
- Some children may have chronic conditions that may require urgent administration of medication (such as asthma and diabetes).[442]

Communication with Families

When children are excluded from care, it's important to provide documentation for families of how the child meets the guidelines in your exclusion policy and what needs to happen before the child can return to care. See Appendix K for a possible form that programs could use.

Programs are also required to inform families when children are exposed to a communicable disease. See Appendix L for an example of a notice of exposure form you can provide to families so they know what signs of illness to watch for and to seek medical advice when necessary.[443]

Pause to Reflect

Why is it important for early care and education programs to communicate clearly with families regarding communicable illness?

Summary

Becoming familiar with infectious diseases that are common in early childhood enables early care and education program staff to identify illness and respond appropriately. This included knowing when children (and staff) should be excluded from care and what needs to happen before they should come back.

Programs must create policies on how they will handle children that are mildly ill (those that need care before they can be picked up from care and those that do not require exclusion) and children who have illness that requires medical care. Programs who choose to administer medication, must be familiar with the licensing regulations they must follow.

Open communication with families is important when a child becomes ill or is potentially exposed to an illness. Helping families understand and follow policies regarding exclusion is vital to keeping everyone in the program as healthy as possible.

Resources for Further Exploration

- Health and Safety in the Child Care Setting: Prevention of Infectious Disease A Curriculum for the Training of Child Care Providers: https://cchp.ucsf.edu/sites/g/files/...f/idc2book.pdf
- A Quick Guide to Common Childhood Diseases (Canadian resource): bccdc.ca/resource-gallery/Documents/Guidelines%20and%20Forms/Guidelines%20and%20Manuals/Epid/Other/Epid_GF_childhood_quickguide_may_09.pdf
- Common Childhood Infections - A Guide for Principals, Teachers and Child Care Providers (Canadian resource): https://www.tbdhu.com/sites/default/...20Manual_0.pdf
- Georgia School Resource Health Manual: https://www.choa.org/~/media/files/C...trol.pdf?la=en
- Diseases & Conditions A-Z Index: https://www.cdc.gov/diseasesconditions/az/a.html
- Childhood Infectious Illnesses: http://www.ocwtp.net/PDFs/Trainee%20...hartOption.pdf
- Appropriate Antibiotic Use: https://www.cdc.gov/antibiotic-use/c...ity/index.html
- When to Keep Your Child Home from Child Care: https://www.healthychildren.org/Engl...hild-Care.aspx

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10: Children with Special Health Care Needs

Learning Objectives

By the end of this chapter, you should be able to:

- Relate family-centered care and individualized planning and care.
- Explain what individualized health planning is and who it is appropriate for.
- Describe some chronic health conditions that children in early care and education programs may have.
- Discuss what inclusion is and why it is beneficial.

Licensing Regulations

Title 22 Regulations that relate to this chapter include:

101223 PERSONAL RIGHTS

- The licensee shall ensure that each child is accorded the following personal rights:
- To receive safe, healthful and comfortable accommodations

101226 HEALTH-RELATED SERVICES

- In centers where the licensee chooses to handle medication:
- Medications must be kept inaccessible to children.
- Prescription medications must be administered in accordance with the label directions as prescribed by the child's physician and there must be written approval and instructions from the child's authorized representative before giving medication to the child.

Introduction

Children with special health care needs are defined as ". . . those who have or are at increased risk for a chronic physical, developmental, behavioral, or emotional condition and who also require health and related services of a type or amount beyond that required by children generally" (McPherson, 1998).

Any child who meets these criteria in an early care and education setting should have an up-to-date care plan, completed by their primary health care provider with input from parents/guardians, included in their on-site health record and readily accessible to those caring for the child.[444]

Individualized Planning for Health

What does it take to care for children with chronic conditions in an early care and education program? There's no single recipe for all situations. What it takes—more than any policy, list of services, or staffing plan—is a commitment to communication, collaboration, and creative problem-solving, and a determination to make it work. The essential principles that should guide the care of children with chronic conditions in early childhood education are: care should be family-centered, individualized, safe, and legal.

Family-Centered Care

Over the last 15 years, children's health care and the relationship between families and health professionals have changed

significantly. The role of parents/caregivers has shifted from being patients to partners with the health care provider; and the "good patient" has changed from unquestioningly following advice to being a good partner who actively participates in decisions and advocates for services for their child.

"Family-centered care" involves providing the family health care and other services based on the family's needs, priorities, and convenience rather than those of the service providers or the child alone. Family-centered services are evidence of a program's commitment to family partnerships and supporting child and family development.



Figure 10.1 – Family centered care relies on respect and collaboration.[445]

Services are family-centered when:

- The family is recognized as the child's most constant and important caregiver.
- The family and professionals collaborate as partners.
- Communication is open and honest, in both directions, between the family and professionals.
- Individual strengths and differences are respected among families.
- Services are flexible and responsive to the family's needs.
- Family-to-family support is encouraged.
- Children with chronic conditions and their families are treated like other children and families, and not defined by their condition.

Individualizing Care

Individualizing means recognizing the characteristics that make each child unique and planning a program that responds to these differences. Individualizing allows families and staff to respond to each child's built-in time clock for development, as well as culture, family, home language, life experiences, strengths, needs, skills, and abilities.

Early care and education programs can best meet the needs of children with chronic conditions by following a systematic process of Individualized Health Planning. For children who are eligible for an Individualized Education Program (IEP) or Individualized Family Service Plan (IFSP), the IEP or IFSP may or may not include planning for the child's health care needs. In addition, many children with special health needs who are not eligible for an IEP or IFSP would, in fact, benefit from individualized health planning.

Individualized health planning for children with chronic conditions involves close communication and collaboration among families, the early care and education program staff, and health care and service providers. It is a process of collecting all the necessary information from screening and evaluations, developing plans for the child's routine and emergency care, conducting ongoing assessment, and revising the plans as needed. The plan should be documented in writing to serve as a clear guide for staff, families, and health care providers on meeting the child's health needs.

Who Should Have an Individualized Health Plan?

Children who would benefit from an Individualized Health Plan include any child who:

- Requires adaptations in daily activities because of a medical condition; daily activities to be considered include feeding, playing, sleeping, toileting
- Needs medication regularly
- Requires a specialized emergency plan

The decision to develop an Individualized Health Plan for a child should be made collaboratively by the family, health specialists, and classroom teacher.

What are the Benefits of an Individualized Health Plan?

- Health Promotion and Prevention of Complications: Children with chronic conditions remain healthiest when all possible measures are taken to promote their general health and manage the chronic condition closely.
- Communication and Collaboration: Optimal health care for children with chronic conditions requires close communication and coordination among families, Head Start, and health care providers.
- Training and Skills: An Individualized Health Plan identifies the specific procedures needed to care for a child with chronic conditions.
- Confidence: With an Individualized Health Plan, families and program staff can feel confident that they are doing everything possible to keep the child healthy on a routine and daily basis. Also, if health problems or emergencies occur, they can feel confident that they are prepared to manage them in the best way possible. Children with special medical needs feel more secure and able to learn when their caregivers know what to do.



Figure 10.2 – Families, health care and service providers, and early care and education programs

can work together to make sure children with special health needs get the care they need.[446]

What should be Included in an Individualized Health Plan?

Caring for children with chronic conditions is a serious responsibility. Staff are commonly concerned about meeting the child's daily care needs: "How can I be sure to give him his medicine at the right time? Do we have enough staff to do his tracheostomy care while also supervising the other children? Will I have all his asthma supplies on the field trip?" Staff are also commonly concerned about emergencies: "What if I give her the wrong amount of medicine? What if she stops breathing? What if I can't reach her father on the phone?" The Individualized Health Plan should include the information necessary to respond to the most likely "what-ifs."

Many people are afraid to care for children with chronic conditions. It can raise anxieties to discuss and plan for the "what-if" situations. It is important to remember that anticipating and planning for a situation doesn't make it happen; it just allows you to be prepared if it does.

At minimum, an Individualized Health Plan should be a guide to:

- What accommodations in daily programming are needed, including meals and snacks, playing, sleeping, and toileting
- When and how to give medication, and who may give it
- When and how to perform any required medical procedures, and who may perform them
- What procedures to follow in the event of a medical emergency

The Individualized Health Plan should be developed with the participation of families, medical professionals, classroom staff, and any other program that may be involved in providing care. All parties should sign the form as an indication of agreement with and commitment to plan.[447] See the example of a health plan in Appendix M.

Who are Children with Special Needs?

According to Data Resource Center for Child and Adolescent Health and shown in Figure 10.3, in 2017 over 20% of children 0-5 years, and over 40% of children 6-11 years, have one or more of the following current or lifelong health conditions:

- allergies (food, drug, insect or other)
- arthritis
- asthma
- blood disorders (such as sickle cell disease, thalassemia, or hemophilia)
- brain injury/concussion/head injury
- cerebral palsy
- cystic fibrosis
- diabetes
- Down Syndrome
- epilepsy or seizure disorder
- genetic or inherited condition
- heart condition
- frequent or severe headaches including migraine (3-17 years)
- Tourette Syndrome (3-17 years)
- anxiety problems (3-17 years)
- depression (3-17 years)
- behavioral and conduct problem (3-17 years)
- substance use disorder (6-17 years)
- developmental delay (3-17 years)
- intellectual disability (3-17 years)
- speech or other language disorder (3-17 years)
- learning disability (also known as mental retardation) (3-17 years)
- other mental health condition (3-17 years)
- Autism or Autism Spectrum Disorder (ASD) (3-17 years)
- Attention Deficit Disorder or Attention-Deficit/Hyperactivity Disorder (ADD or ADHD) (3-17 years)
- hearing problems
- vision problems.[448]

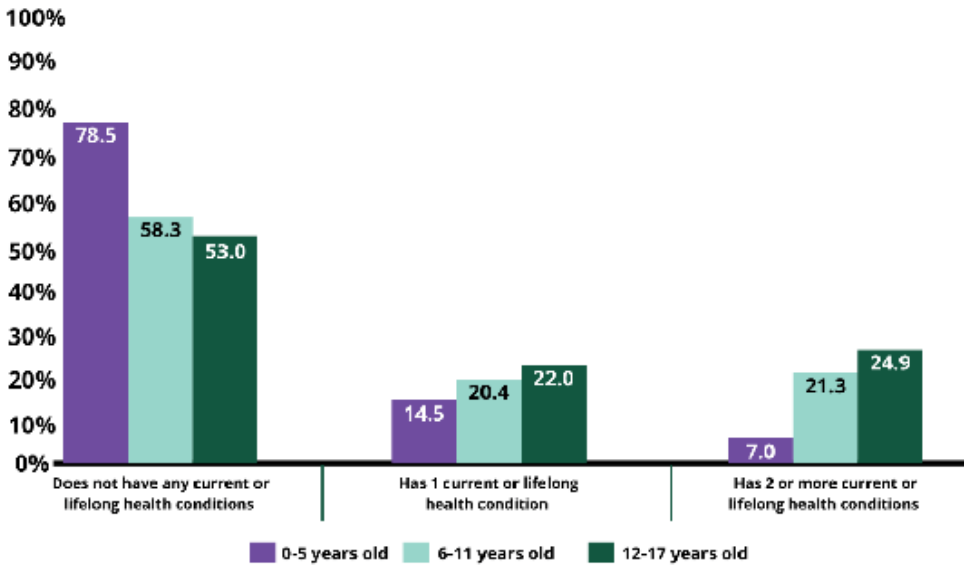


Figure 10.3 – Prevalence of current or lifelong health conditions in children 0-17 years in U.S.[449]

Introduction to Chronic Health Conditions

Although no summary in a textbook will replace the knowledge families and their health care and service providers can provide about a child who has a chronic health condition, it can be helpful to have some familiarity with different conditions. Here is some introductory information on some of the chronic health conditions children in early care and education programs may have.

Allergies

An allergy is a reaction by the immune system to something that does not bother most other people. People who have allergies often are sensitive to more than one thing. Substances that often cause reactions are

- Pollen
- Dust mites
- Mold spores
- Pet dander
- Food
- Insect stings
- Medicines

Normally, the immune system fights germs. It is the body's defense system. In most allergic reactions, however, it is responding to a false alarm. Genes and the environment probably both play a role.



Figure 10.4 – This child suffers from allergies.[450]

Allergies can cause a variety of symptoms such as a runny nose, sneezing, itching, rashes, swelling, or asthma. Allergies can range from minor to severe. Anaphylaxis is a severe reaction that can be life-threatening. Doctors use skin and blood tests to diagnose allergies. Treatments include medicines, allergy shots, and avoiding the substances that cause the reactions.[451]

Anaphylaxis

Anaphylaxis is a serious allergic reaction. It can begin very quickly, and symptoms may be life-threatening. The most common causes are reactions to foods (especially peanuts), medications, and stinging insects. Other causes include exercise and exposure to latex. Sometimes no cause can be found.

It can affect many organs:

- Skin - itching, hives, redness, swelling
- Nose - sneezing, stuffy nose, runny nose
- Mouth - itching, swelling of the lips or tongue
- Throat - itching, tightness, trouble swallowing, swelling of the back of the throat
- Chest - shortness of breath, coughing, wheezing, chest pain or tightness
- Heart - weak pulse, passing out, shock
- Gastrointestinal tract - vomiting, diarrhea, cramps
- Nervous system - dizziness or fainting

If child is having a serious allergic reaction, 911 should be called. If an auto-injector is available, give the injection right away.[452]

Arthritis

Arthritis in children is called childhood arthritis or juvenile arthritis. The most common type of childhood arthritis is juvenile idiopathic arthritis (JIA), also known as juvenile rheumatoid arthritis.

Childhood arthritis can cause permanent physical damage to joints. This damage can make it hard for the child to do everyday things like walking or dressing and can result in disability.

Symptoms may come and go over time. There may be times when symptoms get worse, known as flares, and times when symptoms get better, known as remission. Signs and symptoms include:

- Joint pain.
- Swelling.
- Fever.
- Stiffness.
- Rash.
- Fatigue (tiredness).
- Loss of appetite.
- Inflammation of the eye.
- Difficulty with daily living activities such as walking, dressing, and playing.

The exact cause of childhood arthritis is unknown. In childhood arthritis, the immune system may not work right which causes the inflammation in the joints and other body systems. Although there is no cure, some children with arthritis achieve permanent remission, which means the disease is no longer active. Any physical damage to the joint will remain.[453]

Asthma

Asthma is a disease that affects the lungs. In the United States, about 20 million people have asthma. Nearly 9 million of them are children. Children have smaller airways than adults, which makes asthma especially serious for them.[454] It causes wheezing, breathlessness, chest tightness, and coughing at night or early in the morning. If a person has asthma, they have it all the time, but they will have asthma attacks only when something bothers their lungs.

An asthma attack may include coughing, chest tightness, wheezing, and trouble breathing. The attack happens in the body's airways, which are the paths that carry air to the lungs. As the air moves through the lungs, the airways become smaller, like the branches of a tree are smaller than the tree trunk. During an asthma attack, the sides of the airways in the lungs swell and the airways shrink. Less air gets in and out of the lungs, and mucous that the body makes clogs up the airways.

An asthma attack can happen when the person is exposed to asthma triggers. Your asthma triggers can be very different from someone else's asthma triggers. It's important for teacher to know about the triggers for any child in their care that has asthma, so they can help the child avoid them and watch for an attack when you can't. [455] Triggers include:

- Allergens - mold, pollen, animals
- Irritants - cigarette smoke, air pollution
- Weather - cold air, changes in weather
- Exercise
- Infections - flu, common cold[456]

Asthma is treated with medication. There are quick-relief and long-term medications. Some are taken orally and some may be breathed it. It's important to have accurate information in the health plan and in the child's records about a child with asthma's medication.[457]



Figure 10.5 – A child using an inhaler to control asthma.[458]

Blood Disorders

There are several blood disorders that children in early care and education programs may have. Here is an introduction to hemophilia, sickle cell disease, and thalassemia.

Hemophilia

Hemophilia is usually an inherited bleeding disorder in which the blood does not clot properly. This can lead to spontaneous bleeding as well as bleeding following injuries or surgery. Blood contains many proteins called clotting factors that can help to stop bleeding. People with hemophilia have low levels of either factor VIII (8) or factor IX (9). The severity of hemophilia that a person has is determined by the amount of factor in the blood. The lower the amount of the factor, the more likely it is that bleeding will occur which can lead to serious health problems.

Hemophilia is caused by a mutation or change, in one of the genes, that provides instructions for making the clotting factor proteins needed to form a blood clot. This change or mutation can prevent the clotting protein from working properly or to be missing altogether. Hemophilia occurs in about 1 of every 5,000 male births. Females can also have hemophilia, but this is much rarer (and more often they are carriers). Hemophilia affects people from all racial and ethnic groups.

The best way to treat hemophilia is to replace the missing blood clotting factor so that the blood can clot properly. This is done by infusing (administering through a vein) commercially prepared factor concentrates.[459] Hemophilia is a complex disorder. Good quality medical care from doctors and nurses who know a lot about the disorder can help people with hemophilia prevent some serious problems.[460]

Sickle Cell Disease

SCD is a group of inherited red blood cell disorders. Healthy red blood cells are round, and they move through small blood vessels to carry oxygen to all parts of the body. In someone who has SCD, the red blood cells become hard and sticky and look like a C-shaped farm tool called a “sickle”. The sickle cells die early, which causes a constant shortage of red blood cells. Also, when they travel through small blood vessels, they get stuck and clog the blood flow. This can cause pain and other serious problems such infection, acute chest syndrome and stroke.

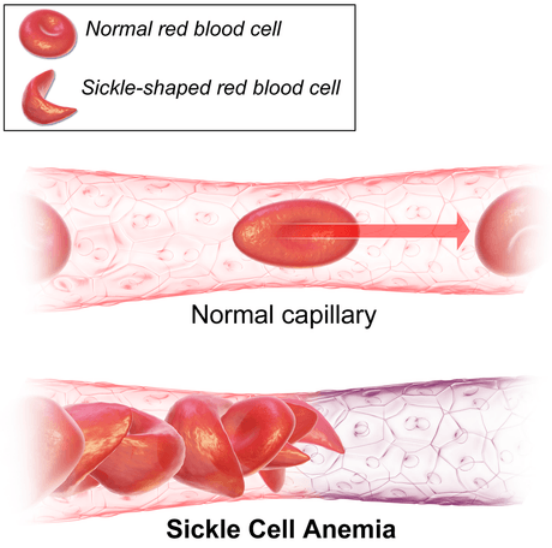


Figure 10.6 – Normal vs. sickle cell anemia blood cells.[461]

SCD is a genetic condition that is present at birth. It is inherited when a child receives two sickle cell genes—one from each parent. People with SCD start to have signs of the disease during the first year of life, usually around 5 months of age. Symptoms and complications of SCD are different for each person and can range from mild to severe.

There is no single best treatment for all people with SCD. Treatment options are different for each person depending on the symptoms. The only cure for SCD is bone marrow or stem cell transplant.[462]

Thalassemia

Thalassemia is an inherited blood disorder caused when the body doesn’t make enough of a protein called hemoglobin, an important part of red blood cells. When there isn’t enough hemoglobin, the body’s red blood cells don’t function properly and they last shorter periods of time, so there are fewer healthy red blood cells traveling in the bloodstream.

Red blood cells carry oxygen to all the cells of the body. Oxygen is a sort of food that cells use to function. When there are not enough healthy red blood cells, there is also not enough oxygen delivered to all the other cells of the body, which may cause a person to feel tired, weak or short of breath. This is a condition called anemia.

People with thalassemia may have mild or severe anemia. Severe anemia can damage organs and lead to death. People with moderate and severe forms of thalassemia usually find out about their condition in childhood, since they have symptoms of severe anemia early in life.[463] Symptoms of anemia include:

- Dizziness

- Shortness of breath
- A fast heart beat
- Headache
- Leg cramps
- Difficulty concentrating
- Pale skin

The type of treatment a person receives depends on how severe the thalassemia is. The more severe the thalassemia, the less hemoglobin the body has, and the more severe the anemia may be. One way to treat anemia is to provide the body with more red blood cells to carry oxygen. This can be done through a blood transfusion, a safe, common procedure in which the person receives blood through a small plastic tube inserted into one of their blood vessels.[464]

Cerebral Palsy

Cerebral palsy (CP) is a group of disorders that affect a person's ability to move and maintain balance and posture. CP is the most common motor disability in childhood. *Cerebral* means having to do with the brain. *Palsy* means weakness or problems with using the muscles. CP is caused by abnormal brain development or damage to the developing brain that affects a person's ability to control his or her muscles.

The symptoms of CP vary from person to person. A child with severe CP might need to use special equipment to be able to walk, or might not be able to walk at all and might need lifelong care. A child with mild CP, on the other hand, might walk a little awkwardly, but might not need any special help. CP does not get worse over time, though the exact symptoms can change over a person's lifetime.

All people with CP have problems with movement and posture. Many also have related conditions such as intellectual disability; seizures; problems with vision, hearing, or speech; changes in the spine (such as scoliosis); or joint problems (such as contractures).



Figure 10.7 – Children with cerebral palsy can be part of early care and education programs.[465]

Doctors classify CP according to the main type of movement disorder involved. Depending on which areas of the brain are affected, one or more of the following movement disorders can occur:

- Stiff muscles (spasticity)
- Uncontrollable movements (dyskinesia)
- Poor balance and coordination (ataxia)

There is no cure for CP, but treatment can improve the lives of those who have the condition. It is important to begin a treatment program as early as possible.

After a CP diagnosis is made, a team of health professionals works with the child and family to develop a plan to help the child reach his or her full potential. Common treatments include medicines; surgery; braces; and physical, occupational, and speech therapy. No single treatment is the best one for all children with CP.[466]

Cystic Fibrosis

Cystic fibrosis (CF) is an inherited disease of the mucus and sweat glands. It affects mostly the lungs, pancreas, liver, intestines, sinuses, and sex organs. CF causes mucus to be thick and sticky. The mucus clogs the lungs, causing breathing problems and making it easy for bacteria to grow. This can lead to repeated lung infections and lung damage.[467] It is one of the most common chronic lung diseases in children and young adults. It is a life-threatening disorder.



Figure 10.8 – Cystic fibrosis treatment.[468]

The symptoms and severity of CF can vary. Some people have serious problems from birth. Others have a milder version of the disease that doesn't show up until they are teens or young adults.

CF is diagnosed through various tests, such as gene, blood, and sweat tests. There is no cure for CF, but treatments have improved greatly in recent years. In the past, most deaths from CF were in children and teenagers. Today, with improved treatments, some people who have CF are living into their forties, fifties, or older. Treatments may include chest physical therapy, nutritional and respiratory therapies, medicines, and exercise.[469]

Diabetes

Until recently, the common type of diabetes in children and teens was type 1. It was called juvenile diabetes. With Type 1 diabetes, the pancreas does not make insulin. Insulin is a hormone that helps glucose, or sugar, get into your cells to give them energy. Without insulin, too much sugar stays in the blood.

Now younger people are also getting type 2 diabetes. Type 2 diabetes used to be called adult-onset diabetes. But now it is becoming more common in children and teens, due to more obesity. With Type 2 diabetes, the body does not make or use insulin well.

Children have a higher risk of type 2 diabetes if they are overweight or have obesity, have a family history of diabetes, or are not active. Children who are African American, Hispanic, Native American/Alaska Native, Asian American, or Pacific Islander also have a higher risk. To lower the risk of type 2 diabetes in children

- Have them maintain a healthy weight
- Be sure they are physically active
- Have them eat smaller portions of healthy foods

- Limit time with the TV, computer, and video

Children and teens with type 1 diabetes may need to take insulin. Type 2 diabetes may be controlled with diet and exercise. If not, patients will need to take oral diabetes medicines or insulin.[470]



Figure 10.9 – Insulin can be delivered via different methods.[471]

When a child in an early care and education program has type 1 diabetes, staff will be involved in diabetes care on a day-to-day basis, from serving healthy foods to giving insulin injections to watching for and treating hypoglycemia (low blood sugar). [472]

Hypoglycemia

Hypoglycemia (low blood sugar) can happen quickly and needs to be treated immediately. It's most often caused by too much insulin, waiting too long for a meal or snack, not eating enough, or getting extra physical activity. Hypoglycemia symptoms are different from person to person; make sure you know your specific symptoms, which could include:

- Shakiness
- Nervousness or anxiety
- Sweating, chills, or clamminess
- Irritability or impatience
- Dizziness and difficulty concentrating
- Hunger or nausea
- Blurred vision
- Weakness or fatigue
- Anger, stubbornness, or sadness[473]

Down Syndrome

Down syndrome is a condition in which a person has an extra chromosome. Chromosomes are small "packages" of genes in the body. They determine how a baby's body forms during pregnancy and how the baby's body functions as it grows in the womb and after birth. Typically, a baby is born with 46 chromosomes. Babies with Down syndrome have an extra copy of one of these chromosomes, chromosome 21. A medical term for having an extra copy of a chromosome is 'trisomy.' Down syndrome is also referred to as Trisomy 21. This extra copy changes how the baby's body and brain develop, which can cause both mental and physical challenges for the baby.

Even though people with Down syndrome might act and look similar, each person has different abilities. People with Down syndrome usually have an IQ (a measure of intelligence) in the mildly-to-moderately low range and are slower to speak than other children.

Some common physical features of Down syndrome include:

- A flattened face, especially the bridge of the nose
- Almond-shaped eyes that slant up

- A short neck
- Small ears
- A tongue that tends to stick out of the mouth
- Tiny white spots on the iris (colored part) of the eye
- Small hands and feet
- A single line across the palm of the hand (palmar crease)
- Small pinky fingers that sometimes curve toward the thumb
- Poor muscle tone or loose joints
- Shorter in height as children and adults

Many people with Down syndrome have the common facial features and no other major birth defects. However, some people with Down syndrome might have one or more major birth defects or other medical problems. Some of the more common health problems among children with Down syndrome are listed below.

- Hearing loss
- Obstructive sleep apnea, which is a condition where the person's breathing temporarily stops while asleep
- Ear infections
- Eye diseases
- Heart defects present at birth



Figure 10.10 – Two children, one with Down syndrome, working on an art project.[474]

Down syndrome is a lifelong condition. Services early in life will often help babies and children with Down syndrome to improve their physical and intellectual abilities. Most of these services focus on helping children with Down syndrome develop to their full potential. These services include speech, occupational, and physical therapy, and they are typically offered through early intervention programs in each state. Children with Down syndrome may also need extra help or attention in early care and education programs and school, although many children are included in classrooms with children that do not have special needs.[475]

Epilepsy

Epilepsy is a broad term used for a brain disorder that causes seizures. There are many different types of epilepsy. There are also different kinds of seizures.[476] A seizure is a short change in normal brain activity. Seizures are the main sign of epilepsy. Some seizures can look like staring spells. Other seizures cause a person to fall, shake, and lose awareness of what's going on around them. [477]

Most seizures end in a few minutes. If a child has a seizure the teacher should:

- Stay with the child until the seizure ends and he or she is fully awake. Once they are alert and able to communicate, tell them what happened in very simple terms.
- Comfort the person and speak calmly.
- Keep yourself and other people calm.
- Follow the directions in the Health Care Plan (which likely will include calling the family)

Teacher should never do any of the following things:

- Do not hold the child down or try to stop their movements.
- Do not put anything in the child's mouth. This can injure teeth or the jaw. A person having a seizure cannot swallow his or her tongue.
- Do not try to give mouth-to-mouth breaths (like CPR). People usually start breathing again on their own after a seizure.
- Do not offer the person water or food until he or she is fully alert.[478]



Figure 10.11 – This girl has Dravet syndrome, a rare form of epilepsy.[479]

Nationwide, about 470,000 children have epilepsy. For many children, epilepsy is easily controlled with medicine. These children can do what other kids can do, and perform as well in school. For others, it can be more challenging.[480]

Attention-Deficit/Hyperactivity Disorder (ADHD)

ADHD is one of the most common neurodevelopmental disorders of childhood. It is usually first diagnosed in childhood and often lasts into adulthood. Children with ADHD may have trouble paying attention, controlling impulsive behaviors (may act without thinking about what the result will be), or be overly active.

It is normal for children to have trouble focusing and behaving at one time or another. However, children with ADHD do not just grow out of these behaviors. The symptoms continue, can be severe, and can cause difficulty at school, at home, or with friends.

A child with ADHD might:

- daydream a lot
- forget or lose things a lot
- squirm or fidget
- talk too much
- make careless mistakes or take unnecessary risks
- have a hard time resisting temptation
- have trouble taking turns
- have difficulty getting along with others

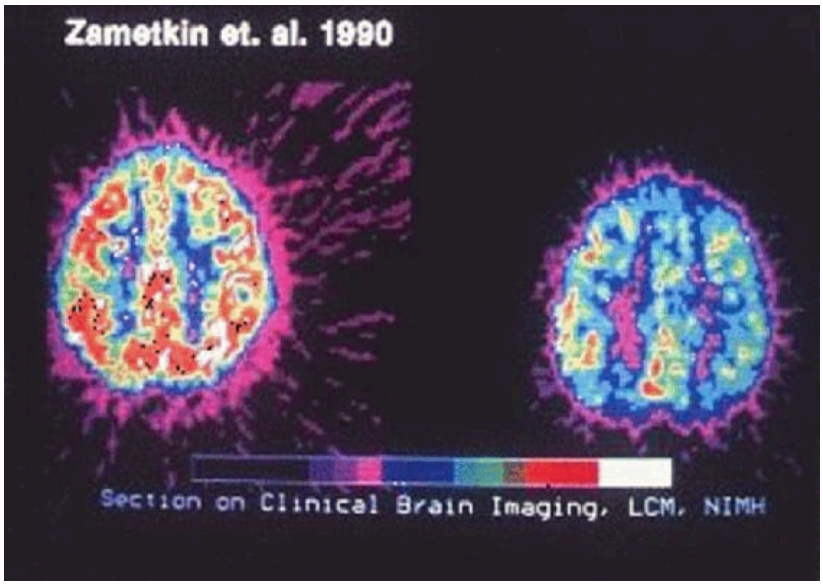


Figure 10.12 – Brain scans of showing difference in brain activity in children with and without ADHD.[481]

There are three different types of ADHD, depending on which types of symptoms are strongest in the individual. Because symptoms can change over time, the presentation may change over time as well.

Predominantly Inattentive Presentation: It is hard for the individual to organize or finish a task, to pay attention to details, or to follow instructions or conversations. The person is easily distracted or forgets details of daily routines.

Predominantly Hyperactive-Impulsive Presentation: The person fidgets and talks a lot. It is hard to sit still for long (e.g., for a meal or while doing homework). Smaller children may run, jump or climb constantly. The individual feels restless and has trouble with impulsivity. Someone who is impulsive may interrupt others a lot, grab things from people, or speak at inappropriate times. It is hard for the person to wait their turn or listen to directions. A person with impulsiveness may have more accidents and injuries than others.

Combined Presentation: Symptoms of the above two types are equally present in the person.

The cause(s) and risk factors for ADHD are unknown, but current research shows that genetics plays an important role. Recent studies of twins link genes with ADHD. In addition to genetics, scientists are studying other possible causes and risk factors including:

- Brain injury
- Exposure to environmental (e.g., lead) during pregnancy or at a young age
- Alcohol and tobacco use during pregnancy
- Premature delivery
- Low birth weight

Research does not support the popularly held views that ADHD is caused by eating too much sugar, watching too much television, parenting, or social and environmental factors such as poverty or family chaos.

For preschool-aged children (4-5 years of age) with ADHD, behavior therapy, particularly training for parents, is recommended as the first line of treatment before medication is tried. What works best can depend on the child and family. Good treatment plans will include close monitoring, follow-ups, and making changes, if needed, along the way.[482]

Autism Spectrum Disorder (ASD)

Autism spectrum disorder (ASD) is a developmental disability that can cause significant social, communication and behavioral challenges. There is often nothing about how people with ASD look that sets them apart from other people, but people with ASD may communicate, interact, behave, and learn in ways that are different from most other people. A diagnosis of ASD now includes several conditions that used to be diagnosed separately: autistic disorder, pervasive developmental disorder not

otherwise specified (PDD-NOS), and Asperger syndrome. These conditions are now all called autism spectrum disorder.

The learning, thinking, and problem-solving abilities of people with ASD can range from gifted to severely challenged. Some people with ASD need a lot of help in their daily lives; others need less. People with ASD might repeat certain behaviors and might not want change in their daily activities. Many people with ASD also have different ways of learning, paying attention, or reacting to things. Signs of ASD begin during early childhood and typically last throughout a person's life.



Figure 10.13 – This three-year-old boy was diagnosed with ASD.[483]

Children or adults with ASD might:

- not point at objects to show interest (for example, not point at an airplane flying over)
- not look at objects when another person points at them
- have trouble relating to others or not have an interest in other people at all
- avoid eye contact and want to be alone
- have trouble understanding other people's feelings or talking about their own feelings
- prefer not to be held or cuddled, or might cuddle only when they want to
- appear to be unaware when people talk to them, but respond to other sounds
- be very interested in people, but not know how to talk, play, or relate to them
- repeat or echo words or phrases said to them, or repeat words or phrases in place of normal language
- have trouble expressing their needs using typical words or motions
- not play "pretend" games (for example, not pretend to "feed" a doll)
- repeat actions over and over again
- have trouble adapting when a routine changes
- have unusual reactions to the way things smell, taste, look, feel, or sound
- lose skills they once had (for example, stop saying words they were using)

We do not know all of the causes of ASD. However, we have learned that there are likely many causes for multiple types of ASD. There may be many different factors that make a child more likely to have an ASD, including environmental, biologic and genetic factors. ASD occurs in all racial, ethnic, and socioeconomic groups, but is about 4 times more common among boys than among girls.

Research shows that early intervention treatment services can improve a child's development. Services can help the child meet developmental milestones and interact with others. There is no cure for ASD.[484] But not everyone believes that autism is a condition or disorder or that it needs to be cured.

Neurodiversity

"Neurodiversity is a concept that's been around for a while. In a nutshell, it means that brain differences are just that: differences. So conditions like ADHD and [ASD] aren't "abnormal." They're simply variations of the human brain.

For kids with learning and thinking differences, the idea of neurodiversity has real benefits. It can help kids (and their parents) frame their challenges as differences, rather than as deficits. It can also shed light on instructional approaches that might help to highlight particular strengths kids have."[485]

Hearing Problems

Hearing loss can happen when any part of the ear is not working in the usual way. This includes the outer ear, middle ear, inner ear, hearing (acoustic) nerve, and auditory system.

- The outer ear is made up of:

- the part we see on the sides of our heads, known as pinna
- the ear canal
- the eardrum, sometimes called the tympanic membrane, which separates the outer and middle ear

- The middle ear is made up of:

- the eardrum
- three small bones called ossicles that send the movement of the eardrum to the inner ear

- The inner ear is made up of:

- the snail shaped organ for hearing known as the cochlea
- the semicircular canals that help with balance
- the nerves that go to the brain

- The auditory (ear) nerve sends sound information from the ear to the brain.
- The auditory (hearing) system processes sound information as it travels from the ear to the brain so that our brain pathways are part of our hearing.

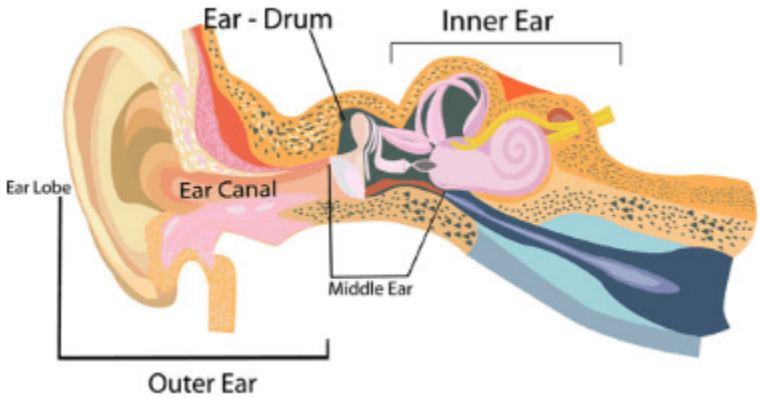


Figure 10.14 – The outer, middle, and inner ear.[486]

There are four types of hearing loss:

- Conductive Hearing Loss: Hearing loss caused by something that stops sounds from getting through the outer or middle ear. This type of hearing loss can often be treated with medicine or surgery.
- Sensorineural Hearing Loss : Hearing loss that occurs when there is a problem in the way the inner ear or hearing nerve

works.
- Mixed Hearing Loss: Hearing loss that includes both a conductive and a sensorineural hearing loss.
- Auditory Neuropathy Spectrum Disorder: Hearing loss that occurs when sound enters the ear normally, but because of damage to the inner ear or the hearing nerve, sound isn't organized in a way that the brain can understand.

The degree of hearing loss can range from mild to profound:

- Mild Hearing Loss: A person with a mild hearing loss may hear some speech sounds but soft sounds are hard to hear.
- Moderate Hearing Loss: A person with a moderate hearing loss may hear almost no speech when another person is talking at a normal level.
- Severe Hearing Loss: A person with severe hearing loss will hear no speech when a person is talking at a normal level and only some loud sounds.
- Profound Hearing Loss: A person with a profound hearing loss will not hear any speech and only very loud sounds. [487]

Hearing loss can happen any time during life – from before birth to adulthood. Following are some of the things that can increase the chance that a child will have hearing loss:

- A genetic cause: About 1 out of 2 cases of hearing loss in babies is due to genetic causes.
- 1 out of 4 cases of hearing loss in babies is due to maternal infections during pregnancy, complications after birth, and head trauma.
- For about 1 out of 4 babies born with hearing loss, the cause is unknown.

Hearing loss can affect a child's ability to develop speech, language, and social skills. The earlier children with hearing loss start getting services, the more likely they are to reach their full potential.[488] Screening for hearing loss was covered in Chapter 7.

Vision Problems

In the United States, the most prevalent disabling childhood conditions are vision disorders including amblyopia, strabismus, and significant refractive errors. Early detection increases the likelihood of effective treatment; however, less than 15% of all preschool children receive an eye exam, and less than 22% of preschool children receive some type of vision screening. [489] Vision screening was also addressed in Chapter 7.

Amblyopia

Amblyopia, also referred to as "lazy eye," is the most common cause of vision impairment in children. Amblyopia is the medical term used when the vision in one of the eyes is reduced because the eye and the brain are not working together properly. The eye itself looks normal, but it is not being used normally because the brain is favoring the other eye. Conditions leading to amblyopia include strabismus, an imbalance in the positioning of the two eyes, being more nearsighted, farsighted, or astigmatic in one eye than the other eye, and rarely, other eye conditions, such as cataracts.

Unless it is successfully treated in early childhood amblyopia usually persists into adulthood, and is the most common cause of permanent one-eye vision impairment among children and young and middle-aged adults. An estimated 2%–3% of the population suffer from amblyopia.



Figure 10.15 – Patching the dominant eye is one way of treating amblyopia.[490]

Strabismus

Strabismus involves an imbalance in the positioning of the two eyes. Strabismus can cause the eyes to cross in (esotropia) or turn out (exotropia). Strabismus is caused by a lack of coordination between the eyes. As a result, the eyes look in different directions and do not focus simultaneously on a single point. In most cases of strabismus in children, the cause is unknown. In more than half of these cases, the problem is present at or shortly after birth (congenital strabismus). When the two eyes fail to focus on the same image, there is reduced or absent depth perception and the brain may learn to ignore the input from one eye, causing permanent vision loss in that eye (one type of amblyopia).

Refractive Errors

Refractive errors in children include myopia (near-sightedness), hyperopia (farsightedness), and astigmatism (distorted vision at all distances), can be corrected by eyeglasses, contact lenses, or in some cases surgery.[491]



Figure 10.16 – Children with refractive errors may wear glasses.[492]

Other Eye Diseases

Other eye diseases affecting this age group include retinopathy of prematurity (ROP), congenital defects, diabetic retinopathy

(DR), and cancers such as retinoblastoma.[493]

Pause to Reflect

Do you have experiences with any of the special needs discussed in this section? How does this affect how you feel about that particular need?

Did you find yourself feeling more concerned about potentially caring for a child with any of these? If so, why? What can you do to address those concerns?

Are there any you feel more comfortable and/or qualified to handle? Why or why not?

Children with Special Needs

Children in early care and education programs may have special needs that are not directly related to their health. The number of children enrolled in Special Education according to the California Department of Education, in the 2018-2019 academic year is provided by disability in Table 10.1.

Table 10.1 Special Education Enrollment by Age and Disability[494]

Age	Intellectual Disability	Hard of Hearing	Deaf	Speech or Language Impairment	Visual Impairment	Emotional Disturbance	Orthopedic Impairment	Other Health Impairment	Specific Learning Disability	De Bli
0	53	334	62	12	23	0	63	288	0	-
1	115	605	93	178	72	0	171	764	0	-
2	134	589	89	860	97	0	137	1091	-	-
3	805	419	136	13028	67	-	351	997	26	-
4	1016	414	114	18404	96	16	443	1274	51	-
5	1362	418	148	20533	110	83	430	1742	524	-
6	1777	167	167	23784	140	265	526	3075	2339	-
7	1924	170	170	22053	160	580	549	4676	7174	-
8	2228	188	188	17871	191	879	879	6035	14717	-

These children and their families need a partnership with early care and education staff and other service providers as early as possible because it creates a solid foundation to support optimal development and can reduce the prevalence of ongoing and future challenges.[495]

The Individuals with Disabilities Education Act (IDEA) is the federal law that makes available a free appropriate public education to eligible children with disabilities throughout the nation and ensures special education and related services to those children.

The IDEA governs how states and public agencies provide early intervention, special education, and related services to more than 6.5 million eligible infants, toddlers, children, and youth with disabilities.[496]

For children birth to 3 years, Part C of IDEA Provides early intervention services to children from birth to 3 with special needs. And Individualized Family Service Plan (IFSP) is a written document outlining:

- The early intervention services a child and family will receive
- The child's needs; the family's strengths and choices; and the Early Intervention team's recommendations

Once children turn 3, Part B of IDEA (Section 619), provides special education services through the public school system. An Individualized Education Program (IEP) is a written plan that describes:

- The child's educational goals
- Services and supports in a school setting[497]



Figure 10.17 – This child with cerebral palsy has a special chair that allows her to participate in her inclusive early care and education program [498]

Inclusion

In IDEA, the word appropriate, refers to providing that educational experience in the least restrictive environment (LRE). LRE requires a continuum of placement options be available to best meet the diverse needs of children with disabilities, and presumes that the first placement option considered for each child with a disability is the regular classroom the child would attend if he or she did not have a disability.[499] The full and active participation of children with disabilities or other special needs in community activities, services, and programs designed for children without disabilities, including child care, is referred to as inclusion. In an inclusive program, if support, accommodations, or modifications are needed to ensure the child's full, active participation, they are provided appropriately. The participation results in an authentic sense of belonging for the child and family.

Teachers may be reassured to know that:

- Child care providers can successfully include children with disabilities or other special needs in the program while promoting

belonging for all children.
- Major modifications to their program or facility probably will not be needed in order to include children with disabilities or other special needs.
- Assistance and support for more significant changes in their program or facility may be available.
- An inclusive child care program is rewarding for all the children, families, and staff in child care programs.[500]

Individualizing Care and Education

When serving an individual child, the provider should focus on the child's needs, not the disability or its label. Working with the family and the service providers, teachers can provide individualized care and education for the child's unique needs and strengths, just as they should be doing for each and every child in their classroom.

As each child is unique, so is each child care program. There is no magic formula for making inclusion work beyond the creativity, energy, and interest that most child care providers already bring to their work. Their uniqueness notwithstanding, every program is able to successfully include children with disabilities. And each makes it work child by child, day by day.

Some children need small changes to the curriculum or minor supports in order to get the most out of certain activities. These sorts of things may consist of fairly simple accommodations, such as providing a special place or quiet activity for a child who is unable to participate in large-group activities or making available a special snack for a child who needs to eat more frequently than the typical meal or snack schedule. Other children may require more specific adaptations that might not be readily apparent. A variety of community resources can be helpful in determining what those might be. The family, for example, is always the first and most important guide for what a child might need; after that, an area specialist or a local workshop might be. Beyond the immediate community, a world of literature in books, periodicals, and Web sites devoted to disabilities and inclusion can inform a child care provider about appropriate adaptations for a child with a particular condition or need.



Figure 10.18 – All programs can successfully include children with disabilities.[501]

Programs that begin with a high-quality, developmentally appropriate foundation; a positive attitude on the part of the care provider; appropriate adult–child ratios; supportive administrators; and adequate training for the provider will be in a good position to creatively solve problems for a child with disabilities or other special needs, exactly as it does for children who are typically developing. If a child already has an established diagnosis, trained intervention personnel may be available to assist in this process.

One of the biggest roles for a care provider is to facilitate a sense of belonging and inclusion. Several helpful strategies are as follows:

- Start with the assumption that all children are competent.
- Adapt the environment so that it is developmentally appropriate, challenging, and fits the needs and interests of each child.
- While there may be a need to support a child's mastery of a specific skill, keep the whole child in mind, particularly the child's

social-emotional experience.[502]

Common Modifications, Adaptations, and Supports

Each child is an individual, and modifications, adaptations, accommodations, and supports should be designed with a single child in mind. However, researchers from the Early Childhood Research Institute on Inclusion (ECRII) have found that many changes can be grouped into categories of modifications, summarized in Table 10.2.[503]

Table 10.2 – Common Modifications, Adaptations, and Supports[504]

Category of Support	Description	Examples
Environmental Support	Alter the physical, social, or temporal environment to promote participation, engagement, and learning	• Use a photo, picture, or object to signal the next activity. • Make boundaries for activities (e.g., mark sections of the floor with tape, provide a tray or box lid for art activities). • Free surfaces of bumps or smooth them with “lips” and ramps.
Materials Adaptation	Modify materials to promote independence	• Add knobs to wooden puzzles. • Use fabric self-adhesive closures on dress-up clothes. • Place “no-slip” placemats under dishes when children eat or serve themselves.
Activity Simplification	Simplify a complicated task by breaking it into smaller parts or reducing the number of steps	• Give a child the materials for a task one piece at a time. • Prepare materials for easier use. • Replace materials that may be difficult to use with ones that are simpler and can serve the same function.
Child Preferences	Capitalize on a child’s favorite activities	• Observe a child’s interests and then provide additional materials or toys that match them. • Use the child’s preferred activities, such as music, to support efforts to learn other skills. • Find ways to build on a child’s preferred activities when introducing new ideas.
Special Equipment	Use adaptive devices to facilitate participation	• Ensure that providers know the proper use of adaptive or medical equipment, such as hearing aids, glasses, or nebulizers • Allow all children to participate in activities by providing appropriate seating or other equipment • Use picture cards or electronic switch-activated speaking devices for children who cannot speak.

Category of Support	Description	Examples
Adult Support	Employ direct adult intervention to support a child's efforts	• Assign a primary caregiver to a child so that the assigned adult is able to know the unique needs of the child and ways to support them. • Provide direct instruction or guidance to a child while he/she is learning or practicing tasks. • Learn specific ways of interacting or communicating with a child, such as sign language.
Peer Support	Use classmates as models to help children learn	• Pair a child with a certain disability with a child who does not have that disability during certain activities, ensuring that the child with special needs is sometimes the helper and not always the one being helped. • Facilitate children's interactions and observations of one another in small groups. • Teach children specific ways to engage and interact with a child with special needs.
Invisible Support	Arrange naturally occurring events to assist inclusion	• Stock the dress-up center or kitchen corner with sufficient items so more children can participate in a popular activity without competition. • Assign roles during children's play, such as having a child with limited mobility be in charge of "pumping gas" as the children riding bikes go by. • Comment on children's play in ways that encourage further interaction

Pause to Reflect

How might you explain what inclusion is and why it is good for children and families to the following:

- Someone who thinks they want to be a teacher but doesn't believe they can handle teaching in an inclusive classroom.
- The family of a child with special needs.
- The family of a child that is having a hard time with changes in the classroom after a child that has a special need joined the class.

Did your explanations differ? Why or why not?

Summary

All children and their families deserve access to and full inclusion in high-quality early care and education programs. This includes children with special health care and other special needs. Working with families and the health care and service providers, programs can meet each child's individualized needs. This takes knowledge, planning, and partnership. Inclusive programs are beneficial to everyone, the children with the special needs and their families, the children that do not have the special needs, and the program staff.

Resources for Further Exploration

- California Childcare Health Program: https://cchp.ucsf.edu/
- American Academy of Pediatrics (AAP): www.healthychildren.org
- Centers for Disease Control and Prevention (CDC): http://www.cdc.gov
- KidsHealth® from Nemours: http://kidshealth.org/
- National Institute of Health, Medline Plus: http://www.nlm.nih.gov/medlineplus/medlineplus.html
- Online Learning Course: Medication Administration in Early Education and Child Care: http://www.healthychildcare.org/healthyfutures.html
- Asthma and Allergy Foundation of America: http://www.aafa.org/
- American Lung Association: http://www.lung.org/
- Juvenile Arthritis: https://www.arthritis.org/juvenile-arthritis
- American Academy of Cerebral Palsy and Developmental Medicine: http://www.aacpdm.org/
- Cystic Fibrosis Foundation: https://www.cff.org/
- American Diabetes Association: http://www.diabetes.org
- National Association for Down Syndrome: https://www.nads.org/
- Epilepsy Foundation: http://www.epilepsy.com/
- Attention Deficit Disorder Association: www.add.org/
- Autism Society of America: https://www.autism-society.org/
- American Society for Deaf Children: http://www.deafchildren.org
- Children's Eye Foundation of AAPOS: https://www.childrenseyefoundation.org/
- Information and Technical Assistance on the American with Disabilities Act, Commonly Asked Questions about Child Care Centers and the Americans with Disabilities Act: http://www.ada.gov/childqanda.htm
- Center for Parent Information and Resources: https://www.parentcenterhub.org/disability-landing/
- Disabilities Services Newsletters: https://eclkc.ohs.acf.hhs.gov/childr...es-newsletters
- Center on the Social and Emotional Foundations for Early Learning: http://csefel.vanderbilt.edu/
- Adaptations for Children with Disabilities: eclkc.ohs.acf.hhs.gov/hslc/tt...0Disabilities/ edudev_art_00001_060205.html
- Individualization: Strategies for Teaching Children with Special Needs: https://eclkc.ohs.acf.hhs.gov/video/...-special-needs
- Head Start Center for Inclusion: http://headstartinclusion.org/

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11: Children's Mental Health

Caution

This chapter contains information about childhood trauma that may be triggering for some readers.

Learning Objectives

By the end of this chapter, you should be able to:

- Discuss what mental health is and what that looks like during early childhood.
- Explain how mental health practices should begin during infancy.
- Describe mental health problems that young children may experience.
- Examine the impact of adverse childhood experiences, trauma, and stress on your children.
- Reflect on how to support young children's resilience and social and emotional competence.
- Outline ways early care and education programs should be supporting young children's mental health (including engaging families).
- Explain what trauma-informed care is.

Licensing Regulations

Title 22 Regulations that relate to this chapter include:

101223 PERSONAL RIGHTS

- The licensee shall ensure that each child is accorded the following personal rights:
- To receive safe, healthful, and comfortable accommodations

Introduction

Mental health in childhood means reaching developmental and emotional milestones, and learning healthy social skills and how to cope when there are problems. Mentally healthy children have a positive quality of life and can function well at home, in early care and education programs and school, and in their communities.[505]

Mental health is an important part of overall health and well-being. Mental health includes emotional, psychological, and social well-being. It affects how people think, feel, and act. It also helps determine how people handle stress, relate to others, and make healthy choices. Mental health is important at every stage of life, from childhood and adolescence through adulthood.[506] When early educators and families know more about early childhood mental health, they are better able to support children's learning and development.[507]

Foundation for Mental Health

Beginning at birth, children need positive relationships with the adults who care for them. When children learn to recognize and share their feelings with trusted adults, they feel good about themselves. These relationships help them develop the confidence to learn new skills. Children thrive when adults support their strengths and needs. Responsive adults help children feel safe and valued and learn how to get along well with others.

Children who can manage their feelings can learn and play with peers. They are better able to plan, monitor and control their behavior. They can also adjust to changes in schedules and routines. Children who get along with adults learn to work together

and follow rules. They can also show concern for, and share, take turns and compromise with other children.[508]



Figure 11.1 – It is important to care for children's emotional well-being from the beginning.[509]

Mental Health from the Beginning

Infant mental health practice applies knowledge of relationships to support and enhance healthy social and emotional development and to prevent and treat mental health disorders. The following definition of infant mental health was developed by a group of experts with the common understanding that observing young children's interactions with parents and other significant people is key for the assessment of emotional well-being.

In addition, experts also suggest keeping in mind the infants' underlying biology that could include temperament and compromises to resilience from early trauma. Infant mental health is the developing capacity of the child from birth to three to: experience, regulate, and express emotions; form close and secure interpersonal relationships; and explore the environment and learn—all in the context of family, community, and cultural expectations for young children. Infant mental health is synonymous with healthy social and emotional development. (ZERO TO THREE Infant Mental Health Task Force, December, 2001) The mental and physical health of infants and toddlers is critically influenced by the daily behaviors of their caregivers.

The following sections describe key concepts related to the mental health of infants. These concepts enhance what is included in the previous definition:

- "Developing capacity" highlights the extraordinarily rapid pace of growth and change in the first 3 years. Although newborns experience intense feelings and are active partners in their relationships with adults, the differentiation and complexity of a young child's emotional and social development increases markedly over time.
- Infants and toddlers initially depend heavily on adults to help them experience, regulate, and express emotions. Infants' cries and coos evoke strong reactions in their caregivers. An infant's ability to master feelings develops through give and take.
- Through relationships with parents and other caregivers, infants and toddlers learn what people expect of them and what they can expect of other people. Infants and toddlers learn through what they experience within relationships and what they observe in adult's interactions with one another.
- Infants and toddlers share and communicate feelings and experiences with significant caregivers and other children. Infants and toddlers interact with one another in emotionally meaningful ways. Parents and caregivers help young children name the feelings and understand their effect on others.
- The drive to explore and master one's environment is inborn in humans. An essential component of infants' and toddlers' well-being is the self-esteem that grows out of mastering their bodies and the environment as well as sharing that mastery with parents and significant caregivers.
- Every child is a unique blend of characteristics; infants' and toddlers' developmental pathways will reflect not only their individual constitutional differences but also the contributions of their caregiving environments. Temperament, or the way an individual approaches the world, influences how tentatively or vigorously an infant might engage with a new person, toy, or situation.
- The state of adults' emotional well-being and life circumstances profoundly affects the quality of infant-caregiver relationships as well as infant and toddler mental health. Parents and other significant caregivers bring their own

temperament and past experiences to relationships.
- Culture influences every aspect of human development. This broad influence affects the way that infant mental health is understood; the goals and expectations adults have for young children's development; and the childrearing practices that parents and caregivers use to promote, protect, or restore infants' and toddlers' mental health.[510]

Pause to Reflect

How does this toddler's exploration relate to his self-esteem?



Figure 11.2[511]

Mental Health in Early Childhood

Early childhood mental health (birth to 5 years) is a child's growing capacity to do these things, all in the cultural context of family and community (adapted from ZERO TO THREE):

- Experience, regulate, and express emotions
- Develop close, secure, relationships
- Explore the surroundings and learn.

Early childhood mental health is the same as social emotional development.[512] Social and emotional development is important to early learning. Many social-emotional qualities—such as curiosity; self-confidence as a learner; self-control of attention, thinking, and impulses; and initiative in developing new ideas—are essential to learning at any age. Learning, problem solving, and creativity rely on these social-emotional and motivational qualities as well as basic cognitive skills.

When learning occurs in groups, such as in preschool classrooms or family child care programs, the social environment significantly influences how learning occurs. When young children enjoy interacting with adults and other children, they are more enthusiastic about activities and participate more. Furthermore, the interest and enthusiasm of others fuels the child's own excitement about learning, and children are also motivated by others' acknowledgment of the child's accomplishments.[513]

It is important because it affects a child's ability to:

- Express their needs
- Pay attention
- Solve problems
- Get along with others
- Follow directions

- Persist when challenged
- Manage their emotions
- Take initiative
- Be curious and interested in learning[514]

Interviews with preschool and kindergarten teachers indicate that children who have the greatest difficulties in learning are hindered by the lack of these social-emotional qualities more than by the inability to identify letters or numbers. Children who are delayed or impaired in developing these social-emotional and motivational qualities:

- may have difficulty controlling their emotions or behavior,
- may not readily work independently or in a group,
- often appear to lack curiosity or be uninterested in learning, and
- may have difficulties getting along with others, which may undermine the learning environment for all children[515]

Children's mental health is critical to their later school success as well. Children who

- are able to follow directions and pay attention are able to focus on learning.
- can express their feelings are able to get help when they need it.
- learn to persist when frustrated can overcome challenges.
- feel good about themselves are able to work on their own.
- can control their behavior are able to stay on task.[516]

Finally, the importance of social-emotional development to early learning is consistent with the research on brain science. The developing brain is not neatly divided into separate areas governing learning, thinking, and emotions. Instead, it is a highly interconnected organ with different regions influencing, and being affected by, the others. This means, for example, that young children who experience emotional challenges (perhaps because of stress) are less ready for learning because brain regions related to memory are being affected by other regions governing emotion. This conclusion from brain research is, of course, consistent with the everyday experience of teachers of children whose stressful lives often lead to emotional, behavioral, and learning difficulties.[517]

Childhoods Mental Health Issues

There are two types of mental health issues this chapter is going to address. The first is diagnosable mental problems. The second is the result of Adverse Childhood Experiences and childhood trauma.

Mental Health Problems

Mental health problems, which the CDC refers to as mental disorders, among children are described as serious changes in the way children typically learn, behave, or handle their emotions, which cause distress and problems getting through the day.

Among the more common mental health problems that can be diagnosed in childhood are attention-deficit/hyperactivity disorder (ADHD, which has already been addressed in Chapter 10), anxiety, and behavior disorders.[518]

Anxiety and Depression

Many children have fears and worries, and may feel sad and hopeless from time to time. Strong fears may appear at different times during development. For example, toddlers are often very distressed about being away from their parents, even if they are safe and cared for. Although fears and worries are typical in children, persistent or extreme forms of fear and sadness could be due to anxiety or depression. Because the symptoms primarily involve thoughts and feelings, they are called internalizing disorders.

Anxiety

When children do not outgrow the fears and worries that are typical in young children, or when there are so many fears and worries that they interfere with school, home, or play activities, the child may be diagnosed with an anxiety disorder. Examples of different types of anxiety disorders include

- Being very afraid when away from parents (separation anxiety)
- Having extreme fear about a specific thing or situation, such as dogs, insects, or going to the doctor (phobias)
- Being very afraid of school and other places where there are people (social anxiety)
- Being very worried about the future and about bad things happening (general anxiety)
- Having repeated episodes of sudden, unexpected, intense fear that come with symptoms like heart pounding, having trouble breathing, or feeling dizzy, shaky, or sweaty (panic disorder)

Anxiety may present as fear or worry, but can also make children irritable and angry. Anxiety symptoms can also include trouble sleeping, as well as physical symptoms like fatigue, headaches, or stomachaches. Some anxious children keep their worries to themselves and, thus, the symptoms can be missed.

Depression

Occasionally being sad or feeling hopeless is a part of every child's life. However, some children feel sad or uninterested in things that they used to enjoy, or feel helpless or hopeless in situations they are able to change. When children feel persistent sadness and hopelessness, they may be diagnosed with depression.

Examples of behaviors often seen in children with depression include

- Feeling sad, hopeless, or irritable a lot of the time
- Not wanting to do or enjoy doing fun things
- Showing changes in eating patterns – eating a lot more or a lot less than usual
- Showing changes in sleep patterns – sleeping a lot more or a lot less than normal
- Showing changes in energy – being tired and sluggish or tense and restless a lot of the time
- Having a hard time paying attention
- Feeling worthless, useless, or guilty
- Showing self-injury and self-destructive behavior

Extreme depression can lead a child to think about suicide or plan for suicide. While less common in early childhood, for youth ages 10-24 years, suicide is among the leading causes of death.

Some children may not talk about their helpless and hopeless thoughts, and may not appear sad. Depression might also cause a child to make trouble or act unmotivated, causing others not to notice that the child is depressed or to incorrectly label the child as a trouble-maker or lazy. [519]

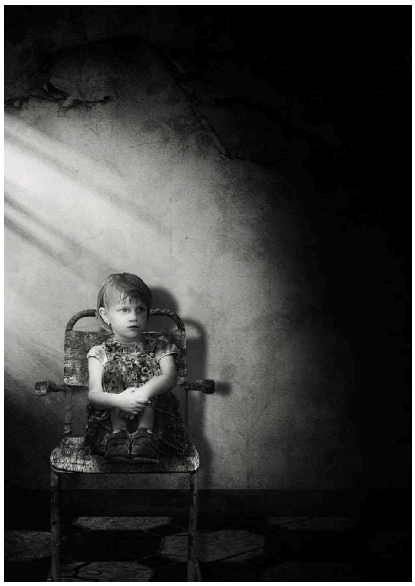


Figure 11.3 – Persistent sadness is a sign of depression.[520]

Behavior or Conduct Problems

Children sometimes argue, are aggressive, or act angry or defiant around adults. A behavior disorder may be diagnosed when these disruptive behaviors are uncommon for the child's age at the time, persist over time, or are severe. Because disruptive behavior disorders involve acting out and showing unwanted behavior towards others they are often called externalizing disorders.

Oppositional Defiant Disorder

When children act out persistently so that it causes serious problems at home, in school, or with peers, they may be diagnosed with Oppositional Defiant Disorder (ODD). ODD usually starts before 8 years of age, but no later than by about 12 years of age. Children with ODD are more likely to act oppositional or defiant around people they know well, such as family members, a regular care provider, or a teacher. Children with ODD show these behaviors more often than other children their age.

Examples of ODD behaviors include:

- Often being angry or losing one's temper
- Often arguing with adults or refusing to comply with adults' rules or requests
- Often resentful or spiteful
- Deliberately annoying others or becoming annoyed with others
- Often blaming other people for one's own mistakes or misbehavior

Conduct Disorder

Conduct Disorder (CD) is diagnosed when children show an ongoing pattern of aggression toward others, and serious violations of rules and social norms at home, in school, and with peers. In older children, these rule violations may involve breaking the law and result in arrest. Children with CD are more likely to get injured and may have difficulties getting along with peers.

Examples of CD behaviors include:

- Breaking serious rules, such as running away, or for older children staying out at night when told not to or skipping school
- Being aggressive in a way that causes harm, such as bullying, fighting, or being cruel to animals
- Lying, stealing, or damaging other people's property on purpose[521]

Obsessive-Compulsive Disorder (OCD)

Many children occasionally have thoughts that bother them, and they might feel like they have to do something about those thoughts, even if their actions don't actually make sense. For example, they might worry about having bad luck if they don't wear a favorite piece of clothing. For some children, the thoughts and the urges to perform certain actions persist, even if they try to ignore them or make them go away. Children may have an obsessive-compulsive disorder (OCD) when unwanted thoughts, and the behaviors they feel they must do because of the thoughts, happen frequently, take up a lot of time (more than an hour a day), interfere with their activities, or make them very upset. The thoughts are called obsessions. The behaviors are called compulsions.

Having OCD means having obsessions, compulsions, or both.

Examples of obsessive or compulsive behaviors include:

- Having unwanted thoughts, impulses, or images that occur over and over and which cause anxiety or distress.
- Having to think about or say something over and over (for example, counting, or repeating words over and over silently or out loud)
- Having to do something over and over (for example, handwashing, placing things in a specific order, or checking the same things over and over, like whether a door is locked)
- Having to do something over and over according to certain rules that must be followed exactly in order to make an obsession go away.

Children do these behaviors because they have the feeling that the behaviors will prevent bad things from happening or will make them feel better. However, the behavior is not typically connected to actual danger of something bad happening, or the behavior is extreme, such as washing hands multiple times per hour.

A common myth is that OCD means being really neat and orderly. Sometimes, OCD behaviors may involve cleaning, but many times someone with OCD is too focused on one thing that must be done over and over, rather than on being organized. Obsessions and compulsions can also change over time.[522]

Post-Traumatic Stress Disorder (PTSD)

All children may experience very stressful events that affect how they think and feel. Most of the time, children recover quickly and well. However, sometimes children who experience severe stress, such as from an injury, from the death or threatened death of a close family member or friend, or from violence, will be affected long-term. The child could experience this trauma directly or could witness it happening to someone else. When children develop long term symptoms (longer than one month) from such stress, which are upsetting or interfere with their relationships and activities, they may be diagnosed with post-traumatic stress disorder (PTSD).

Examples of PTSD symptoms include:

- Reliving the event over and over in thought or in play
- Nightmares and sleep problems
- Becoming very upset when something causes memories of the event
- Lack of positive emotions
- Intense ongoing fear or sadness
- Irritability and angry outbursts
- Constantly looking for possible threats, being easily startled
- Acting helpless, hopeless or withdrawn
- Denying that the event happened or feeling numb
- Avoiding places or people associated with the event



Figure 11.4 – Severe stress can cause long-term effects.[523]

Because children who have experienced traumatic stress may seem restless, fidgety, or have trouble paying attention and staying organized, the symptoms of traumatic stress can be confused with symptoms of attention-deficit/hyperactivity disorder (ADHD).

Examples of events that could cause PTSD include:

- Physical, sexual, or emotional maltreatment
- Being a victim or witness to violence or crime
- Serious illness or death of a close family member or friend
- Natural or manmade disasters
- Severe car accidents[524]

Diagnosis and Treatment of Mental Health Problems in Childhood

Symptoms of mental health problems change over time as a child grows, and may include difficulties with how a child plays, learns, speaks, and acts or how the child handles their emotions. Symptoms often start in early childhood, although some disorders may develop during the teenage years. The diagnosis is often made in the school years and sometimes earlier. However, some children with a mental disorder may not be recognized or diagnosed as having one.

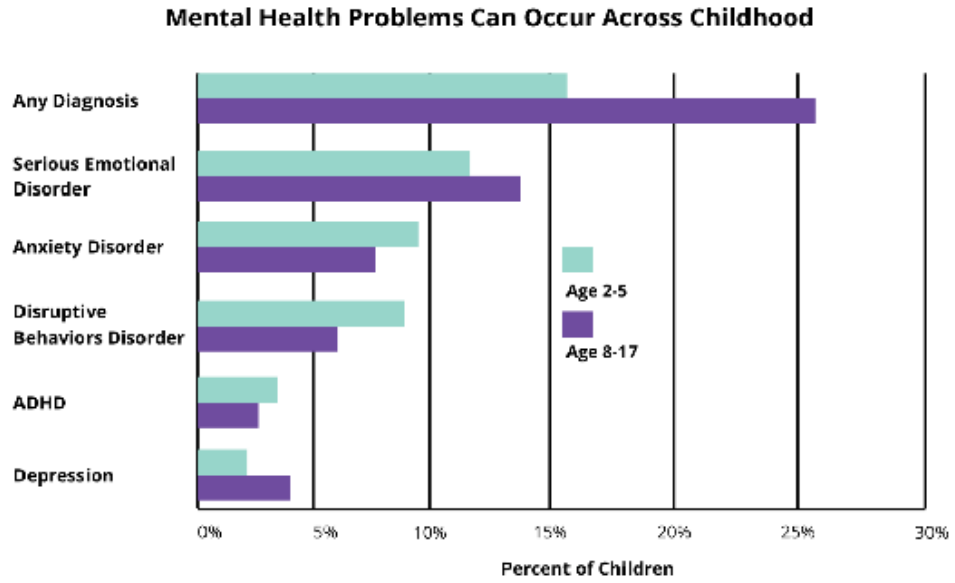


Figure 11.5 – Mental health problems in childhood.[525]

Childhood mental health problems can, and should, be treated and managed. There are many treatment options based on the best and most current medical evidence, so families and doctors should work closely with everyone involved in the child's treatment — teachers, coaches, therapists, and other service providers. Taking advantage of all the resources available will help parents, health professionals, and educators guide the child towards success. Early diagnosis and appropriate services for children and their families can make a difference in the lives of children with mental disorders and their families.[526]

Adverse Childhood Experiences and Trauma

The childhood years, from the prenatal period to late adolescence, are the "building block" years that help set the stage for adult relationships, behaviors, health, and social outcomes.[527] The occurrence of Adverse Childhood Experiences and childhood trauma can damage those building blocks. Early care and education programs can help children develop resilience to combat the negative effects of those.

Adverse Childhood Experiences

Adverse Childhood Experiences, or ACEs, are potentially traumatic events that occur in childhood (0-17 years) such as experiencing violence, abuse, or neglect; witnessing violence in the home; and having a family member attempt or die by suicide. Also included are aspects of the child's environment that can undermine their sense of safety, stability, and bonding such as growing up in a household with substance misuse, mental health problems, or instability due to parental separation or incarceration of a parent, sibling or other member of the household.

Traumatic events in childhood can be emotionally painful or distressing and can have effects that persist for years. Factors such as the nature, frequency and seriousness of the traumatic event, prior history of trauma, and available family and community supports can shape a child's response to trauma.[528]

Adverse Childhood Experiences and associated conditions such as living in under-resourced or racially segregated neighborhoods, frequently moving, experiencing food insecurity, and other instability can cause toxic stress (i.e., prolonged activation of the stress-response system). Some children may face further exposure to toxic stress from historical and ongoing

traumas due to systemic racism or the impacts of multigenerational poverty resulting from limited educational and economic opportunities.

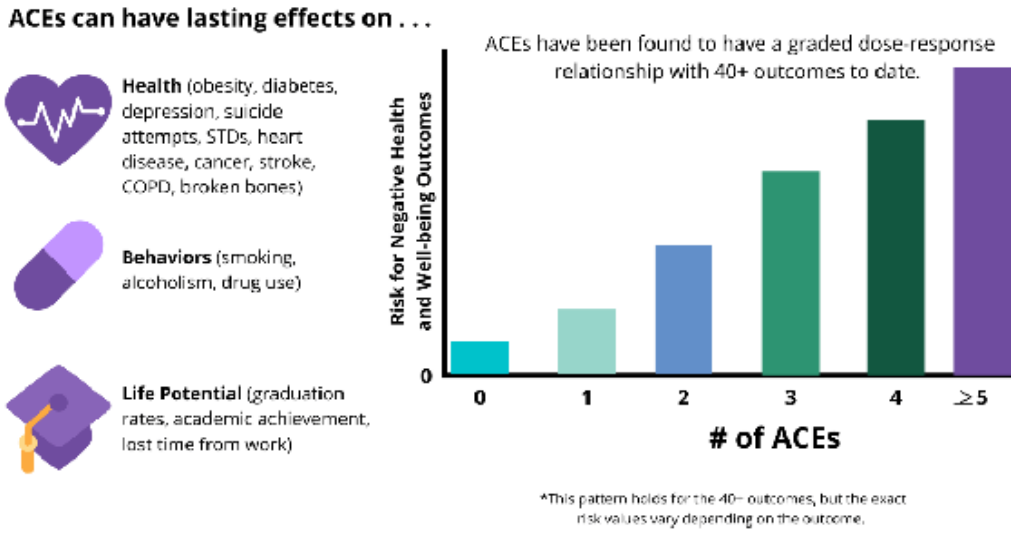


Figure 11.6 – Risks of Adverse Childhood Experiences [529]

A large and growing body of research indicates that toxic stress during childhood can harm the most basic levels of the nervous, endocrine, and immune systems, and that such exposures can even alter the physical structure of DNA (epigenetic effects). Changes to the brain from toxic stress can affect such things as attention, impulsive behavior, decision-making, learning, emotion, and response to stress. Absent factors that can prevent or reduce toxic stress, children growing up under these conditions often struggle to learn and complete schooling. They are at increased risk of becoming involved in crime and violence, using alcohol or drugs, and engaging in other health-risk behaviors (e.g., early initiation of sexual activity; unprotected sex; and suicide attempts). They are susceptible to disease, illness, and mental health challenges over their lifetime. Children growing up with toxic stress may have difficulty forming healthy and stable relationships. They may also have unstable work histories as adults and struggle with finances, family, jobs, and depression throughout life—the effects of which can be passed on to their own children. [530]

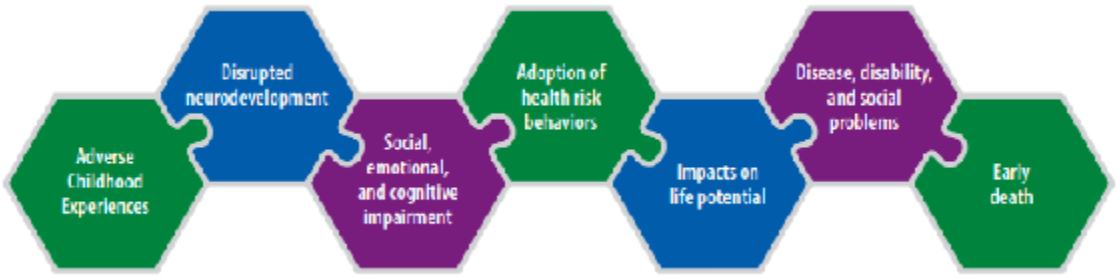


Figure 11.7 – The potential effects of Adverse Childhood Experiences [531]

Pause to Reflect

If it feels safe to you, find your own ACE score using the assessment at https://www.ncjfcj.org/wp-content/uploads/2006/10/Finding-Your-Ace-Score.pdf. What impact do you think this had and/or still has on you? What might this mean for you when you care for young children who have the own ACEs and trauma?

Childhood Trauma

Childhood trauma occurs when a child experiences an actual or threatened negative event, series of events, or set of circumstances that cause emotional pain and overwhelm the child's ability to cope. Childhood trauma is widespread and can take

many forms. Common types of childhood trauma include:

- Abuse and neglect
- Family violence
- Community violence
- School violence
- Life-threatening accidents and injuries
- Frightening or painful medical procedures
- Serious and untreated parental mental illness
- Loss of or separation from a parent or other loved one
- Natural or manmade disasters
- War or terrorist attack
- Forced displacement or refugee status
- Discrimination
- Extreme poverty

Trauma exposure often begins early in life. Young children are at the highest risk for exposure to trauma and are most vulnerable to its adverse effects. An estimated half of all children in the United States—approximately 35 million—are exposed to at least one type of trauma prior to their eighth birthday. For example, child abuse and neglect are most common among children younger than age 3. Children under age 5 are most likely to incur injuries from falls, choking, and poisoning, and represent the majority of children who witness domestic violence. Children from certain racial and ethnic groups also are more likely to experience adversities that can cause trauma. For example, exposure to childhood adversity is more common among black and Hispanic children than among white children, even when accounting for the role of income.

Childhood trauma is strongly linked to mental and physical health problems over the lifespan. It negatively impacts brain development, cognitive development, learning, social-emotional development, the ability to develop secure attachments to others, and physical health; it is also associated with a shortened lifespan. A considerable body of research demonstrates that children suffer the most severe, long-lasting, and harmful effects when trauma exposure begins early in life, takes multiple forms, is severe and pervasive, and involves harm by a parent or other primary caregiver—often referred to as *complex trauma*.

Childhood trauma is more likely to lead to post-traumatic stress disorder (PTSD) than trauma that occurs in adulthood. Children exposed to several different forms of trauma are more likely to exhibit PTSD (e.g., anxiety, depression, anger, aggression, dissociation) than children with chronic exposure to a single type of trauma. Children and youth with PTSD may re-experience the traumatic event through intrusive memories, nightmares, and flashbacks; avoid situations or people that remind them of the trauma; and feel intense anxiety that disrupts their everyday lives. In addition, they may engage in aggressive, self-destructive, or reckless behavior; have trouble sleeping; or remain in a state of hypervigilance, an exaggerated state of awareness and reactivity to their environments. However, there is no typical reaction to trauma. The vast majority of children show distress immediately following a traumatic event, but most return to their prior level of functioning.

Generally, children's reactions to trauma differ based on the nature of the trauma; the child's individual, family, and neighborhood characteristics; and the overall balance of risk and protective factors in their lives. It also depends on their age and developmental stage.

Young children who experience trauma may:

- Have difficulties forming an attachment to caregivers
- Experience excessive fear of strangers or separation anxiety
- Have trouble eating and sleeping
- Be especially fussy
- Show regression after reaching a developmental milestone (e.g., sleeping through the night, toilet training)

School-age *children* who experience trauma may:

- Engage in aggressive behavior
- Become withdrawn
- Fixate on their own safety or the safety of others
- Re-enact the traumatic event through play
- Have frequent nightmares
- Exhibit difficulty concentrating in school

Table 11.9 – Childhood trauma has many effects. [532]

Domain	Impacts
Brain Development	• Smaller brain size • Less efficient processing • Impaired stress response • Changes in gene expression
Cognition	• Impaired readiness to learn • Difficulty problem-solving • Language delays • Problems with concentration • Poor academic achievement
Physical Health	• Sleep disorders • Eating disorders • Poor immune system functioning • Cardiovascular disease • Shorter life span
Emotions	• Difficulty controlling emotions • Trouble recognizing emotions • Limited coping skills • Increased sensitivity to stress • Shame and guilt • Excessive worry, hopelessness • Feelings of helplessness/lack of self-efficacy
Relationships	• Attachment problems/disorders • Poor understanding of social interactions • Difficulty forming relationships with peers • Problems in romantic relationships • Intergenerational cycles of abuse and neglect
Mental Health	• Depression • Anxiety • Negative self-image/low self-esteem • Post Traumatic Stress Disorder (PTSD) • Suicidality

Domain	Impacts
Behavior	• Poor self-regulation • Social withdrawal • Aggression • Poor impulse control • Risk-taking/illegal activity • Sexual acting out • Adolescent pregnancy • Drug and alcohol misuse

Resilience to Childhood Trauma

When parents, service providers, and programs employ a *resilience* framework to childhood trauma, they understand there are always opportunities to support positive developmental trajectories among children, even if they have experienced trauma. Resilience has been defined as "a *dynamic process encompassing positive adaptation within the context of significant adversity.*" Resilience is not a personal trait that individuals do or do not possess (thus, the term "resiliency" is best avoided because it connotes an individual characteristic), but rather a product of interacting factors—biological, psychological, social, and cultural—that determine how a child responds to traumatic events.

Resilience to trauma can be defined in several ways: positive child outcomes despite exposure to trauma, prevention of trauma recurrence despite high risk for further exposure, or avoidance of traumatic experiences altogether in the face of significant risk. All three of these conceptualizations of resilience are based on an ecological approach.

Using an *ecological approach* to promote resilience in development among children who experience trauma is useful because it assumes that there are multiple levels of influence on a child's development—the individual, parent, family, school, community, and culture—which may increase or decrease a child's risk for and response to experiencing trauma. These various influences are often referred to as risk and protective factors.

Risk factors are circumstances, characteristics, conditions, events, or traits at the individual, family, community, or cultural level that may increase the likelihood a person will experience adversity (e.g., childhood trauma, re-traumatization, or negative outcomes due to trauma). Risk factors for specific types of trauma may vary, but commonly include living in poverty, a lack of social supports, and prior history of trauma. Additionally, children who identify as lesbian, gay, bisexual, transgender, or queer (LGBTQ) and children in military families are at an increased risk for experiencing trauma. However, the presence of risk factors or membership in a high-risk group does not necessarily mean that a child will experience trauma or its most adverse effects. Protective factors can buffer children from risk and improve the odds of resilient functioning.

Protective factors are characteristics, conditions, or events that promote healthy development and minimize the risk or likelihood a person will experience a particular illness or event, or its related negative outcomes. Research shows that the strongest protective factor linked with resilience to childhood trauma is the reliable presence of a sensitive, nurturing, and responsive adult. The presence of such a figure can help children by restoring a sense of safety, predictability, and control; giving them the feeling of safety; providing them a way to process traumatic events; protecting them from re-traumatization; supporting their development of self-regulation; and helping them heal.

In addition, the National Child Traumatic Stress Network highlights the following protective factors that promote resilience to childhood trauma:

- Support from family, friends, people at school, and members of the community
- A sense of safety at home, at school, and in the community
- High self-esteem and positive sense of self-worth
- Self-efficacy
- Spiritual or cultural beliefs, goals, or dreams for the future that provide a sense of meaning to a child's life
- A talent or skill in a particular area (e.g., excelling in school or in a sport)
- Coping skills that can be applied to varying situations

Finally, resilience to childhood trauma depends largely on the supports available to a child and his or her family. Family members, teachers, mental health providers, child welfare workers, and other community service providers can work together to ensure that children and families receive the emotional and concrete supports (e.g., food, shelter, financial stability) they need. This system of care approach is also a cornerstone of TIC. [533]

Pause to Reflect

What risk factors did you encounter in your own childhood? What protective factors did you experience? How did/does this effect your resilience?

Early Care and Education's Role in Children's Mental Health

Many practices of high-quality early care and education programs promote mental health and well-being including:

- Screening and assessment of infants' and toddlers' social and emotional well-being support the functions of promotion, prevention, and intervention.
- integrating curriculum and individualization.
- A well-designed space is comfortable for infants and toddlers with different temperaments as well as for their teachers and parents.
- Poorly designed environments are stressful. Teachers are concerned about the safety and well-being of children, and their saying "no" occupies a great deal of teacher energy and attention. The time teachers spend monitoring keeps them from interacting with an infant or toddler in ways that build self-esteem.
- Having partnerships with community resources that families can be referred to.
- Reciprocal communication with families. [534]

Mental health services in early care and education programs can address:

- Promotion—helping all children to feel good about themselves, to get along with others and to manage their behavior.
- Prevention—reducing the likelihood that children will develop mental health problems and reducing the impact of mental health problems that do exist.
- Early Identification—paying attention to mental health problems early on.
- Treatment—helping connect families with appropriate help for children with mental health problems. [535]

Table 11.1 – Nine Things Early Care and Education Programs Should Know [536]

1. Mental health is an essential part of health.
2. The mental health of young children is linked to the wellbeing of the people who care for them.
3. Promoting the mental health of infants and young children can make a positive difference for years to come.
4. Positive relationships support positive mental health.
5. Culture plays an important role in young children's mental health and in how families view mental health and behavior.

6. The more staff and families know about mental health the better they are able to support it.
7. Addressing mental health concerns when children are young is more effective than waiting until they are older.
8. Mental health must be an integral part of early care and education programs.
9. Programs that focus on mental health are able to design services that improve children's behavior.

Infant and Early Childhood Mental Health Consultation

Infant and Early Childhood Mental Health Consultation (IECMHC) a prevention-based service that pairs a mental health consultant with families and adults who work with infants and young children in the different settings where they learn and grow, such as child care, preschool, and their home. The aim is to build adults' capacity to strengthen and support the healthy social and emotional development of children—early and before intervention is needed.

IECMHC has been shown to improve children's social skills and emotional functioning, promote healthy relationships, reduce challenging behaviors, reduce the number of suspensions and expulsions, improve classroom quality, and reduce provider stress, burnout, and turnover. [537]

Increasing Children's Opportunities to Practice Social Skills and Emotional Competencies

Everyday activities in the classroom can be planned and implemented to help children's social and emotional development (which, as mentioned, is the same as their mental health).

Teaching Children About Emotions

There are many things that teachers can do to help support children's understanding emotions. Here are some ideas:

- Make faces expressing different emotions and have children guess what you might be feeling.
- Throughout the day, help children learn to label their own emotions (e.g., "It looks like you are feeling mad that we can't go outside; what can we do to help you feel better?").
- While reading stories to children, have children guess how the characters in the story are feeling. Ask questions like, "How can you tell that the character is feeling that way? Can you make a face that shows that feeling?"
- Use puppets to act out different situations; for example, one puppet takes a toy from another puppet. Ask the children what emotion(s) the puppets might be feeling.
- Frequently direct children to look at each other's faces and think about how they are feeling.
- Listen to some different types of music, such as rock or classical, and let the children dance to the music. Ask children how the song made the children feel.

Teaching Children about Friendship

Being in an environment with many same-aged peers that are all learning about how to express themselves, work with others, and regulate their behaviors provides a great place to help children learn about friendships. Here are some ideas:

- Model asking others for help. If you have a task to do in the classroom, involve another child.
- Whenever children have to take turns, have the child who just finished call someone to go next.
- Have children help during routines such as putting out cots or mats for naptime.

- Talk about your own social behaviors. You can say things like, "I said 'thank you' to Ms. Tanya because she passed me the milk," or "I think I'll hold the door open for Jamal because his hands are full."
- Identify certain items in centers that require children to help each other, like taking a dollhouse off a shelf, moving the car garage, or feeding the class pet. Explain to children that it takes two friends to do these things.
- Provide toys and play games that require two or more people, like a wagon or toss and catch game.
- Make a "Friendship Board" on a bulletin board in your classroom. Take pictures when children are working together on something or playing together and put them on the wall.



Figure 11.10 – When children work together, they practice their social skills.[538]

Teaching Children about Problem-Solving

Everyday life presents many opportunities for children to engage in identifying problems and generating and trying out solutions. Here are some ideas for in the classroom:

- Use naturally occurring opportunities to work problem-solving words into the classroom vocabulary. When there aren't enough glue sticks or too many people wanting to go in a certain center, say things like, "We have a problem. What can we do to fix it?"
- Use naturally occurring problems in small groups to brainstorm possible solutions. Talk about that problem and come up with some ideas that could work to solve the problem.
- Use puppets to act out problem situations during group time. Ask the children to come up with a solution for the problem.
- When a child asks for help, take the opportunity to involve another child in solving the problem. You can say, "Let's look and see if one of your friends can help you. Marne, Sheila needs a glue stick and there are no more. Can you help her solve her problem?"
- Encourage the children while they are working through a problem and provide them with recognition when they solve it. You can use a situation that ended well as an example to discuss in large group.
- Discuss the problems that characters are having in the books you are reading. Brainstorm some possible solutions and guess what they are going to do.
- Make up a song about what to do when children have a problem. For example, to the *Row, Row, Row Your Boat* tune: "Problem, problem, problem, oh what can we do? Stop and think of something new. I'll try it out with you."
- If similar solutions keep coming up during discussions of problem-solving, start a "Solution Board" that shows the different solutions with an image to represent it. Children can use it to help think of solutions as problems arise, and the teacher can prompt a child to go look at it.



Figure 11.11 – Use real life opportunities to help children practice problem-solving.[539]

Teaching Children about Handling Disappointment and Difficult Emotions

Handling intense emotions and the disappointment when things don't go their way are challenging for young children (and even adults!) to navigate. But teachers can help children develop techniques to handle difficult emotions. Here are some ideas:

- Throughout the day, model labeling your own emotions. For example, "I feel frustrated because I cannot open this jar of paint."
- Help children learn to label their emotions when they have conflict with other children: "Bobby, it looks like you are feeling angry because Terrence took away your toy. Can you tell Terrence how it makes you feel when he takes your toy away?"
- When children cry, identify their feelings, and yours too. "I know that was really scary falling off the slide. I was worried about you. I am glad you are okay. Is there something I can do to help you until you feel better?"
- Help children learn how to take deep breaths by "smelling the flowers" and "blowing out the birthday candles." Knowing how to breathe deeply is an important part of learning how to calm down when angry or upset.
- Give children materials to use to get out their anger. They can use a toy hammer, squeeze playdough, or run laps at recess. Let them know that it is okay to be angry and that there are safe ways to express anger.
- Act out the difference between feeling tense (like a robot or statue) and relaxed (like a rag doll or stuffed animal). Have children act it out, too, so they begin to learn to identify when they are becoming wound up.
- Help children learn to label their own emotions. You can say, "It looks like you are really frustrated over here. What is the problem?"
- Give children different situations, such as "A child is very sad because he misses his mom," and let them act it out. Talk about the emotion and some things the child might do to feel better.
- Children's storybooks have lots of opportunities to talk about dealing with certain emotions. Point out characters' simple emotions like happy, sad, mad, and excited, and look for opportunities to label more complex ones like disappointed, frustrated, surprised, and embarrassed. See what the characters do to deal with those emotions and whether or not the children think it was a good way. Brainstorm other things that could have been done when the characters were feeling that way.
- If children are feeling sad at drop-off, have them "write" a letter or draw a picture to show their caregivers at pick-up time. Talk about how it is ok to feel sad, but that their caregiver will come back at the end of the day. [540]

Engaging Families in Supporting Children's Social-Emotional Development

There are many things you can do to give families ideas of how to support their children's social and emotional development at home too. You can

- Incorporate the emotion words the children have been practicing or have identified during the day into notes or newsletters for parents. This may help to encourage discussion of emotion words in the home setting as well.
- Include a note about a situation that arose at school and how it was solved when reporting to parents. Encourage the parents to ask the children about it.
- Encourage families to use meals and end of day routes to discuss the day with their children.
- Share some of the things you do throughout the day. Many of those things can be done at home too.

Some specific ideas you can give parents include the following:

- During bathroom routines, have children look in the mirror and practice making mad, sad, and happy faces.
- In the morning, discuss things you are excited about for the upcoming day.
- When leaving the house, ask the child to help you carry things. Afterward, thank them for helping.
- Throughout daily routines outside of the house, talk about the different ways the people you see help (police officers, bus drivers, cashiers). Emphasize the helping nature of these jobs.
- Use meal preparation as a chance to practice and talk about social skills. Have children get out ingredients, set the table, or stir food. Discuss how important it is to help and how much the help is appreciated.
- Create a solution kit that can be used at home when your child has a problem. Add solutions such as asking a sibling or parent for help, choosing a different toy, or going outside to play. Post them on the fridge for easy access!
- Model techniques to use when dealing with anger and frustration. Show breathing techniques, counting, or whatever works to calm you down.[541]

Supporting Children Under Stress

Supporting children's mental health also extends to helping children deal with the stress that they may encounter. One of the most important things teachers can do is provide the child with a predictable, safe haven where children can feel secure. Teachers can create a comfortable and comforting everyday routine that is child-centered, individualized, responsive, and helpfully structured to give young children a sense of control and predictability that may be lacking in other aspects of the child's life. Central to these efforts is providing children with supportive adult relationships that are reliable and helpful. This may be more difficult than one would expect because young children under stress often test these relationships to see whether teachers and other adults will remain responsive to them even when children act defiantly or negatively.

In some circumstances, it can be helpful for teachers to obtain the advice of an early childhood mental health consultant who can observe the child in the classroom, talk with the teacher about the child's behavior, and suggest strategies for providing supportive assistance. Early childhood mental health consultants can be valuable resources to an early childhood education program. They can help teachers provide much-needed support to young children who may not have other such sources of support elsewhere in their lives.[542]

Trauma-Informed Care

As mentioned, children who are exposed to traumatic life events are at significant risk for developing serious and long-lasting problems across multiple areas of development. However, children are far more likely to exhibit resilience to childhood trauma when child-serving programs, institutions, and service systems understand the impact of childhood trauma, share common ways to talk and think about trauma, and thoroughly integrate effective practices and policies to address it—an approach often referred to as *trauma-informed care (TIC)*.

The context in which children live, learn, and grow shapes both their immediate and long-term well-being. Accordingly, children who experience trauma are more likely to exhibit resilience when their environments are responsive to their specific needs. Families, schools, community-based programs and services, and the individuals caring for children can increase the chances of resilience following childhood trauma when they become aware of the impact of childhood trauma, provide a sense of safety and predictability, protect children from further adversity, and offer pathways for their recovery. In other words, children benefit when these entities provide them with trauma-informed care (TIC).

Despite its focus on trauma, TIC is inherently a strengths-based perspective that emphasizes resilience instead of pathology. TIC has been defined and implemented in a number of ways, but the Substance Abuse and Mental Health Services Administration has identified four key elements—the Four Rs (see Figure 11.12)

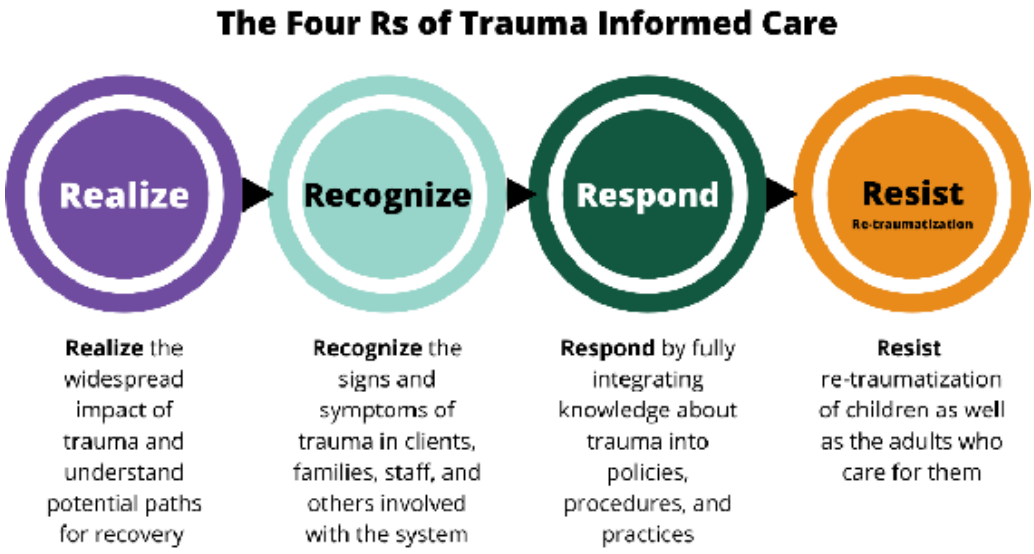


Figure 11.12 – The Four Rs are the key elements of Trauma-Informed Care [543]

Applying TIC to real-world settings begins with a child's first contact with a program, institution, or service system. It requires a comprehensive and multi-pronged effort involving the many adults in children's lives. For example, in a school or afterschool program, TIC means increasing trauma-related knowledge and skills among program facilitators, school administrators, bus drivers, food service workers, classroom assistants, administrative staff, volunteers, teachers, leadership, special education professionals, school social workers and psychologists, families, and anyone else who comes into contact with children. However, increasing trauma knowledge is only one aspect of TIC, which also means that the individuals who care for children must be able to:

1. **Realize** the widespread nature of childhood trauma and how it impacts the child's emotional, social, behavioral, cognitive, brain, and physical development, as well as their mental health. In addition, adults must be aware of the influence of trauma on family members, first responders, service providers, and others who may experience secondary stress (trauma-related reactions to exposure to another person's traumatic experience). In some instances, adults endure the same traumatic events or circumstances as the child (e.g., a natural disaster, community violence, death of a community member) and may benefit from similar supports.
2. **Recognize** the symptoms of trauma, including how trauma reactions (i.e., symptoms of posttraumatic stress) vary by gender, age, type of trauma, or setting. In addition, the adults in children's lives must understand that a child's challenging behaviors are normal, self-protective, and adaptive reactions to highly stressful situations, rather than viewing that child as intentionally misbehaving. Children's trauma reactions are understood to be adaptive efforts to protect themselves in response to traumatic events. For example, a child may be hypervigilant to an adult's anger or disapproval because, in the past, he or she experienced physical abuse by a parent. Or, a child may disassociate or daydream as a learned response that enables them to avoid feeling or thinking about a traumatic experience. In addition, TIC means recognizing that trauma may influence a child's engagement in activities and services, interactions with peers and adults, and responsiveness to rules and guidelines.
3. **Respond** by making necessary adjustments, in their own language and behavior, to the child's environment; and to policies, procedures, and practices to support the child's recovery and resilience to trauma.
4. **Resist re-traumatization** by actively shaping children's environments to avoid triggers (sounds, sights, smells, objects, places, or people that remind an individual of the original trauma) and protect children from further trauma, which can exacerbate the negative impacts of trauma and interfere with the healing process.

Training and Professional Development on Child Trauma

Providing adults (staff, leadership, families, and community partners) with training and professional development on childhood trauma is an important component of implementing TIC. It is essential that adults become aware of the prevalence and impact of trauma, and learn to apply a "trauma lens" (i.e., gain the capacity to view children's difficulties in behavior, learning, and relationships as natural reactions to trauma that warrant understanding and sensitive care). In addition, adults can learn key strategies to manage trauma-related problems in childhood. These include:

- creating environments that feel physically and emotionally safe.

- teaching children self-regulation, language and communication skills, and how to build healthy relationships.
- learning each child's trauma triggers and how both the child and adults can limit, anticipate, and cope with them.
- supporting the development of healthy attachments with parents and other caregivers, as well as positive relationships with peers.

Evaluations of TIC initiatives also indicate that when parents, service providers, and programs share a common language and view of trauma, they are better able to work together to meet children's needs.

Training and professional development opportunities are also important for increasing the capacity of adults to attend to other aspects of TIC, including:

- family engagement.
- practices that are responsive to culture, gender, and sexual orientation.
- collaboration with community service providers (e.g., mental health providers who can screen for childhood trauma and provide evidence-based treatment).
- developing and integrating emergency and crisis response protocols.
- and establishing trauma-informed policies that support positive youth development despite exposure to trauma.

Building capacity and maintaining an ongoing commitment to TIC efforts are critical to sustainability. However, although it is a critical component of TIC, training staff and parents on the impact of childhood trauma is not sufficient and does not in and of itself constitute TIC. TIC must also include comprehensive, ongoing professional development and education for parents, families, school staff, out-of-school program staff, and community service providers on jointly addressing childhood trauma.

Secondary Traumatic Stress

TIC also means attending to the psychological and physical safety and well-being of the adults who care for children who have experienced trauma. Professionals, parents, and other caregiving adults may suffer *secondary traumatic stress* (trauma-related reactions to exposure to another person's traumatic experience). The National Child Traumatic Stress Network recommends the following strategies to combat secondary traumatic stress and reduce related staff burnout and turnover:

- Provide high-quality, reflective supervision
- Maintain trauma workload balance
- Support workplace self-care groups
- Enhance the physical safety of staff
- Provide training to both staff and leadership to increase awareness about secondary traumatic stress and how to address it effectively
- Develop opportunities for staff and leadership to learn about and engage in self-care practices.
- Create external partnerships with secondary traumatic stress experts.
- Regularly assess the vulnerability and resilience of staff and leadership to second traumatic stress
- Create a buddy system for self-care accountability.[544]

Pause to Reflect

What are key take-aways for you about how teachers can support children's mental health? What are some ways that you can stay mentally healthy as well?

Summary

Children's mental health (their social and emotional development) must be intentionally supported from the beginning. Children with mental health problems (both diagnosed and that may go undiagnosed) and children who experience adverse childhood experiences, trauma, and stress may need additional mental health support. Early care and education programs should practice trauma informed care and recognize their role in helping children, and their families, to develop resilience.

Resources for Further Exploration

- Georgetown University Center for the Early Childhood Mental Health Consultant: https://www.ecmhc.org/
- Harvard Howard University Center for the Developing Child: https://developingchild.harvard.edu/
- Tulane University Institute of Infant and Early Childhood Mental Health: https://medicine.tulane.edu/infant-institute
- Zero to Three - Early Childhood Mental Health: https://www.zerotothree.org/espanol/...-mental-health
- CDC's Children's Mental Health: https://www.cdc.gov/childrensmentalhealth/index.html
- CDC's Adverse Childhood Experiences (ACEs): https://www.cdc.gov/violencepreventi...udy/index.html
- Understanding Stress and Resilience in Young Children: eclkc.ohs.acf.hhs.gov/mental...young-children
- National Scientific Council on the Developing Child's Establishing a Level Foundation for Life: Mental Health Begins in Early Childhood: http://46y5eh11fhgw3ve3ytpwxt9r.wpen...-Childhood.pdf
- Mental Health America: https://www.mhanational.org/childrens-mental-health
- MentalHealth.gov: https://www.mentalhealth.gov/
- National Institute of Mental Health's Helping Children and Adolescents Cope with Disasters and Other Traumatic Events: What Parents, Rescue Workers, and the Community Can Do: https://www.nimh.nih.gov/health/publ...ts/index.shtml
- Stress in Childhood: https://medlineplus.gov/ency/article/002059.htm
- Traumatic Events and Children: https://medlineplus.gov/ency/patient...ons/000588.htm
- Children and Mental Health: https://www.nimh.nih.gov/health/publ...th/index.shtml
- Center on the Social and Emotional Foundation for Early Learning's Inventory of Practices for Promoting Children's Social Emotional Competence: http://csefel.vanderbilt.edu/modules...1/handout4.pdf
- How to Implement Trauma-informed Care to Build Resilience to Childhood Trauma: https://www.childtrends.org/publicat...ildhood-trauma
- Early Head Start's: Pathways to Prevention: A comprehensive guide for supporting infant and toddler mental health: https://eclkc.ohs.acf.hhs.gov/sites/...prevention.pdf
- Infant/Toddler Training Modules: http://csefel.vanderbilt.edu/resourc...ng_infant.html
- Preschool Training Modules: http://csefel.vanderbilt.edu/resourc...preschool.html

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IV: NUTRITION

12: Basic Nutrition for Children
13: Protecting Good Nutrition and Physical Wellness
14: Providing Good Nutrition
15: Menu Planning and Food Safety

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12: Basic Nutrition for Children

Learning Objectives

By the end of this chapter, you should be able to:

- Define and explain the function of each macronutrient and type of micronutrient.
- Examine factors that affect the quality of food.
- Discuss influences on food choice.
- Outline how to achieve a healthy diet.
- Describe programs that support nutrition in early care and education programs.
- Identify ways to assess the quality of meals and snacks in early care and education programs.

Licensing Regulations

Title 22 Regulations that relate to this chapter include:

101227 FOOD SERVICE

- Food selection, storage preparation and service shall be safe and healthful and of the quality and quantity necessary to meet the needs of children.

Additional Laws

Licensed child care providers must

- follow the Federal Child and Adult Care Food Program (CACFP) meal plan requirements.
- have completed 16 hours of approved Preventive Health and Safety Training (including one hour on nutrition).
- follow the Healthy Beverages in Child Care Act.

Introduction

In order to plan, prepare, and serve nutritious foods to children in early care and education programs it's important to have a basic understanding of nutrition and the programs and resources available to support meeting children's nutrition needs.

What are Nutrients?

The foods we eat contain nutrients. Nutrients are substances required by the body to perform its basic functions. Nutrients must be obtained from our diet, since the human body does not synthesize or produce them. Nutrients have one or more of three basic functions: they provide energy, contribute to body structure, and/or regulate chemical processes in the body. These basic functions allow us to detect and respond to environmental surroundings, move, excrete wastes, respire (breathe), grow, and reproduce. There are six classes of nutrients required for the body to function and maintain overall health. These are carbohydrates, fats, proteins, water, vitamins, and minerals. Foods also contain non-nutrients that may be harmful (such as natural toxins common in plant foods and additives like some dyes and preservatives) or beneficial (such as antioxidants).

Macronutrients

Nutrients that are needed in large amounts are called macronutrients. There are three classes of macronutrients: carbohydrates, fats, and proteins. These can be metabolically processed into cellular energy, allowing our bodies to conduct their basic functions. A unit of measurement of food energy is the calorie. Water is also a macronutrient in the sense that you require a large amount of it, but unlike the other macronutrients, it does not yield calories.

Carbohydrates

Carbohydrates are molecules composed of carbon, hydrogen, and oxygen. The major food sources of carbohydrates are grains, milk, fruits, and starchy vegetables, like potatoes. Non-starchy vegetables also contain carbohydrates, but in lesser quantities. Carbohydrates are broadly classified into two forms based on their chemical structure: simple carbohydrates, often called simple sugars; and complex carbohydrates.

Simple carbohydrates consist of one or two basic units. Examples of simple sugars include sucrose, the type of sugar you would have in a bowl on the breakfast table, and glucose, the type of sugar that circulates in your blood.

Complex carbohydrates are long chains of simple. During digestion, the body breaks down digestible complex carbohydrates to simple sugars, mostly glucose. Glucose is then transported to all our cells where it is stored, used to make energy, or used to build macromolecules. Fiber is also a complex carbohydrate, but it cannot be broken down by digestive enzymes in the human intestine. As a result, it passes through the digestive tract undigested unless the bacteria that inhabit the colon or large intestine break it down.

One gram of digestible carbohydrates yields four kilocalories of energy for the cells in the body to perform work. In addition to providing energy and serving as building blocks for bigger macromolecules, carbohydrates are essential for proper functioning of the nervous system, heart, and kidneys. As mentioned, glucose can be stored in the body for future use.

Fats

Fat (officially called lipids) are also a family of molecules composed of carbon, hydrogen, and oxygen, but unlike carbohydrates, they are insoluble in water. Fats are found predominantly in butter, oils, meats, dairy products, nuts, and seeds, and in many processed foods. The main job of fats is to provide or store energy. Fats provide more energy per gram than carbohydrates (nine kilocalories per gram of fats versus four kilocalories per gram of carbohydrates). In addition to energy storage, fats serve as a major component of cell membranes, surround and protect organs (in fat-storing tissues), provide insulation to aid in temperature regulation, and regulate many other functions in the body.

Proteins

Proteins are macromolecules composed of chains of subunits called amino acids. Amino acids are simple subunits composed of carbon, oxygen, hydrogen, and nitrogen. Food sources of proteins include meats, dairy products, seafood, and a variety of different plant-based foods, most notably soy. The word protein comes from a Greek word meaning “of primary importance,” which is an apt description of these macronutrients; they are also known colloquially as the “workhorses” of life. Proteins provide four kilocalories of energy per gram; however providing energy is not protein’s most important function. Proteins provide structure to bones, muscles and skin, and play a role in conducting most of the chemical reactions that take place in the body. Scientists estimate that more than one-hundred thousand different proteins exist within the human body. The genetic codes in DNA are basically protein recipes that determine the order in which 20 different amino acids are bound together to make thousands of specific proteins.

Water

There is one other nutrient that we must have in large quantities: water. Water does not contain carbon, but is composed of two hydrogens and one oxygen per molecule of water. More than 60 percent of your total body weight is water. Without it, nothing could be transported in or out of the body, chemical reactions would not occur, organs would not be cushioned, and body temperature would fluctuate widely.

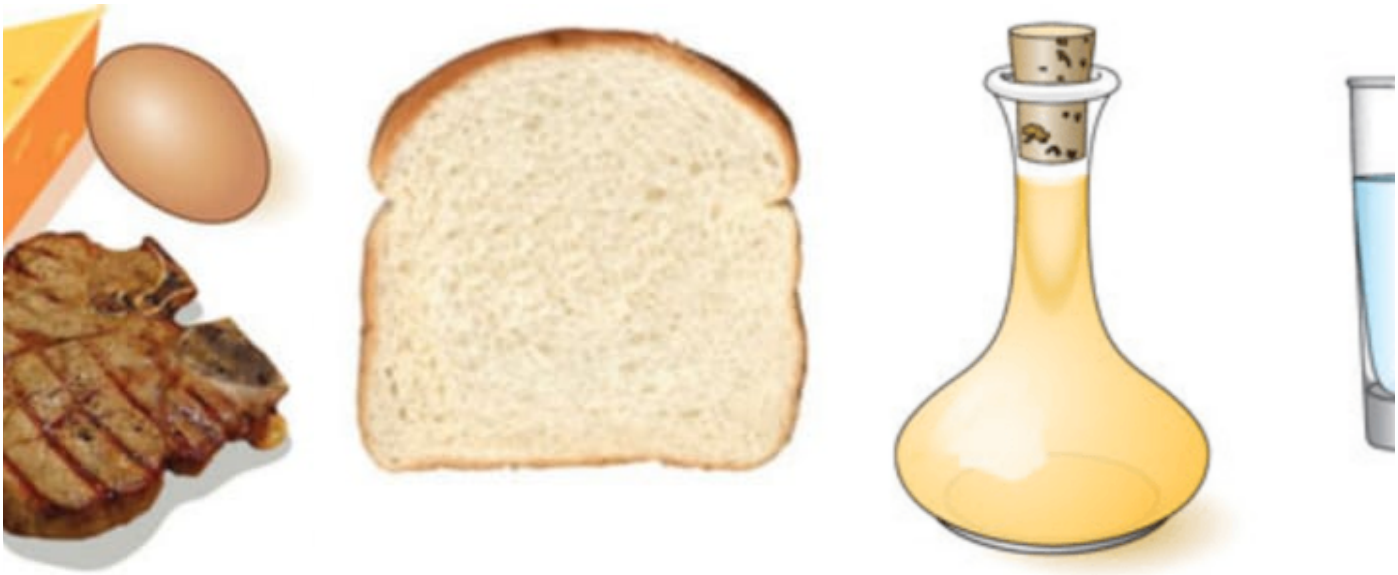


Figure 12.1 – The Macronutrients: Protein, Carbohydrates, Fats, and Water[545]

Micronutrients

Micronutrients are nutrients required by the body in lesser amounts, but are still essential for carrying out bodily functions. Micronutrients include all the essential minerals and vitamins. There are sixteen essential minerals and thirteen vitamins (See Table 12.1 “Minerals and Their Major Functions” and Table 12.2 “Vitamins and Their Major Functions” for a complete list and their major functions). In contrast to carbohydrates, fats, and proteins, micronutrients are not sources of energy (calories), but they assist in the process as components of enzymes. Enzymes are proteins that cause chemical reactions in the body and are involved in all aspects of body functions from producing energy, to digesting nutrients, to building macromolecules. Micronutrients play many essential roles in the body.

Minerals

Minerals are solid inorganic substances that form crystals and are classified depending on how much of them we need. Trace minerals, such as molybdenum, selenium, zinc, iron, and iodine, are only required in a few milligrams or less. Macrominerals, such as calcium, magnesium, potassium, sodium, and phosphorus, are required in hundreds of milligrams. Many minerals are critical for enzyme function, others are used to maintain fluid balance, build bone tissue, synthesize hormones, transmit nerve impulses, contract and relax muscles, and protect against harmful free radicals in the body that can cause health problems such as cancer.

Table 12.1A – Macrominerals and Their Major Functions[546]

Mineral	Major Function
Sodium	Fluid balance, nerve transmission, muscle contraction
Chloride	Fluid balance, stomach acid production
Potassium	Fluid balance, nerve transmission, muscle contraction

Mineral	Major Function
Calcium	Bone and teeth health maintenance, nerve transmission, muscle contraction, blood clotting
Phosphorus	Bone and teeth health maintenance, acid-base balance
Magnesium	Protein production, nerve transmission, muscle contraction
Sulfur	Protein production

Table 12.1B – Trace Minerals and Their Major Functions[546]

Mineral	Major Function
Iron	Carries oxygen, assists in energy production
Zinc	Protein and DNA production, wound healing, growth, immune system function
Iodine	Thyroid hormone production, growth, metabolism
Selenium	Antioxidant
Copper	Coenzyme, iron metabolism
Manganese	Coenzyme
Fluoride	Bone and teeth health maintenance, tooth decay prevention
Chromium	Assists insulin in glucose metabolism
Molybdenum	Coenzyme

Vitamins

The thirteen vitamins are categorized as either water-soluble or fat-soluble. The water-soluble vitamins are vitamin C and all the

B vitamins, which include thiamine, riboflavin, niacin, pantothenic acid, pyridoxine, biotin, folate and cobalamin. Unneeded water soluble vitamins are excreted from the body. The fat-soluble vitamins are A, D, E, and K. Vitamins are required to perform many functions in the body such as making red blood cells, synthesizing bone tissue, and playing a role in normal vision, nervous system function, and immune system function. Fat soluble vitamins are stored in the body in fat (and can become toxic when too much is consumed, almost always from supplements).

Table 12.2A – Water Soluble Vitamins and Their Major Functions[547]

Vitamin	Major Function
Thiamin (B1)	Coenzyme, energy metabolism assistance
Riboflavin (B2)	Coenzyme, energy metabolism assistance
Niacin (B3)	Coenzyme, energy metabolism assistance
Pantothenic acid (B5)	Coenzyme, energy metabolism assistance
Pyridoxine (B6)	Coenzyme, amino acid synthesis assistance
Biotin (B7)	Coenzyme, amino acid and fatty acid metabolism
Folate (B9)	Coenzyme, essential for growth
Cobalamin (B12)	Coenzyme, red blood cell synthesis
C (ascorbic acid)	Collagen synthesis, antioxidant

Table 12.2B – Fat Soluble Vitamins and Their Major Functions[547]

Vitamin	Major Function
A	Vision, reproduction, immune system function
D	Bone and teeth health maintenance, immune system function
E	Antioxidant, cell membrane protection

Vitamin	Major Function
K	Bone and teeth health maintenance, blood clotting

Vitamin deficiencies can cause severe health problems and even death. Some vitamins have been found to prevent certain disorders and diseases such as scurvy (vitamin C), night blindness (vitamin A), and rickets (vitamin D).[548]

Table 12.3 – Summary of the Functions of Nutrients[549]

Name of Stage	Description of Stage
Protein	Necessary for tissue formation, cell reparation, and hormone and enzyme production. It is essential for building strong muscles and a healthy immune system.
Carbohydrates	Provide a ready source of energy for the body and provide structural constituents for the formation of cells.
Fat	Provides stored energy for the body, functions as structural components of cells and also as signaling molecules for proper cellular communication. It provides insulation to vital organs and works to maintain body temperature.
Vitamins	Regulate body processes and promote normal body-system functions.
Minerals	Regulate body processes, are necessary for proper cellular function, and comprise body tissue.
Water	Transports essential nutrients to all body parts, transports waste products for disposal, and aids with body temperature maintenance.

Quality of Food

One measurement of food quality is the amount of nutrients it contains relative to the amount of energy it provides. High-quality foods are nutrient dense, meaning they contain significant amounts of one or more essential nutrients relative to the amount of calories they provide. Nutrient-dense foods are the opposite of “empty-calorie” foods such as carbonated sugary soft drinks, which provide many calories and very little, if any, other nutrients. Food quality is additionally associated with its taste, texture, appearance, microbial content, and how much consumers like it. [550]

Food: A Better Source of Nutrients

It is better to get all your micronutrients from the foods you eat as opposed to from supplements. Supplements contain only what is listed on the label, but foods contain many more macronutrients, micronutrients, and other chemicals, like antioxidants, that benefit health. While vitamins, multivitamins, and supplements are a $20 billion industry in the United States, and more than 50 percent of Americans purchase and use them daily, there is no consistent evidence that they are better than food in promoting health and preventing disease.[551]

Food Additives

People have been using food additives for thousands of years. Today more than 3000 substances are used as food additives. Salt, sugar, and corn syrup are by far the most widely used additives in food in this country. How this might affect the quality (including nutritional value) of food will depend on the additive.

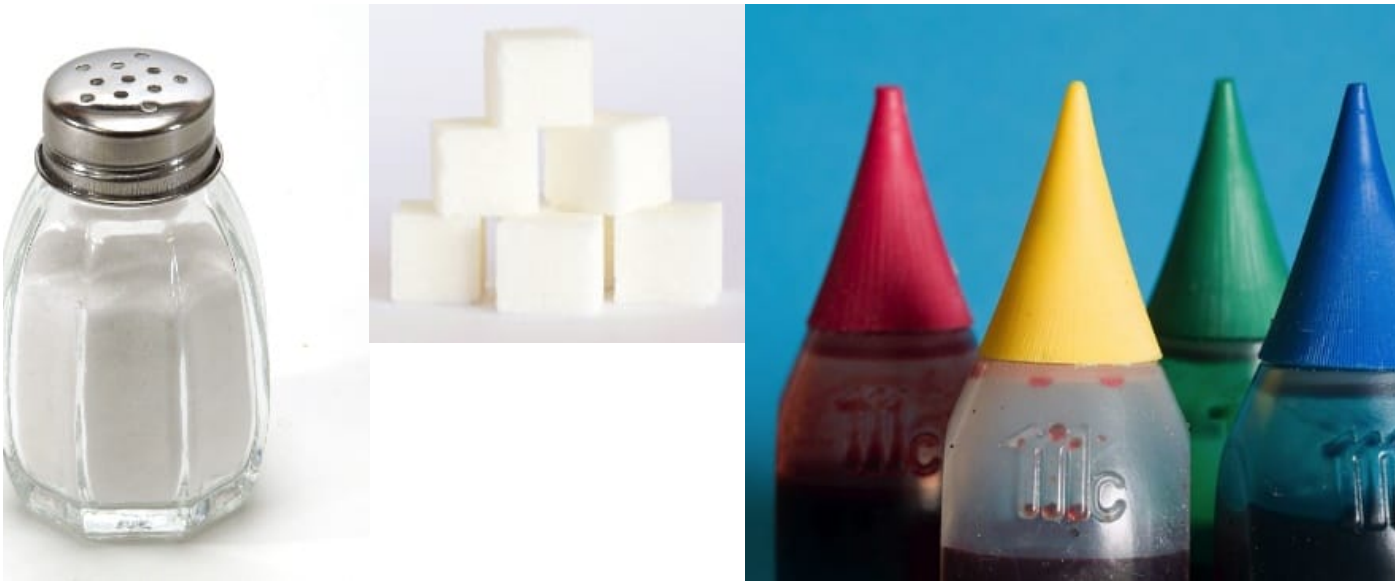


Figure 12.2 – Food Additives Salt[552], Sugar[553], Food coloring[554]

"Food additive" is defined by the Food and Drug Administration (FDA) as any substance that—directly or indirectly—becomes a component or otherwise affects the characteristics of any food. This definition includes any substance used in the production, processing, treatment, packaging, transportation or storage of food.

Additives are used to maintain or improve safety, freshness, nutritional value, taste, texture and appearance. The use of food additives has become more prominent in recent years due to the increased production of prepared, processed, and convenience foods.

According to the FDA, “Direct food additives are those that are added to a food for a specific purpose in that food.” For example, using phosphates in meat and poultry products to retain moisture and protect the flavor.

“Indirect food additives are those that become part of the food in trace amounts due to its packaging, storage or other handling,” according to the FDA**.** For instance, minute amounts of packaging substances may find their way into foods during storage. Food packaging manufacturers must prove to the FDA that all materials coming in contact with food are safe before they are permitted for use in such a manner.

FDA defines a color additive as any dye, pigment, or substance which—when added or applied to a food, drug, or cosmetic, or to the human body—is capable (alone or through reactions with other substances) of imparting color. FDA is responsible for regulating all color additives to ensure that foods containing color additives are safe to eat, contain only approved ingredients, and are accurately labeled.

Color additives are used in foods for many reasons: 1) to offset color loss due to exposure to light, air, temperature extremes, moisture, and storage conditions; 2) to correct natural variations in color; 3) to enhance colors that occur naturally; and 4) to provide color to colorless and "fun" foods. Without color additives, colas wouldn't be brown, margarine wouldn't be yellow, and mint ice cream wouldn't be green. Color additives are now recognized as an important part of practically all processed foods we eat.

Today, food and color additives are more strictly studied, regulated, and monitored than at any other time in history. FDA has the primary legal responsibility for determining their safe use. To market a new food or color additive (or before using an additive already approved for one use in another manner not yet approved), a manufacturer or other sponsor must first petition FDA for its approval. These petitions must provide evidence that the substance is safe for the ways in which it will be used.

Before any substance can be added to food, its safety must be assessed in a stringent approval process. The Food Safety and Inspection Service (FSIS) of the U.S. Department of Agriculture (USDA) shares responsibility with FDA for the safety of food additives used in meat, poultry, and egg products. All additives are initially evaluated for safety by FDA.

When an additive is proposed for use in a meat, poultry, or egg product, its safety, technical function, and conditions of use must also be evaluated by the Risk, Innovations and Management Staff of FSIS, as provided in the Federal Meat Inspection Act, the Poultry Products Inspection Act, the Egg Products Inspection Act, and related regulations.

Although FDA has overriding authority regarding additive safety, FSIS may apply even stricter standards that take into account the unique characteristics of meat, poultry, and egg products. Several years ago, for instance, permission was sought to use sorbic acid in meat salads. Although sorbic acid was an approved food additive, permission for use in meat salad was denied because such usage could mask spoilage caused by organisms that cause foodborne illness.

Additives are never given permanent approval. FDA and FSIS continually review the safety of approved additives, based on the best scientific knowledge, to determine if approvals should be modified or withdrawn.

The statutes and regulations to enforce the statutes require certain information on labels of meat and poultry products so consumers will have complete information about a product. In all cases, ingredients must be listed on the product label in the ingredients statement in order by weight, from the greatest amount to the least.

Substances such as spices and spice extractives may be declared as "natural flavors," "flavors," or "natural flavoring" on meat and poultry labels without naming each one. This is because they are used primarily for their flavor contribution and not their nutritional contribution.

Substances such as dried meat, poultry stock, meat extracts, or hydrolyzed protein must be listed on the label by their common or usual name because their primary purpose is not flavor. They may be used as flavor enhancers, binders, or emulsifiers. They must be labeled using the species of origin of the additive, for example, dried beef, chicken stock, pork extract, or hydrolyzed wheat protein.

Color additives must be declared by their common or usual names on labels (for example, FD&C Yellow 5 or annatto extract), not collectively as colorings. These labeling requirements help consumers make choices about the foods they eat. [555]

Artificial Sweeteners

Artificial sweeteners, also called sugar substitutes, are substances that are used instead of sucrose (table sugar) to sweeten foods and beverages. Because artificial sweeteners are many times sweeter than table sugar, much smaller amounts (200 to 20,000 times less) are needed to create the same level of sweetness.



Figure 12.3 – Common artificial sweeteners.[556]

Artificial sweeteners are regulated by the U.S. Food and Drug Administration (FDA). Approved artificial sweeteners include:

- Aspartame, distributed under several trade names (e.g., NutraSweet® and Equal®),
- Sucralose, marketed under the trade name Splenda®
- Acesulfame potassium (also known as ACK, Sweet One®, and Sunett®)
- Neotame, which is similar to aspartame
- Advantame, which is also similar to aspartame

Questions about artificial sweeteners and cancer arose when early studies showed that cyclamate in combination with saccharin caused bladder cancer in laboratory animals. However, results from subsequent carcinogenicity studies (studies that examine whether a substance can cause cancer) of these sweeteners have not provided clear evidence of an association with cancer in humans. Similarly, studies of other FDA-approved sweeteners have not demonstrated clear evidence of an association with cancer in humans.[557]

The Challenge of Choosing Foods

There are other factors besides environment and lifestyle that influence the foods you choose to eat. Different foods affect energy level, mood, how much is eaten, how long before you eat again, and if cravings are satisfied. We have talked about some of the physical effects of food on your body, but there are other effects too.

Food regulates your appetite and how you feel. Multiple studies have demonstrated that some high fiber foods and high-protein foods decrease appetite by slowing the digestive process and prolonging the feeling of being full or satiety. The effects of individual foods and nutrients on mood are not backed by consistent scientific evidence, but in general, most studies support that healthier diets are associated with a decrease in depression and improved well-being. To date, science has not been able to track the exact path in the brain that occurs in response to eating a particular food, but it is quite clear that foods, in general, stimulate emotional responses in people.

Food also has psychological, cultural, and religious significance, so your personal choices of food affect your mind, as well as your body. The social implications of food have a great deal to do with what people eat, as well as how and when. Special events in individual lives—from birthdays to funerals—are commemorated with equally special foods. Being aware of these forces can help people make healthier food choices—and still honor the traditions and ties they hold dear.

Typically, eating kosher food means a person is Jewish; eating fish on Fridays during Lent means a person is Catholic; fasting during the ninth month of the Islamic calendar means a person is Muslim. On New Year's Day, Japanese take part in an annual tradition of Mochitsuki also known as Mochi pounding in hopes of gaining good fortune over the coming year. Several hundred miles away in Hawai'i, people eat poi made from pounded taro root with great significance in the Hawaiian culture, as it represents Hāloa, the ancestor of chiefs and kanaka maoli (Native Hawaiians). National food traditions are carried to other countries when people immigrate.

Factors that Drive Food Choices

Along with these influences, a number of other factors affect the dietary choices individuals make, including:

- Taste, texture, and appearance. Individuals have a wide range of tastes which influence their food choices, leading some to dislike milk and others to hate raw vegetables. Some foods that are very healthy, such as tofu, may be unappealing at first to many people. However, creative cooks can adapt healthy foods to meet most people's taste.
- Economics. Access to fresh fruits and vegetables may be scant, particularly for those who live in economically disadvantaged or remote areas, where cheaper food options are limited to convenience stores and fast food.
- Early food experiences. People who were not exposed to different foods as children, or who were forced to swallow every last bite of overcooked vegetables, may make limited food choices as adults.
- Habits. It's common to establish eating routines, which can work both for and against optimal health. Habitually grabbing a fast food sandwich for breakfast can seem convenient, but might not offer substantial nutrition. Yet getting in the habit of drinking an ample amount of water each day can yield multiple benefits.
- Culture. The culture in which one grows up affects how one sees food in daily life and on special occasions.
- Geography. Where a person lives influences food choices. For instance, people who live in Midwestern US states have less access to seafood than those living along the coasts.
- Advertising. The media greatly influences food choice by persuading consumers to eat certain foods.
- Social factors. Any school lunchroom observer can testify to the impact of peer pressure on eating habits, and this influence lasts through adulthood. People make food choices based on how they see others and want others to see them. For example, individuals who are surrounded by others who consume fast food are more likely to do the same.
- Health concerns. Some people have significant food allergies, to peanuts for example, and need to avoid those foods. Others may have developed health issues which require them to follow a low salt diet. In addition, people who have never worried about their weight have a very different approach to eating than those who have long struggled with excess weight.
- Emotions. There is a wide range in how emotional issues affect eating habits. When faced with a great deal of stress, some people tend to overeat, while others find it hard to eat at all.
- Green food/Sustainability choices. Based on a growing understanding of diet as a public and personal issue, more and more people are starting to make food choices based on their environmental impact. Realizing that their food choices help shape the world, many individuals are opting for a vegetarian diet, or, if they do eat animal products, striving to find the most "cruelty-free" options possible. Purchasing local and organic food products and items grown through sustainable products also help shrink the size of one's dietary footprint.[558]

Pause to Reflect

Think of your last meal or snack. What are some of the factors listed above that led you to choose to eat what you did?

Vegetarian Diet

People choose a vegetarian diet for various reasons, including religious doctrines, health concerns, ecological and animal welfare concerns, or simply because they dislike the taste of meat. There are different types of vegetarians, but a common theme is that vegetarians do not eat meat. Four common forms of vegetarianism are:

1. Lacto-ovo vegetarian. This is the most common form. This type of vegetarian diet includes the animal foods eggs and dairy products.
2. Lacto-vegetarian. This type of vegetarian diet includes dairy products but not eggs.
3. Ovo-vegetarian. This type of vegetarian diet includes eggs but not dairy products.
4. Vegan. This type of vegetarian diet does not include dairy, eggs, or any type of animal product or animal by-product. [559]

Preparing vegetarian meals will be addressed further in Chapter 15.

Achieving a Healthy Diet

Achieving a healthy diet is a matter of balancing the quality and quantity of food that is eaten. There are five key factors that make up a healthful diet:

1. A diet must be adequate, by providing sufficient amounts of each essential nutrient, as well as fiber and adequate calories.
2. A balanced diet results when you do not consume one nutrient at the expense of another, but rather get appropriate amounts of all nutrients.
3. Calorie control is necessary so that the amount of energy you get from the nutrients you consume equals the amount of energy you expend during your day's activities.
4. Moderation means not eating to the extremes, neither too much nor too little.
5. Variety refers to consuming different foods from within each of the food groups on a regular basis.

A healthy diet is one that favors whole foods. As an alternative to modern processed foods, a healthy diet focuses on "real" fresh whole foods that have been sustaining people for generations. Whole foods supply the needed vitamins, minerals, protein, carbohydrates, fats, and fiber that are essential to good health. Commercially prepared and fast foods are often lacking nutrients and often contain inordinate amounts of sugar, salt, saturated and trans fats, all of which are associated with the development of diseases such as atherosclerosis, heart disease, stroke, cancer, obesity, diabetes, and other illnesses. A balanced diet is a mix of food from the different food groups (vegetables, legumes, fruits, grains, protein foods, and dairy).



Figure 12.4 – Whole foods from all food groups make a balanced diet.[560]

Adequacy

An adequate diet is one that favors nutrient-dense foods. Nutrient-dense foods are defined as foods that contain many essential nutrients per calorie. Nutrient-dense foods are the opposite of "empty-calorie" foods, such as sugary carbonated beverages, which are also called "nutrient-poor." Nutrient-dense foods include fruits and vegetables, lean meats, poultry, fish, low-fat dairy products, and whole grains. Choosing more nutrient-dense foods will facilitate weight loss, while simultaneously providing all necessary nutrients.

Balance

Balance the foods in your diet. Achieving balance in your diet entails not consuming one nutrient at the expense of another. For example, calcium is essential for healthy teeth and bones, but too much calcium will interfere with iron absorption. Most foods that are good sources of iron are poor sources of calcium, so in order to get the necessary amounts of calcium and iron from your diet, a proper balance between food choices is critical. Another example is that while sodium is an essential nutrient, excessive intake may contribute to congestive heart failure and chronic kidney disease in some people. Remember, everything must be consumed in the proper amounts.

Moderation

Eat in moderation. Moderation is crucial for optimal health and survival. Eating nutrient-poor foods each night for dinner will lead to health complications. But as part of an otherwise healthful diet and consumed only on a weekly basis, this should not

significantly impact overall health. It's important to remember that eating is, in part, about enjoyment and indulging with a spirit of moderation. This fits within a healthy diet.

Monitor food portions. For optimum weight maintenance, it is important to ensure that energy consumed from foods meets the energy expenditures required for body functions and activity. If not, the excess energy contributes to gradual, steady accumulation of stored body fat and weight gain. In order to lose body fat, you need to ensure that more calories are burned than consumed. Likewise, in order to gain weight, calories must be eaten in excess of what is expended daily.

Variety

Variety involves eating different foods from all the food groups. Eating a varied diet helps to ensure that you consume and absorb adequate amounts of all essential nutrients required for health. One of the major drawbacks of a monotonous diet is the risk of consuming too much of some nutrients and not enough of others. Trying new foods can also be a source of pleasure—you never know what foods you might like until you try them.

Developing a healthful diet can be rewarding, but be mindful that all of the principles presented must be followed to derive maximal health benefits. For instance, introducing variety in your diet can still result in the consumption of too many high-calorie, nutrient poor foods and inadequate nutrient intake if you do not also employ moderation and calorie control. Using all of these principles together will promote lasting health benefits.[561]

Pause to Reflect

Think back to your childhood, how do you think your diet did with regards to adequacy, balance, moderation, and variety? What about your diet now?

Nutrition in Early Care and Education Programs

There are many different programs that can support early care and education programs in providing nutritious meals and snacks for children. Let's explore a few of these.

Child and Adult Care Food Program

The Child and Adult Care Food Program (CACFP) is a federal program that provides reimbursements for nutritious meals and snacks to eligible children and adults who are enrolled for care at participating child care centers, day care homes, and adult day care centers. Eligible public or private nonprofit child care centers, outside-school-hours care centers, Head Start programs, and other institutions which are licensed or approved to provide day care services may participate in CACFP, independently or as sponsored centers.[562] Over 2 billion meals are served in the CACFP.[563]

Even if a program chooses not to participate in (or is ineligible for) the CACFP, they are required by licensing to its meal plan requirements. [564] (See Tables 12.4 and 12.5) The CACFP nutrition standards for meals and snacks served in the CACFP are based on the Dietary Guidelines for Americans, science-based recommendations made by the National Academy of Medicine, cost and practical considerations, and stakeholder's input. Under these standards, meals and snacks served include a greater variety of vegetables and fruit, more whole grains, and less added sugar and saturated fat.[565] (See Table 12.6)

Table 12.4 – Infant Meal Patterns[566]

Meal or snack	0-5 Months	6-11 Months
Breakfast	4-6 fl oz breastmilk or formula	6-8 fl oz breastmilk or formula 0-4 tbsp infant cereal, meat, fish, poultry, whole eggs, cooked dry beans or peas; or 0-2 oz cheese; or 0-4 oz (volume) cottage cheese; or 0-4 oz yogurt; or a combination* 0-2 tbsp vegetable, fruit or both*
Lunch or Supper	4-6 fl oz breastmilk or formula	6-8 fl oz breastmilk or formula 0-4 tbsp infant cereal, meat, fish, poultry, whole eggs, cooked dry beans or peas; or 0-2 oz cheese; or 0-4 oz (volume) cottage cheese; or 0-4 oz yogurt; or a combination* 0-2 tbsp vegetable, fruit or both*
Snack	4-6 fl oz breastmilk or formula	2-4 fl oz breastmilk or formula 0-½ bread slice; or 0-2 crackers; or 0-4 tbsp infant cereal or readyto-eat cereal* 0-2 tbsp vegetable, fruit or both*

Solid foods are required when infant is ready. All serving sizes are minimum quantities of the food components that are required to be served

Table 12.5A – Breakfast Meal Pattern for Children[567]

Meal or snack	Food Item	1-2 Years	3-5 Years	6-18 Years
Breakfast	Milk	½ cup whole	¾ cup low-fat or fat-free	1 cup low-fat or fat-free
	Vegetables, fruit, or both	¼ cup	½ cup	½ cup
	Grains	½ ounce equivalent	½ ounce equivalent	1 ounce equivalent

Table 12.5B – Lunch or Supper Meal Pattern for Children[567]

Meal or snack	Food Item	1-2 Years	3-5 Years	6-18 Years
Lunch or Supper	Milk	½ cup whole	¾ cup low-fat or fat-free	1 cup low-fat or fat-free

Meal or snack	Food Item	1-2 Years	3-5 Years	6-18 Years
	Meat and meat alternative	1 ounce	1½ ounces	2 ounces
	Vegetables	1/8 cup	¼ cup	½ cup
	Fruits	1/8 cup	¼ cup	¼ cup
	Grains	½ ounce equivalent	½ ounce equivalent	1 ounce equivalent

Table 12.5B – Snack Meal Pattern for Children (choose 2 of the options)[567]

Meal or snack	Food Item	1-2 Years	3-5 Years	6-18 Years
Snack (choose 2 of the options)	Milk	½ cup whole	½ cup low-fat or fat-free	1 cup low-fat or fat-free
	Meat and meat alternative	½ ounce	½ ounce	1 ounce
	Vegetables	½ cup	½ cup	¾ cup
	Fruits	½ cup	½ cup	¾ cup
	Grains	½ ounce equivalent	½ ounce equivalent	1 ounce equivalent

Table 12.6 – CACFP Best Practices[568,569]

Category	Best Practices
Vegetables and Fruit	• Make at least one of the two required components of snack a vegetable or fruit • Serve a variety of fruit and choose whole fruits • Juice is limited to once a day • Provide at least one serving each of dark green leafy vegetables, red and orange vegetables, beans and peas (legumes), starchy vegetables, and other vegetables each week
Grains	• Provide at least two servings of whole grains per day (at least one is required)

Category	Best Practices
Meat and Meat Alternatives	• Serve only lean meats, nuts, and legumes. • Limit serving processed meats to no more than one serving per week. • Serve only natural cheeses and choose low-fat or reduced fat-cheeses.
Milk	• Serve only unflavored milk • Nondairy milk substitutes that are nutritionally equivalent to milk may be served in place of milk to children with medical or special dietary needs
Sugar	• Yogurt must contain no more than 23 grams per 6 ounces • Breakfast cereals must contain no more than 6 grams of sugar per dry ounce • Avoid serving non-creditable foods that are sources of added sugars, such as sweet toppings (honey, jam, syrup), mix-in ingredients sold with yogurt, and sugar sweetened beverages
Miscellaneous	• Frying is not allowed as a way of preparing foods on-site • Limit serving purchased pre-fired foods to no more than one serving per week • Incorporate seasonal and local produced foods into meals

Healthy Beverages in Child Care Act

"And all licensed child care providers...must follow the Healthy Beverages in Child Care Act. The four key messages in the Healthy Beverages in Child Care Act are:

1. Only unflavored, unsweetened, non-fat (fat free, skim, 0%) or low fat (1%) milk can be served to children 2 years of age or older.
2. No beverages with added sweeteners, natural or artificial, can be served, including sports drinks, sweet teas, juice drinks with added sugars, flavored milk, soda, and diet drinks.
3. A maximum of one serving of 100% juice is allowed per day.
4. Clean and safe drinking water must be readily available at all times; indoors and outdoors and with meals and snacks." [570]

Dietary Guidelines for Americans

The Dietary Guidelines for Americans provides evidence-based nutrition information and advice for people ages two and older to help Americans make healthy choices about food and beverages in their daily lives. The Guidelines also serve as the basis for federal food and nutrition education programs, like the MyPlate campaign.

The Dietary Guidelines for Americans, produced by HHS and the U.S. Department of Agriculture every five years, analyze the latest research to help Americans make smart choices about food and physical activity so they can live healthier lives.

The *2015-2020 Dietary Guidelines for Americans* focuses on making small shifts in your daily eating habits to improve your health over the long run. They also emphasize the importance of "eating patterns," which refer to the combination of ALL foods and beverages a person consumes regularly over time, rather than focusing on individual nutrients or foods in isolation. Healthy eating patterns, along with regular physical activity, have been shown in a large body of current science to help people reach and maintain good health while reducing risks of chronic disease throughout their lives. Additionally, healthy eating patterns can be adapted to an individual's budget, taste preferences, traditions, and culture.

The core recommendations for these healthy eating patterns are unchanged from previous editions of the Guidelines, and continue to encourage Americans to consume more healthy foods like vegetables, fruits, whole grains, fat-free and low-fat dairy

products, lean meats, seafood, other protein foods, and oils. They also recommend limiting sodium, saturated and trans fats, and added sugars.

There are five overarching guidelines in this eighth edition:

- Follow a healthy eating pattern across the lifespan. Eating patterns are the combination of foods and drinks that a person eats over time.
- A variety of vegetables: dark green, red and orange, legumes (beans and peas), starchy and other vegetables.

- Fruits, especially whole fruit.
- Grains, at least half of which are whole grain.
- Fat-free or low-fat dairy, including milk, yogurt, cheese, and/or fortified soy beverages.
- A variety of protein foods, including seafood, lean meats and poultry, eggs, legumes (beans and peas), soy products, and nuts and seeds.
- Oils, including those from plants: canola, corn, olive, peanut, safflower, soybean, and sunflower. Oils also are naturally present in nuts, seeds, seafood, olives, and avocados.

- Focus on variety, nutrient-dense foods, and amount.
- Limit calories from added sugars and saturated fats, and reduce sodium intake.
- Children younger than 14 should consume less than 2.300 mg of sodium per day.
- Less than 10% of daily calories should come from saturated fats.
- Less than 10% of daily calories should come from added sugars
- Shift to healthier food and beverage choices.
- Support healthy eating patterns for all.[571]

Physical Guidelines for Americans

The second edition of the *Physical Activity Guidelines for Americans* issued by the Department of Health and Human Services provides science-based guidance to help people ages 3 years and older improve their health through participation in regular physical activity. Key guidelines include:

Preschool-Aged Children

Preschool-aged children (ages 3 through 5 years) should be physically active throughout the day to enhance growth and development. Adult caregivers of preschool-aged children should encourage active play that includes a variety of activity types.

Children and Adolescents

It is important to provide young people opportunities and encouragement to participate in physical activities that are appropriate for their age, that are enjoyable, and that offer variety. Children and adolescents ages 6 through 17 years should do 60 minutes (1 hour) or more of moderate-to-vigorous physical activity daily that includes activity that is aerobic, muscle-strengthening, and bone-strengthening.[572]

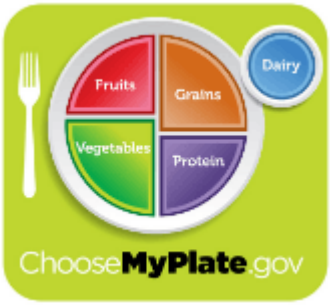
Physical activity will be addressed further in Chapter 13.

MyPlate

MyPlate is the United States Department of Agriculture's food guidance program to help Americans eat healthy and is based on the Dietary Guidelines for America. It replaces MyPyramid (which had replaced the classic Food Guide Pyramid). The visual for MyPlate is a familiar mealtime symbol, the plate. It gives easy visual reference to remind people to create balanced meals. The main messages of MyPlate include:

- Make half the plate fruits and vegetables
- Focus on whole fruits.
- Vary your veggies.
- Make half the grains whole grains.

- Move to low-fat or fat-free milk or yogurt.
- Vary the sources of protein.[573]

		
1992: Food Guide Pyramid	2005: MyPyramid Food Guidance System	2011: MyPlate

12.5 – The most recent Food Guides from the USDA.[574]

Dietary Reference Intakes (DRI)

Issued by the Food and Nutrition Board of the Institute of Medicine, National Academy of Sciences, the DRI is the general term for a set of reference values used to plan and assess nutrient intakes of healthy people. These values, which vary by age and sex, include:

- Recommended Dietary Allowance (RDA): average daily level of intake sufficient to meet the nutrient requirements of nearly all (97%-98%) healthy people.
- Adequate Intake (AI): established when evidence is insufficient to develop an RDA and is set at a level assumed to ensure nutritional adequacy.
- Tolerable Upper Intake Level (UL): maximum daily intake unlikely to cause adverse health effects.[575]

That information is used to create nutrition fact labels.

Nutrition Facts Labels

The information in the main or top section (see #1-4) of the sample nutrition label (below) can vary with each food and beverage product; it contains product-specific information (serving size, calories, and nutrient information). The bottom section contains a footnote that explains the % Daily Value and gives the number of calories used for general nutrition advice.

In the following Nutrition Facts label certain sections have been colored to help focus on those areas that will be explained in detail. Note that these colored sections are not on the actual food labels of products you purchase.

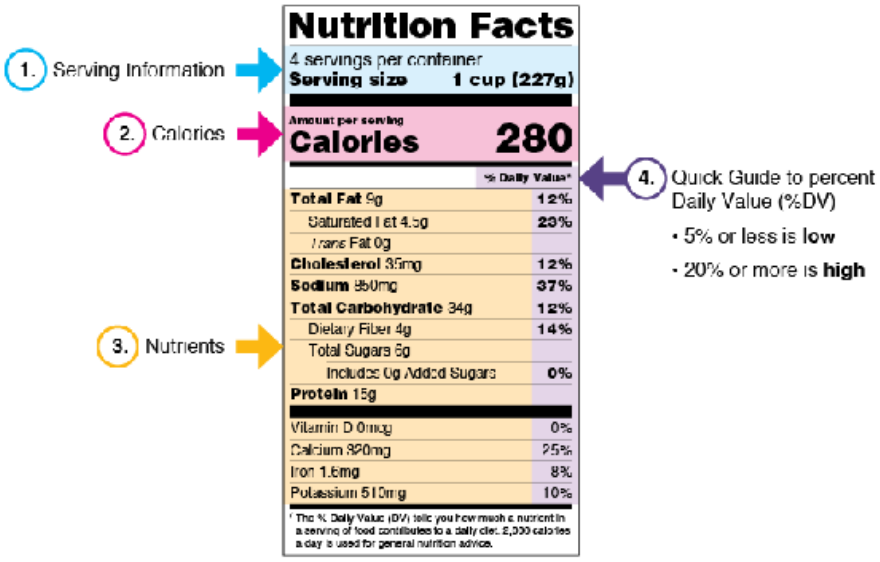


Figure 12.6 – A color-coded example nutrition label for lasagna.[576]

1. Serving Information

When looking at the Nutrition Facts label, first take a look at the number of servings in the package (servings per container) and the serving size. Serving sizes are standardized to make it easier to compare similar foods; they are provided in familiar units, such as cups or pieces, followed by the metric amount, e.g., the number of grams (g). The serving size reflects the amount that people typically eat or drink**.** It is not a recommendation of how much you should eat or drink.

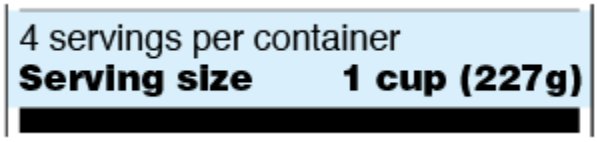


Figure 12.7 – The serving information portion of the example nutrition label for lasagna.[577]

It's important to realize that all the nutrient amounts shown on the label, including the number of calories, refer to the size of the serving. Pay attention to the serving size, especially how many servings there are in the food package. For example, you might ask yourself if you are consuming ½ serving, 1 serving, or more.

2. Calories

Calories provide a measure of how much energy you get from a serving of this food.



Figure 12.8 – The calories per serving portion of the example nutrition label for lasagna.[578]

In the example, there are **280 calories** in one serving of lasagna. What if you ate the entire package? Then, you would consume 4 servings, or **1,120 calories**.

3. Nutrients

Look at section 3 in the sample label (shown in Table 12.9). It shows you some key nutrients that impact your health. Two key facts about the nutrients:

- Nutrients to get less of: Saturated Fat, Sodium, and Added Sugars.
- Nutrients to get more of: Dietary Fiber, Vitamin D, Calcium, Iron, and Potassium.

Total Fat 9g	**12%**
Saturated Fat 4.5g	**23%**
Trans Fat 0g	
Cholesterol 35mg	**12%**
Sodium 850mg	**37%**
Total Carbohydrate 34g	**12%**
Dietary Fiber 4g	**14%**
Total Sugars 6g	
Includes 0g Added Sugars	**0%**
Protein 15g	
Vitamin D 0mcg	0%
Calcium 320mg	25%
Iron 1.6mg	8%
Potassium 510mg	10%

Figure 12.9 – The portion of the example nutrition label for lasagna that details nutrients.[579]

4. The Percent Daily Value (%DV)

The % Daily Value (%DV) is the percentage of the Daily Value for each nutrient in a serving of the food. The Daily Values are reference amounts (expressed in grams, milligrams, or micrograms) of nutrients to consume or not to exceed each day.

	% Daily Value*
Total Fat 9g	**12%**
Saturated Fat 4.5g	**23%**
Trans Fat 0g	
Cholesterol 35mg	**12%**
Sodium 850mg	**37%**
Total Carbohydrate 34g	**12%**
Dietary Fiber 4g	**14%**
Total Sugars 6g	
Includes 0g Added Sugars	**0%**
Protein 15g	
Vitamin D 0mcg	0%
Calcium 320mg	25%
Iron 1.6mg	8%
Potassium 510mg	10%

Figure 12.10 – The portion of the example nutrition label that details the percent daily value of the nutrients.[580]

The %DV shows how much a nutrient in a serving of a food contributes to a total daily diet for *adults*. The %DV helps you determine if a serving of food is high or low in a nutrient.[581]

Pause to Reflect

Find a food that is marketed to young children (that has a food label). Looking at the label, how do you think it rates a healthy choice? Why?

Child Nutrition Programs for Schools

The federal government provides federal assistance to schools to provide nutritious meals to children. With the exception of the Special Milk Program, early care and education programs will not qualify for these programs. But they are included in this chapter as they are important sources of nutrition for many children in the U.S., for reference for those that may work within the school system, and they may provide resources that early care and education programs may find useful when planning healthy meals and snacks and purchasing foods.

National School Lunch Program

The National School Lunch Program (NSLP) is a federally assisted meal program operating in public and nonprofit private schools and residential child care institutions. It provides nutritionally balanced, low-cost or no-cost lunches to children each school day. The program was established under the Richard B. Russell National School Lunch Act, signed into law by President Harry Truman in 1946. 30.4 million children participated in the program in 2016.[582]



Figure 12.11 – Children eating lunch together at school.[583]

School Breakfast Program

The School Breakfast Program (SBP) is a federally assisted meal program operating in public and non-profit private schools and residential child care institutions. The SBP started in 1966 as a pilot project, and was made a permanent entitlement program by Congress in 1975. Participation in the SBP has slowly but steadily grown over the years and in 2016, 14.57 million children participated in the program.[584]

Special Milk Program

The Special Milk Program provides milk to children in schools, child care program and eligible camps that do not participate in other federal child nutrition meal service programs. The program reimburses schools and institutions for the milk they serve. In 2011, 3,848 schools and residential child care institutions participated, along with 782 summer camps and 527 non-residential

child care institutions. Schools in the National School Lunch or School Breakfast Programs may also participate in the Special Milk Program to provide milk to children in half-day pre-kindergarten and kindergarten programs where children do not have access to the school meal programs.[585]

Summer Food Service Program

The Summer Food Service Program (SFSP) provides free meals and snacks when school is not in session. The seasonal nature of SFSP, and the diversity of sponsors and site operators, make it unique. State agencies, sponsors, and community organizations need flexibility to operate the SFSP in a manner that is responsive to local conditions and allows operators to focus on ensuring children in need can access food when school is not in session. In the summer of 2018 over 145 million meals were served to over 2.6 million children.[586]

Assessing Quality of Meal and Snack Times

Just like with safety and health (and many other things), early care and education programs should assess how well they are meeting children's nutritional needs with the meals and snacks they are providing for children. An assessment, such as one in Appendix N can be used to help programs do this. You will notice that providing a positive eating environment takes more than just giving children healthy food. Chapter 14 will look more at this by age.



Figure 12.12 – This teacher is eating with the children and creating a positive meal time.[587]

Summary

Providing nutritious meals and snacks to children in early care and education programs requires a basic understanding of nutrition. Program staff should also have an understanding of what a complete and healthy diet includes and how to address factors that influence food choices, to ensure that they provide healthy food and beverages that children will enjoy eating. Being aware of the programs available to support doing so is also valuable. Children that have high-quality meal and snack times will have the fuel their bodies need to sustain optimal growth and development.

Resources for Further Exploration

- Nutrition.gov: https://www.nutrition.gov/
- Nutrition: https://www.cdc.gov/nutrition/
- Definitions of Health Terms: Nutrition: https://medlineplus.gov/definitions/...finitions.html
- Nutrition Education Resources & Materials: https://www.fda.gov/food/food-labeli...rces-materials
- Consumer Information on Ingredients & Packaging: https://www.fda.gov/food/food-ingred...ents-packaging

- Overview of Food Ingredients, Additives & Colors: https://www.fda.gov/food/food-ingred...ditives-colors
- Preventing Childhood Obesity in Early Care and Education Programs: https://nrckids.org/CFOC/Childhood_Obesity
- ChooseMyPlate: choosemyplate.gov
- MyPlate, MyWins: https://www.choosemyplate.gov/eathea...myplate-mywins
- Child and Adult Care Food Program: www.fns.usda.gov/cacfp/child...e-food-program
- CACFP Regulations: https://www.govinfo.gov/content/pkg/...2016-09412.pdf
- Nutrition Standards for CACFP Meals and Snacks: https://www.fns.usda.gov/cacfp/meals-and-snacks
- Healthy Beverages in Child Care Act: https://cchp.ucsf.edu/content/health...care-education
- Food and Nutrition Service Programs: https://www.fns.usda.gov/programs
- Dietary Guidelines for Americans 2015-2020: https://health.gov/our-work/food-nut...ary-guidelines
- Physical Activity Guidelines for Americans: https://www.hhs.gov/fitness/be-activ...ans/index.html
- Nutrition and Physical Activity Self-Assessment for Child Care: https://gonapsacc.org/self-assessment-materials

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13: Protecting Good Nutrition and Physical Wellness

Learning Objectives

By the end of this chapter, you should be able to:

- Explain the 5-2-1-0 recommendation.
- Discuss physical activity recommendations for young children.
- Examine both undernutrition and overnutrition as forms of malnutrition.
- Describe ways early care and education programs can educate children about nutrition.
- Distinguish food allergies from food intolerances.
- Identify strategies early care and education programs can follow to plan for caring for children food allergies, food intolerances, and iron deficiency anemia

Licensing Regulations

Title 22 Regulations that relate to this chapter include:

101227 FOOD SERVICE

- Food selection, storage preparation and service shall be safe and healthful and of the quality and quantity necessary to meet the needs of children.

101230 ACTIVITIES AND NAPPING

- Each center shall provide for a variety of daily activities including quiet and active play, rest and relaxation, eating, and toileting.

101238.2 OUTDOOR ACTIVITY SPACE

- There shall be at least 75 square feet per child of outdoor activity space.

Introduction

Healthy active living includes eating healthy foods, staying physically active, and getting enough rest. Developing healthy habits starts in early childhood. Eating well and being physically active helps a child continue to grow and learn.[588]

Healthy Active Living

Research tells us that the way young children eat, move, and sleep can impact their weight now and in the future. Early childhood is an ideal time to start healthy habits before unhealthy patterns are set.[589]

Many children in the United States do not follow the recommendations of the Dietary Guidelines for Americans. According to the CDC, on average, children consume too much fat, saturated fat, and sodium and not enough fruits, vegetables, or calcium. Children obtain 33%-35% of their calories from fat and 12%-13% from saturated fat (above the recommended levels of 30% and 10%, respectively). Only 16% of children ages 6-11 years meet the recommendation for total fat intake; only 9% of children meet the recommendation for saturated fat intake.[590]

Young children depend on parents, caregivers, and others to provide environments that foster and shape healthy habits. Early care and education programs have a responsibility to promote growth and development, make healthy foods available, and provide safe spaces for active play. Staff can help children and families by encouraging and modeling healthy eating and physical activity

at the center and by providing suggestions for small, healthy steps at home.[591]

5-2-1-0 Message

The American Academy of Pediatrics (AAP) recommends that pediatricians counsel parents and patients at every well-child check on diet and lifestyle goals as a part of obesity prevention initiatives (Hassink, 2010). These recommendations, initially put forth by the Maine Youth Overweight Collaborative obesity prevention program “Let's Go! 5-2-1-0”, have been promoted locally and nationally for broad consumption (Rogers and Motyka, 2009).[592]



Figure 13.1 – The 5-2-1-0 recommendations[593]

Engaging Families in 5-2-1-0 Recommendations

Share the recommendations with families with these tips.

5 Fruits and Vegetables a Day

- Go for the rainbow. Each month, pick a color from the rainbow and try to eat a new fruit or veggie of that color (green, purple, orange, yellow, red). It's a great way for little ones to learn colors while you're all eating healthy.
- Whenever possible, let your child help get fruits and veggies ready to serve. Maybe he can wash an apple or mix the salad. Your little chef may be more likely to try foods that he helps to prepare.
- Ever feel like fresh fruits and veggies are just too expensive? Try using frozen ones for a few meals every week.

2 Hours or Less of Screen Time a Day

- A great way to cut down on screen time is to make a "no television (or computer) while eating" rule.
- If your children are watching TV, watch with them. Use commercial breaks for an activity break—hula hoop, dance, or come up with a crazy new way to do jumping jacks.
- If you need a break and want to let your child watch TV, set a timer for 30 minutes. You can get a lot done and you'll know how long they watched.
- Television in your child's bedroom might seem like a convenience but watching TV close to bedtime can affect your child's ability to sleep.

1 Hour of Active Play or Physical Activity a Day

- An hour of active play might seem like a lot but you don't have to do it all at one time. Try being active for 10–15 minutes several times each day.

- What were your favorite active games when you were a child? They might seem old school to you but they'll be new to your child. Try one today.
- Rain or bad weather has you stuck in the house? Don't let it keep you and your child from being active together. Try one of these fun activities:

- Have an indoor parade.
- Set up a scavenger hunt inside.
- Start your own indoor Olympics—who can jump on one foot the longest or do the most sit ups?

0 Sugary Drinks a Day

- Serve milk with meals and offer water at snack time.
- Let your child pick their favorite "big kid" cup to use for water.
- Think plain water is too boring? Try adding a fruit slice (like orange) for natural flavor.
- Avoid buying juice—if it's not in the house, no one can drink it.
- If you're still trying to cut sugary drinks down to zero, keep up the great work! Young children should never have soda pop or sports drinks but if you choose to give juice, please remember:

- make sure the label says 100 percent fruit juice.
- limit the amount to one small cup a day (4-6 ounces if you measure it out).[594]

Physical Activity

Good activity habits begin early in children's lives. As early as infancy, adults can help children grow lifelong healthy play habits. Children learn from adults, they should model being active and participate with children when possible.

Infants should spend a lot of time on the floor (and out of equipment that limits mobility). This time allows them to reach, and kick so they can reach important milestones like crawling and sitting up.

Even very active toddlers need environments that support movement and activity and intentional opportunities to be physically active. Things like dancing, jumping, and taking walks are great ways to keep them moving.[595]

Childhood and adolescence are critical periods for developing movement skills, learning healthy habits, and establishing a firm foundation for lifelong health and well-being. Regular physical activity in children and adolescents promotes health and fitness. Compared to those who are inactive, physically active youth have higher levels of cardiorespiratory fitness and stronger muscles. They also typically have lower body fat and stronger bones. Physical activity also has brain health benefits for school-aged children, including improved cognition and reduced symptoms of depression. Evidence indicates that both acute bouts and regular moderate-to-vigorous physical activity improve the cognitive functions of memory, executive function, processing speed, attention, and academic performance for these children.

Youth who are regularly active also have a better chance of a healthy adulthood. Children and adolescents do not usually develop chronic diseases, such as heart disease, hypertension, type 2 diabetes, or osteoporosis. However, current evidence shows that obesity and other risk factors for these diseases, such as elevated insulin, blood lipids, and blood pressure, are increasingly appearing in children and adolescents. Exercise training in youth with overweight or obesity can improve body composition by reducing overall levels of body fat as well as abdominal fat. Regular physical activity also makes it less likely that these risk factors will develop and more likely that children remain healthy when they become adults.



Figure 13.2 – Regular physical activity protects children's health. [596]

Preschool-aged children (ages 3 through 5 years) should be encouraged to move and engage in active play as well as in structured activities, such as throwing games and bicycle or tricycle riding. To strengthen bones, young children should do activities that involve hopping, skipping, jumping, and tumbling. Although the specific amount of activity needed to improve bone health and avoid excess fat in young children is not well defined, a reasonable target may be 3 hours per day of activity of all intensities: light, moderate, or vigorous intensity. This is the average amount of activity observed among children of this age and is consistent with guidelines from Canada, the United Kingdom, and the Commonwealth of Australia.

School-aged youth (ages 6 through 17 years) can achieve substantial health benefits by doing moderate and vigorous-intensity physical activity for periods of time that add up to 60 minutes or more each day. This activity should include aerobic activity as well as age-appropriate muscle- and bone-strengthening activities. It appears that, as in adults, the total amount of physical activity is more important for achieving health benefits than is any one component (frequency, intensity, or duration) or specific mix of activities (aerobic, muscle strengthening, bone strengthening).

Children and adolescents should meet the key guidelines by doing activities that are appropriate for their age. Their natural patterns of movement differ from those of adults. For example, children are naturally active in an intermittent way, particularly when they do unstructured active play. During recess and in their free play and games, children use basic aerobic and bone-strengthening activities, such as running, hopping, skipping, and jumping, to develop movement patterns and skills. They alternate brief periods of moderate- and vigorous intensity activity with periods of light-intensity physical activity or rest. Any episode of moderate- or vigorous intensity physical activity, however brief, counts toward the key guidelines for children and adolescents ages 6 through 17 years. For preschool-aged children, activity of any intensity counts, including light intensity.[597]

Pause to Reflect

What were some of your favorite physical activities as a child? Why did you enjoy these? Are they included in Table 13.1?

Table 13.1 – Examples of Physical Activities for Children[598]

Type of Physical Activity	Preschool-Aged Children	School-Aged Children
Moderate-Intensity Aerobic	• Games such as tag or follow the leader • Playing on a playground • Tricycle or bicycle riding • Walking, running, skipping, jumping, dancing • Swimming • Playing games that require catching, throwing, and kicking • Gymnastics or tumbling	• Brisk walking • Bicycle riding • Active recreation, such as hiking, riding a scooter without a motor, swimming • Playing games that require catching and throwing, such as baseball and softball
Vigorous-Intensity Aerobic	• Games such as tag or follow the leader • Playing on a playground • Tricycle or bicycle riding • Walking, running, skipping, jumping, dancing • Swimming • Playing games that require catching, throwing, and kicking • Gymnastics or tumbling	• Running • Bicycle riding • Active games involving running and chasing, such as tag or flag football • Jumping rope • Cross-country skiing • Sports such as soccer, basketball, swimming, tennis • Martial arts • Vigorous dancing
Muscle Strengthening	• Games such as tug of war • Climbing on playground equipment • Gymnastics	• Games such as tug of war • Resistance exercises using body weight or resistance bands • Rope or tree climbing • Climbing on playground equipment • Some forms of yoga
Bone Strengthening	• Hopping, skipping, jumping • Jumping rope • Running • Gymnastics	• Hopping, skipping, jumping • Jumping rope • Running • Sports that involve jumping or rapid change in direction



Figure 13.3 – There are many ways to support children's physical activity. [599]

One practical strategy to promote activity in children is to replace sedentary behavior with activity whenever possible. For example, where appropriate and safe, families should walk or bicycle to school or the bus stop instead of riding in a car. Rather than only watching sporting events on television, children should participate in age-appropriate sports or games.

- Children who do not meet the key guidelines should slowly increase their moderate-to-vigorous physical activity in small steps and in ways that they enjoy. A gradual increase in the number of days and the time spent being active will help reduce the risk of injury.
- Children who meet the key guidelines should continue doing moderate-to-vigorous physical activity every day and, if appropriate, become even more active. Evidence suggests that even more than 60 minutes of activity daily may provide additional health benefits for school-aged youth.
- Children who exceed the key guidelines should maintain their activity level and vary the kinds of activities they do to reduce the risk of overtraining or injury.

Children with disabilities are more likely to be inactive than those without disabilities. Families of children with disabilities should work with a health care professional or physical activity specialist to understand the types and amounts of physical activity appropriate for them. When possible, children with disabilities should meet the key guidelines. When they are not able to participate in the appropriate types or amounts of physical activities needed to meet the key guidelines, they should be as active as possible and avoid being inactive.

Engaging Families in Their Children's Physical Activity

Share the recommendations with families with these tips.

Children under 6 need to be active naturally!

- Aim to keep them moving 3 hours a day — and more is better
- Limit time when they're just sitting around (like screen time)

Kids and teens ages 6 to 17 need at least 60 minutes every day. Most of it can be moderate-intensity aerobic activity. Anything that gets their heart beating faster counts. At least three days a week, encourage your kids to step it up to vigorous-intensity aerobic activity.

Use the "talk test" to find out if activity is moderate or vigorous. When you're being active, try talking:

- If you're breathing hard but can still have a conversation easily, it's moderate-intensity activity.
- If you can only say a few words before you have to take a breath, it's vigorous-intensity activity

As part of their daily 60 minutes, kids and teens also need:

- Muscle-strengthening activity At least 3 days a week; anything that makes their muscles work harder counts — like climbing or swinging on the monkey bars.
- Bone-strengthening activity At least 3 days a week; bones need pressure to get stronger. Running, jumping, and other weight-bearing activities all count.

Some ideas:

- Encourage active play with friends
- Get them involved in active chores
- Sign them up for free or low-cost sports or classes
- Take walks
- Dance while dinner's cooking
- Show them your favorite ways to move.

Most of all, help them find activities they really like to do! Help them get active now, and they'll build healthy habits for life.

Share the Move Your Way tool to get kids more active at https://health.gov/MoveYourWay/Get-Kids-Active/[600]

Nutrition Education

Lifelong eating habits are shaped during a child's early years. Teachers of young children have a special opportunity to help children establish a healthy relationship with food and lay the foundation for sound eating habits. Nutrition education and activities help set children on the path to a healthful lifestyle. Providing nutritionally balanced meals and snacks and integrating nutrition education and healthy eating habits in the home and early childhood.

Nutrition education for preschoolers fosters children's awareness of different types of foods and promotes exploration and inquiry of food choices. Lifelong habits with foods are developed during early childhood. Through nutrition education in preschool, teachers encourage children to include a wide variety of foods that provide adequate nutrients in their daily diet.

Through knowledge, children become aware of different foods and tastes, some of which are familiar and others that are new. As they explore various foods and food preparations, they develop likes and dislikes and begin to make choices based on preference. Both nutrition choices and self-regulation of eating—that is, eating when hungry, chewing food thoroughly, eating slowly, and stopping when full— involve decision-making skills.

As children begin to understand the concepts of food identification and categorizing, teachers may describe how specific foods help our bodies. Children may better understand the overall benefit of food in terms of it helping them grow, giving them energy to run and play, and helping them to become strong. As children begin to understand internal body parts, teachers can initiate discussion of more specific food benefits.

Children need to understand that various foods help the body in different ways and that some children have specific food allergies.

For those with allergies, certain foods are potentially harmful to them. Teachers should encourage tasting and eating a variety of foods to obtain adequate nutrients for growth and development. "Variety" may mean foods of different color, shape, texture, and taste.

As children gain an understanding of different foods, they can begin to categorize foods in other ways, such as by food groups (e.g., bread, fruits, meat) or the U.S. Department of Agriculture (USDA) MyPlate food guide for young children. MyPlate reflects the 2010 Dietary Guidelines and replaces the MyPyramid for Preschoolers. Every food is all right, but some foods help the body more than others; therefore, people may eat some foods more often than others. Food models, combined with visual aids such as the Food Pyramid49 and integration of the topic with daily nutrition activities (e.g., mealtime, snack time, cooking activities), can help children begin to understand that some foods are eaten more frequently than others.

Here are some things that teachers can do to help educate children about nutrition:

- Introduce many different foods.

- Recognize and accommodate differences in eating habits and food choices.
- Provide opportunities and encouragement in food exploration.
- Integrate nutrition with other areas of learning through cooking activities.
- Show children where food is produced.
- Set up special areas to represent nutrition-related environments, such as grocery stores, restaurants, open-air markets, food co-ops, and picnics.
- Integrate nutrition education with basic hygiene education.
- Model and coach children's behavior by eating from the same menu and encouraging conversations during mealtimes.
- Encourage children to share information about family meals.
- Serve meals and snacks family-style.
- Encourage tasting and decision making.
- Provide choices for children.
- Offer a variety of nutritious, appetizing foods in small portions.
- Encourage children to chew their food well and eat slowly.
- Teach children to recognize signs of hunger.
- Discuss how the body uses food.

Children learn about food and develop food preferences through their direct experiences with food (i.e., handling, preparing, eating) and by observing the eating behaviors of adults and peers. The goal in preschool is that children will learn to eat a variety of nutritious foods and begin to recognize the body's physical need for food (i.e., hunger and fullness).



Figure 13.4 – Serving meals family-style supports children's self-regulation.[601]

Through modeling, repeated and various exposures to food, and social experiences, children begin to develop eating behaviors that can prevail throughout life.[602]

Pause to Reflect

Reflect on how you will support children's nutrition education. What will be most natural/easiest for you to do from this section? What might you have to be more intentional about (what might be more challenging or less natural)?

Understanding Malnutrition

When children do not receive proper nutrition it affects their physical health and wellness. For many, the word "malnutrition" produces an image of a child in a third-world country with a bloated belly, and skinny arms and legs. However, this image alone is not an accurate representation of the state of malnutrition. For example, someone who is 150 pounds overweight can also be malnourished.

Malnutrition refers to one not receiving proper nutrition and does not distinguish between the consequences of too many nutrients or the lack of nutrients, both of which impair overall health. Undernutrition is characterized by a lack of nutrients and insufficient energy supply, whereas overnutrition is characterized by excessive nutrient and energy intake. Overnutrition can result in obesity, a growing global health threat.[603]

And if the cause of overnutrition is a diet that features food that is not nutrient-dense, a child could experience both overnutrition (too many calories) and undernutrition (inadequate micronutrients).

Undernutrition

Although not as prevalent in America as it is in developing countries, undernutrition is not uncommon and affects many subpopulations, including the elderly, those with certain diseases, and those in poverty.[604] Undernutrition is most often due to not enough high-quality food being available to eat. This is often related to high food prices and poverty. There are two main types of undernutrition: protein-energy malnutrition and dietary deficiencies. Protein-energy malnutrition has two severe forms: marasmus (a lack of protein and calories) and kwashiorkor (a lack of just protein). Common micronutrient deficiencies include a lack of iron, iodine, and vitamin A.

Undernutrition encompasses stunted growth (stunting), wasting, and deficiencies of essential vitamins and minerals (collectively referred to as micronutrients).[605] Even moderate undernutrition can have lasting effects on children's cognitive development. When children are hungry or undernourished, they have difficulty resisting infection and therefore are more likely than other children to become sick and to miss school. They are irritable and have difficulty concentrating, which can interfere with learning; and they have low energy, which can limit their physical activity. Some reports have estimated that millions of children in the United States experience hunger over the course of a year but no scientific consensus currently exists on how to define or measure hunger.[606] The term hunger, which describes a feeling of discomfort from not eating, has been used to describe undernutrition, especially in reference to food insecurity. [607]

Food Insecurity

Food insecurity is defined as the disruption of food intake or eating patterns because of a lack of money and other resources. In 2014, 17.4 million U.S. households were food insecure at some time during the year. Food insecurity does not necessarily cause hunger, but hunger is a possible outcome of food insecurity.



Figure 13.5 –Resources such as food banks, can help families experiencing food insecurity.[608]

The United States Department of Agriculture (USDA) divides food insecurity into the following 2 categories:

- **Low food security**: “Reports of reduced quality, variety, or desirability of diet. Little or no indication of reduced food intake.”

- **Very low food security**: “Reports of multiple indications of disrupted eating patterns and reduced food intake.”

Food insecurity may be long term or temporary. It may be influenced by a number of factors including income, employment, race/ethnicity, and disability. The risk for food insecurity increases when money to buy food is limited or not available. In 2016, 31.6% of low-income households were food insecure, compared to the national average of 12.3%. children with unemployed parents have higher rates of food insecurity than children with employed parents. Racial and ethnic disparities exist related to food insecurity. In 2016, black non-Hispanic households were nearly 2 times more likely to be food insecure than the national average (22.5% versus 12.3%, respectively). Among Hispanic households, the prevalence of food insecurity was 18.5% compared to the national average (12.3%).

Neighborhood conditions may affect physical access to food. For example, people living in some urban areas, rural areas, and low-income neighborhoods may have limited access to full-service supermarkets or grocery stores. Predominantly black and Hispanic neighborhoods have fewer full-service supermarkets than predominantly white and non-Hispanic neighborhoods. Communities that lack affordable and nutritious food are commonly known as “food deserts.” Convenience stores and small independent stores are more common in food deserts than full-service supermarkets or grocery stores. These stores may have higher food prices, lower quality foods, and less variety of foods than supermarkets or grocery stores. Access to healthy foods is also affected by a lack of transportation and long distances between residences and supermarkets or grocery stores.[609]

Overnutrition

Overnutrition is a form of malnutrition (imbalanced nutrition) arising from excessive intake of nutrients, leading to an accumulation of body fat that impairs health (*i.e.*, overweight/obesity).[610] Overnutrition is an epidemic in the United States and is known to be a risk factor for many diseases, including Type 2 diabetes, cardiovascular disease, inflammatory disorders (such as rheumatoid arthritis), and cancer.[611]

Overweight and Obesity in Childhood

Obesity means having too much body fat. It is different from being overweight, which means weighing too much. Both terms mean that a person's weight is greater than what's considered healthy for his or her height. Children grow at different rates, so it isn't always easy to know when a child has obesity or is overweight.[612] Obesity is defined as a body mass index (BMI) at or above the 95th percentile of the CDC sex-specific BMI-for-age growth charts (See Appendix O).[613]

In the United States, the percentage of children and adolescents affected by obesity has more than tripled since the 1970s.[614] Obesity prevalence was 13.9% among 2- to 5-year-olds, 18.4% among 6- to 11-year-olds. Childhood obesity is also more common among certain populations.

- Hispanics (25.8%) and non-Hispanic blacks (22.0%) had higher obesity prevalence than non-Hispanic whites (14.1%).
- Non-Hispanic Asians (11.0%) had lower obesity prevalence than non-Hispanic blacks and Hispanics.[615]

Many factors contribute to childhood obesity, including:

- Genetics.
- Metabolism—how your body changes food and oxygen into energy it can use.
- Eating and physical activity behaviors.
- Community and neighborhood design and safety.
- Short sleep duration.
- Negative childhood events.

Genetic factors cannot be changed. However, people and places can play a role in helping children achieve and maintain a healthy weight. Changes in the environments where children spend their time—like homes, early care and education programs, schools, and community settings—can make it easier for children to access nutritious foods and be physically active. Early care and education programs and schools can adopt policies and practices that help young people eat more fruits and vegetables, eat fewer foods and beverages that are high in added sugars or solid fats, and increase daily minutes of physical activity.[616]

Nutrition Concerns During Childhood

To keep children well, it's also important to be aware of common nutritional concerns during childhood. Two of those concerns are food allergies and intolerances and iron deficiency anemia.

Food Allergies and Food Intolerance

Food allergies impact four to six percent of young children in America. Common food allergens include peanuts, eggs, shellfish, wheat, and cow's milk.[617] Recent studies show that three million children under age eighteen are allergic to at least one type of food.

An allergy occurs when a protein in food triggers an immune response, which results in the release of antibodies, histamine, and other defenders that attack foreign bodies. Possible symptoms include itchy skin, hives, abdominal pain, vomiting, diarrhea, and nausea. Symptoms usually develop within minutes to hours after consuming a food allergen. Children can outgrow a food allergy, especially allergies to wheat, milk, eggs, or soy.



Figure 13.6 – Hives can be a sign of an allergic reaction[618]

Anaphylaxis is a life-threatening reaction that results in difficulty breathing, swelling in the mouth and throat, decreased blood pressure, shock, or even death. Milk, eggs, wheat, soybeans, fish, shellfish, peanuts, and tree nuts are the most likely to trigger this type of response. A dose of the drug epinephrine is often administered via a "pen" to treat a person who goes into anaphylactic shock.

Some children experience a food intolerance, which does not involve an immune response. Food intolerance is marked by unpleasant symptoms that occur after consuming certain foods. Lactose intolerance, though rare in very young children, is one example. Children who suffer from this condition experience an adverse reaction to the lactose in milk products. It is a result of the small intestine's inability to produce enough of the enzyme lactase, which is produced by the small intestine. Symptoms of lactose intolerance usually affect the GI tract and can include bloating, abdominal pain, gas, nausea, and diarrhea. An intolerance is best managed by making dietary changes and avoiding any foods that trigger the reaction.[619]

Caring for Children with Food Allergies

Staff who work in schools and early care and education (ECE) programs should develop plans for how they will respond effectively to children with food allergies. Although the number of children with food allergies in any one school or ECE program may seem small, allergic reactions can be life-threatening and have far-reaching effects on children and their families, as well as on the schools or ECE programs they attend. Any child with a food allergy deserves attention and the school or ECE program should create a plan for preventing an allergic reaction and responding to a food allergy emergency.

Studies show that 16%–18% of children with food allergies have reacted to accidentally eating food allergens while at school. In addition, 25% of the severe and potentially life-threatening reactions (anaphylaxis) reported at schools happened in children with no previous diagnosis of food allergy. School and ECE program staff should be ready to address the needs of children with known food allergies. They also should be prepared to respond effectively to the emergency needs of children who are not known to have food allergies but who exhibit allergic signs and symptoms.

The symptoms of allergic reactions to food vary both in type and severity among individuals and even in one individual over time. Symptoms associated with an allergic reaction to food include the following:

- Mucous Membrane Symptoms: red watery eyes or swollen lips, tongue, or eyes.
- Skin Symptoms: itchiness, flushing, rash, or hives.
- Gastrointestinal Symptoms: nausea, pain, cramping, vomiting, diarrhea, or acid reflux.
- Upper Respiratory Symptoms: nasal congestion, sneezing, hoarse voice, trouble swallowing, dry staccato cough, or numbness around mouth.
- Lower Respiratory Symptoms: deep cough, wheezing, shortness of breath or difficulty breathing, or chest tightness.
- Cardiovascular Symptoms: pale or blue skin color, weak pulse, dizziness or fainting, confusion or shock, hypotension (decrease in blood pressure), or loss of consciousness.
- Mental or Emotional Symptoms: a sense of “impending doom,” irritability, change in alertness, mood change, or confusion.

Children sometimes do not exhibit overt and visible symptoms after ingesting an allergen, making early diagnosis difficult. Signs and symptoms can become evident within a few minutes or up to 1–2 hours after ingestion of the allergen, and rarely, several hours after ingestion.

Children might communicate their symptoms in the following ways:

- It feels like something is poking my tongue.
- My tongue (or mouth) is tingling (or burning).
- My tongue (or mouth) itches.
- My tongue feels like there is hair on it.
- My mouth feels funny.
- There’s a frog in my throat; there’s something stuck in my throat.
- My tongue feels full (or heavy).
- My lips feel tight.
- It feels like there are bugs in there (to describe itchy ears).
- It (my throat) feels thick.
- It feels like a bump is on the back of my tongue (throat).

Some children may not be able to communicate their symptoms clearly because of their age or developmental challenges.

Emotional Impact on Children with Food Allergies and Their Families

The health of a child with a food allergy can be compromised at any time by an allergic reaction to food that is severe or life-threatening. Many studies have shown that food allergies have a significant effect on the psychosocial well-being of children with food allergies and their families.

Families of a child with a food allergy may have constant fear about the possibility of a life-threatening reaction and stress from constant vigilance needed to prevent a reaction. They also have to trust their child to the care of others, make sure their child is safe outside the home, and help their child have a normal sense of identity.

Children with food allergies may also have constant fear and stress about the possibility of a life-threatening reaction. The fear of ingesting a food allergen without knowing it can lead to coping strategies that limit social and other daily activities. Children can carry emotional burdens because they are not accepted by other people, they are socially isolated, or they believe they are a burden to others. They also may have anxiety and distress that is caused by teasing, taunting, harassment, or bullying by peers, teachers, or other adults. School and ECE program staff must consider these factors as they develop plans for managing the risk of food allergy for children with food allergies.

Food Allergy Management in Early Care and Education Programs

School and ECE program staff should develop a comprehensive strategy to manage the risk of food allergy reactions in children. This strategy should include (1) a coordinated approach, (2) strong leadership, and (3) a specific and comprehensive plan for managing food allergies.

1. Use a coordinated approach that is based on effective partnerships. The management of any chronic health condition should be based on a partnership among school or ECE program staff, children and their families, and the family's allergist or other doctor.

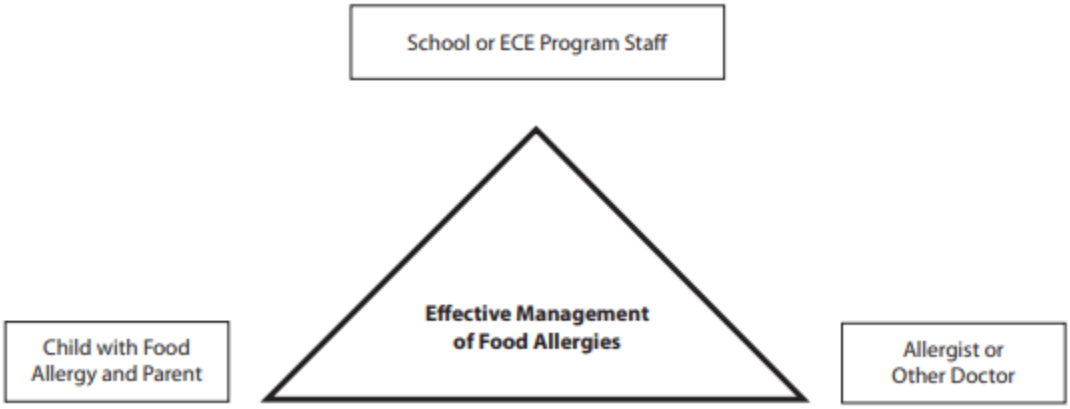


Figure 13.6 – Effective management of food allergies requires partnerships.[620]

2. The collective knowledge and experience of a licensed doctor, children with food allergies, and their families can guide the most effective management of food allergies in schools or ECE programs for each child. Close working relationships can help ease anxiety among parents, build trust, and improve the knowledge and skill of school or ECE program staff members.
3. Provide clear leadership to guide planning and ensure implementation of food allergy management plans and practices. This may be the administrator or the person that coordinates health services for children (health consultant, school nurse, etc.)
4. Develop and implement a comprehensive plan for managing food allergies. To effectively manage food allergies and the risks associated with these conditions, many people inside and outside the school or ECE program must come together to develop a comprehensive plan, called the Food Allergy Management and Prevention Plan (FAMPP). See Appendix P for a checklist that programs can use to evaluate their response to food allergy emergencies.

The FAMPP should address the following five priorities:

1. Ensure the daily management of food allergies for individual children. a) Identify children with food allergies. b) Develop a plan to manage and reduce the risk of food allergy reactions in individual children, usually called a food allergy Emergency Care Plan (ECP). The ECP should be written by the child's physician and confirmed with the parents. It should include: i) A recent photo of the child. ii) Information about the food allergen, including a confirmed written diagnosis from the child's doctor or allergist. iii) Information about signs and symptoms of the child's possible reactions to known allergens. iv) Information about the possible severity of reactions, including any history of prior anaphylaxis (even though anaphylaxis can occur even in children without a history of prior anaphylaxis). v) A treatment plan for responding to a food allergy reaction or emergency, including whether an epinephrine auto-injector should be used. vi) Information about other conditions, such as asthma or exercise-induced anaphylaxis that might affect food allergy management. vii) Contact information for parents and doctors, including alternate phone numbers for notification in case of emergency
2. Prepare for food allergy emergencies. a) Set up communication systems that are easy to use (intercoms, walkie-talkies, cell phones, etc.) b) Make sure staff can get to epinephrine auto-injectors quickly and easily c) Make sure that epinephrine is used when needed and someone immediately contacts emergency medical services d) Identify the role of each staff member in an emergency e) Prepare for food allergy reactions in children without a prior history of food allergies. f) Document the response to a food allergy emergency
3. Provide professional development on food allergies for staff members. a) Provide general training on food allergies for all staff. b) Provide in-depth training for staff who have frequent contact with children with food allergies. c) Provide specialized training for staff who are responsible for managing the health of children with food allergies on a daily basis.
4. Educate children and family members about food allergies. a) Teach all children about food allergies b) Teach all parents and families about food allergies.

5. Create and maintain a healthy and safe educational environment. a) Create an environment that is as safe as possible from exposure to food allergens. b) Develop food-handling policies and procedures to prevent food allergens from unintentionally contacting another food. c) Make outside groups aware of food allergy policies and rules when they use school or ECE program facilities before or after hours. d) Create a positive psychosocial climate (one that prevents bullying, teasing, and harassing).

Early care and education programs are responsible for the health and safety of children with food allergies. Through the collective efforts of school and ECE program staff members, parents, and health care providers, children with food allergies can be assured a safe place to thrive, learn, and succeed.[621]

Gluten Intolerance and Celiac Disease

One particular intolerance to be aware of that may affect children in early care and education programs is gluten intolerance. Gluten is a protein found in wheat, rye, and barley. It is found mainly in foods but may also be in other products like medicines, vitamins, and supplements. People with gluten sensitivity have problems with gluten. It is different from celiac disease (see below), an immune disease in which people can't eat gluten because it will damage their small intestine.

Some of the symptoms of gluten sensitivity are similar to celiac disease. They include tiredness and stomachaches. It can cause other symptoms too, including muscle cramps and leg numbness. But it does not damage the small intestine like celiac disease.

Researchers are still learning more about gluten sensitivity.[622] A more serious concern surrounding gluten that has more acknowledgment in the medical field is celiac disease.

Celiac Disease

Celiac disease is an immune disease in which people can't eat gluten because it will damage their small intestine. If they have celiac disease and eat foods with gluten, the immune system responds by damaging the small intestine. Gluten is a protein found in wheat, rye, and barley. It may also be in other products like vitamins and supplements, hair and skin products, toothpaste, and lip balm.

Celiac disease affects each person differently. Symptoms may occur in the digestive system, or other parts of the body. One person might have diarrhea and abdominal pain, while another person may be irritable or depressed. Irritability is one of the most common symptoms in children. Some people have no symptoms.

Celiac disease is genetic. Blood tests and tissue biopsies may be used to diagnose celiac disease. [623] "Many kids are diagnosed with it when they're between 6 months and 2 years old, which is when most kids get their first taste of gluten in foods."[624] Treatment is a diet free of gluten, which is essential to prevent damage to the small intestine.[625] So it is critical that their food does not contain and is not contaminated with gluten. Because gluten is found in many foods, reading nutrition labels will be vital. Preparing food away from gluten containing food is also required to prevent cross-contamination. Gluten free versions of foods and gluten-free recipes will help early care and education staff (and families) to protect the nutritional well-being and health of children with celiac disease.

Pause to Reflect

What are five things you think every adult that cares for children should know about food allergies and intolerances?

Iron-Deficiency Anemia

Iron deficiency anemia is the most common cause of anemia in the United States.[626] This condition occurs when an iron-deprived body cannot produce enough hemoglobin, a protein in red blood cells that transports oxygen throughout the body. The inadequate supply of hemoglobin for new blood cells results in anemia. Iron-deficiency anemia causes a number of problems including weakness, pale skin, shortness of breath, and irritability. It can also result in intellectual, behavioral, or motor problems.

In infants and toddlers, iron-deficiency anemia can occur as young children are weaned from iron-rich foods, such as breast milk and iron-fortified formula. They begin to eat solid foods that may not provide enough of this nutrient. As a result, their iron stores become diminished at a time when this nutrient is critical for brain growth and development.

There are steps that parents and caregivers can take to prevent iron-deficiency anemia, such as adding more iron-rich foods to a child's diet, including lean meats, fish, poultry, eggs, legumes, and iron-enriched whole-grain breads and cereals[627] and foods high in vitamin C, which helps the body absorb iron efficiently.[628] Although milk is critical for the bone-building calcium that it provides, intake should not exceed the recommended daily allowance (RDA) to avoid displacing foods rich with iron.[629]

Summary

Early care and education programs can create environments that protect children's nutrition and physical wellness by following dietary guidelines and providing nutritious foods that appeal to children and keeping them active. It is important to understand forms of malnutrition that can affect families and children and to understand and plan for nutritional concerns that may affect children, such as food allergies and intolerances and iron deficiency anemia.

Resources for Further Exploration

- We Can!: https://www.nhlbi.nih.gov/health/educational/wecan/
- Data Resource Center for Child and Adolescent Health, Childhood Obesity State Report Cards (2007): https://www.childhealthdata.org/brow...s/obesity-2007
- CDC's Overweight and Obesity Data, Trends and Maps: https://www.cdc.gov/obesity/data/databases.html
- Growing Healthy - A Guide for Health Managers and Families about Healthy Active Living for Young Children: https://eclkc.ohs.acf.hhs.gov/sites/...-flipchart.pdf
- Celiac Disease Foundation: https://celiac.org/
- GI Kids' Celia Disease: https://gikids.org/celiac-disease/
- National Digestive Diseases Information Clearinghouse: https://www.niddk.nih.gov/health-inf...stive-diseases
- National Resource Center for Health and Safety in Child Care and Early Education – Healthy Weight: https://nrckids.org/HealthyWeight
- Early Childhood Obesity Prevention Policies from the Institute of Medicine: http://www.nationalacademies.org/hmd...mendations.pdf
- Preventing Childhood Obesity in Early Care and Education Programs: https://nrckids.org/CFOC/Childhood_Obesity
- Robert Wood Johnson Foundation's Healthy Eating Research: http://healthyeatingresearch.org/
- Healthy Living from healthchildren.org: https://www.healthychildren.org/engl...s/default.aspx
- Physical Activity Guidelines for Americans: https://health.gov/sites/default/fil...nd_edition.pdf
- Move Your Way: https://health.gov/MoveYourWay/Get-Kids-Active/
- CDC's Healthy Weight: https://www.cdc.gov/healthyweight/calories/index.html
- CDC's Health Schools Physical Activity Facts: https://www.cdc.gov/healthyschools/p...vity/facts.htm
- Food Allergy by U.S. National Library of Medicine: https://medlineplus.gov/foodallergy.html
- Head Start's Strategies to Support and Encourage Healthy Active Living Course: eclkc.ohs.acf.hhs.gov/physic...-living-course
- Healthy Kids, Healthy Futures: https://healthykidshealthyfuture.org/
- Healthy Eating for an Active Lifestyle: https://www.hhs.gov/sites/default/fi...m_tipsheet.pdf
- HealthyPeople.gov's Food Insecurity: https://www.healthypeople.gov/2020/t...ood-insecurity
- USDA's Definitions of Food Security: https://www.ers.usda.gov/topics/food...-security.aspx

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14: Providing Good Nutrition

Learning Objectives

By the end of this chapter, you should be able to:

- Describe the changes in nutritional needs as children mature (get older).
- Advocate for the support of breastfeeding mothers.
- Relate bottle-feeding practices.
- Discuss the transition to solid foods and self-feeding.
- Summarize feeding challenges for toddlers.
- Explain effective ways to respond to picky eating.
- Outline the importance of inclusive nutrition policies and practices.
- Identify how to support children with unique nutritional and feeding needs.

Licensing Regulations

Title 22 Regulations that relate to this chapter include:

101227 FOOD SERVICE

- Food selection, storage preparation, and service shall be safe and healthful and of the quality and quantity necessary to meet the needs of children.
- Meal services are elective.
- Between meals, snacks must be available for all children. Snacks will include servings from two or more of the four major food groups.

101527 FOOD SERVICE

- In addition to Section 101227, before and after school programs shall offer nutritious snacks to children.

101427 INFANT CARE FOOD SERVICE

- In addition to 101227, the following shall apply:

- Each infant shall have an individual feeding plan completed prior to the infant's first day at the center. This plan must be developed by the director, infant's representative and/or physician.
- The plan shall include: instructions for infant's special diet, feeding schedule, breast milk or formula, schedule for introduction to solid/new foods, food consistency, likes and dislikes, allergies, schedule for introduction of cups and utensils.
- This plan shall be updated as often as necessary.
- Bottle fed infants shall be fed at least every four hours.
- Infant care centers shall have appropriate food available for the infants.
- The center shall provide only commercially prepared formulas that are stored and prepared in accordance with the label.
- The infant's representative may provide formula or breast/mother's milk. Such formula or milk shall be bottled before being accepted by the center.
- Bottles shall be labeled.
- Center may heat formula or breast/mother's milk.
- Center must keep a supply of nipples. Bottles/nipples can not be shared between infants unless sterilized.
- Infants unable to hold a bottle shall be held by staff for bottle feeding.
- Bottles cannot be propped; infants shall not carry a bottle while ambulatory; a bottle given to an infant able to hold his/her own shall be unbreakable.
- High chairs or appropriate seating equipment shall be used for infants during feeding. Infants unable to sit unassisted shall be held by staff for feeding.

- Bottles, dishes and food containers brought from infant's home shall be labeled with infant's name and current date.
- Formula partially consumed in a bottle shall be discarded at end of each day.
- Food shall be discarded if not consumed within 72 hours of date on the container label.
- The infant care center shall not serve honey.
- Commercially prepared baby food in jars shall be transferred to a dish before being fed to the infant. Any food left over in the dish at the end of a meal shall be discarded.
- Mother may make arrangements with center for privacy to nurse infant.
- Bottles and nipples in center shall be sterilized.
- Infants shall not be bathed in, and diapers or clothing shall not be rinsed in the food preparation area.

Introduction

To provide all children the appropriate nutrition, it is important to understand how nutritional needs and feeding practices change as children mature. Children with special needs may have different nutritional and feedings needs. Working with families and medical providers, programs can ensure that they meet each and every child's needs. Early care and education programs can also support and empower families to provide the best nutrition to their children.

Feeding Infants

Requirements for macronutrients and micronutrients on a per-kilogram basis are higher during infancy than at any other stage in the human life cycle. See the average calorie needs for infants in Table 14.1. An infants' resting metabolic rate is two times that of an adult. These needs are affected by the rapid cell division that occurs during growth, which requires energy and protein, along with the nutrients that are involved in DNA synthesis.[630]

Table 14.1 – Average Calorie Needs for Infants[631]

Sex/Age	Calories
Boys (0-6 months)	472-645 calories
Girls (0-6 months)	438-593 calories
Boys (6-12 months)	645-844 calories
Girls (6-12 months)	593-768 calories
Boys (1-2 years)	844-1,050 calories
Girls (1-2 years)	768-997 calories

During this period, children are entirely dependent on their parents and other caregivers to meet these needs. For almost all infants six months or younger, breast milk is the best source to fulfill nutritional requirements. An infant may require feedings eight to twelve times a day or more in the beginning. After six months, infants can gradually begin to consume solid foods to help meet nutrient needs.

How often an infant wants to eat will also change over time due to growth spurts, which typically occur at about two weeks and six

weeks of age, and again at about three months and six months of age.[632]

Breastfeeding

The dietary recommendations for infants are based on the nutritional content of human breast milk. Carbohydrates make up about 45 to 65 percent of the caloric content in breast milk. Protein makes up about 5 to 20 percent of the caloric content of breast milk. About 30 to 40 percent of the caloric content in breast milk is made up of fat. A diet in high unsaturated fat is necessary to encourage the development of neural pathways in the brain and other parts of the body.

Almost all of the nutrients that infants require can be met if they consume an adequate amount of breast milk. There are a few exceptions, though. Human milk is low in vitamin D, which is needed for calcium absorption and building bone, among other things. Breast milk is also low in vitamin K, which is required for blood clotting, and deficits could lead to bleeding or hemorrhagic disease. Infants are born with limited vitamin K, so supplementation may be needed initially and some states require a vitamin K injection after birth. Also, breast milk is not high in iron, but the iron in breast milk is well absorbed by infants. After four to six months, however, an infant needs an additional source of iron other than breast milk. Therefore, breastfed children often need to take a vitamin D supplement in the form of drops. [633]

Supporting Breastfeeding in Early Care and Education

Early care and education programs play an important role in supporting breastfeeding All staff members—despite their comfort or experience with breastfeeding—play an important role in breastfeeding promotion. They have an opportunity to share the facts about breastfeeding with families, and to help them decide what's best for them and their babies.[634]

You can support breastfeeding mothers when you:

- Talk about why breastfeeding is so good for their infant.
- Tell them you want to care for breastfed infants and support breastfeeding mothers.
- Share other places in the community they can go to for help with breastfeeding.
- Share and discuss resources about breastfeeding.
- Try to time feedings to the mother's schedule (being sure to respond to the infant's needs and cues).
- Offer a place to nurse that is comfortable, quiet, and private.
- Communicate about their infant's day.[635]



Figure 14.1 – This child care center provides mothers a space to breastfeed.[636]

Feeding with Breastmilk in Early Care and Education Programs

Mothers may choose to have their breastfed infants fed in one of several ways when the infant is in child care including:

1. mother uses her breaks to come to the child care site at feeding times to nurse her infant;
2. child care provider gives the infant the breastmilk that the mother has expressed on a previous day.

Follow the feeding method that the mother chooses. Feeding advice such as the use of infant formula should come from the infant's doctor or clinic.

Expressed breastmilk needs to be stored and handled safely to keep it from spoiling. Remind mothers to label, date, and chill or refrigerate their breastmilk right after they express it. Ask mothers to bring the milk in hard plastic bottles.

Ask mothers to bring in enough breastmilk to feed the infant each day. Be sure that each bottle or other container of breastmilk is labeled with the infant's name and the date the milk was expressed. Bottles should have just the amount both you and the mother think the infant will take at each feeding. This amount will be about 2 to 4 ounces of breastmilk for the younger infant. As the infant gets older, the mother can put more breastmilk in each bottle. Keep breastmilk in the refrigerator or freezer until ready to use. Breastmilk that is not frozen, should be disposed of if not eaten within 72 hours.

Thaw frozen breastmilk by running the container under cool water. Do not set breastmilk out to thaw at room temperature. Do not thaw breastmilk by heating on the stove or in a microwave.[637] See below for instructions on how to bottle feed an infant.

Although breast milk is ideal for almost all infants, not all mothers will be able to breastfeed and some mothers should not breastfeed (including women with HIV, who are being treated for cancer, or who are taking drugs that are not safe while breastfeeding).

Formula Feeding

Infant formula provides a balance of nutrients. However, not all formulas are the same and there are important considerations that parents and caregivers must weigh. Standard formulas use cow's milk as a base. They have 20 calories per fluid ounce, similar to breast milk, with vitamins and minerals added. Soy-based formulas are usually given to infants who develop diarrhea, constipation, vomiting, colic, or abdominal pain, or to infants with a cow's milk protein allergy. Hypoallergenic protein hydrolysate formulas are usually given to infants who are allergic to cow's milk and soy protein. This type of formula uses hydrolyzed protein, meaning that the protein is broken down into amino acids and small peptides, which makes it easier to digest.

Infant formula comes in three basic types:

1. Powder that requires mixing with water. This is the least expensive type of formula.
2. Concentrates, which are liquids that must be diluted with water. This type is slightly more expensive.
3. Ready-to-use liquids that can be poured directly into bottles. This is the most expensive type of formula. However, it requires the least amount of preparation. Ready-to-use formulas are also convenient for traveling.

Most infants need about 2.5 ounces of formula per pound of body weight each day. Therefore, the average infant should consume about 24 fluid ounces of breastmilk or formula per day. When preparing formula, caregivers should carefully follow the safety guidelines, since an infant has an immature immune system. All equipment used in formula preparation should be sterilized. Prepared, unused formula should be refrigerated to prevent bacterial growth. Caregivers should make sure not to use contaminated water to mix formula in order to prevent foodborne illnesses. Follow the instructions for powdered and concentrated formula carefully—formula that is overly diluted would not provide adequate calories and protein, while overly concentrated formula provides too much protein and too little water which can impair kidney function.[638]

Feeding with Formula in Early Child Care and Education Programs

Early care and education programs provide commercially prepared formulas to infants, under the direction of the family. Bottles of formula should come prepared in bottles labeled with the infant's name and the date. Unused mixed formula should not be stored for more than 24 hours.

Bottle Feeding (Both Expressed Breastmilk and Formula)

Always wash your hands before handling bottles or feeding the infant. Use only clean bottles, nipples, and cups. For infants that do not crawl, bottles and nipples should be sterilized. If you need to reuse them, sterilize by boiling in water for 5 minutes or by washing in a dishwasher.

Warm breastmilk and formula by placing the bottle in a pan of warm water or by holding it under warm running water for a few minutes. Do not warm breastmilk or formula on the stove or in a microwave. Microwave heating causes hot spots in the milk that can burn the infant's mouth and throat. These hot spots may stay even if you shake the bottle. And heating also destroys most of the natural substances in breastmilk.

Double-check the labels on bottles before feeding to ensure the infant is getting the correct breastmilk or formula. Always hold the infant when bottle feeding. Try different positions for infants who do not want to take their bottles. Some infants are happier if you feed them in the usual cradle position. Others prefer a different position. Do not prop up a bottle to feed an infant or put an infant in a crib with a bottle. Bottle propping could cause the infant to choke, tooth decay, and ear infections.



Figure 14.2 – Not only is holding an infant during bottle feeding safest, but it is also an important time for caregiver and infant to connect and build their relationship.[639]

Burp by placing the infant high over your shoulder or over your knee. You can also lean the infant forward in a sitting position supported by your hands. Pat or rub the infant's back. This puts gentle pressure on the abdomen to push extra air from the stomach.[640]

Uneaten breastmilk or formula should be discarded after a feeding as bacteria from the infant's mouth may have made it into the bottle.

When to Feed

In the early months, infants will need to be fed "on demand"—this means that they are able to feed whenever they are hungry or show hunger cues. Hunger cues are unique to each infant. An infant might:

- Have a specific hunger cry
- Root or look around for food
- Suck on their hand or fingers
- Become irritable or restless
- Repeat a unique behavior to demonstrate hunger

When adults respond to an infant's hunger cues, the infant can also tell how much food they want and when they are full. This

feeding practice supports healthy eating habits, growth, and development later in life.[641]

Pause to Reflect

Some families put infants on a schedule that dictates when they eat (and even sleep)? Is this compatible with feeding on demand as described above? How might you discuss this with a family?

Introducing Solid Foods

Infants should be breastfed or formula-fed exclusively for the first six months of life according to the WHO. (The American Academy of Pediatrics recommends breast milk or bottle formula exclusively for at least the first four months, but ideally for six months.) Infants should not consume solid foods before six months because solids do not contain the right nutrient mix that infants need. Also, eating solids may mean drinking less breast milk or bottle formula. If that occurs, an infant may not consume the right quantities of various nutrients. If parents try to feed an infant who is too young or is not ready, their tongue will push the food out, which is called an extrusion reflex. After six months, the suck-swallow reflexes are not as strong, and infants can hold up their heads and move them around, both of which make eating solid foods more feasible.[642]



Knowing When an Infant is Ready for Solid Foods

Here are several ways you can tell that an infant is ready to eat solid foods:

- The infant's birth weight has doubled.
- The infant can control their head and neck movements.
- The infant can sit up with some support.
- The infant can show you they are full by turning their head away or by not opening their mouth.
- The infant begins showing interest in food when others are eating.

Solid baby foods can be bought commercially or prepared from regular food using a food processor, blender, food mill, or grinder.[643] Baby food can be served at room temperature. If it is warmed, it must be stirred to distribute evenly.[644]

Portion the amount of food you intend to serve the baby (any uneaten food will need to be thrown away after a feeding and use small amounts on an infant-sized spoon. When beginning solid foods, timing is important. To keep mealtimes positive, choose a time when the infant is happy and when you have the patience and time to focus. Offer 1 to 2 teaspoons after a breastmilk or formula feeding. This can increase over time to 2 to 3 tablespoons.

It is normal for infants to refuse new foods. Sometimes it can take 10 to 12 times of offering a food before an infant will accept it. Infants know when they have had enough and may turn their head away. Don't force them to keep eating.[645] As families and caregivers introduce solids, they should feed the child only one new food at a time, to help identify allergic responses or food intolerances. An iron supplement is also recommended at this time.[646]

Foods to Avoid for Infants

- Never give honey to infants. It may contain bacteria that can cause botulism, a rare, but serious illness.
- Do not give infants cow's milk until they are 1 year old. Before age 1, they have a difficult time digesting cow's milk.
- Avoid foods with added salt or sugar.
- Do not give infants egg white until after they are 1 (egg yolks 3-4 per week are okay)[647]

Learning to Self-Feed

With the introduction of solid foods, young children begin to learn how to handle food and how to feed themselves. At six to seven months, infants can use their whole hand to pick up items (this is known as the palmer grasp). They can lift larger items, but picking up smaller pieces of food is difficult. At eight months, a child might be able to use a pincer grasp, which uses fingers to pick up objects.[648]

Serve food that is soft and mashed. Cut food into small pieces (cubes no larger than 1/4 inch) or thin slices that your baby can easily chew and swallow. Avoid high-risk choking foods such as small, slippery foods; dry foods that are hard to chew or sticky; and tough foods. [649]

Finger Foods

Here are some good food choices for self-feeding children:

- Soft cooked vegetables
- Washed and peeled fruits
- Graham crackers
- Melba toast
- Noodles
- Soft cooked vegetables
- Washed and peeled fruits
- Graham crackers
- Melba toast
- Noodles

Here are foods to *avoid* as they are a choking hazard:

- Apple chunks or slices
- Grapes
- Berries
- Raisins
- Dry flake cereals
- Hot dogs
- Sausages
- Peanut butter
- Popcorn
- Nuts
- Seeds
- Round candies
- Raw vegetables[650]

To minimize choking, ensure that infants are seated while eating. If using a high chair, make sure to use the safety straps.[651]



Figure 14.3 –This older infant has been served food on an unbreakable plate with a small utensil.[652]

After the age of one, children slowly begin to use utensils to handle their food. Unbreakable dishes and cups are essential, since very young children may play with them or throw them when they become bored with their food. [653]

Supporting Infant Nutrition

Nutrition during the first year of life is really important. While babies who are breastfed for at least 6 months are more likely to have a healthy weight as they grow up, mothers often report that breastfeeding is harder than they thought. And mothers may be more likely to stop breastfeeding if they feel unsupported and have nowhere to turn for help. And families that choose not to or cannot breastfeed have questions and need support to feed their infants in a healthy and safe way, too. Babies should be ready to start eating simple solids around 6 months. Babies who start eating solid foods too early are more likely to have weight problems as children and adults.[654]

Early care and education programs can support infant nutrition with the following practices:

- All food brought from home should be labeled with the child's name and date.
- Part of the care plan that families share with their program and that is updated regularly, should be instructions for feeding. Families should determine how and what their infant is fed (as long as it's in compliance with licensing).
- Support parents with materials on providing optimal nutrition for their infant (such as the tips just listed).
- Be supportive of mothers who are breastfeeding. For mothers who can come to nurse, provide a space conducive to that. Ensure the breastmilk that is brought to the program is properly labeled, stored, and prepared.
- For infants that are formula fed, ensure that formula is prepared according to the label (or doctor's instructions).
- Hold all infants during bottle feedings. Not only does this keep them safe, but it is also valuable one-on-one time (caregiving routines are the heart of infant/toddler curriculum).
- Follow the cues of the infant you are feeding (when they are hungry and full).
- When feeding pureed baby food, use a small spoon and make sure you transfer food from a jar into a dish and throw away any uneaten food.
- Have appropriate seating available for infants that are beginning to self-feed (high chairs, booster seats, or enclosed small chairs at a low table)
- Provide unbreakable dishes to serve food to self-feeding infants.

Engaging Families in Supporting Their Infant's Nutrition

Here are tips you can share with families

- If breastfeeding is harder than you thought it would be you are not alone!

- Lots of people say that breastfeeding just comes “naturally” but for many moms, it doesn’t.
- Going back to work and wanting to get back into a normal family routine can make it hard to stick with breastfeeding. Using a breast pump can help ensure your baby still gets the best nutrition.
- If you need support or help at any time while you are breastfeeding call 1-800-994-9662 (the National Breastfeeding Hotline) for free breastfeeding support.
- Don’t use pillows or other objects to hold a bottle for your baby. This makes it hard for her to spit out the bottle when she’s done - it can cause her to keep eating after she’s full.
- Make sure you take the bottle away if your baby falls asleep. If you let the baby keep the bottle in her mouth when he’s sleeping, formula can stay in her mouth and can damage his teeth or cause her to choke.
- Stick with ONLY breast milk or formula for feeding your baby until she is 6 months old. Unless your doctor tells you something different, adding cereal to a baby’s bottle adds extra calories to her diet that she doesn’t need. [655]
- Infants are usually ready to eat solid foods at about 6 months of age.
- If you introduce one new food at a time, you will be able to identify any foods that cause allergies in your baby.[656]
- Start solid feedings with iron-fortified baby cereal mixed with breast milk or formula. Mix it with enough milk so that the texture is very thin. Start by offering the cereal 2 times a day, in just a few spoonfuls.
- You can make the mixture thicker as your baby learns to control it in their mouth.
- You can also introduce iron-rich pureed meats, fruits, and vegetables. Try green peas, carrots, sweet potatoes, squash, applesauce, pears, bananas, and peaches.
- Some dietitians recommend introducing a few vegetables before fruits. The sweetness of fruit may make some vegetables less appealing.
- The amount your child eats will vary between 2 tablespoons (30 grams) and 2 cups (480 grams) of fruits and vegetables per day. How much your child eats depends on their size and how well they eat fruits and vegetables.[657]

Feeding Toddlers

Major physiological changes continue into the toddler years. Unlike in infancy, the limbs grow much faster than the trunk, which gives the body a more proportionate appearance. Their physical growth and motor development slow compared to the progress they made as infants. The toddler years pose interesting challenges for parents or other caregivers, as children learn how to eat on their own and begin to develop personal preferences. However, with the proper diet and guidance, toddlers can continue to grow and develop at a healthy rate.



Figure 14.4 – Caloric intake will depend on a toddler’s activity level. [658]

The energy requirements for ages two to three are about 1,000 to 1,400 calories a day. In general, a toddler needs to consume about 40 calories for every inch of height. For example, a young child who measures 32 inches should take in an average of 1,300 calories a day. However, the recommended caloric intake varies with each child’s level of activity. Toddlers require small, frequent, nutritious snacks and meals to satisfy energy requirements. The amount of food a toddler needs from each food group depends on daily calorie needs.

Forty-five to 65% of their daily caloric intake should come from carbohydrates. Protein should make up 5 to 20% of their daily calories. And fat should make up 30 to 40% of their daily intake. Essential fatty acids are vital for the development of the eyes,

along with nerve and other types of tissue. However, toddlers should not consume foods with high amounts of trans fats and saturated fats.

As a child grows bigger, the demands for micronutrients increase. These needs for vitamins and minerals can be met with a balanced diet, with a few exceptions. According to the American Academy of Pediatrics, toddlers and children of all ages need 600 international units of vitamin D per day. Vitamin D-fortified milk and cereals can help to meet this need. However, toddlers who do not get enough of this micronutrient should receive a supplement. Pediatricians may also prescribe a fluoride supplement for toddlers who live in areas with fluoride-poor water. Iron deficiency is also a major concern for children between the ages of two and three.[659]

Self-Feeding

As children grow older, they enjoy taking care of themselves, which includes self-feeding. During this phase, it is important to offer children foods that they can handle on their own and that helps them avoid choking and other hazards. Examples include fresh fruits that have been sliced into pieces, orange or grapefruit sections, peas or potatoes that have been mashed for safety, a cup of yogurt, and whole-grain bread or bagels cut into pieces. Even with careful preparation and training, the learning process can be messy. As a result, parents and other caregivers can help children learn how to feed themselves by providing the following:

- small utensils that fit a young child's hand
- small cups that will not tip over easily
- plates with edges to prevent food from falling off
- small servings on a plate
- highchairs, booster seats, or small enclosed chairs to reach a low table[660]



Figure 14.5 – Set toddlers up for success in self-feeding.[661]

Feeding Challenges in the Toddler Years

During the toddler years, parents may face a number of problems related to food and nutrition. Possible obstacles include difficulty helping a young child overcome a fear of new foods, or fights over messy habits at the dinner table. Even in the face of problems and confrontations, parents and other caregivers must make sure their preschooler has nutritious choices at every meal. For example, even if a child stubbornly resists eating vegetables, parents should continue to provide them. Before long, the child may change their mind, and develop a taste for foods once abhorred. It is important to remember this is the time to establish or reinforce healthy habits.

Nutritionist Ellyn Satter states that feeding is a responsibility that is split between parent and child. According to Satter, parents are responsible for what their infants eat, while infants are responsible for how much they eat. In the toddler years and beyond, parents are responsible for what children eat, when they eat, and where they eat, while children are responsible for how much

food they eat and whether they eat. Satter states that the role of a parent or a caregiver in feeding includes the following:

- selecting and preparing food
- providing regular meals and snacks
- making mealtimes pleasant
- showing children what they must learn about mealtime behavior
- avoiding letting children eat in between meal- or snack-times

You are likely to notice a sharp drop in their child's appetite. Children at this stage are often picky about what they want to eat. They may turn their heads away after eating just a few bites. Or, they may resist coming to the table at mealtimes. They also can be unpredictable about what they want to consume for specific meals or at particular times of the day. Although it may seem as if toddlers should increase their food intake to match their level of activity, there is a good reason for picky eating. A child's growth rate slows after infancy, and toddlers ages two and three do not require as much food.[662]

Establishing healthy meal routines is an important step in healthy toddler development. Ideally, mealtimes should take place at regular times, at a table with limited distraction, and children should be encouraged to feed themselves with adult support as needed. [663] Best practices in early care and education include creating positive meal and snack times that are served family-style with adult modeling eating balanced nutrition.

> Here are tips you can share with families:
>
> - Serving sizes for toddlers are much smaller than serving sizes for adults.
> - A typical serving size for a toddler drink is 4-6 ounces. Water and milk are the best choices for toddlers
> - Your toddler (and you too!) needs food from all five of the food groups—grains, protein, vegetables, fruit, and dairy. Try offering a variety of foods from these groups at meals and snacks.
> - Your toddler may eat more some days and less on others. Don't worry, this is normal! Keep offering regularly scheduled meals and snacks.
> - Allow your toddler to tell you when she is full. This teaches them to listen to their body for signs of hunger or fullness.
> - Try using child-size plates, bowls, and utensils for "right-size" portions for your toddler. Using child-size utensils also makes it easier for your toddler to eat.
> - Encourage toddlers to drink from cups and avoid the use of bottles or sippy cups.
> - Limit distractions during meal and snack times to allow your toddler to enjoy the food. Turn off the TV and sit at a table.
> - Toddlers get hungry between meals. Snack time is a great chance to feed your toddler healthy foods (like fruits and veggies).
> - Remember to have a start and end time for snack time. Toddlers should not be snacking (or grazing) all day.[664]

Feeding Preschoolers

Children's attitudes and opinions about food deepen. They not only begin taking their cues about food preferences from family members, but also from peers and the larger culture. This time in a child's life provides an opportunity for families and other caregivers to reinforce good eating habits and to introduce new foods into the diet while remaining mindful of a child's preferences. Adults should also serve as role models for their children, who will often mimic their behavior and eating habits.[665]



Figure 14.6 – Eating with children allows you to model healthy eating.[666]

MyPlate also provides a guide daily for calories based on sex and activity-level for preschool-aged children (although children's needs may differ from the average and appetites can vary from day to day).

Table 14.1 – Average Calorie Needs for Preschoolers[667]

Age	Sex	Activity	Calories
2	Boys & Girls	Any level	1,000 calories
3	Boys	<30 minutes	1,000 calories
		30-60 minutes	1,400 calories
		>60 minutes	1,400 calories
	Girls	<30 minutes	1,000 calories
		30-60 minutes	1,200 calories
		>60 minutes	1,400 calories
4	Boys	<30 minutes	1,200 calories

Age	Sex	Activity	Calories
		30-60 minutes	1,400 calories
		>60 minutes	1,600 calories
	Girls	<30 minutes	1,200 calories
		30-60 minutes	1,400 calories
		>60 minutes	1,400 calories
5	Boys	<30 minutes	1,200 calories
		30-60 minutes	1,400 calories
		>60 minutes	1,600 calories
	Girls	<30 minutes	1,200 calories
		30-60 minutes	1,400 calories
		>60 minutes	1,600 calories

In early childhood, children should still get 45-65% of their daily calories from carbohydrates. Carbohydrates high in fiber should make up the bulk of intake. Their intake of protein increases to 10–30% of their daily calories to support muscle growth and development. High levels of essential fatty acids are needed to support growth (although not as high as in infancy and the toddler years). As a result, the daily recommendation for fat is 25–35% of their daily calories. And they should get 17–25 grams of fiber per day.

Their micronutrient needs should be met with foods first. Families and caregivers should select a variety of foods from each food group to ensure that nutritional requirements are met. Because children grow rapidly, they require foods that are high in iron, such as lean meats, legumes, fish, poultry, and iron-enriched cereals. Adequate fluoride is crucial to support strong teeth. One of the most important micronutrient requirements during childhood is adequate calcium and vitamin D intake. Both are needed to build dense bones and a strong skeleton. Children who do not consume adequate vitamin D should be given a supplement of 10 micrograms (400 international units) per day.[668]

Feeding Challenges in the Preschool Years

Picky eating is typical for many preschoolers. It's simply another step in the process of growing up and becoming independent.

As long as a preschooler is healthy, growing normally, and has plenty of energy, they are most likely getting the nutrients they need.

Typical Picky Eating Behaviors

Many children will show one or more of the following behaviors during the preschool years. In most cases, these will go away with time.

- Refusal of a food based on a certain color or texture. For example, they could refuse foods that are red or green, contain seeds, or are squishy.
- Only eating a certain type of food. A preschooler may choose 1 or 2 foods they like and refuse to eat anything else.
- "Wasting" of time at the table and seeming interested in doing anything but eating.
- Unwillingness to try new foods. It is normal for a preschooler to prefer familiar foods and be afraid to try new things.[669]

Helping Families Cope with Picky Eating

Picky eating is temporary. If adults don't make it a big deal, it will usually end before school age. The following tips are tips to help deal with picky eating behavior positively.

- Let your kids be "produce pickers." Let them pick out fruits and veggies at the store.
- Have your child help you prepare meals. Children learn about food and get excited about tasting food when they help make meals. Let them add ingredients, scrub veggies, or help stir.
- Offer choices. Rather than ask, "Do you want broccoli for dinner?" ask "Which would you like for dinner, broccoli or cauliflower?"
- Enjoy each other while eating family meals together. Talk about fun and happy things. If meals are times for family arguments, your child may learn unhealthy attitudes toward food.
- Offer the same foods for the whole family. Serve the same meal to adults and kids. Let them see you enjoy healthy foods. Talk about the colors, shapes, and textures on the plate.[670]
- Make food fun
- Cut food into fun and easy shapes with cookie cutters.
- Encourage your child to invent and help prepare new snacks.
- Name a food your child helps create.[671]
- Focus on the meal and each other. Your child learns by watching you. Children are likely to copy your table manners, your likes and dislikes, and your willingness to try new foods.
- Offer a variety of healthy foods. Let your child choose how much to eat. Children are more likely to enjoy a food when eating it is their own choice.
- Let your children serve themselves. Teach your children to take small amounts at first. Let them know they can get more if they are still hungry.[672]

Trying New Foods

It is normal for children to reject foods they have never tried before. Here are some tips to get preschoolers to try new foods:

- Small portions, big benefits**.** Let children try small portions of new foods that you enjoy. Give them a small taste at first and be patient with them.
- Offer only one new food at a time and ideally with a favored food. Offering many new foods all at once could be too much for children.
- Be a good role model. Try new foods yourself. Describe their taste, texture, and smell to the children.
- Offer new foods first when children are most hungry.
- Offer new foods many times. It may take up to a dozen tries for a child to accept a new food.[673]

Pause to Reflect

Think back to your childhood. Were you a picky eater or more adventurous? Why do you think that it was? How did your caregivers respond to your eating preferences? Do you have similar preferences now or have you expanded your tastes/ preferences?

Feeding School-Aged Children

While calorie needs go up as children get older, until around age 9 (or the beginning of puberty), nutritional needs for school-aged children are very similar to preschoolers. Once puberty begins, there is a period of rapid growth as girls grow 2-8 inches and boys grow 4-12 inches.

Table 14.2 – Average Calorie Needs for School-Aged Children[674]

Age	Sex	Activity	Calories
6–8 years	Boys	Sedentary	1,400 calories
		Moderately active	1,600 calories
		Active	1,800 calories
	Girls	Sedentary	1,200 calories
		Moderately active	1,400 calories
		Active	1,600 calories
9–10 years	Boys	Sedentary	1,600 calories
		Moderately active	1,800 calories
		Active	2,000 calories
	Girls	Sedentary	1,400 calories
		Moderately active	1,600 calories

Age	Sex	Activity	Calories
		Active	1,800 calories
11–12	Boys	Sedentary	2,000 calories
		Moderately active	2,200 calories
		Active	2,400 calories
	Girls	Sedentary	1,600 calories
		Moderately active	1,800 calories
		Active	2,000 calories

School-aged children should still get 45-65% of their daily calories from carbohydrates. Carbohydrates high in fiber should make up the bulk of that. Their intake of protein remains at 10–30% of their daily calories to support muscle growth and development. And the daily recommendation for fat also remains at 25–35% of their daily calories.

A few micronutrients take on added importance, especially at the beginning of puberty. These include vitamins, D, K, and B12, calcium, and iron. Whenever possible these additional micronutrient needs should be met with dietary choices and not supplements (with the exception of iron).[675]

School Meals

School-aged children can often eat both breakfast and lunch at school, which can save families time and provide children with nutritious food.

Breakfast

Research has shown that children that eat breakfast do better in school and have higher intakes of fiber, B vitamins, calcium, and other nutrients.[676] Refer to Figure 14.7 to see what a school breakfast includes.

Lunch

Lunch is important because it meets 1/3 of the nutritional needs of most children for the day. And kids with healthier eating patterns have better academic performance. And farm to school programs (in 42% of schools) increase children's access to locally produced foods.[677] Refer to Figure 14.8 to see a breakdown of school lunches provide.



Figure 14.7 - School breakfast[678]



Figure 14.8 – School lunch[679]

Meals and Snacks in School-Aged Care Programs

On school days, children that are in care before school may need to be fed breakfast (if they did not eat at home or will not be eating at school). After school, they will need substantial, healthy snacks. On full days of care, they will need breakfast, lunch, and a snack.

Follow the menu planning advice in Chapter 15. And involve the children in menu planning and food preparation whenever possible and see which of the suggestions in the following feature for families might also be incorporated into the classroom.



Figure 14.9 – These 9-year-olds learned the knife skills to help prepare this snack of fruit.[680]

Activities Families Can Do with Children

Choosemyplate.gov offers some fun ideas for families to teach their children about healthy eating and engage the whole family in making healthy choices. Some of these include:

- Food critic game where children select a new food to try and rate it on visual appeal, smell, taste, and texture[681]
- Grocery store bingo where children identify foods they see in the grocery store to try to get a 5 in a row bingo[682]
- Make food visually appealing by turning it into art
- Kid's Restaurant: Kids get to plan out the meal, design the menu, and prepare the dish
- Growing a garden (or starting small with an herb box in a window)
- Going to a local farmer's market or farm stand to find local food options to buy, take home, and turn into a delicious meal.

Making Mealtimes Fun

Here are some tips for families for making mealtimes more relaxed and enjoyable:

- Remove distractions, such as phones, tablets, and turn off the television.
- Have conversations. Use starters like:

- Give each family member the spotlight to share their highlight, lowlight, and "funnylight"
- If our family lived in a zoo, what animals would we be and why?
- If you could have one superpower, what would it be and why?
- If you were stranded on a desert island and could only have one food to eat, what would it be and why?
- Pass on traditions, both the foods and the stories behind them

- Let the children make the choices (from a healthy selection of foods)
- Let everyone help prepare and clean up after meals
- Consider a change of scenery, like a picnic
- Reserve a special plate to rotate between family members, for example on birthdays, when someone gets a good grade, or any other occasion you'd like to recognize.[683]

Feeding Children with Special Needs

Some disabilities and other exceptional needs may affect children's nutrition. For example,

- children with cerebral palsy or cystic fibrosis may have different caloric needs
- children with celiac disease or irritable bowel syndrome may have dietary restrictions
- children with cleft lip or palate may have physical difficulties with eating
- children on the autism spectrum may have strong food preferences or aversions



Figure 14.10 – This child with a cleft lip may find sucking from a bottle challenging.[684]

Because each child's specific needs will vary, early care and education programs should work closely with families, and medical providers as needed, to ensure that they understand and can meet the nutritional and feeding needs of the individual child (not a generalization or assumption about the child might need based on a diagnosis or label).

Nutrition policies and practices should be created to be inclusive of children with special needs. Some general considerations early care and education programs and schools should make to ensure that all children's nutritional needs are met and that all children experience positive meal and snack times include:

- Ensure that the spaces in which children eat and access to drinking water are fully accessible to all children, including those with mobility impairments (and if needed, assistive devices should be provided).
- Staff should be trained to provide for children who may have additional or differing nutritional or feeding needs so they can work effectively and comfortably with all children.
- Follow any dietary restrictions.[685]

Summary

Early care and education programs can provide for all children's nutrition when they understand

- the general changes children have in nutritional needs as they mature,
- common challenges across the different stages of development, and
- strategies that foster positive meal and snack times at each age stage, and
- the fact that children may have diverse and unique nutritional needs

Programs also play an important role in children's nutrition by empowering families by providing support, information, and resources as they make decisions about how to feed their children.

Resources for Further Exploration

- Head Starts' Growing Healthy guide: https://eclkc.ohs.acf.hhs.gov/sites/...-flipchart.pdf
- Ellyn Satter Institute: https://www.ellynsatterinstitute.org...es-and-stages/
- USDA's Breastfeeding: Why Not Give It a Try?: https://eclkc.ohs.acf.hhs.gov/sites/...-a-try-eng.pdf

- Toddler Nutrition and Health Resource List: https://www.nal.usda.gov/sites/defau...s//toddler.pdf
- Resources on MyPlate.gov:
- Daily Food Plan: https://choosemyplate-prod.azureedge...MiniPoster.pdf
- Preschoolers: https://www.choosemyplate.gov/browse...on-information
- Kids: https://www.choosemyplate.gov/browse-by-audience/view-all-audiences/children/kids
- Healthy Beverages in Early Care and Education: https://cchp.ucsf.edu/content/health...care-education
- The CDC Guide to Strategies to Support Breastfeeding Mothers and Babies: https://www.cdc.gov/breastfeeding/re.../toolkits.html
- KidsHealth From Nemours Nutrition & Fitness Center: https://kidshealth.org/en/parents/nu...trition-center
- USDA's Accommodating Children with Special Dietary Needs in the School Nutrition Programs: https://www.fns.usda.gov/accommodati...ition-programs
- USDA's Nutrition Curricula: https://www.nal.usda.gov/fnic/curric...d-lesson-plans
- Golisano Children's Hospital's Special Diets for Nutritional Special Needs: https://www.urmc.rochester.edu/child...ion/diets.aspx

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15: Menu Planning and Food Safety

Learning Objectives

By the end of this chapter, you should be able to:

- Outline the meal patterns for infants and children.
- Create nutritious menus that follow the meal patterns.
- Describe factors to consider when menu planning.
- Identify a variety of sources of food for each food group.
- Examine individual and cultural food preferences.
- Explain special considerations for planning vegetarian menus.
- Discuss the benefits of family style meal service.
- Relate ways to support families in providing well-balanced foods from home.
- Outline important considerations for buying, storing, preparing, cooking, and serving food safely.

Licensing Regulations

Title 22 Regulations that relate to this chapter include:

101227 FOOD SERVICE

- Food selection, storage preparation, and service shall be safe and healthful and of the quality and quantity necessary to meet the needs of children.
- Full-day programs shall offer a midmorning and midafternoon snack and lunch (may be provided by the family).
- Half-day programs shall offer a midmorning or midafternoon snack.
- Menus must be in writing and posted at least one week in advance.
- Commercial food shall be approved by appropriate authorities.
- All persons engaged in food preparation or service shall observer personal hygiene and sanitation processes.
- Pesticides and similar toxic substances must not be stored with food.
- Soaps and cleaning compounds must be stored separately from food.
- Kitchens and food areas shall be clean.
- All food shall be protected against contamination.
- Necessary equipment includes a sink, refrigeration, hot and cold running water, and storage space. This equipment must be well maintained.

101427 INFANT CARE FOOD SERVICE

In addition to 101227, the following shall apply:

- Bottles, dishes, and food containers brought from infant's home shall be labeled with infant's name and current date.
- Formula partially consumed in a bottle shall be discarded at end of each day.
- Food shall be discarded if not consumed within 72 hours of date on the container label.
- Commercially prepared baby food in jars shall be transferred to a dish before being fed to the infant. Any food left over in the dish at the end of a meal shall be discarded.
- Bottles and nipples in center shall be sterilized.
- Infants shall not be bathed in, and diapers or clothing shall not be rinsed in the food preparation area.

101438.1 INFANT CARE GENERAL SANITATION

- Each caregiver shall wash his/her hands with soap and water before feeding and after each diaper change.

Introduction

Knowledge of menu planning is essential to providing appropriate nutrition to young children. Early care and education programs must have staff who plan and prepare food that are aware of individual preferences, including vegetarianism, and cultural and religious differences in food choice, preparation, and service. To protect children's health, proper hygiene and sanitation processes must be followed closely. Only safe food should be purchased. And how that food is stored, prepared, and served must follow proper protocol to prevent foodborne illness.

Menu Planning

Let's examine several factors that are important for menu planning, including the meal patterns, licensed programs must follow, the importance of variety and balance, and aesthetics.

Meal Patterns

In the state of California, licensing requires programs to follow the meal plan requirements of the Child and Adult Care Food Program and the Healthy Beverages in Child Care Act. Both of these were introduced in Chapter 12. To review, here are the breakfast meal patterns for infants and children.

Breakfast

Table 15.1 – Infant Breakfast Meal Patterns[686]

Meal or snack	0-5 Months	6-11 Months
Breakfast	4-6 fl oz breastmilk or formula	6-8 fl oz breastmilk or formula 0-4 tbsp infant cereal, meat, fish, poultry, whole eggs, cooked dry beans or peas; or 0-2 oz cheese; or 0-4 oz (volume) cottage cheese; or 0-4 oz yogurt; or a combination* 0-2 tbsp vegetable, fruit or both*

Solid foods are required when the infant is ready. All serving sizes are minimum quantities of the food components that are required to be served.

Table 15.2 – Breakfast Meal Pattern for Children[687]

Meal or snack	Food Item	1-2 Years	3-5 Years	6-18 Years
Breakfast	Milk	½ cup whole	¾ cup low-fat or fat-free	1 cup low-fat or fat-free
	Vegetables, fruit, or both	¼ cup	½ cup	½ cup
	Grains	½ ounce equivalent	½ ounce equivalent	1 ounce equivalent

Here is what breakfasts that follow the meal pattern might look like:

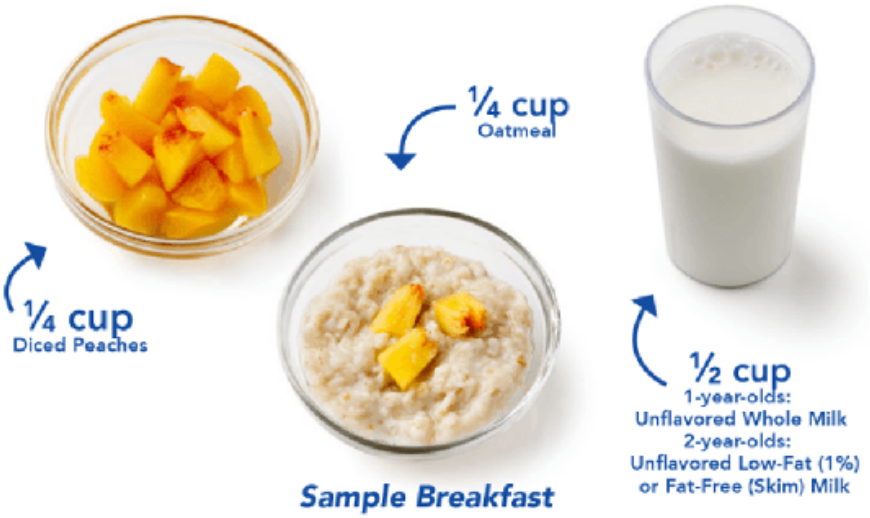


Figure 15.1 – A healthy breakfast for 1- to 2-year-olds[688]



Figure 15.2 – A healthy breakfast for 3- to 5-year-olds[689]

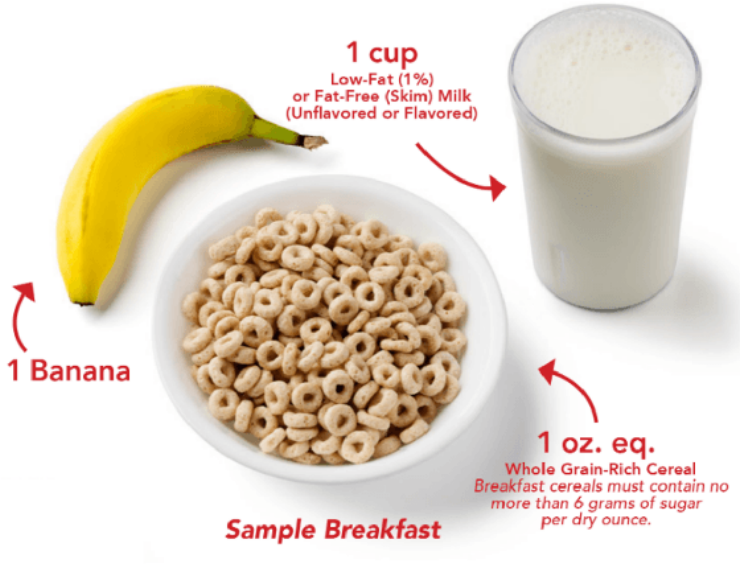


Figure 15.3 – A healthy breakfast for 6- to 18-year-olds[690]

Pause to Reflect

Create your own breakfasts that follow the meal plan for each age.

Lunch

And here are the lunch meal patterns for infants and children:

Table 15.3 – Infant Lunch Meal Patterns[691]

Meal or snack	0-5 Months	6-11 Months
Lunch or Supper	4-6 fl oz breastmilk or formula	6-8 fl oz breastmilk or formula 0-4 tbsp infant cereal, meat, fish, poultry, whole eggs, cooked dry beans or peas; or 0-2 oz cheese; or 0-4 oz (volume) cottage cheese; or 0-4 oz yogurt; or a combination* 0-2 tbsp vegetable, fruit or both*

Solid foods are required when the infant is ready. All serving sizes are minimum quantities of the food components that are required to be served

Table 15.4 – Lunch Meal Pattern for Children[692]

Meal or snack	Food Item	1-2 Years	3-5 Years	6-18 Years
Lunch or Supper	Milk	½ cup whole	¾ cup low-fat or fat-free	1 cup low-fat or fat-free

Meal or snack	Food Item	1-2 Years	3-5 Years	6-18 Years
	Meat and meat alternative	1 ounce	1½ ounces	2 ounces
	Vegetables	1/8 cup	¼ cup	½ cup
	Fruits	1/8 cup	¼ cup	¼ cup
	Grains	½ ounce equivalent	½ ounce equivalent	1 ounce equivalent

Here is what breakfasts that follow the meal pattern might look like:

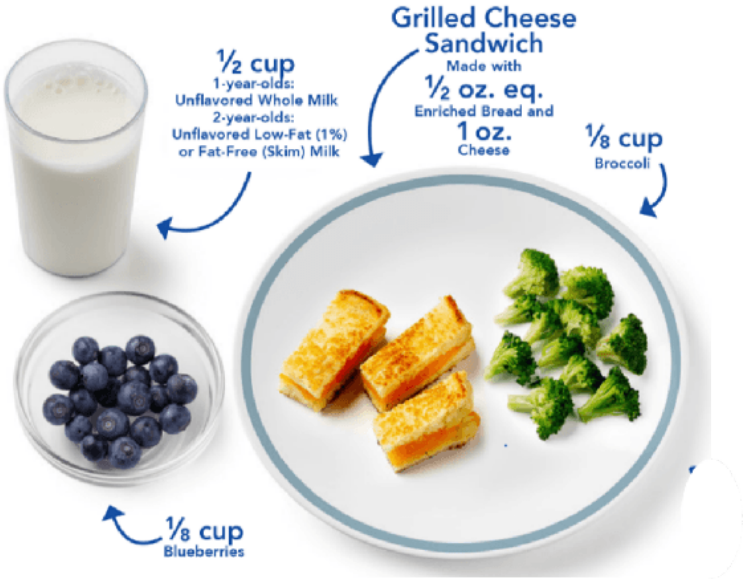


Figure 15.4 – A healthy lunch for 1- to 2-year-olds[693]

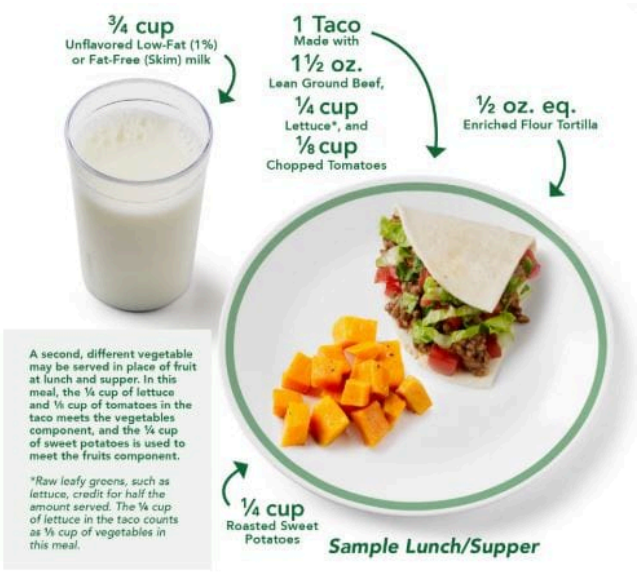


Figure 15.5 – A healthy lunch for 3- to 5-year-olds[694]

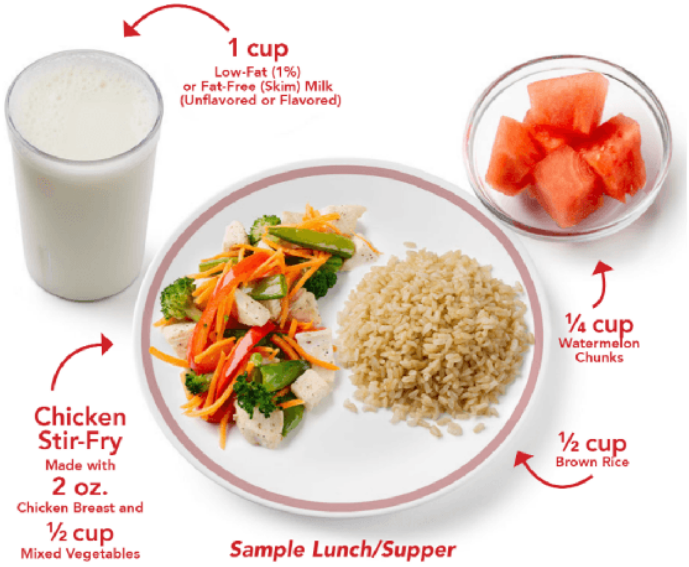


Figure 15.6 – A healthy lunch for 6- to 18-year-olds[695]

Pause to Reflect

Create your own lunches that follow the meal plan for each age.

Snacks

And finally, here are the meal patterns for snacks for infants and children:

Table 15.5 – Infant Snack Meal Patterns[696]

Meal or snack	0-5 Months	6-11 Months
Snack	4-6 fl oz breastmilk or formula	2-4 fl oz breastmilk or formula 0-½ bread slice; or 0-2 crackers; or 0-4 tbsp infant cereal or ready-to-eat cereal* 0-2 tbsp vegetable, fruit or both*

Solid foods are required when the infant is ready. All serving sizes are minimum quantities of the food components that are required to be served.

Table 15.6 – Snack Meal Pattern for Children[697]

Meal or snack	Food Item	1-2 Years	3-5 Years	6-18 Years
Snack (choose 2 of the options)	Milk	½ cup whole	½ cup low-fat or fat-free	1 cup low-fat or fat-free
	Meat and meat alternative	½ ounce	½ ounce	1 ounce
	Vegetables	½ cup	½ cup	¾ cup
	Fruits	½ cup	½ cup	¾ cup
	Grains	½ ounce equivalent	½ ounce equivalent	1 ounce equivalent

Best practice: Make at least 1 of the 2 required components of a snack a vegetable or a fruit. [698]

Here are some snacks that follow the meal pattern:

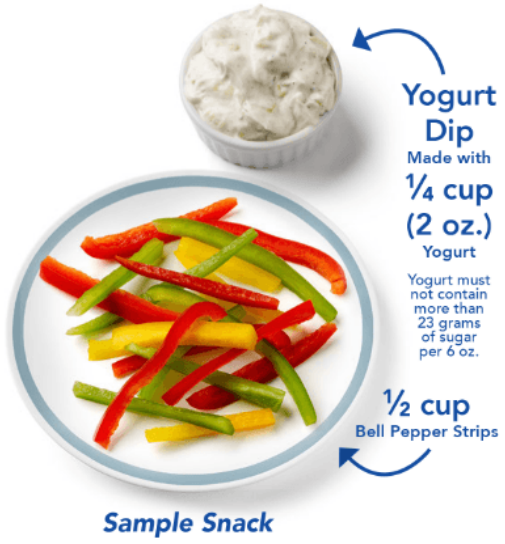


Figure 15.7 – A healthy snack for 1- to 2-year-olds[699]

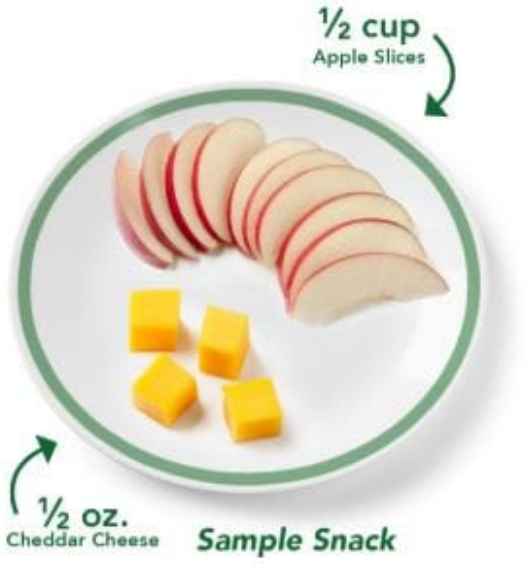


Figure 15.5 – A healthy snack for 3- to 5-year-olds[700]



Figure 15.6 – A healthy snack for 6- to 18-year-olds[701]

Pause to Reflect

Create your own snacks that follow the meal plan for each age.

Factors to consider

Menu planning principles include aesthetics, and variety, including color, texture, flavors, shapes, and sizes of food, cost, balance, and nutritional quality, The availability of equipment and staff knowledge and skill to prepare the foods on menus are also important considerations in planning the menu. Along with all of these, an effective menu also considers cost.[702]

Aesthetics and Variety

How our food is presented, along with texture, consistency, color, shape, and the preparation method, influences how we feel and what we think about a menu. It can even influence our appetite and our interest in eating.[703]

Select nutritious foods that are contrasting colors and textures. This adds to the visual and chewing appeal. Try to vary the colors of the foods being served. Avoid serving foods that are all one color. For example, select a green, soft vegetable (spinach), a red, crunchy fruit (an apple), and colorful, chewy wild rice to go along with a piece of chicken and a glass of milk. This lends visual and chewing appeal as the children can see different colors and feel different textures as they chew.[704]

Pause to Reflect

Go back and look at the samples. How well do you think they did with creating meals and snacks that offered variety and were visually appealing? What about the versions you created?

Cost

While well-balanced nutrition should never be sacrificed to save money, early care and education programs must also consider the costs of the menus they plan. One way to save costs is to use cycle menus. A cycle menu follows a particular pattern and repeats on a regular basis. The length of the cycle can vary, but may be 4-6 weeks long and can be different lengths for different meals/snacks (for instance, with breakfast repeating more often than lunches). And they can be updated as needed to include

new foods or make other accommodations.[705]

Cycle menus allow a program to forecast costs, order in bulk, and reduce waste (with tried and tested menus). Cycle menus are often planned seasonally so an operation might have a spring, summer, and fall/winter cycle.[706] And buying produce seasonally is often more affordable.

Nutrition and Balance

The most important consideration for menu planning is that it meets children's nutritional needs. The meals and snacks provided by full-day early care and education program should provide a substantial portion of a child's daily nutrition. All programs should be supporting children's well–balanced diet, in which all the nutrients the body needs for proper functioning and energy are taken in. A well-balanced diet contains a variety of foods from all the food groups, as well as all the necessary vitamins and minerals we need. It also means taking in an adequate supply of water for adequate health. A well-balanced diet can be planned by selecting healthy foods from each of the food groups.[707]

Food Groups

Let's look at each of the food groups a bit more closely and identify sources for each.

Dairy Group

All fluid milk products and many foods made from milk are considered part of this food group. Foods made from milk that retain their calcium content are part of the group. Foods made from milk that have little to no calcium, such as cream cheese, cream, and butter, are not. Calcium-fortified soymilk (soy beverage) is also part of the Dairy Group. When choosing dairy, fat-free and low-fat dairy are good options for children.[708]



Figure 15.10 – Milk and milk products make up the dairy group[709]

Sources of dairy include:

- Milk (low fat, fat-free, whole)
- Lactose-free and lactose-reduced milk
- Yogurt
- Pudding
- Ice cream
- Frozen yogurt

- Calcium-fortified soy milk
- Hard cheeses (cheddar, mozzarella, swiss, parmesan)
- Soft cheeses (ricotta, cottage cheese)
- Calcium-fortified juices and cereals[710]

Tips for Serving the Dairy Group for Children

- Serve unflavored, fat-free, and low-fat milks most often. They have less added sugar and fewer calories than flavored, whole, or reduced-fat milk.
- Low-fat milk, yogurt, and cheese provide much needed calcium. Try making a dip for fruits or vegetables from yogurt.
- Blend dairy into smoothies. Combine low-fat or fat-free yogurt with bananas and cocoa powder for a smoothie, or try milk, ice cubes, and frozen berries.[711]

Protein Group

All foods made from meat, poultry, seafood, beans and peas, eggs, processed soy products, nuts, and seeds are considered part of the Protein Foods Group. Select a variety of protein foods to improve nutrient intake and health benefits, including cooked seafood. Meat and poultry choices should be lean or low-fat.[712]



Figure 15.11 – Poultry, eggs, nuts and legumes provide protein[713]

Sources of protein include:

- Beef
- Pork (ham, pork chops)
- Lamb
- Veal
- Poultry (chicken, turkey)
- Beans (black, kidney, chickpeas, lentils, navy, pinto, white, soy beans, split peas)
- Eggs
- Canned fish (sardines, salmon, tuna, anchovies, clams)
- Fish (cod, tuna, sea bass, catfish, flounder, halibut, swordfish, trout, mackerel)
- Shellfish (shrimp, lobster, crab, mussels, oysters, scallops)
- Nuts (almonds, walnuts, hazelnuts, pistachios, peanuts, pecans)
- Seeds (sesame, pumpkin, squash, sunflower)[714]

Tips for Serving the Protein Group for Children

- Choose a variety of protein foods such as seafood, beans, lean meats, poultry, and eggs.
- Limit highly processed poultry, fish, or meat (like hotdogs, chicken nuggets, and fish sticks). Even some “reduced-fat” meats and cold cuts, like sausage, bologna, and salami, may be high in saturated fat and sodium.
- Add beans to children's favorite foods. Add beans and peas to tacos, casseroles, stews, pastas, and side dishes.[715]

Fruit Group

Any fruit or 100% fruit juice counts as part of the Fruit Group. Fruits may be fresh, canned, frozen, or dried, and may be whole, cut-up, or pureed.[716] Intake of fruit juice should be limited to no more than once a day.



Figure 15.12 – Papaya, mango, pear, apple, kiwi, pineapple, oranges, and bananas are in the fruit group[717]

Sources of fruit include:

- Apples
- Apricots
- Bananas
- Blueberries
- Cantaloupe
- Cherries
- Fruit juices (100% fruit juice, all varieties)
- Grapefruit
- Grapes
- Kiwi
- Lemons
- Limes
- Mangoes
- Nectarines
- Oranges
- Papayas
- Peaches
- Pears
- Pineapples
- Plums
- Raisins

- Raspberries
- Strawberries
- Watermelon[718]

Tips for Serving the Fruit Group for Children

- Focus on whole fruits
- Serve a rainbow of choices. Fruit can be a quick and easy way to make meals and snacks healthier and more colorful.
- Choose from fresh, frozen, canned, and dried fruits. Purchase canned fruit in water or 100% fruit juice instead of syrup.
- Limit fruit juice. While 100% fruit juice can be part of a healthy diet, it does not contain the dietary fiber found in other forms of fruit.
- Offer raisins or other unsweetened dried fruit instead of chewy fruit snacks or strips, which usually contain very little fruit.[719]

Vegetable Group

Any vegetable or 100% vegetable juice counts as a member of the Vegetable Group. Vegetables may be raw or cooked; fresh, frozen, canned, or dried/dehydrated; and may be whole, cut-up, or mashed. Based on their nutrient content, vegetables are organized into 5 subgroups: dark-green vegetables, starchy vegetables, red and orange vegetables, beans and peas, and other vegetables. While it is not necessary to eat vegetables from each subgroup daily, over the course of a week, vegetables from each subgroup should be eaten to reach ensure the daily intake recommendation of the different vitamins is met.[720]



Figure 15.13 – Broccoli, peppers, carrots, tomatoes, lettuce, cucumbers, radishes, and spinach are in the vegetable group.[721]

Sources of vegetables include:

- Artichokes
- Asparagus
- Bok choy
- Broccoli
- Celery
- Collard greens
- Corn
- Cucumbers
- Green lima beans
- Green peas

- Lettuce
- Kale
- Mushrooms
- Mustard greens
- Onions
- Peppers (green, red, orange, yellow)
- Potatoes
- Spinach
- Squash (all varieties)
- Sweet potatoes
- Taro
- Tomatoes
- Turnip greens
- Water chestnuts[722]

Tips for Serving the Vegetable Group for Children

- Serve a variety of colorful choices. Brighten children's plates with red, orange, and dark-green vegetables.
- Choose from fresh, frozen, or canned vegetables. Prepare and serve vegetables without added salt or solid fat.
- Try a dip. Kids love to dip their foods. Whip up a quick dip for veggies with yogurt and seasonings such as herbs or garlic. Serve with raw vegetables like broccoli, carrots, or cauliflower.[723]
- Provide at least one serving each of dark green vegetables, red and orange vegetables, beans and peas (legumes), starchy vegetables, and other vegetables once per week.[724]

Grain Group

Any food made from wheat, rice, oats, cornmeal, barley, or another cereal grain is a grain product. Bread, pasta, breakfast cereals, grits, and tortillas are examples of grain products. Foods such as popcorn, rice, and oatmeal are also included in the Grains Group.

Grains are divided into 2 subgroups: Whole Grains and Refined Grains. Whole grains contain the entire grain kernel — the bran, germ, and endosperm. Examples of whole grains include whole-wheat flour, bulgur (cracked wheat), oatmeal, whole cornmeal, and brown rice. Refined grains have been milled, a process that removes the bran and germ. This is done to give grains a finer texture and improve their shelf life, but it also removes dietary fiber, iron, and many B vitamins. Some examples of refined grain products are white flour, de-germed cornmeal, white bread, and white rice.

Most refined grains are enriched. This means certain B vitamins (thiamin, riboflavin, niacin, folic acid) and iron are added back after processing. Fiber is not added back to enriched grains. Check the ingredient list on refined grain products to make sure that the word "enriched" is included in the grain name. Some food products are made from mixtures of whole grains and refined grains.[725]



Figure 15.14 – Bread, rice, and pasta are all in the grain food group.[726]

Source of grain include:

- Barley
- Bread (all kinds)
- Bulgur
- Cereals (all kinds)
- Cornbread
- Cornmeal
- Couscous
- Crackers
- Millet
- Muesli
- Oatmeal
- Rice
- Pasta (including whole wheat)
- Popcorn
- Pretzels
- Tortillas[727]

Tips for Providing the Grain Group for Children

- Make at least half their grains whole grains by offering 100% whole-grain cereals, breads, and pasta.
- Vary the choices for whole grains. Rolled oats, oatmeal, brown rice, wild rice, buckwheat, quinoa, wheat berries, and millet are whole-grain foods.
- Choose toppings wisely for toast, hot cereals, pasta, and rice. Instead of adding butter, stick margarine, and regular full-fat cheese, use vegetable oils, low-fat cheeses, or marinara sauce as toppings.[728]
- Provide at least two servings of whole grain-rich grains per day.[729]

Oils

Oils are NOT a food group, although they provide essential nutrients. Oils include items such as butter, oils, margarine, mayonnaise, salad dressings. These food items should be used sparingly. Foods such as fish, nuts, and avocados are good choices of fats. Many foods we eat, especially those that are processed, often are high in fat. This should be considered when planning meals.[730]

Tips for Providing Oils for Children

Limit serving purchased pre-fried foods to no more than one serving per week.[731]

Individual and Cultural Preferences

What families eat, how those foods are prepared and served, and the routines surrounding meals and snacks are going to vary in every family. For some children, those will be similar to what they encounter in early care and education programs. And some children will easily adapt to new foods and routines. But gathering information from families on these is one way to have an understanding of the food experiences and preferences children have. Menus can be planned that include familiar foods.

Cultural and Religious Considerations

Some people do not eat various specific foods and beverages in conformity with various religious, cultural, legal, or other societal prohibitions. Many of these prohibitions constitute taboos. Many food taboos and other prohibitions forbid the meat of a particular animal. Some food prohibitions can be defined as rules, codified by religion or otherwise, about which foods, or combinations of foods, may not be eaten and how animals are to be slaughtered or prepared. Some foods may be prohibited during certain religious periods (*e.g.*, Lent), at certain stages of life (*e.g.*, pregnancy), or to certain classes of people (*e.g.*, priests), even though the food is otherwise permitted.[732]

Families and children may choose to exclude, include, or prepare foods in a particular way according to their religious faith and beliefs. The guidance given in Table 15.7 on food choices for specific religious groups is very general (and does not include prohibited items, such as alcohol that do not apply to children in early care and education programs). There will be individual differences and varying levels of adherence to guidelines which should be discussed for each child with their family. Some people within some of the faith groups identified may not observe the dietary guidelines listed. Prohibitions and restrictions even within a particular faith may change between denominations or branches.[733]

Table 15.7 – General Guidance for Religious Food Choices[734]

Religious Affiliation	General Guidelines
Buddhist	• Many are vegetarian or vegan • Some may eat fish or eggs • May participate in fasting
Hindu	• Most are vegetarian • Dairy is usually acceptable • Those who eat meat, poultry, and fish will exclude beef • May fast
Jewish	• Pork and pork products are excluded • Kosher beef, lamb, poultry, and fish (with fins and scales) are eaten • Shellfish are excluded • Meat and dairy are never eaten at same meal; dairy may not be eaten until 3 hours after meat or poultry • Will also exclude gelatin, fats, emulsifiers, stabilizers, and additives from animal origin that Is not kosher • May fast

Religious Affiliation	General Guidelines
Muslim	• Pork and pork products are excluded • Halal beef, lamb, poultry, fish are eaten • Dairy products are eaten by most • Will also exclude gelatin, fats, emulsifiers, stabilizers, and additives from animal origin that Is not halal • May fast
Sikh	• Many are vegetarian • Those who eat meat, poultry and fish will exclude beef and possibly pork • Halal and kosher meat are not eaten
Rastafarian	• Pork and pork products are excluded • Many will be vegetarian • Some may be vegan • Prefer to eat a pure and natural diet so may exclude: canned or non-organic foods
Seventh-Day Adventist[735]	• Those who eat meat typically do not eat meat from pigs, certain fish, and other animals that the Bible names as unclean • Many are vegetarian or vegan • Encourage drinking a lot of water
Mormon[736]	• Hot drinks containing caffeine are excluded

Caution: Food Allergies, Intolerances, and Medical Issues

As discussed in Chapter 13, some allergic reactions can be life-threatening and some foods can cause major health issues for children, it is vitally important that everyone in the early care and education program that prepares or serves food is aware of these and protects children from consuming food that can hurt them.

Vegetarian Menu Planning

A vegetarian diet does not include any meat, poultry, or seafood. It is a meal plan made up of foods that come mostly from plants. These include:

- Vegetables
- Fruits
- Whole grains
- Legumes
- Seeds
- Nuts
- May include eggs and/or milk if ovo-lacto vegetarian

A vegetarian diet contains no animal proteins. A semi-vegetarian diet is a meal plan that contains little animal protein, but mostly

plant-based foods. Vegetarians DO NOT eat:

- Fowl
- Seafood
- Beef
- Pork
- Lamb
- Other animal meats, such as bison, or exotic meats like ostrich or alligator

Vegetarians also do not eat products containing gelatin or rennin (an enzyme found in calf's stomachs that is used to produce many cheeses).



Figure 15.15 – A tofu taco could be made vegan or vegetarian.[737]

Here are the different types of vegetarian diets:

- Vegan: Includes only plant-based foods. No animal proteins or animal by-products such as eggs, milk, or honey.
- Lacto-vegetarian: Includes plant foods plus some or all dairy products.
- Lacto-ovo vegetarian: Includes plant foods, dairy products, and eggs.
- Semi- or partial vegetarian: Includes plant foods and may include chicken or fish, dairy products, and eggs. It does not include red meat.
- Pescatarian: Includes plant foods and seafood.

Vegetarian diets that include some dairy products and eggs have all the nutrition needed. But the more restrictive the diet, the harder it can be to get certain nutrients.

When a vegetarian's diet avoids most or all animal foods, close attention is required to make sure there is adequate intake of all of the following nutrients.

Vitamin B12: This vitamin is needed to help prevent anemia. Eggs and dairy foods have the most B12, so vegans may have a hard time getting enough. Sources of B12 include:

- Eggs
- Milk, yogurt, low-fat cheese, cottage cheese, and other dairy products
- Foods that have B12 added to them (fortified), such as cereal and soy products
- Nutritional yeast
- Seafood such as clams, salmon, and tuna (this only applies to pescetarians and semi-vegetarians)

Vitamin D: This vitamin is needed for bone health. Vitamin D can be produced from sun exposure, but sun exposure should be limited due to skin cancer concerns. So vegetarians most likely will not be able to get enough from sun exposure. Sources of

vitamin D include:

- Fatty fish, such as sardines, salmon, and mackerel (this only applies to pescatarians and semi-vegetarians)
- Egg yolks
- Foods that are fortified with vitamin D, such as orange juice, cow's milk, soy milk, rice milk, and cereals

Zinc: Zinc is important for the immune system and cell growth, especially in teens. The body does not absorb zinc from plant foods as well as from meat and other animal foods. Sources of zinc include:

- Beans and legumes, such as chickpeas, kidney beans, and baked beans
- Nuts and seeds, such as almonds, peanuts, and cashews
- Seafood, such as oysters, crab, and lobster (this only applies to pescatarians and semi-vegetarians)
- Yogurt and cheese
- Foods fortified with zinc, such as milk and cereals

Iron: Iron is needed for red blood cells. The body does not absorb the type of iron found from plant foods as well as from the type found in meat and other animal foods. Sources of iron include:

- Beans and legumes, such as white beans, lentils, and kidney beans
- Green vegetables, such as broccoli, spinach, kale, and collard greens
- Dried fruit, such as prunes, raisins, and apricots
- Whole grains
- Foods fortified with iron, such as cereals and breads

Eating foods that are high in vitamin C at the same meal as iron-rich foods increase iron absorption. Vitamin C helps the body absorb iron. Foods high in vitamin C include tomatoes, potatoes, citrus fruits, bell peppers, and strawberries.

Calcium: Foods high in calcium help keep bones strong. Dairy products have the highest amount of calcium. If a vegetarian does not eat dairy, it can be hard to get enough. Oxalates, a substance found in plant foods inhibits calcium absorption. Foods that are high in both oxalates and calcium are not good sources of calcium. Examples include spinach, Swiss chard, and beet greens.

Good sources of calcium include:

- Sardines and canned salmon with bones (this only applies to pescetarians and semi-vegetarians)
- Dairy products, such as milk, yogurt, cottage cheese, and cheese
- Green vegetables, such as collard greens, kale, bok choy, and broccoli
- Oranges and figs
- Tofu
- Almonds, Brazil nuts, sunflower seeds, tahini, and white beans
- Foods fortified with calcium, such as cereal, orange juice, and soy, almond and rice milk

Omega-3 fatty acids: Omega-3s are important for heart and brain health. Sources of omega-3s include:

- Fatty fish, such as halibut, mackerel, salmon, herring, and sardines (this only applies to pescatarians and semi-vegetarians)
- Nuts and seeds, such as walnuts, pumpkin seeds, ground flaxseed, canola oil, chia seeds
- Soybeans and soy oil
- Foods fortified with omega-3s, such as bread, eggs, juice, and milk

Protein: If you eat fish and/or eggs and dairy getting enough protein will not be a concern for most people. Protein sources also include:

- Soy foods, such as soy nuts, soy milk, tempeh and tofu.
- Seitan (made of gluten).
- Vegetarian meat substitutes. Just watch for products that are high in sodium.
- Legumes, beans, and lentils.
- Nuts, nut butters, seeds, and whole grains.
- Dairy products such as milk, yogurt, and cottage cheese.

These foods do not need to be combined in the same meal to get enough protein.[738]

The Dietary Guidelines 2015-2020 includes a Healthy Vegetarian Pattern that was adapted from the Healthy U.S.-Style Pattern, modifying amounts recommended from some food groups. The current Healthy Vegetarian Pattern includes changes in food group composition and amounts, based on assessing the food choices of vegetarians.[739]

Tips for Menu Planning for Children with Vegetarian Diets

When following a vegetarian diet, keep in mind the following:

- Provide different kinds of foods, including vegetables, fruits, beans, nuts, seeds, whole grains, and low-fat or fat-free dairy and eggs if their diet includes these.
- Choose fortified foods, such as cereals, breads, soy or almond milk, and fruits juices to get a full range of nutrients.
- Limit foods that are high in sugar, salt (sodium), and fat.
- Include a protein source with all meals.
- Learn to read the Nutrition Facts Label on food packages. The label tells you the ingredients and nutrition contents of the food product.
- If you follow a more restrictive diet, you may want to work with a dietitian to make sure you are getting enough nutrients.

Note: Vegetarian children may need to take supplements at home if their diet lacks certain vitamins and minerals.[740]

Pause to Reflect

What familiarity do you have with any of the varieties of food preferences (including those that may not have been presented in the book)?

Family Style Meal Service

Currently, traditional family style meal service is the recommended approach to serving meals in preschool settings. Using this approach, all foods on the menu are served at the same time in serving bowls that are passed around the table, and children self-serve the amounts they desire. There are a number of potential advantages to traditional family-style meal service including allowing children the opportunity to self-regulate consumption (match food selection with hunger level).[741]



Figure 15.16 – Family style meals have many benefits for children.[742]

This approach to mealtime creates a number of healthy habits that are important to the growth and development of children at any age. Children tend to eat more healthy foods if they see their friends try it. They learn skills such as taking turns, sharing, and teamwork.

Family style dining opens up opportunities for conversation, which increases vocabulary, promotes proper use of language and interaction with friends.

There are even more benefits that support healthy growth. Children learn:

- portion sizes for each food group

- to recognize when they are hungry or satisfied
- how to identify healthy foods and where they come from
- to improve fine motor skills

Children are not the only ones who benefit. Providers get a better grasp of food costs, get help with mealtime service and, with less food being wasted, they save money.[743]

Tips for Family Style Dining

- **Start with the right equipment.** When purchasing serving dishes, utensils and other place settings, keep in mind that they need to be kid-friendly and sized for little hands to maneuver
- **Remember each child's skill level** when choosing your menu. Finger foods and foods that are easy to navigate with a child-size fork or spoon are easiest to self-serve for younger children.
- **Have multiple sets of utensils** and serving spoons in case someone drops one on the floor.
- **Give each child a task** to help set the table. One child can set the plates, one can place the cups and so on. Children have a sense of pride and belonging when they have a contributing role.
- **Offer a variety of familiar foods** and don't forget to introduce new foods. Children are more willing to try something new when they serve themselves.
- **Reserve extra servings** for second helpings or in case the bowl of food gets contaminated.
- **Provide a trash can** for children in which to dispose napkins and uneaten food. Provide a tub for them to place dirty dishes after they scrape them off.
- **Keep cleaning supplies nearby.** Spills will happen. Be patient and use this opportunity as a teaching moment on how to clean-up.
- Most importantly, **eat with the children.** Children learn from good role models. Sitting with them while everyone eats also allows you to start positive mealtime conversations.[744]

Food from Home

Some early care and education programs depend on families to provide some or all of children's meals and snacks. According to Sweitzer et al (2011), "[o]bservations of lunches of three to five year old children attending fulltime childcare support the need for parent education about packing healthy lunches." They site several studies that show inadequate servings of fruit and vegetables and foods that fail to meet the Daily Reference Intakes for essential nutrients in foods brought from home. They also site several studies that demonstrated that knowledge and attitudes about nutrition were positively linked to serving fruits and vegetables to children. As they stated, parents report barriers to supporting their young children's healthy eating. "Common barriers for consumption of fruits and vegetables are the child's preferences, preparation time involved, and higher cost of those items."[745]



Figure 15.17 – A tasty and healthy packed lunch.[746]

Food brought from home, should be labeled with the child's name and date and stored in the refrigerator when needed. When prepared and served to children it is important to follow food safety practices (discussed in the next section of the book). Foods for one child should never be given to another child.[747]

Tips for Supporting Families in Providing Nutritious Food From Home

In the Sweitzer et al (2011) study, parents were interviewed about how early care and education programs could help families provide better nutrition for their children. Here are some tips based on their findings:

- Provide regular written information to families about nutrients and their importance for health
- Provide convenient and affordable recipes and tips for families
- Foster connection and interaction between families through events, support groups, and recipe exchanges
- Consider including nutrition as a topic of workshops for families
- Connect with community resources and local markets to expand opportunities and information for families
- Remember to be budget-friendly with resources and recipes shared[748]

Food Safety

Even the most nutritious, visually appealing, affordable, delicious food won't keep children healthy if it isn't stored, prepared, and served safely. Let's look at recommendations for food safety in early care and education programs based on the California Department of Social Services and Child Care Advocate Program's Child Care Center Self-Assessment Guide – Safe Food Handling and Preparation: Licensing Requirements and Best Practices.



Figure 15.18 – Having a kitchen with appropriate equipment that is easy to keep sanitary is important.[749]

Safe Shopping

When purchasing food for an early care and education program:

- Do not buy or use meat, poultry, and meat products unless they have been inspected.
- Do not use or buy home-canned food from outside sources, food from dented, rusted, bulging, or leaking cans, or food from cans without labels.
- Do not buy or use raw or non-pasteurized milk or milk products, or non-pasteurized juices.
- Place frozen food and perishables such as meat, poultry, or fish in plastic bags and put them in the shopping cart last.
- Do not buy torn or leaking packages.
- Do not buy foods past “sell-by” or expiration dates.[750]

Storage Before Preparation

To keep foods safe from spoilage and contamination before you prepare them:

- Keep your refrigerator and freezer clean and in safe condition.
- Store soaps, detergents, cleaning compounds, or similar substances away from food supplies to prevent accidental poisoning, potential leakage problems, and contamination. Always keep these substances away from children.
- Do not store pesticides and other similar toxic substances where you store, cook, or prepare food, or where you store kitchen equipment or utensils. Always keep these substances away from children.
- Unpack perishable foods from the car first and put them in the refrigerator right away.
- Keep the refrigerator temperature at 40° F or less, and the freezer at 0° F, to slow the growth of most bacteria and keep them from multiplying.
- Check the temperature of your refrigerator and freezer daily with an appliance thermometer.
- Keep all food stored in the refrigerator and freezer covered, wrapped, stored in airtight containers, or otherwise protected from contamination.
- Wrap raw meat, poultry, and seafood securely to prevent raw juices from contaminating other foods. Store them in the meat drawer or coldest section of the refrigerator or freezer.
- Do not store perishable foods, such as eggs, in the refrigerator door. The temperature of storage bins in the door fluctuates more than the temperature in the cabinet.
- Cook or freeze fresh poultry, fish, ground meat, and mixed meats within 2 days after you buy them. Cook or freeze other beef, veal, lamb, or pork within 3 to 5 days.
- Use the cold storage chart in Table 15.9 for guidelines of how long different food products can be safely stored in the refrigerator and freezer.
- Store food that does not need refrigeration in a way to keep insects and rodents from entering the food. For example, keep

storage containers off the floor.
- Store dry, bulk foods that are not in their original, unopened containers off the floor in clean metal, glass, or food-grade plastic containers with tight-fitting covers. Label and date the containers.
- Keep storerooms clean, dry, well ventilated, and cool (about 60° F).
- These storage guidelines for home-refrigerated foods will keep them from spoiling or becoming dangerous to eat. The guidelines for freezer storage are for quality only. Frozen foods remain safe indefinitely.[751]

Table 15.9 – Cold Storage Chart[752]

Food Product	Refrigerator (40 F)	Freezer (0 F)
Eggs Fresh, in shell Hard-cooked	3 to 5 weeks 1 week	Don't freeze Don't freeze well
Liquid Pasteurized Eggs, Egg Substitute Opened Unopened	3 days 10 days	Don't freeze well 1 year
Deli and Vacuum-Packed Products Egg, chicken, ham, tuna, and macaroni salads	3 to 5 days	Don't freeze well
Hot Dogs Opened package Unopened package	1 week 2 weeks	1 to 2 months 1 to 2 months
Luncheon Meat Open package or deli-sliced Unopened package	3 to 5 days 2 weeks	1 to 2 months 1 to 2 months
Bacon and Sausage Bacon Sausage, raw – from pork, chicken, turkey, and beef	7 days 1 to 2 days	1 month 1 to 2 months
Hamburger and Other Ground Meats Hamburger ground beef, turkey, veal, pork, lamb, and mixtures of them	1 to 2 days	3 to 4 months

Food Product	Refrigerator (40 F)	Freezer (0 F)
Fresh Beef, Veal, Lamb, and Pork Steaks Chops Roasts	3 to 5 days 3 to 5 days 3 to 5 days	6 to 12 months 4 to 6 months 4 to 12 months
Fresh Poultry Chicken or turkey, whole Chicken or turkey, pieces	1 to 2 days 1 to 2 days	1 year 9 months
Seafood Lean fish (flounder, haddock, halibut, etc.) Fatty fish (salmon, tuna, etc.)	1 to 2 days 1 to 2 days	6 to 8 months 2 to 3 months
Soups and Stews Vegetable or meat added	3 to 4 days	2 to 3 months
Leftovers Cooked meat or poultry Chicken nuggets or patties Pizza	3 to 4 days 3 to 4 days 3 to 4 days	2 to 6 months 1 to 3 months 1 to 2 months

Preparing

Safe food preparation practices include:

- Keep all kitchen equipment, dishes, and utensils clean and in safe condition.
- Wash dishes and eating and serving utensils in a dishwasher (reach a temperature of 165° F during the washing or drying cycle) or by hand with a sanitizing agent.
- Keep the food preparation area separate from the eating, napping, play, toilet and bathroom areas, and from areas where animals are kept. Never use the food preparation area as a passageway while food is being prepared.
- Make sure that all staff wash their hands before preparing food, serving and eating meals and snacks, and after toileting, diapering, and outdoor activities. The best way to combat the spread of communicable disease or germs is by careful handwashing with liquid soap, rinsing under running water, and drying with paper towels.
- Do not wash hands in food preparation sinks to prevent contamination of food.
- Keep all surfaces that come in contact with food (including tables and countertops), floors, and shelving in good repair. Use smooth and nonporous materials that are easily cleaned and sanitized.
- Use cutting boards that can be disinfected (such as glass, Formica, or plastic). Always clean them with soap and hot water

after each use.
- Do not use cutting boards with crevices and cuts because they can hide food material that can grow bacteria and contaminate the next food cut on the surface.



Figure 15.19 – A glass cutting board doesn't develop cuts and crevices and can easily be disinfected.[753]

- Always clean and sanitize cutting boards, knives, and other utensils after they come in contact with raw meat, poultry, and seafood. Use one cutting board for raw meat products and another for salads and ready-to-eat foods to prevent cross-contamination of bacteria from one food to another.
- Air-dry hand-washed dishes to eliminate recontamination from hands or towels.
- Use dishes with smooth, hard-glazed surfaces that do not have cracks or chips.
- Clean and sanitize table surfaces before and after use.
- Sanitize kitchen dishcloths and sponges often because these materials can hide bacteria and promote their growth.
- Wash kitchen towels and cloths often in hot water in the washing machine.
- Clean the can opener blade after each use.
- Keep garbage in a covered container, away from children. Empty the garbage every day to reduce odors, control insects and rodents, and protect children and the child care center from contamination.
- Occasionally sanitize the kitchen sink, drain, disposal, and connecting pipe by pouring a solution of one teaspoon of chlorine bleach in one quart of water or a commercial cleaning solution down the drain.
- Wash fresh fruits and vegetables with water, and soap and scrub brush when needed, to reduce or eliminate any pesticides or residues.
- Do not allow infants and toddlers in the food preparation area to protect them from kitchen hazards.[754]

Thawing

To protect against foodborne illness, follow the following practices when thawing frozen foods

- Do not thaw meat, poultry, and fish products on the counter or sink because harmful bacteria can grow at room temperature.
- Thaw food in the refrigerator or microwave oven.
- Immediately cook food thawed in the microwave.
- Use defrosted food (cooked or frozen) within 1 to 2 days.[755]

Cooking

Foods must be cooked at high enough temperatures and for long enough to kill any possible microorganisms they may be contaminated with. Here are some general guidelines

- Never serve raw or slightly cooked eggs. Cook eggs until the white is firm and the yolk begins to harden. Substitute

pasteurized eggs for raw eggs if sampling homemade dough, cake batter, or eating other foods made with raw eggs such as ice cream, mayonnaise, and eggnog.

- Use a meat thermometer to determine the temperature in the thickest part of the meat.[756] Cook all food to these minimum internal temperatures provided in Table 15.8 as measured with a food thermometer before removing food from the heat source. For reasons of personal preference, consumers may choose to cook food to higher temperatures.[757]

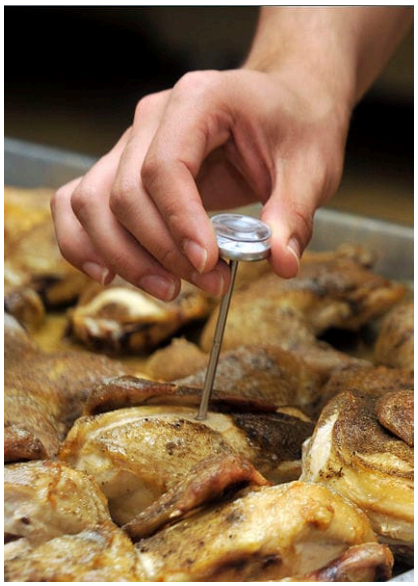


Figure 15.20 – Use a meat thermometer to ensure food is cooked properly.

Table 15.8 – Safe Minimum Internal Temperature Chart[758]

Food Product	Minimum Internal Temperature (F) & Rest Time
Ground meats	160
Beef, Pork, Veal & Lamb Steaks, chops, roasts	145 and allow to rest for at least 3 minutes
Ham, fresh or smoked (uncooked)	145 and allow to rest for at least 3 minutes
Fully Cooked Ham (to reheat)	Reheat cooked hams packaged in USDA-inspected plants to 140 °F; all others to 165 °F
All Poultry (breasts, whole bird, legs, thighs, and wings, ground poultry, and stuffing)	165
Eggs	160
Fish & Shellfish	145

Food Product	Minimum Internal Temperature (F) & Rest Time
Leftovers, to reheat	165
Leftovers	165

Food Service

To continue to protect against foodborne illness and prevent injury, food must be served following food safety guidelines, including:

- Keep hot foods hot (over 140° F) and cold food cold (under 40° F) until they are eaten or cooked.
- Carry perishable picnic food in a cooler with a cold pack or ice. Store the cooler in the shade and open it as little as possible.
- Do not leave cooked, perishable foods, including hot foods such as soups or sauces, out for more than two hours after cooking (one hour in temperatures over 90° F). The bacteria that cause foodborne illness grow rapidly at room temperature.
- Never offer foods that are round, hard, small, thick and sticky, smooth, or slippery to children under four years of age because they can cause choking. Hot dogs (sliced into rounds), whole grapes, hard candy, nuts, seeds, raw peas, dried fruit, pretzels, chips, peanuts, popcorn, marshmallows, spoonfuls of peanut butter, and chunks of meat, which are larger than can be swallowed whole are examples of foods that can cause choking.
- Cut food into small pieces for infants (¼ inch) and toddlers (½ inch).
- Do not use microwave ovens for warming infant bottles and infant food because the microwave can heat liquids or food unevenly and to scalding temperatures. The milk or formula in a microwaved bottle may reach a higher temperature than the outside of the bottle.[759]

Handling Leftovers

All food that has been served to children must be discarded after the meal or snack. If a program chooses to save food that has not been served to children, follow these guidelines:

- Divide large amounts of leftovers (for example, large cuts of meat or poultry) into smaller portions and place them in shallow containers before refrigerating for faster cooling.
- Use refrigerated leftovers within three to four days or discard them.
- Bring sauces, soups, and gravy to a boil when reheating. Heat other leftovers to 165° F.[760]

Pause to Reflect

What are some new things you learned about food safety? Do you have any questions about food safety that weren't addressed in this section? If so, where could you find answers to them?

Summary

When staff in early care and education programs have an understanding of the CACFP meal patterns and health sources for all of the food groups, they have the foundation to plan menus that consider cost, variety, aesthetics, and balance. They can also support families in providing healthy food to their children. And with a solid grounding in food safety policies and practices they can buy, store, prepare, cook, and serve food to children safely.

Resources for Further Exploration

- Institute of Child Nutrition: https://theicn.org/
- California Department of Education CACFP Meal Patterns Resources: https://www.cde.ca.gov/ls/nu/he/cacfpresource.asp
- Virtual Lab School Menu Planning for Success: https://www.virtuallabschool.org/foc...rvice/lesson-1
- CACFP Menu Planning Guide: healthymeals.fns.usda.gov/hs...u-planning.pdf
- Crediting Handbook for the Child and Adult Care Food Program: https://www.cacfp.org/files/9914/424...nghandbook.pdf
- Cultural and Ethnic Food and Nutrition Education Materials: A Resource List for Educators: www.nal.usda.gov/sites/default/files/fnic_uploads/ethnic.pdf
- Guidance on Foods for Religious Faiths: https://www.publichealth.hscni.net/s...hsPosterA2.pdf
- Vegetarianism and Children: https://www.nal.usda.gov/fnic/vegeta...m-and-children
- Virtual Lab School Family-Style Dining in Child Care Settings: https://www.virtuallabschool.org/foc...rvice/lesson-2
- Federal Food Safety Gateway: www.foodsafety.gov
- CDC Food Safety: https://www.cdc.gov/foodsafety/
- Food Buying Guide for Child Nutrition Programs Interactive Web-Based Tool: https://foodbuyingguide.fns.usda.gov/

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V: APPENDICES

Appendix A- 15 Must Haves for All Child Care Programs Checklist

Appendix B- Title 22 Licensing Regulation Highlights

Appendix C- Health and Safety Checklist

Appendix D- Example Injury/Incident Report Form

Appendix E- Example Playground Inspection Form

Appendix F- Example Emergency Self-Assessment Form

Appendix G- Example Emergency Response Plans

Appendix H- Emergency Mitigation Checklist

Appendix I- Developmental Milestones

Appendix J- Exclusion Form

Appendix K- Notice of Exposure to Contagious Disease

Appendix L- Individualized Health Care Plan

Appendix M- Infectious Disease Information

Appendix N- Self-Assessment for Positive and Healthy Meals and Snacks

Appendix O- Growth Charts

Appendix P- Food Allergy Management and Prevention Plan Checklist

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Appendix A- 15 Must Haves for All Child Care Programs Checklist

Appendix A: 15 Must Haves for All Child Care Programs Checklist[761]

Table A.1 Can you check yes for each of these 15 must-haves?

Program #1			Program #2		Program #3	
Questions	Yes	No	Yes	No	Yes	No
Is the program licensed? Ask to see the license. If not, ask Why and then check your State's licensing regulations to make sure the program is not required to be licensed. Look at the program's past inspection reports and complaint history.						
Are visits from parents allowed and encouraged anytime the child care program is open? If you are not allowed to visit at any time (Without calling ahead), this is not the best program for your child and you should consider a different program.						

Does the program have an appropriate number Of adults 'tusking after each group Of children? This is known as the child-to-adult ratio. Recommended ratios are usually lower for younger children. For example, the American Academy Of Pediatrics recommends that child care centers have no more than 3 infants under 12 months Old per adult. Are children, including infants, supervised at all times, even they are sleeping? Does the director (Of a child care center) have a college degree in child development or a related field? DO teachers (or the owner and operator Of a family child care home) have a credential or college degree in early childhood education or a related DO all adults in the program receive ongoing training in working With children and child development?						
Is there a planned schedule for each day or week that encourages learning and includes active and quiet play, group and individual learning activities, rest time, and meal times?						
Is the environment safe, clean, and well maintained? For example, are safe cribs provided for each infant, and does the program follow safe sleep guidelines? Are electrical outlets covered? Are medicines and dangerous items, including cleaning supplies, kept out Of the reach Of children?						

Is there a written discipline policy that explains how behavioral concerns are handled? DO discipline techniques included in the policy teach and guide children rather than punish them? For example, does the policy make it clear that there Will be no spanking, humiliating, or excluding children? HOW does the program make sure that techniques are used in ways that are clear, consistent, and fair?						
Does the program feel warm and welcoming? Are the children happily engaged in activities?						
Do the adults seem to enjoy working With and caring for the children? Are they actively involved With the children and do they pay attention to the needs Of each child? Have all adults working in the program had state and national background checks, including fingerprinting?						
Have the adults in the program been trained on how to prevent child abuse how to recognize and report the signs of abuse?						

Is there someone present at all times Who has been trained in pediatric first aid and CPR? Do staff know how to respond to an allergic reaction? Is there a first aid kit available? Are the adults in the program trained in how to prevent injuries? Does the program have a clear, written plan to follow a child is injured, sick, or lost? Is there a written plan for to emergencies and disasters such as fire or flooding? Does the program conduct regular fire drills?						

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Appendix B- Title 22 Licensing Regulation Highlights

Appendix B: Title 22 Licensing Regulation Highlights[762]

101152 DEFINITIONS

- Child Care Center means any child care facility of any capacity, other than a Family Child Care Home, in which less than 24-hour per day, non-medical care and supervision are provided to children in a group setting
- The Department means the California Department of Social Services or agency which is authorized to assume licensing responsibilities.

101156 LICENSE REQUIRED

- Unless a child care arrangement is exempt from licensure (101158), no adult, partnership, corporation, public agency or other governmental entity shall operate, establish, manage, conduct or provide care and supervision without a valid license from the Department.

101160 POSTING OF LICENSE

- The license shall be posted in a prominent, publicly accessible location in the center.

101167 TRANSFER AND SALE

- A license is not transferable.
- The licensee shall provide written notice to the department and to the child's parent/legal guardian of the intent to sell the day care center at least 20 days prior to the transfer of the property or business.
- The seller shall notify, in writing, a prospective buyer of the necessity to obtain a license.
- The prospective buyer shall submit an application for a license within five days of the acceptance of the offer by the seller.

101169 APPLICATION FOR LICENSE

- 101170 CRIMINAL RECORD CLEARANCE
  - The Department will conduct a criminal record review of all persons working in a child care facility including:
  - Adults responsible for administration or supervision of staff.
  - Any person, other than a child, residing in the facility.
  - Any person who provides care and supervision to children.
  - Any staff person who has contact with the children.
  - Relatives and legal guardians of a child in the facility are exempt.
  - A volunteer or student who is always directly supervised by a fingerprinted staff, and who spends no more than 16 hours per week at the facility is exempt.
  - Prior to employment, residence or initial presence in the child care facility, all individuals subject to a criminal record review shall obtain a Department of Justice clearance, or request a transfer of a current clearance to be associated with the facility.

  101170.2 CHILD ABUSE CENTRAL INDEX

  - A Child Abuse Central Index review shall be conducted on the applicant and all individuals subject to a criminal record review prior to licensure, employment or initial presence in the facility.

  101171 FIRE CLEARANCE

  - All Child Care Centers shall secure and maintain a fire clearance.

  101173 PLAN OF OPERATION

  - Each licensee shall keep on file a current, written, definitive plan of operation. This document must contain the program

methods; goals; admission policies, procedures, and agreement; the administrative organization and staffing plan; a sketch of the building; sample menus and transportation arrangements.

101174 DISASTER AND MASS CASUALTY PLAN

- Each licensee shall have a disaster plan of action in writing.
- Disaster drills shall be documented and conducted every six months.

101175 WAIVERS AND EXCEPTIONS FOR PROGRAM FLEXIBILITY

- The Department has the authority to approve the use of alternate concepts, programs, services, equipment, space, qualifications, ratios and demonstration projects when there is an alternative for safe and adequate services submitted in writing with substantiating evidence to support the request.

101179 CAPACITY DETERMINATION

- A license is issued for a specific capacity which is the maximum number of children that can be cared for at any given time. The number of children is determined by the fire clearance; the physical features of the Child Care Care Center, including available space; and the available staff to meet the care and supervision needs of the children.

101182 ISSUANCE/TERM OF LICENSE

- A separate license is issued for each age component.
- At lease one director or teacher at the center shall have 15 hours of training on preventive health practices, including pediatric cardiopulmonary resuscitation and pediatric first aid. A staff member with certification in pediatric CPR and first aid shall be present at all times.

101187 LICENSING FEES

- The licensee shall be charged application and annual fees.

101193 DEFICIENCIES IN COMPLIANCE

- If during a licensing evaluation the evaluator determines that a deficiency exists, a notice of deficiency will be issued in writing, unless the deficiency is corrected during the visit.
- The person in charge of the facility shall meet with the evaluator to discuss any deficiencies noted and to jointly develop a plan of correction.

101200 INSPECTION AUTHORITY

- The Department has inspection authority to enter and inspect a facility without advance notice.
- The Department has the authority to interview children or staff, and to inspect and audit child or Child Care Center records, without prior consent.

101206 REVOCATION OR SUSPENSION OF LICENSE

- The Department has the authority to suspend or revoke a license.

101208 EXCLUSIONS

- The Department may prohibit an individual from being employed or allowed in a licensed facility or from service as an administrator for the facility.

101212 REPORTING REQUIREMENTS

- The licensee shall report to the Department required information about the center director, any intent to make structural changes to the facility, or any change in the plan of operation that would affect services to children.
- The licensee shall report the following incidents to the Department:
- Any injury to any child that requires medical treatment.
- Any unusual incident or child absence that threatens safety.

- Any suspected physical or psychological abuse of any child.

101213 FINANCES

- The licensee must develop a financial plan to meet operating costs and maintain financial records.

101214 ACCOUNTABILITY

- The licensee is accountable for the general supervision of the Child Care Center and for the establishment of policies concerning its operation.

101215.1 CHILD CARE CENTER DIRECTOR QUALIFICATIONS

- All centers shall have a director who is responsible for the operation of the center, including compliance with regulations, and communications with the Department. The director shall be on the premises during the hours of operation and shall not accept outside employment that interferes with the duties specified.
- When the director is absent, a fully qualified teacher can act as a substitute.
- Child care center directors shall have completed one of the following prior to employment:
- High school graduation or GED and 15 semester units at an accredited college in specified early childhood education classes. Three of the required units shall be in administration or staff relations and 12 units shall include courses that cover the area of child growth and development; child, family and community; and program/ curriculum and four years of teaching experience in a licensed center or comparable group child care program or
- Two years of experience are required if the director has an AA degree with a major in child development or
- A Child Development Site Supervisor Permit or Child Development Program Director permit issued by the California Commission on Teacher Credentialing.

101216 PERSONNEL REQUIREMENTS

- The director shall complete 15 hours of health and safety training, if necessary, pursuant to Health and Safety Code Section 1596.866.
- Personnel shall be competent to provide necessary services to meet the individual needs of children in care and there shall be enough staff to meet those needs.
- Licensees may utilize volunteers provided that volunteers are supervised and are not included in the staffing plan.
- Center personnel shall be at least 18 years old.
- All personnel shall be in good health and physically and mentally capable of performing assigned tasks.
- A health screening, including a tuberculosis test is required.
- Personnel shall provide for the care and safety of children without physical or verbal abuse, exploitation or prejudice.

101216.1 TEACHER QUALIFICATIONS

- A teacher shall have completed with passing grades a least six postsecondary semester units of specified early childhood education classes, or have a valid Child Development Assistant permit issued by the California Commission on Teacher
- Credentialing. A teacher hired with six units must complete at least two additional units each semester until fully qualified.
- A fully qualified teacher shall have 12 postsecondary semester units in early childhood education from an accredited college and six months of work experience in a licensed Child Care Center or similar program. The units specified shall include courses covering child growth and development; child, family and community; and program/curriculum.
- A teacher shall complete 15 hours of health and safety training, if necessary, pursuant to Health and Safety code, Section 1596.866.

101216.2 TEACHER AIDE QUALIFICATIONS

- An aide in a Child Care Center must be 18 years of age, a high school graduate, or be currently participating in an occupational program at high school.
- An aide shall work only under the direct supervision of a teacher.
- An aide may escort or assist children in going to the bathroom and may supervise napping children without being under the direct supervision of a teacher.

101216.3 TEACHER – CHILD RATIO

- There shall be a ratio of one teacher visually observing and supervising no more than 12 children in attendance. The total number of children shall not exceed licensed capacity.
- The licensee may use teacher aides in a teacher-child ratio of one teacher and one aide for every 15 children.
- A ratio of one fully qualified teacher and one aide for every 18 children is allowed if the aide has six semester units of early childhood education from an accredited college.
- The director may be included in the teacher-child ratio when the director is actually teaching a group of children.
- Licensees shall maintain an up-to-date list of qualified substitutes.
- A teacher should not perform housekeeping or maintenance duties that prevent him/her from performing duties related to providing care and supervision to children.
- Persons employed for clerical, housekeeping and maintenance functions are not included as teachers in the teacher-child ratio.

101216.4 TODDLER COMPONENT

- Licensees serving preschool-age children may create a special program component for children between the ages of 18 months and 30 months.
- A ratio of six children to each teacher shall be maintained for all children in attendance in the toddler program.
- The maximum group size with two teachers, or one fully qualified teacher and one aide shall not exceed 12 toddlers.
- The toddler program must be physically separate.

101218.1 ADMISSION PROCEDURES

- The licensee shall have policies that allow the center to understand the state of the child's health and development and to assess whether the center can meet the individual needs of the child.
- The child's authorized representative shall receive written information about the center's policies including services, activities, hours, fees and procedures to be followed in the case of emergency, illness or injury.
- The licensee shall post the PUB 393, Child Care Center Notification of Parents' rights Poster, in a prominent accessible area at the center.

101219 ADMISSION AGREEMENTS

- The licensees and the child's authorized representative shall complete a current individual written admission agreement for the child. This document must specify the basic services, payment provisions, modification conditions, refund conditions, rights of the Department, and termination provisions.

101220 CHILD'S MEDICAL ASSESSMENTS

- Prior to, or within 30 calendar days following enrollment, the licensee will obtain a licensed physician's written medical assessment of the child. The assessment must be less than one year old.

101220.1 IMMUNIZATIONS

- Prior to admission to a Child Care Center, children shall be immunized against diseases as required by the California Code of Regulations, Title 17.
- The licensee must document and maintain each child's immunizations records for as long as the child is enrolled.

101221 CHILD'S RECORDS

- A separate, complete and current record for each child must be maintained.
- All information and records obtained from or regarding children are confidential.

101223 PERSONAL RIGHTS

- The licensee shall ensure that each child is accorded the following personal rights:
- To be accorded dignity in his/her personal relationships with staff.
- To receive safe, healthful and comfortable accommodations.
- To be free from corporal or unusual punishment, infliction of pain, humiliation, intimidation, ridicule, coercion, threat, mental abuse or other actions of a punitive nature including interference with functions of daily living such as eating,

sleeping or toileting, or withholding of shelter, clothing, medication or aids to physical functioning.
- To be free to attend religious services or activities of his/her choice.
- Not to be locked in any room, building or center premises.
- Not to be placed in any restraining device.
- The center must inform each child's authorized representative of these rights and provide a copy of the Personal Rights form. This form must also be posted.

101223.2 DISCIPLINE

- Any form of discipline or punishment that violates a child's personal rights is not permitted regardless of authorized representative consent or authorization.

101224 TELEPHONES

- All Child Care Centers shall have working telephone service onsite.

101225 TRANSPORTATION

- Only drivers licensed for the type of vehicle operated shall be permitted to transport children.
- Motor vehicles used to transport children shall be maintained in safe operating condition.
- All vehicle occupants shall be secured in an appropriate restraint system. Children shall not be left in parked vehicles.

101226 HEALTH-RELATED SERVICES

- The licensee shall immediately notify the child's authorized representative if the child becomes ill or sustains an injury more serious than a minor cut or scratch.
- The licensee shall document all minor injuries and notify the child's authorized representative of the nature of the injury when the child is picked up from the center.
- The licensee shall make prompt arrangements for obtaining medical treatment for any child as necessary.
- In centers where the licensee chooses to handle medication:
- Medications must be kept inaccessible to children.
- Prescription medications must be administered in accordance with the label directions as prescribed by the child's physician and there must be written approval and instructions from the child's authorized representative before giving medication to the child.
- Nonprescription medications must be administered in accordance with the product label and there must be written approval and instructions from the child's authorized representative before giving medication to the child.

101226.1 DAILY INSPECTION FOR ILLNESS

- The licensee shall be responsible for ensuring the children with obvious symptoms of illness are not accepted.
- No child shall be accepted without contact between center staff and the person bringing the child to the center.

101226.2 ISOLATION FOR ILLNESS

- A center shall be equipped to isolate and care for any child who becomes ill during the day.
- The child's authorized representative shall be notified immediately when the child becomes ill enough to require isolation, and shall be asked to pick up the child as soon as possible.

101227 FOOD SERVICE

- Food selection, storage preparation and service shall be safe and healthful and of the quality and quantity necessary to meet the needs of children.
- Meal services are elective.
- Between meals, snacks must be available for all children. Snacks will include servings from two or more of the four major food groups.
- Menus must be in writing and posted at least one week in advance.
- Pesticides and similar toxic substances must not be stored with food.
- Soaps and cleaning compounds must be stored separately from food.
- Kitchens and food areas shall be clean.
- All food shall be protected against contamination.

- Necessary equipment includes a sink, refrigeration, hot and cold running water and storage space. This equipment must be well maintained.

101229 RESPONSIBILITY FOR PROVIDING CARE AND SUPERVISION

- The licensee shall provide care and supervision as necessary to meet the children's needs. No child shall be left without the supervision of a teacher at any time. Supervision includes visual observation.

101229.1 SIGN IN AND SIGN OUT

- The licensee shall develop, maintain and implement a written procedure to sign the child in/out of the center. The person who signs the child in/out shall use his/her full legal signature and shall record the time of day. All sign in/out sheets shall be kept for one month.

101230 ACTIVITIES AND NAPPING

- Each center shall provide for a variety of daily activities including quiet and active play, rest and relaxation, eating, and toileting.
- All children shall be given an opportunity to nap or rest without distraction.
- A napping space and a cot or mat must be available for each child under age 5.
- No child shall be forced to stay awake or stay in the napping area longer than the normal napping period.
- A teacher-child ratio of one teacher or aide supervising 24 napping children is permitted, provided that the remaining teachers necessary to meet the overall ratios are immediately available at the center.

101231 SMOKING PROHIBITION

- Smoking is prohibited on the premises of a Child Care Center.

101237 ALTERATIONS TO EXISTING BUILDINGS OR NEW FACILITIES

- Prior to construction or alterations, the licensee shall notify the Department of the proposed change(s).

101238 BUILDINGS AND GROUNDS

- The center shall be clean, safe, sanitary and in good repair at all times.
- All children shall be protected against hazards.
- Licensees shall ensure the inaccessibility of pools and all bodies of water.
- Disinfectants, cleaning solutions, poisons and items that could pose a danger to children shall be stored where inaccessible to children
- Storage areas for poisons shall be locked.
- Firearms and other weapons are not allowed on the premises.

101238.2 OUTDOOR ACTIVITY SPACE

- There shall be at least 75 square feet per child of outdoor activity space. The outdoor space shall provide a shaded rest area and permit children to reach the activity space safely.
- The surface of the activity space shall be in a safe condition and free of hazards.
- The areas around and under climbing equipment, swings, slides and similar equipment shall be cushioned with material that absorbs falls.
- Sandboxes shall be inspected daily and kept free of foreign materials.
- The playground shall be enclosed by a fence at least four feet high.
- Hazardous equipment such as a fuse box shall be inaccessible.

101238.4 STORAGE SPACE

- Each child shall have an individual storage space for personal items.
- There must be storage space in the playrooms for materials and equipment.

101239 FIXTURES, FURNITURE, EQUIPMENT, AND SUPPLIES

- A comfortable temperature shall be maintained at all times.
- All window screens shall be in good repair and free of insects and debris.
- Fireplaces and open-faced heaters shall be inaccessible.
- All containers used for storing solid wastes must have a tight-fitting cover.
- There must be one toilet and hand-washing sink for every 15 children.
- Common towels or washcloths are prohibited.
- Tables and chairs scaled to the size of children must be provided.
- All play equipment and materials used by children must be age-appropriate.
- Furniture and equipment must be maintained in good condition.
- A baby walker shall not be allowed on the premises.
- Permanent playground equipment must be securely anchored to the ground.

101239.1 NAPPING EQUIPMENT

- Cots must be maintained in a safe condition.
- Floor mats used for napping must be at least ¾ inch thick, covered with vinyl or similar material that can be wiped, and marked to distinguish the sleeping side from the floor side.
- Bedding must be individually stored and kept clean.

101239.2 DRINKING WATER

- Drinking water must be readily available both indoors and outdoors.
- Children must be free to drink as they wish.

SCHOOL-AGE CHILD CARE CENTER

101451 GENERAL

- In addition to Child Care Center General Licensing Requirements, school- age centers shall be governed by this chapter.

101471 SCHOOL-AGE CHILD CARE CENTER FIRE CLEARANCE

- In addition to Section 101171, School-age centers located on functioning school sites may submit verification of the school fire inspection. The school fire inspection shall be accepted as sufficient fire clearance for licensing purposes.

101482 ISSUANCE OF A SCHOOL-AGE CHILD CARE CENTER LICENSE

- The Department shall issue a license to an applicant according to Health and Safety Code Section 1597.21, after a completed application has been submitted, and all licensing requirements have been met.

101515 SCHOOL-AGE CHILD CARE CENTER DIRECTOR QUALIFICATIONS AND DUTIES

- In addition to Section 101215.1, the following shall apply:
- All school-age centers shall have a director. In a combination program, the director of the Child Care Center may also direct the school-age component.
- Units and training may be combined to meet the total educational requirement: 15 units or 300 training hours, or any combination thereof.
- As an alternative educational requirement, a director may substitute 6 units in early childhood education with 6 units appropriate to school-age children.
- As an alternative educational requirement, a director of a school- age program that stands alone may substitute 20 training hours for each required unit of education in Section 10125.1(h)(1). Units and training hours may be combined to meet the total educational requirement.
- In addition to a 3-unit semester administration course, 3 units in early childhood education, child development or school-age courses, the director may substitute 9 core units from the following: recreation, physical education, human services, units earned toward an elementary or middle school teaching credential, early childhood education, child development or school-age child units.
- A director is required to complete 12 units or 240 training hours prior to employment. The remaining 3 units must be completed within one year of employment.
- A director may qualify by possessing an Associate of Arts or a Bachelor's Degree from an accredited or approved college

provided at least 3 units or 60 training hours are in early childhood education, child development, or school-age child courses; and 3 units in administration or staff relations.
- Section 1597.21(f) of the Health and Safety code allows a director to use alternative approved sources of education.
- Verification of education shall be by transcript or certificate with hours completed shown on the certificate.
- A director needs to have verified experience of at least 3 hours a day for a minimum of 100 days in a calendar year. Health and Safety Code Section 1597.21 allows for alternative types of experience.

101516.2 SCHOOL-AGE CHILD CARE CENTER TEACHER QUALIFICATION AND DUTIES

- In addition to Section 101216.1, the following shall apply:
- As an alternative education requirement, a school-age teacher may substitute 20 training hours for each required unit. Units and training hours may be combined to meet the total educational requirements of 12 units or 240 training hours, or any combination thereof.
- School-age teachers may use alternative educational requirements. A teacher may substitute: recreation, physical education, human services, units earned toward an elementary or middle school teaching credential; early childhood education, child development or school-age child units.
- A teacher is required to complete 6 units prior to employment.
- Health and Safety Code, section 1597.21(f), allows a teacher to use alternative approved sources of education.
- Alternative types of experience may also be accepted. To be a fully qualified school-age teacher, experience must be verified showing at least 3 hours a day for a minimum of 50 days in a six- month period.
- In a combination center, a fully qualified teacher shall be designated to work closely with the director planning the daily activities of the school-age center.

101516.5 TEACHER-CHILD RATIO

- In addition to Section 101216.3, the following shall apply:
- One teacher to supervise no more than 14 children.
- One teacher and 1 aide can supervise no more than 28 children.
- Staffing for mixed-aged groups shall be based on the youngest child in the group.
- Directors may be counted in the ratio when actually working with groups of children.

101520 MEDICAL ASSESSMENTS

- Notwithstanding Section 101216.2, the licensee shall not be required to document medical assessments on school-age children who are enrolled in a public or private school.

101520 IMMUNIZATIONS

- Notwithstanding Section 101220.1, the licensee is not required to document immunizations of children also enrolled in a public or private elementary school.

101521 CHILD'S RECORDS

- 101526.1 DAILY INSPECTION FOR ILLNESS
  - In addition to Section 101226.1, upon arrival or admittance to the center, school-age children shall be observed for signs of illness. If a child is found to be ill, follow Section 101226.2.

  101527 FOOD SERVICE

  - In addition to Section 101227, before and after school programs shall offer nutritious snacks to children.

  101529.1 SIGN-IN AND SIGN-OUT

  - 101538.2 OUTDOOR ACTIVITY SPACE FOR SCHOOL-AGE CHILDREN
    - In addition to Section 101238.2:
    - Outdoor activity space for school-age children shall by physically separated from space provided other children at the center.
    - School-age child care programs that are operated on the site of a functioning school ground are exempt from square-footage requirements.

101538.3 INDOOR ACTIVITY SPACE FOR SCHOOL-AGE CHILDREN

- In addition to Section 101238.3, the following applies:
- Indoor space for school-age children shall be physically separated from space provided other children in the center.
- School-age child care programs that are operated on the site of a functioning school are exempt from square-footage requirements.

101539 FIXTURES, FURNITURE, EQUIPMENT AND SUPPLIES

- In addition to Section 101239, the following applies:
- Toilets used by school-age children shall provide individual privacy. Toilet facilities shall not be used simultaneously by children of both sexes.
- School-age programs that operate on the site of a functioning school are exempt from toilet requirements.

INFANT CARE CENTERS

101351 GENERAL

- Child Care Centers providing infant care shall be governed by the requirements of this subchapter. These centers shall also be governed by the previously listed Child Care Center General Licensing requirements.

101361 LIMITATIONS ON CAPACITY AND AMBULATORY STATUS

A child, whose developmental needs require continuation in an Infant Care Center, may remain in an Infant Care Center up to the age of three years.

101415 INFANT CARE CENTER DIRECTOR QUALIFICATIONS AND DUTIES

- An infant center director must meet the requirements of Section 101215.1, and the following:
- Experience requirements shall be completed in an Infant Care Center or a comparable group child care program with children less than five years of age.
- At least 3 semester units completed must be related to infant care.
- When the infant director is temporarily away from the center, the director shall appoint a substitute director.
- In centers where an assistant director is required, the assistant director shall act as a substitute.
- A fully qualified infant care teacher can act as a substitute for the director, or the assistant director.
- If the director's absence is more than 30 consecutive days, a substitute director shall meet the qualifications of a director.

101415.1 ASSISTANT INFANT CARE CENTER DIRECTOR QUALIFICATIONS AND DUTIES

- An assistant director shall be present if the center has 25 or more infants in attendance. The assistant director has to be a fully qualified infant teacher and have completed, with passing grades, at least three semester units in administration at an approved college. This course work may be completed within one year of employment of the assistant director.
- The assistant director shall work under the direction of the center director.

101416.2 INFANT CARE TEACHER QUALIFICATION S DUTIES

- In addition to Section 101216.1, infant care teachers need to have taken and passed, at least 3 semesters units in early childhood education or child development, and 3 semester units in the care of infants from an approved college.
- After employment, a teacher who has not completed the 12 required semester units shall complete with passing grades, at least 2 units each semester until the 12 semester units are completed.
- To be a fully qualified infant care teacher, he/she shall:
- Complete 12 semester units, with passing grades, in early childhood education or child development. At least 3 units shall be related to the care of infants.
- Have a least 6 months experience in a licensed infant care program or comparable program for children under five years old.

101416.3 INFANT CARE AIDE QUALIFICATION AND DUTIES

- An aide must work under the supervision of the director or a fully qualified teacher, except when observing sleeping infants.
- Aides shall participate in an on-the job training program.
- An aide shall provide direct care and supervision to infants.

101416.5 STAFF-INFANT RATIO

- There shall be a ratio of one teacher to every four infants.
- An aide may be substituted for a teacher if there is a fully qualified teacher directly supervising no more than 12 infants.
- When in activities away from the center there shall be a minimum of one adult to every two infants.
- The director may be counted in the staff-infant ratio when actually working with infants.
- There shall be one staff visually observing no more than 12 sleeping infants, as long as additional staff are available at the center to meet the above ratios when necessary.

101416.8 STAFFING FOR INFANT WATER ACTIVITIES

- A ratio of one adult to two infants shall be required during activities near a swimming pool or any body of water.

101417 TODDLER COMPONENT IN AN INFANT CARE CENTER

- Licensees serving infants may create a special program component for children between 18 and 30 months.
- A ratio of one teacher for every 6 toddlers is required.
- An aide participating in on-the job training can substitute for a teacher when directly supervised by a fully qualified teacher.
- Maximum group size is two teachers to 12 toddlers.
- The toddler program shall be conducted in areas physically separate from those used by older or younger children.

101419.2 INFANT NEEDS AND SERVICES PLAN

- A plan must be completed and on file for every infant prior to attending the center. This plan must be signed by the authorized representative.
- The plan shall include: an individual feeding plan, individual toilet training plan, and any services needed different from those provided by the program.

101419.3 MODIFICATIONS TO INFANT NEEDS AND SERVICES PLAN

- The plan shall be updated quarterly or as often as necessary.

101423.1 INFANT CARE DISCIPLINE

- In addition to 101223.3, no infant shall be confined to a crib, high chair, playpen, or any other furniture or equipment as a form of discipline.

101425 INFANT CARE TRANSPORTATION

- Driver has to be 18 years old or older to transport infants.
- The vehicle must contain a first-aid kit.
- Children must be secured in a child passenger restraint system, i.e., a car seat.
- Staff/infant ratios must be maintained whether the vehicle is moving or parked.
- Infants in vehicles shall have constant adult supervision and shall not be left unattended.

101426.2 INFANT CARE ISOLATION FOR ILLNESS

- In addition to 101226.2, the isolation area must have a crib, cot, mat or playpen for each ill infant. This isolation area must be under constant visual supervision by staff.

101427 INFANT CARE FOOD SERVICE

- In addition to 101227, the following shall apply:
- Each infant shall have an individual feeding plan completed prior to the infant's first day at the center. This plan must be developed by the director, infant's representative and/or physician.
- The plan shall include: instructions for infant's special diet, feeding schedule, breast milk or formula, schedule for introduction to solid/new foods, food consistency, likes and dislikes, allergies, schedule for introduction of cups and utensils.
- This plan shall be updated as often as necessary.
- Bottle fed infants shall be fed at least every four hours.
- Infant care centers shall have appropriate food available for the infants.
- The center shall provide only commercially prepared formulas that are stored and prepared in accordance with the label.
- The infant's representative may provide formula or breast/mother's milk. Such formula or milk shall be bottled before being accepted by the center.
- Bottles shall be labeled.
- Center may heat formula or breast/mother's milk.
- Center must keep a supply of nipples. Bottles/nipples can not be shared between infants unless sterilized.
- Infants unable to hold a bottle shall be held by staff for bottle feeding.
- Bottles cannot be propped; infants shall not carry a bottle while ambulatory; a bottle given to an infant able to hold his/her own shall be unbreakable.
- High chairs or appropriate seating equipment shall be used for infants during feeding. Infants unable to sit unassisted shall be held by staff for feeding.
- Bottles, dishes and food containers brought from infant's home shall be labeled with infant's name and current date.
- Formula partially consumed in a bottle shall be discarded at end of each day.
- Food shall be discarded if not consumed within 72 hours of date on the container label.
- The infant care center shall not serve honey.
- Commercially prepared baby food in jars shall be transferred to a dish before being fed to the infant. Any food left over in the dish at the end of a meal shall be discarded.
- Mother may make arrangements with center for privacy to nurse infant.
- Bottles and nipples in center shall be sterilized.
- Infants shall not be bathed in, and diapers or clothing shall not be rinsed in, the food preparation area.

101428 INFANT CARE PERSONAL SERVICES

- There shall be a written toilet-training plan for each infant being toilet trained.
- Whenever a potty chair is used, it shall be placed on the floor and promptly emptied, cleaned and disinfected after each use.
- No child shall be left unattended while on a potty chair or seat.
- Each child shall receive instruction and assistance in handwashing after use of the toilet. The infant shall be kept clean and dry at all times.
- Soiled or wet clothing provided by the infant's representative shall be placed in an airtight container and given to the representative at the end of the day.
- When changing an infant's diaper, each infant shall be on a changing table and no infant shall be left unattended while on the changing table.
- Towels and washcloths used for cleaning infants shall not be shared and shall be washed after each us.
- The changing table shall be disinfected after each use.

101429 RESPONSIBILITY FOR PROVIDING CARE AND SUPERVISION FOR INFANTS

- In addition to 101229, each child shall be constantly supervised and under direct visual observation by a staff person at all times. Under no circumstances shall any infant be left unattended.

101430 INFANT CARE ACTIVITIES

- The center shall implement a written plan to ensure the provision of indoor and outdoor activities designed to meet the needs of the infants, including but not limited to, quiet and active play; rest and relaxation; eating; toileting; individual attention; being held by a caregiver.

- All infants shall be given the opportunity to nap/sleep without distraction or disturbances.
- No infant shall be forced to sleep, stay awake, or stay in the napping area.

101438.1 INFANT CARE GENERAL SANITATION

- All items used by pets and animals shall be kept out of the reach of infants.
- Each caregiver shall wash his/her hands with soap and water before feeding and after each diaper change.
- Areas that infants have access to shall be washed, cleared and sanitized as follows: floors shall be vacuumed or swept and mopped daily and as often as necessary. Carpeted floors shall be vacuumed daily and cleaned at least every 6 months. Walls shall be washed with disinfecting solution at least weekly.
- The diaper changing area shall be disinfected including walls and floors. After each diaper change, counter tops, sinks, drawers and cabinets near diaper changing area shall be washed.
- Objects that are used by infants that are mouthed shall be washed and disinfected.
- All disinfectants and other hazardous materials shall be stored inaccessible to infants.
- Only dispenser soap in an appropriate dispenser shall be used.
- Only disposable paper towels in an appropriate holder or dispenser shall be used for hand drying.

101438.2 OUTDOOR ACTIVITY SPACE FOR INFANTS

- In addition to Section 101238.2, the following shall apply:
- Outdoor space shall be physically separated from space used by children not in the infant center.
- Outdoor space shall be equipped with age-appropriate toys and equipment

101438.3 INDOOR ACTIVITY SPACE FOR INFANTS

- The sleeping area for infants shall be physically separated from the indoor activity space.
- The indoor activity space shall be equipped with age- appropriate washable toys and equipment.

101439 INFANT CARE CENTER FIXTURES, EQUIPMENT, AND SUPPLIES

- In addition to Section 101239, the following shall apply:
- There shall be appropriate furniture and equipment such as cribs, cots or mats, changing tables and feeding chairs.
- High chairs or low-wheeled feeding tables or any equipment used for seating an infant shall have broad-base legs.
- No infant shall be permitted to stand up in a high chair.
- All equipment shall be washed/disinfected after each use.
- Infant changing tables shall have a padded surface no less than 1 inch thick; raised sides at least 3 inches high; kept in good repair, within an arm's reach of a sink and not located in the kitchen or food preparation area.
- There shall be one hand washing sink for every 15 infants and one potty chair for every 5 infants being toilet trained.
- Infants shall not be permitted to play with the potty chair.
- Toy storage containers shall be safe and maintained in good condition.
- Containers shall not be lockable.
- Toys shall be safe and not have any sharp edges, or small parts.
- Fixtures, furniture, equipment or supplies shall not be made of or contain toxic substances.

101439.1 INFANT CARE CENTER NAPPING EQUIPMENT

- In addition to Section 101239.1, the following shall apply:
- A standard size six-year crib or porta-crib shall be provided for each infant who is unable to climb out of a crib.
- Cribs shall not limit the ability of staff to see the infant.
- Cribs shall not limit the infant's ability to stand upright.
- Crib mattresses shall be covered with vinyl or similar moisture- resistant material; shall be wiped and disinfected daily and when wet or soiled.
- Cribs shall be maintained in a safe condition.
- Each crib shall be occupied by only one infant at a time.
- Each infant's bedding shall be used by him/her only, and replaced when wet or soiled.
- Bedding shall be changed daily or more often if required.

- Cribs, mats or cots shall be arranged so as to provide a walkway and work space between the cribs, mats or cots sufficient to permit staff to reach each infant without stepping over any other infant.

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Appendix C- Health and Safety Checklist

Appendix C: Health and Safety Checklist[763]

Safety Factor	Yes	No	Description/ Comments
All areas are safe, clean, and free from pests.			
Exits are clearly marked, and emergency evacuation routes and other safety procedures are posted in the classroom and in appropriate locations throughout the site.			
Lighting is sufficient and adequate for all classroom activities.			
Emergency lighting is available in case of a power failure.			
Fire extinguishers are available, accessible, tested, and serviced regularly.			
Smoke, carbon monoxide, and as necessary, radon detectors are installed, properly located, and tested regularly.			
Current child care, health, fire, and other applicable licenses and inspection certificates are present on site.			
All indoor and outdoor spaces meet minimum square footage requirements per most stringent regulations.			
All playground areas are visible to supervising adults.			
Necessary accommodations and modifications are made to ensure the safety, comfort, and full participation of all children including those with disabilities.			

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Appendix D- Example Injury/Incident Report Form

Appendix D: Example Injury/Incident Report Form

Date Incident Occurred	Time Incident Occurred:
Child's Name:	Age:
Adults that observed:	
Where incident occurred: (describe location and any equipment)	
Cause of injury: (description what happened beforehand and/or hazards involved)	
Description of injury: (what type of injury and the part/s of body injured)	
Description of first aid given:	
Was medical treatment required? No Yes (please describe)	
Follow-up plan for care of the child (if needed):	
Corrective action needed to prevent reoccurrence:	
Parent/Guardian that was contacted:	Time:
Notified by:	Contact method: Phone In person
Staff Signature:	Date:
Parent/Guardian Signature:	Date:

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Appendix E- Example Playground Inspection Form

Appendix E: Example Playground Inspection Form[764]

Inspected By: _____	Time _____ Date _____

Surfacing	OK	IF NOT OK, COMMENTS OR ACTIONS TO BE TAKEN
1. Safety surface depth sufficient (12")?		_____
2. Inadequate safety surface material (other than ASTM surfacing material)?		_____
3. Does safety surface comply with ADA?		_____ Yes _____ No _____ Don't Know
4. Poor drainage area (standing water) or potential problems?		_____
5. Areas of compaction, kick-out, or wear have been leveled or repaired?		_____
6. Sidewalks, paved surfaces, steps, and platforms have been swept or cleaned of loose surface materials and debris?		_____

General Hazards		
1. There are no sharp points, corners, or edges?		_____
2. There are no protrusions or projections?		_____
3. There are no pinch points, crush points, or exposed moving parts?		_____

4. Potential clothing entanglement hazards have been eliminated?		_____
5. There are no missing or damaged protective caps or plugs?		_____
6. Hanging tree branches have been trimmed (6’ clearance)?		_____
7. Fall zones not per CPSC (6’ perimeter all directions)?		_____
8. Openings < 3 ½” or > 9” to prevent head entrapment?		_____
9. Footings exposed, cracked or loose in ground?		_____
10. Trip hazards, broken glass, trash, ropes, tree roots or foreign objects in play area have been removed?		_____

Play Structures		
1. Broken supports or anchors?		_____
2. Pipe ends missing plugs or caps?		_____
3. Broken or missing rails/rungs/steps?		_____
4. Protruding bolt heads or threads?		_____
5. Loose, missing, worn or rusted bolts/nuts/or other fasteners?		_____
6. Broken clamps?		_____
7. Peeling or chipped paint?		_____
8. Entrapment/pinch or crush points?		_____

9. Vinyl coated decks/platforms/steps have visible cracks or peeling?		_____
10. Excessive wear of any component/slide part?		_____
11. Wooden equipment is free of splinters, checking, large cracks, warping, and rot?		_____
12. General condition/appearance?		_____Good _____ Fair _____Poor

Swings		
1. Broken, twisted, worn, rusted chain?		_____
2. Inadequate (non-commercial) chain?		_____
3. Worn, rusted or broken swing hangers?		_____
4. Open, worn or rusted “S” hooks (dime will not pass through)?		_____
5. Grommets show wear or rust?		_____
6. Missing, worn or cracked swing seats?		_____
7. Inadequate fall zone around swings?		_____
8. Swing frame damaged?		_____
9. Swing chain wrapped around top rail?		_____
10. Safety surface worn or scattered?		_____
11. Loose, missing or protruding bolts?		_____

12. General condition/appearance?		_____Good _____ Fair _____Poor

Slides		
1. Slide bedways have imperfections?		_____
2. Handrails loose or missing?		_____
3. Steps broken or missing, or flaws/cracks?		_____
4. Sit down transition platform present?		_____
5. Safety rails or sit-down canopy at bedway entry present?		_____
6. Slide exit parallel to ground?		_____
7. Safety surface at slide exit has been leveled or repaired?		_____
8. Fall zone adequate on all sides?		_____
9. General condition/appearance?		_____Good _____ Fair _____Poor

Freestanding Climbers/Monkey Bars		
1. Not free-fall design?		_____
2. Loose or broken rails or rungs?		_____
3. Need painting?		_____
4. Tire worn, cut or broken?		_____

5. Plastic structures are free of holes and cracks?		_____
6. General condition/appearance?		_____Good _____ Fair _____Poor

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Appendix F- Example Emergency Self-Assessment Form

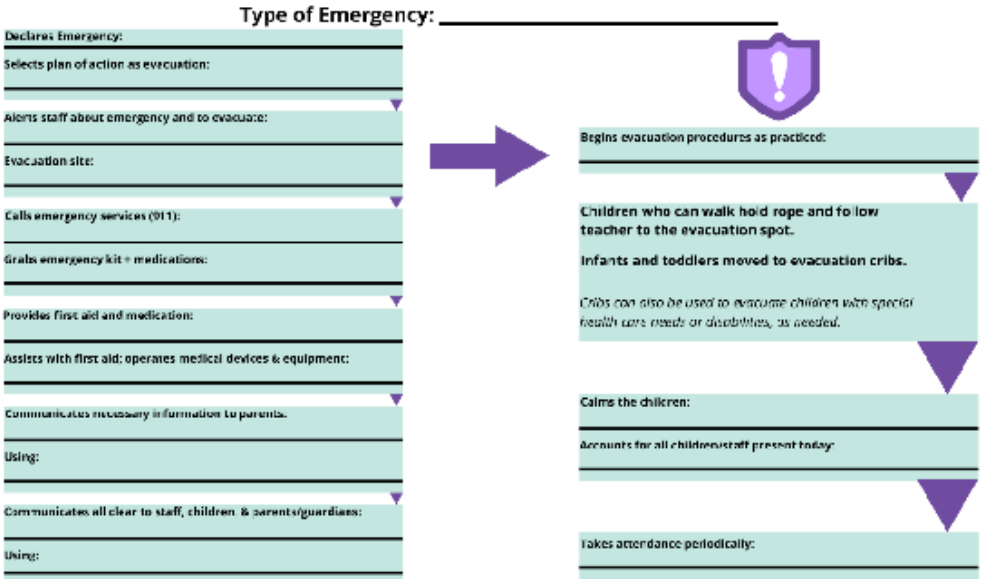
QUESTION	YES	NO
Have you done an assessment of the types of emergencies your early childcare education program could experience based on your geographic region?		
Has your early childcare education program developed specific procedures for preparedness, response, and recovery for each type of emergency indicated as a possibility, including how to be informed and how to communicate?		
Does your plan account for practicing and revising your emergency response?		
Do you have a list of emergency contact information for first responders that is visible in your facility		
Do you have updated emergency contact information for each child in your early childcare education program?		
Do you have an emergency kit that is updated monthly and has enough supplies to last for up to 72 hours, including emergency contact information for each child in your early childcare education program and daily attendance sheets?		
Does your program have plans in place to train children, families, and staff (if applicable) about emergency-preparedness plans and procedures?		
Does your plan address continuation of services for children and families?		
Does your plan include how to address the mental health and emotional needs of children, families, and staff (if applicable) before, during, and after an emergency?		
Plans to address any questions that receive a NO rating:		

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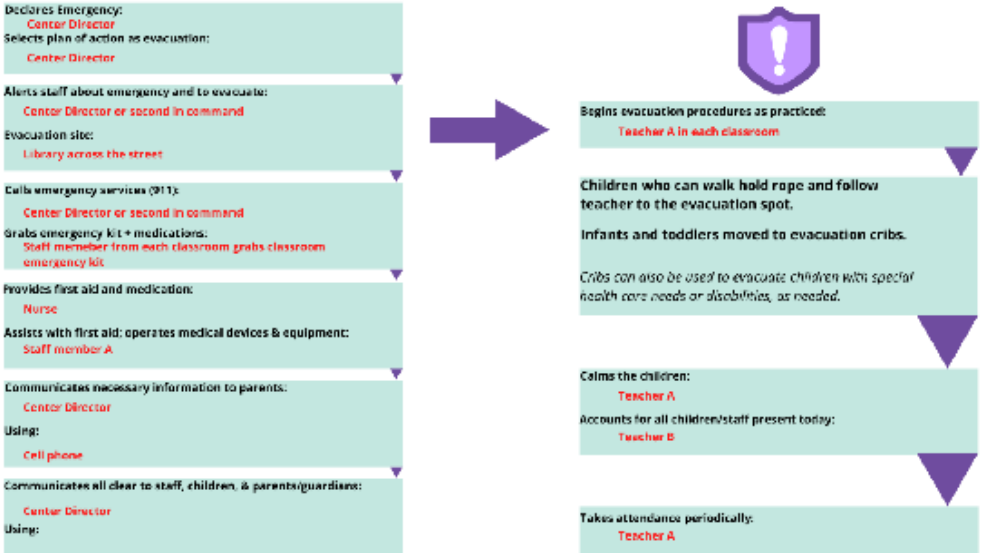
Appendix G- Example Emergency Response Plans

Appendix G: Example Emergency Response Plans[766]

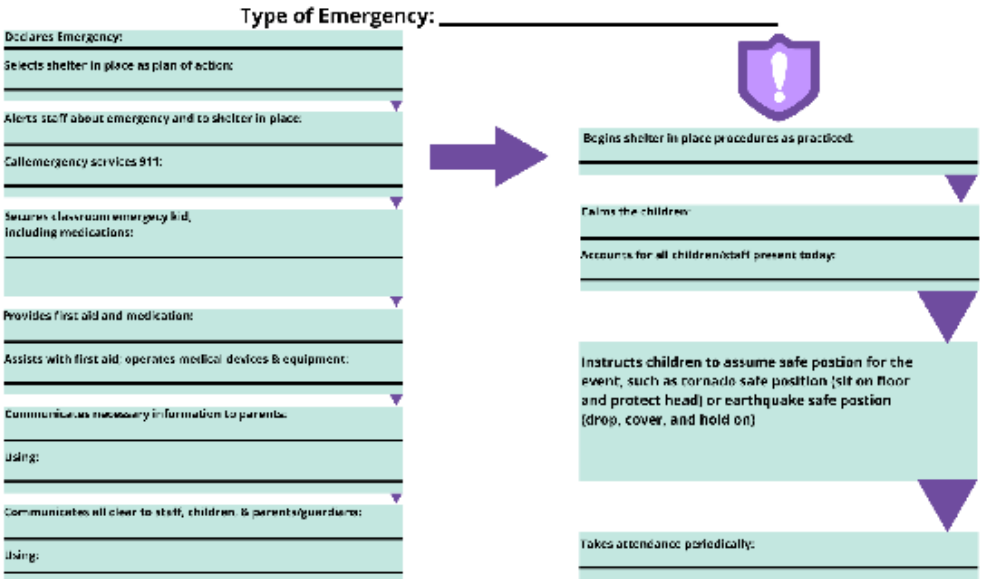
Example of Blank Evacuation Plan



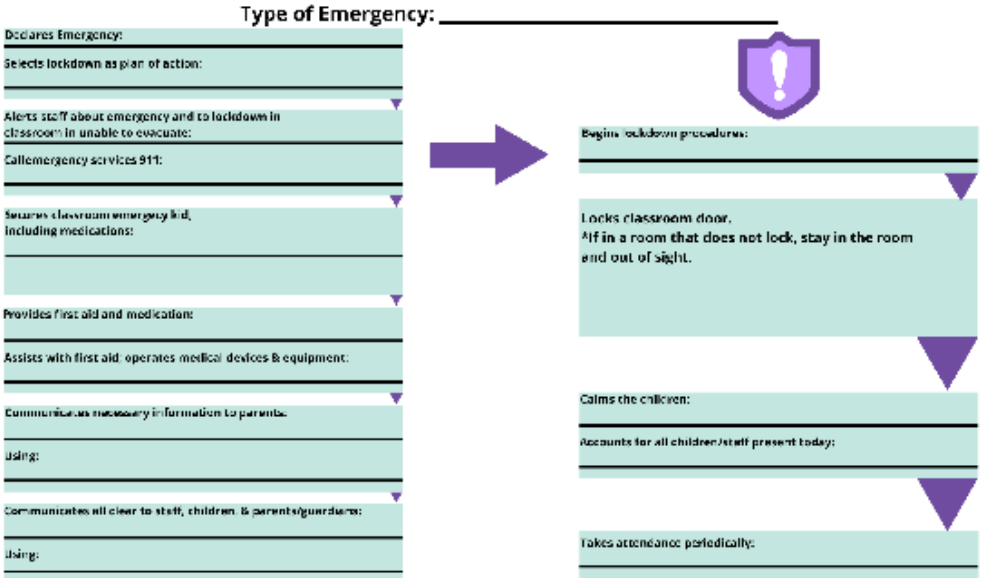
Example of Complete Evacuation Plan of Sample Center for a Fire



Example of Blank Shelter-in-Place Response



Example of Lockdown Response



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Appendix H- Emergency Mitigation Checklist

Appendix H: Emergency Mitigation Checklist[767]

Issue	Yes	No	Steps to Mitigate Risk
Large appliances (refrigerators): braced to wall?			Large appliances should be anchored to wall studs or masonry, not drywall.
Cabinets: braced to wall?			Cabinets should be anchored to the wall studs or masonry, not drywall.
Shelves/bookshelves: braced to wall?			Shelves/bookshelves should be anchored to wall studs or masonry, not drywall.
Dressers: braced to wall?			Dressers should be anchored to wall studs or masonry, not drywall.
Changing tables: braced to wall?			Changing tables should be anchored to wall studs or masonry, not drywall
Blackboards/projection screens/ televisions: safely hung on a stud?			Make sure that blackboards/projection screens/televisions are secured safely to a stud.
Fish bowls/animal habitats: safely secured so they do not slide off shelves?			If you have fish bowls/animal habitats, ensure that the shelve has a lip to prevent the bowls/ habitats from slide off and injuring the animal and/or children.
Fire extinguishers: mounted to wall?			Make sure that fire extinguishers are mounted to the wall using clips that make them easy to take down and use in case of a fire.
Lamps: safely secured so they do not slide off shelves?			Secure lamps with hooks or earthquake putty.

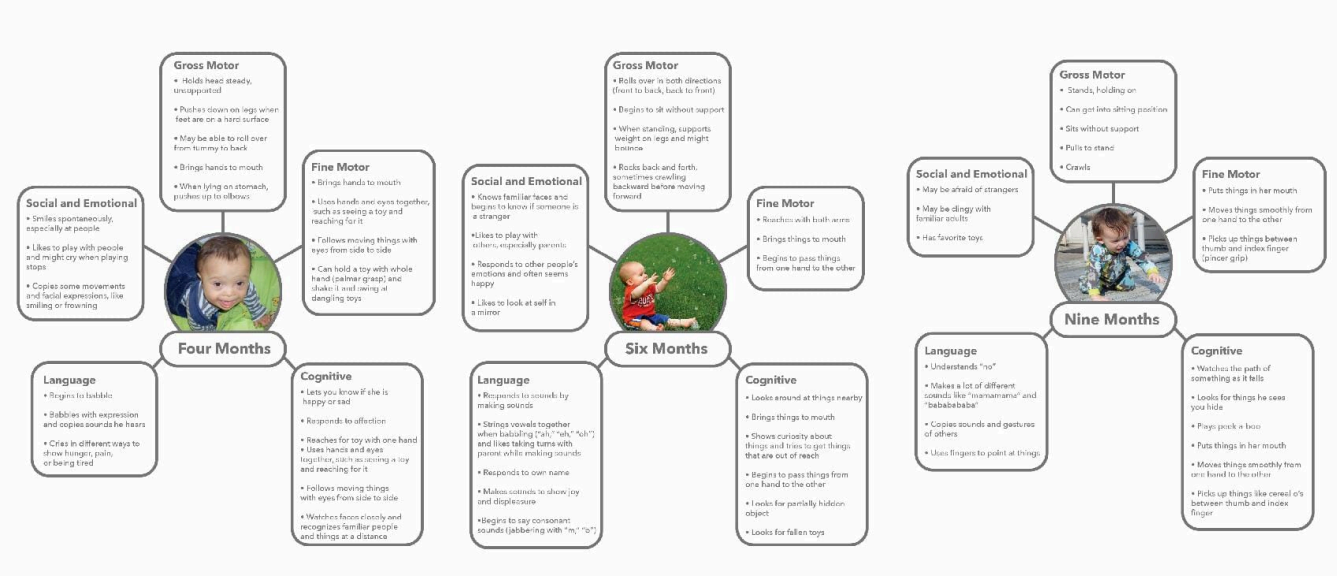
Pictures: braced to wall or safely secured so they do not slide off shelves?			Use closed hooks or earthquake putty to secure pictures to walls.
Lightweight or tall room dividers: braced by interconnecting them?			Move heavier items to lower shelves.
Exit signs and emergency lights: safely secured and functioning?			Lightweight room dividers are safer in case of emergency. Interconnecting them will help brace them.
Chemicals and/or cleaning products: secured in cabinet?			For Centers, check that exit signs and emergency lights are working and can be seen from the hallway. For Child Care Homes, check that exit signs and emergency lights are working and are placed above the exits where it can easily be
Blocks and heavy objects: stored on lowest shelves?			Use baby-proof cabinet locks to secure cabinet doors to prevent chemicals and/or cleaning products from falling out. Alternatively, use latching cleaning cabinets to hold chemicals and/or cleaning products. Remember to brace all cabinets on wall!
Heavy or sharp items (such as metal trucks or dollhouses): stored on shelves with ledge barriers'?			Store blocks and other heavy objects on the lowest shelves to prevent injuries. Store heavy or sharp items on shelves with ledge barriers to prevent injuries from falling objects.

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Appendix I- Developmental Milestones

Appendix I: Developmental Milestones[768]

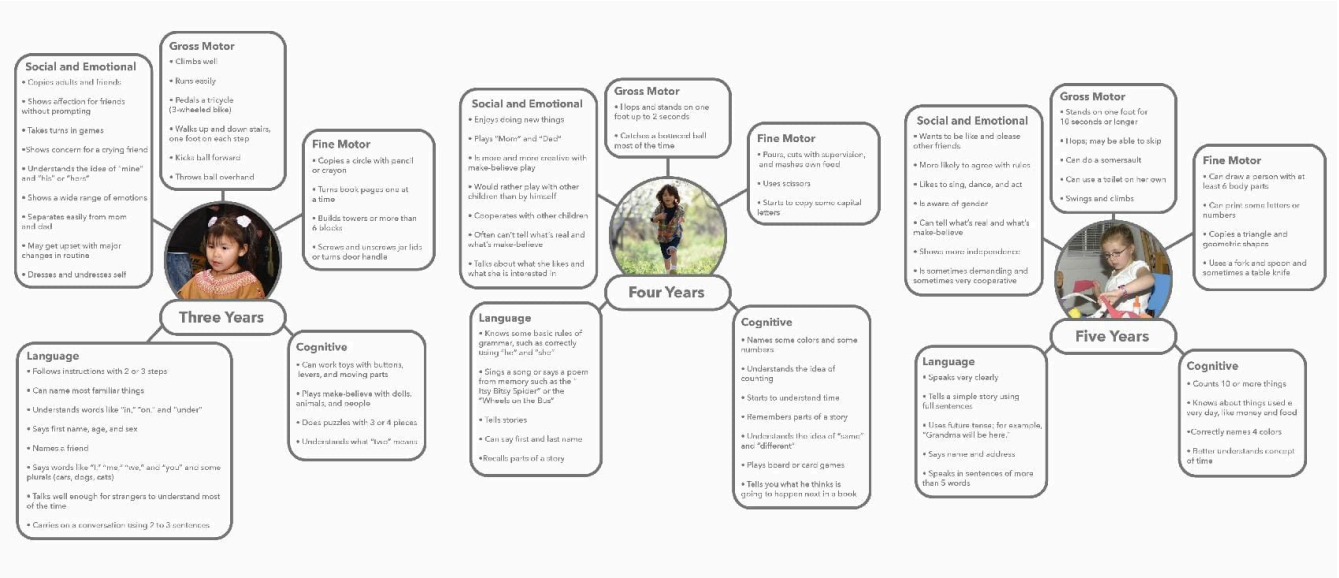


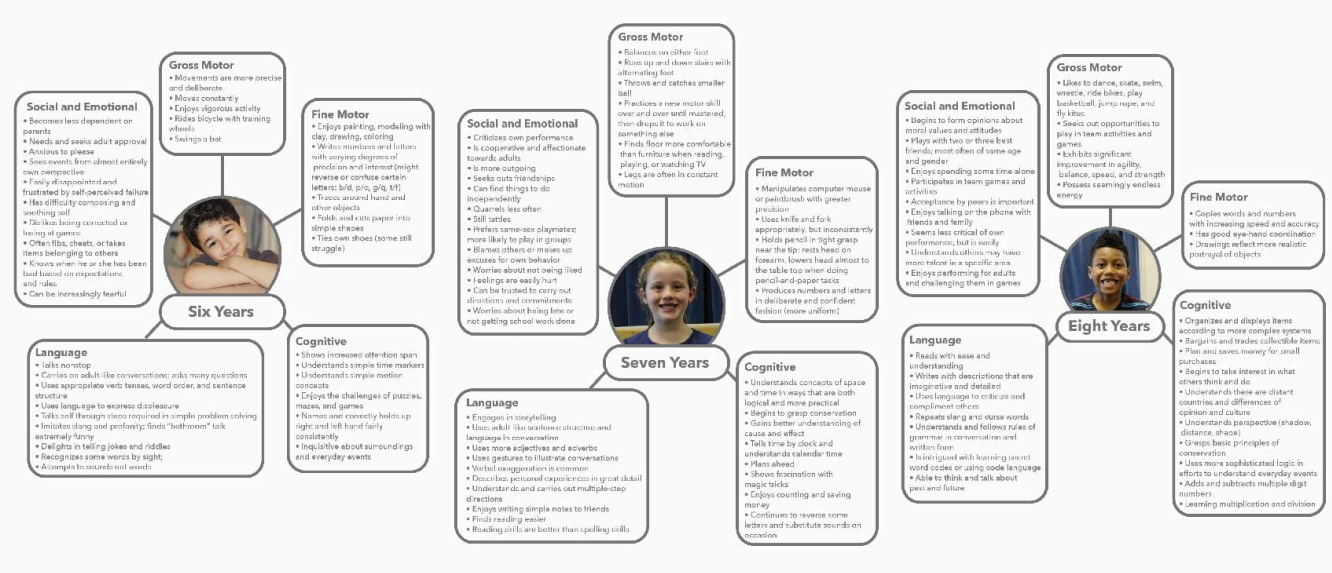



Gross Motor
• Gets to a sitting position without help
• Pulls up to stand, walks holding on to furniture ("cruising")
• May take a few steps without holding on
• May stand alone
Social and Emotional
• Is shy or nervous with strangers
• Cries when mom or dad leaves
• Has favorite things and people
• Shows fear in some situations
• Hands you a book when he wants to hear a story
• Repeats sounds or actions to get attention
• Puts out arm or leg to help with dressing
• Plays games such as "peek-a-boo" and "pat-a-cake"
Fine Motor
• Reaches with one hand
• Bangs two things together
• Puts things in a container, takes things out of a container
• Lets things go without help
• Pokes with index (pointer) finger
One Year
Language
• Responds to simple spoken requests
• Uses simple gestures, like shaking head "no" or waving "bye-bye"
• Makes sounds with changes in tone (sounds more like speech)
• Says "mama" and "dada" and exclamations like "uh-oh!"
• Tries to say words you say
Cognitive
• Explores things in different ways, like shaking, banging, throwing
• Finds hidden things easily
• Looks at the right picture or thing when it's named
• Imitates gestures
• Starts to use things correctly; for example, drinks from a cup, brushes hair
• Bangs two things together


Gross Motor
• Walks alone
• Walks up stairs holding for support
•May run
• Carries and pulls toys while walking
• Can help undress herself
• Climbs onto and down from furniture
Social and Emotional
• Likes to hand things to others as play
• May have temper tantrums
• May be afraid of strangers
• Shows affection to familiar people
• Plays simple pretend, such as feeding a doll
• May cling to caregivers in new situations
• Points to show others something interesting
• Explores alone but with parent close by
Fine Motor
• Scribbles on his own
• Can help undress herself
• Drinks from a cup
• Eats with a spoon with some accuracy
• Stacks 2-4 objects
18 Months
Language
• Says several words
• Say and shakes head "no"
• Points to show someone what is wanted
• Uses two word sentences
• Repeats words overheard in conversation
Cognitive
• Knows what ordinary things are for; for example, telephone, brush, spoon
• Points to get the attention of others
• Shows interest in a doll or stuffed animal by pretending to feed
• Points to one body part
• Scribbles on his own
• Can follow 1-step verbal commands without any gestures


Gross Motor
• Stands on tiptoe
• Kicks a ball
• Begins to run
• Climbs onto and down from furniture without help
• Walks up and down stairs holding on
• Throws ball overhand
Social and Emotional
• Copies others, especially adults and older children
• Gets excited when with other children
• Shows more and more independence
• Shows defiant behavior (doing what he has been told not to)
• Plays mainly beside other children, but is beginning to include other children, such as in chase games
Fine Motor
• Builds towers of 4 or more blocks
• Might use one hand more than the other
• Makes copies of straight lines and circles
• Enjoys pouring and filling
• Unbuttons large buttons
• Unzips large zippers
• Drinks and feeds self with more accuracy
Two Years
Language
• Points to things or pictures when they are named
• Knows names of familiar people and body parts
• Says sentences with 2 to 4 words
• Follows simple instructions
• Repeats words overheard in conversation
• Points to things in a book
Cognitive
• Begins to sort shapes and colors
• Completes sentences and rhymes in familiar books
• Plays simple make-believe games
• Follows two-step instructions such as "Pick up your shoes and put them in the closet."
• Names items in a picture book such as a cat, bird, or dog
• Matches object to picture in book


Social and Emotional
• Copies adults and friends
• Shows affection for friends without prompting
• Takes turns in games
•Shows concern for a crying friend
• Understands the idea of "mine" and "his" or "hers"
• Shows a wide range of emotions
• Separates easily from mom and dad
• May get upset with major changes in routine
• Dresses and undresses self
Gross Motor
• Climbs well
• Runs easily
• Pedals a tricycle (3-wheeled bike)
• Walks up and down stairs, one foot on each step
• Kicks ball forward
• Throws ball overhand
Fine Motor
• Copies a circle with pencil or crayon
• Turns book pages one at a time
• Builds towers of more than 6 blocks
• Screws and unscrews jar lids or turns door handle
Three Years
Language
• Follows instructions with 2 or 3 steps
• Can name most familiar things
• Understands words like "in," "on," and "under"
• Says first name, age, and sex
• Names a friend
• Says words like "I," "me," "we," and "you" and some plurals (cars, dogs, cats)
• Talks well enough for strangers to understand most of the time
• Carries on a conversation using 2 to 3 sentences
Cognitive
• Can work toys with buttons, levers, and moving parts
• Plays make-believe with dolls, animals, and people
• Does puzzles with 3 or 4 pieces
• Understands what "two" means
Social and Emotional
• Enjoys doing new things
• Plays "Mom" and "Dad"
• Is more and more creative with make-believe play
• Would rather play with other children than by himself
• Cooperates with other children
• Often can't tell what's real and what's make-believe
• Talks about what she likes and what she is interested in
Gross Motor
• Hops and stands on one foot up to 2 seconds
• Catches a bounced ball most of the time
Fine Motor
• Pours, cuts with supervision, and mashes own food
• Uses scissors
• Starts to copy some capital letters
Four Years
Language
• Knows some basic rules of grammar, such as correctly using "he" and "she"
• Sings a song or says a poem from memory such as the "Itsy Bitsy Spider" or the "Wheels on the Bus"
• Tells stories
• Can say first and last name
•Recalls parts of a story
Cognitive
• Names some colors and some numbers
• Understands the idea of counting
• Starts to understand time
• Remembers parts of a story
• Understands the idea of "same" and "different"
• Plays board or card games
• Tells you what he thinks is going to happen next in a book
Social and Emotional
• Wants to be like and please other friends
• More likely to agree with rules
• Likes to sing, dance, and act
• Is aware of gender
• Can tell what's real and what's make-believe
• Shows more independence
• Is sometimes demanding and sometimes very cooperative
Gross Motor
• Stands on one foot for 10 seconds or longer
• Hops; may be able to skip
• Can do a somersault
• Can use a toilet on her own
• Swings and climbs
Fine Motor
• Can draw a person with at least 6 body parts
• Can print some letters or numbers
• Copies a triangle and geometric shapes
• Uses a fork and spoon and sometimes a table knife
Five Years
Language
• Speaks very clearly
• Tells a simple story using full sentences
• Uses future tense; for example, "Grandma will be here."
• Says name and address
• Speaks in sentences of more than 5 words
Cognitive
• Counts 10 or more things
• Knows about things used e very day, like money and food
•Correctly names 4 colors
• Better understands concept of time



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Appendix J- Exclusion Form

Appendix J: Exclusion Form

Child's Name:_____ Date:_____

Today your child was observed to have the following signs or symptoms of illness:

_____

_____

_____

_____

Based on our exclusion policy, your child is being excluded from care: yes no

If excluded, your child can return when:

- The signs and symptoms are gone
- The child can comfortably participate in the program
- We can provide the care your child needs
- When you have clearance from a medical care provider
- Other: _____

Parent/guardian: _____ Date: _____ Time: _____

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Appendix K- Notice of Exposure to Contagious Disease

Appendix K: Notice of Exposure to Contagious Disease

Date:

Dear Parent/Guardian:

A child in the program has or is suspected of having: _____

Information about this disease

This disease is spread by: _____

_____

_____

The symptoms are: _____

_____

_____

The disease can be prevented by: _____

_____

_____

What we are doing to prevent the spread: _____

_____

_____

What you can do at home to prevent the spread: _____

_____

_____

If your child has any of the symptoms of this disease: _____

_____

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Appendix L- Individualized Health Care Plan

Appendix L: Individualized Health Care Plan[769]

Child: _____Birthdate: _____

Parent(s) or Guardian(s): _____

Phone #: _____ Alternate Phone #:_____

Primary Health Care Provider: _____

Primary Health Care Provider Phone #: _____

DIAGNOSIS:

1. _____

2. _____

3. _____

Routine Care

Medication	When	How Much	How	Possible Side Effects

Describe accommodations the child needs in daily activities	
Diet or Feeding	
Naptime/Sleeping	
Toileting	
Outdoor Activities/Field Trips	
Transportation	
Other	

Emergency Care

Call parents for: _____

_____

_____

While waiting for parent/guardian or medical help to arrive: _____

_____

_____

Give as Needed or Emergency Medication for: _____

_____

_____

Medication	When	How Much	How	Possible Side Effects

Get medical attention for: _____

_____

_____

CALL 911 (Emergency Medical Services) FOR: _____

_____

_____

Date plan completed: _____ Plan will be updated on or before: _____

Parent(s) or Guardian(s):

_____ _____

Staff Name(s) & Title(s):

_____ _____

_____ _____

Health Care Provider Name(s) & Title(s):

_____ _____

_____ _____

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Appendix M- Infectious Disease Information

Appendix M: Infectious Disease Information

Bronchitis (Chest Cold)

A chest cold occurs when the airways of the lungs swell and produce mucus in the lungs. That's what produces the cough. A chest cold, often called acute bronchitis, lasts less than 3 weeks and is the most common type of bronchitis.

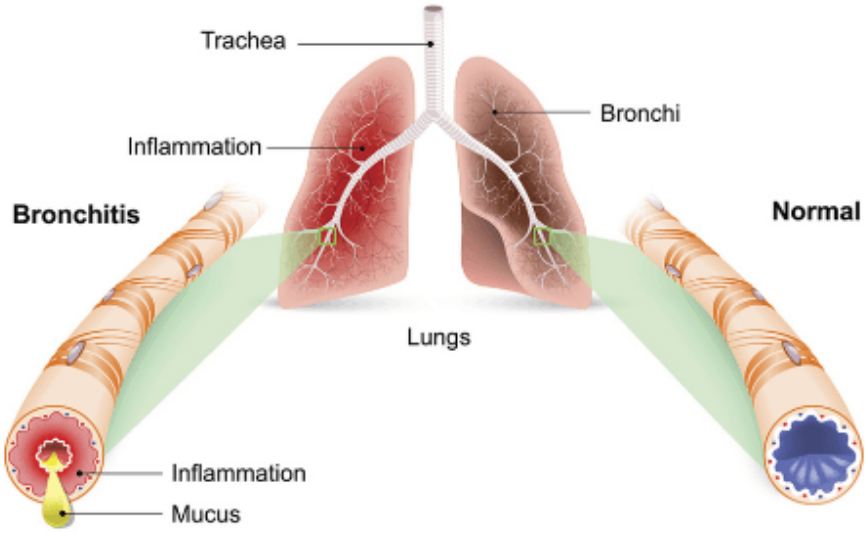


Figure M.1 - Swelling of airways in the lungs produce mucus in the lungs and makes you cough.[770]

Acute bronchitis is usually caused by a virus and often occurs after an upper respiratory infection. Bacteria can sometimes cause acute bronchitis, but even in these cases, antibiotics are NOT recommended and will not help an infected person get better.

Symptoms of acute bronchitis last less than 3 weeks and can include:

- Coughing with or without mucus
- Soreness in the chest
- Feeling tired (fatigue)
- Mild headache
- Mild body aches
- Sore throat[771]

Most chest colds will get better on their own within one week and are not cause for exclusion from child care.

Chickenpox

Chickenpox is a highly contagious disease caused by the varicella-zoster virus (VZV). It can cause an itchy, blister-like rash. The rash first appears on the chest, back, and face, and then spreads over the entire body, causing between 250 and 500 itchy blisters. Chickenpox can be serious, especially in babies, adolescents, adults, pregnant women, and people with a weakened immune system. The best way to prevent chickenpox is to get the chickenpox vaccine.[772]

The classic symptom of chickenpox is a rash that turns into itchy, fluid-filled blisters that eventually turn into scabs. The rash may first show up on the chest, back, and face, and then spread over the entire body, including inside the mouth, eyelids, or genital

area. It usually takes about one week for all of the blisters to become scabs.



Figure M.2 – an unvaccinated child with chickenpox[773]

Other typical symptoms that may begin to appear 1-2 days before rash include:

- fever
- tiredness
- loss of appetite
- headache[774]

The virus spreads mainly through close contact with someone who has chickenpox (or shingles). It takes about 2 weeks (from 10 to 21 days) after exposure to a person with chickenpox or shingles for someone to develop chickenpox. A person with chickenpox is contagious beginning 1 to 2 days before rash onset until all the chickenpox lesions have crusted (scabbed).[775]

"Children/staff with chickenpox should be excluded for six days after the rash first appears or until all blisters are crusted over and dry."[776]

Conjuctivitis (Pink Eye)

Pink eye, or conjunctivitis, is one of the most common and treatable eye conditions in the world. It can affect both children and adults. It is an inflammation of the thin, clear tissue that lines the inside of the eyelid (conjunctiva) and the white part of the eyeball. This inflammation makes blood vessels more visible and gives the eye a pink or reddish color.

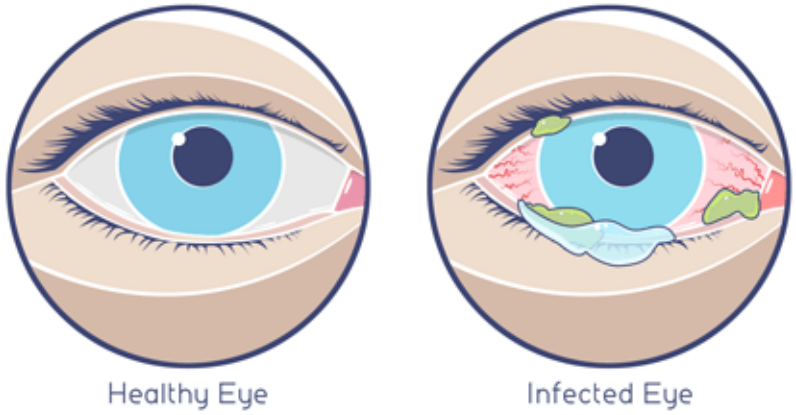


Figure M.3. – A healthy eye compared to one infected with conjunctivitis.[777]

The symptoms may vary, but usually include:

- Redness or swelling of the white of the eye or inside the eyelids
- Increased amount of tears
- Eye discharge which may be clear, yellow, white, or green
- Itchy, irritated, and/or burning eyes
- Gritty feeling in the eye
- Crusting of the eyelids or lashes
- Contact lenses that feel uncomfortable and/or do not stay in place on the eye

There are four main causes of pink eye:

- Viruses
- Bacteria
- Allergens (like pet dander or dust mites)
- Irritants (like smog or swimming pool chlorine) that infect or irritate the eye and eyelid lining

It can be difficult to determine the exact cause of pink eye because some signs and symptoms may be the same no matter the cause. When pink eye is caused by a virus or bacteria, it is very contagious. It can spread easily and quickly from person to person (through contact with the discharge from the infected eye). Pink eye caused by allergens or irritants is not contagious.[778]

If a child has discharge from the eye, they should be excluded from care until they have been examine and cleared for re-admission by a health care provider "with or without treatment as determined by the health provider…They do not need to be sent home in the middle of the day. Children with conjunctivitis caused by allergies need not be excluded."[779]

Fifth Disease (Slapped Cheek)

Fifth disease is a mild rash illness caused by parvovirus B19. It is more common in children than adults. A person usually gets sick with fifth disease within 14 days after getting infected with parvovirus B19.

The symptoms of fifth disease are usually mild and may include

- fever
- runny nose
- headache
- rash (on face and body)



Figure M.4 – Slapped cheek rash from fifth disease[780]

Parvovirus B19—which causes fifth disease—spreads through respiratory secretions, such as saliva, sputum, or nasal mucus, when an infected person coughs or sneezes. You are most contagious when it seems like you have "just a fever and/or cold" and before you get the rash or joint pain and swelling. After you get the rash you are not likely to be contagious. Fifth disease is usually mild and will go away on its own. Children and adults who are otherwise healthy usually recover completely.[781] "A child who has been diagnosed with fifth disease need not be excluded from child care."[782]

Hand, Foot and Mouth Disease

Hand-foot-mouth disease is a common viral infection that most often begins in the throat. Hand-foot-mouth disease (HFMD) is most commonly caused by a virus called coxsackievirus A16. Children under age 10 are most often affected.

Symptoms of HFMD include:

- Fever
- Headache
- Loss of appetite
- Rash with very small blisters on the hands, feet, and diaper area that may be tender or painful when pressed
- Sore throat
- Ulcers in the throat (including tonsils), mouth, and tongue



Figure M.5 – Blisters on the hand[783]



Figure M.6 – Ulcers in the mouth[784]

The virus can spread from person-to-person through tiny, air droplets that are released when the sick person sneezes, coughs, or blows their nose. You can catch hand-foot-mouth disease if:

- A person with the infection sneezes, coughs, or blows their nose near you.
- You touch your nose, eyes, or mouth after you have touched something contaminated by the virus, such as a toy or doorknob.
- You touch stools or fluid from the blisters of an infected person.

The virus is most easily spread the first week a person has the disease. The time between contact with the virus and the start of symptoms is about 3 to 7 days.[785]

“Children with hand-foot-and-mouth disease do not need to stay home as long as they are feeling well enough to participate...Children with hand-foot-and-mouth disease usually do not need treatment and will get better on their own within a week.”[786]

Hepatitis A

Hepatitis A is a highly contagious liver infection caused by the hepatitis A virus. It can range from a mild illness lasting a few weeks to a severe illness lasting several months. Although rare, hepatitis A can cause death in some people.



Pin It!

What is the difference between hepatitis A, hepatitis B, and hepatitis C?

Hepatitis A, hepatitis B, and hepatitis C are liver infections caused by three different viruses. Although each can cause similar symptoms, they have different modes of transmission and can affect the liver differently. Hepatitis A is usually a short-term infection and does not become chronic. Hepatitis B and hepatitis C can also begin as short-term, acute infections, but in some people, the virus remains in the body, resulting in chronic disease and long-term liver problems. There are vaccines to prevent hepatitis A and hepatitis B; however, there is no vaccine for hepatitis C.

Most children younger than age 6 do not have symptoms when they have hepatitis A. Older children and adults typically have symptoms. If symptoms develop, they usually start appearing 4 weeks after exposure, but can occur as early as 2 and as late as 7 weeks after exposure. Symptoms usually develop over a period of several days and can include:

- Fever
- Fatigue
- Loss of appetite
- Nausea
- Vomiting
- Abdominal pain
- Dark urine
- Diarrhea
- Clay-colored stools
- Joint pain
- Jaundice (yellowing of the skin and eyes)

Hepatitis A usually spreads when a person unknowingly ingests the virus from objects, food, or drinks contaminated by small, undetected amounts of stool from an infected person. A person can transmit the virus to others up to 2 weeks before symptoms appear.[787]

A child diagnosed with hepatitis A should be excluded from care until one week after the onset of symptoms.[788]

Impetigo

Impetigo is a common contagious skin infection that may be caused by two germs—Streptococcus pyogenes and Staphylococcus aureus. Recommended treatment depends on which germs are causing impetigo. With the right treatment, impetigo usually goes away within two to three weeks.

The signs of impetigo include red sores that pop easily and leave a yellow crust, fluid-filled blisters, itchy rash, skin lesions, and swollen lymph nodes. The sores can be uncomfortable and painful.



Figure M.7 – Blisters from impetigo.[789]

Impetigo is typically spread through skin-to-skin contact with an individual who has impetigo, but it can also be spread by contact with objects someone with impetigo has touched (for example, towels, blankets, and toys).

It is recommended that children with impetigo be excluded from care until 24 hours after treatment is started.[790]

Measles

Measles is a serious illness caused by a virus. The virus can last for one to two weeks. It is rare today because most children are immunized against it. However, the number of diagnosed cases has grown across the country. This increase is related to children not being vaccinated.

Measles starts with a fever that can get very high. Some of the other symptoms that may occur are:

- Fatigue
- Cough, runny nose, and red, watery eyes
- Rash of tiny, red spots that usually lasts five to six days, (the rash begins at the hairline, moves to the face and upper neck, and proceeds down the body)
- Diarrhea
- Ear infection

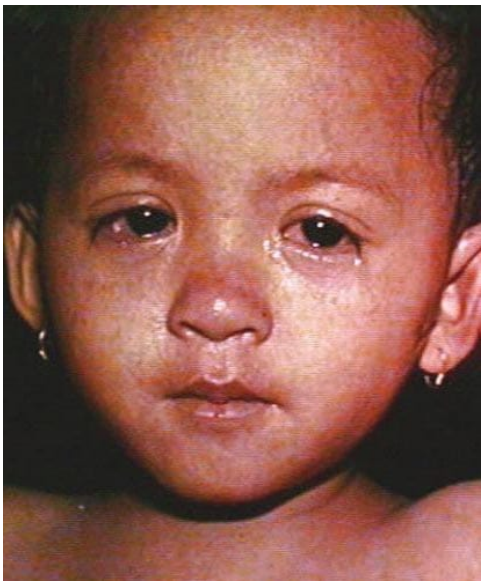


Figure M.8 – Child with measles[791]

Measles spreads when a person infected with the measles virus breathes, coughs, or sneezes. It is very contagious from five days before until four days after the start of the rash. After exposure, it can take one to two weeks for the person to get sick.

Measles can spread by being in a room with a person with measles and up to two hours after that person is gone. It can also spread from an infected person even before they have a measles rash. Almost everyone who has not had the measles vaccine will get measles if they are exposed to the measles virus. People who have had measles or were immunized usually can't catch it again.

Children diagnosed with measles should remain out of the center until a doctor determines the child is no longer infectious. Any unimmunized children or staff should be excluded from the program for two weeks after the rash appears in the last case of measles at the facility.[792]

Meningitis

Meningitis is inflammation of the thin tissue that surrounds the brain and spinal cord, called the meninges. There are several types of meningitis. The most common is viral meningitis. You get it when a virus enters the body through the nose or mouth and travels to the brain. Bacterial meningitis is rare, but can be deadly. It usually starts with bacteria that cause a cold-like infection. It can cause stroke, hearing loss, and brain damage. It can also harm other organs. Pneumococcal infections and meningococcal infections are the most common causes of bacterial meningitis.

Other rare forms of meningitis include, fungal meningitis, parasitic meningitis, amebic meningitis, and non-infectious meningitis.[793]

"Children with meningitis generally feel too ill to attend child care. They can return when they feel better with no fever, or when the health care provider determines the disease is no longer contagious."[794]

Molluscum Contagiosum

Molluscum contagiosum is an infection caused by a poxvirus (molluscum contagiosum virus). The result of the infection is usually a benign, mild skin disease characterized by lesions (growths) that may appear anywhere on the body. Within 6-12 months, Molluscum contagiosum typically resolves without scarring but may take as long as 4 years.

The lesions, known as Mollusca, are small, raised, and usually white, pink, or flesh-colored with a dimple or pit in the center. They often have a pearly appearance. They're usually smooth and firm. In most people, the lesions range from about the size of a pinhead to as large as a pencil eraser (2 to 5 millimeters in diameter). They may become itchy, sore, red, and/or swollen.



Figure M.9 - These are classical appearing Molluscum. The large lesion in the center is one that has been picked and scratched and shows evidence of low-grade inflammation.[795]

Mollusca may occur anywhere on the body including the face, neck, arms, legs, abdomen, and genital area, alone or in groups. The lesions are rarely found on the palms of the hands or the soles of the feet.[796]

“Children with this rash should not be excluded from ECE settings. Molluscum is a nuisance, not a serious health problem.”[797]

Mumps

Mumps is best known for the puffy cheeks and tender, swollen jaw that it causes. It is one of the diseases that is vaccine preventable. This is a result of swollen salivary glands under the ears on one or both sides, often referred to as parotitis.



Figure M.10 - This photo of a young child with mumps shows the characteristic jaw swelling.[798]

Other symptoms that might begin a few days before parotitis include:

- Fever
- Headache
- Muscle aches
- Tiredness
- Loss of appetite

Symptoms typically appear 16-18 days after infection, but this period can range from 12–25 days after infection.

Some people who get mumps have very mild symptoms (like a cold), or no symptoms at all and may not know they have the disease.

In rare cases, mumps can cause more severe complications.

Most people with mumps recover completely within two weeks.[799]

Mumps is a contagious disease caused by a virus. It spreads through direct contact with saliva or respiratory droplets from the mouth, nose, or throat. An infected person can likely spread mumps from a few days before their salivary glands begin to swell to up to five days after the swelling begins. A person with mumps should limit their contact with others during this time. For example, stay home from school and do not attend social events.[800]

Norovirus

Norovirus is the most common cause of vomiting and diarrhea, and foodborne illness.

The most common symptoms of norovirus are:

- diarrhea
- vomiting
- nausea
- stomach pain

Other symptoms includes fever, headache, and body aches.

Norovirus causes inflammation of the stomach or intestines. This is called acute gastroenteritis.

A person usually develops symptoms 12 to 48 hours after being exposed to norovirus. Most people with norovirus illness get better within 1 to 3 days.

If you have norovirus illness, you can feel extremely ill, and vomit or have diarrhea many times a day. This can lead to dehydration, especially in young children, older adults, and people with other illnesses.[801]

You can get norovirus by accidentally getting tiny particles of feces or vomit from an infected person in your mouth. This can happen through contaminated food and water, touching contaminated surfaces and then putting your fingers in the mouth, and having direct contact with someone that is infected with norovirus.

If you get norovirus illness, you can shed billions of norovirus particles that you can't see without a microscope. Only a few norovirus particles can make other people sick. You are most contagious

- when you have symptoms of norovirus illness, especially vomiting, and
- during the first few days after you recover from norovirus illness.

However, studies have shown that you can still spread norovirus for two weeks or more after you feel better.[802] Children that are infected with norovirus should be excluded for 48 hours after becoming symptom free.[803]

Pertussis

Pertussis is a vaccine preventable respiratory illness commonly known as whooping cough. It is a very contagious disease caused by a type of bacteria called *Bordetella pertussis*. These bacteria attach to the cilia (tiny, hair-like extensions) that line part of the upper respiratory system. The bacteria release toxins (poisons), which damage the cilia and cause airways to swell.[804]

It can cause serious illness in babies, children, teens, and adults. Symptoms of pertussis usually develop within 5 to 10 days after you are exposed. Sometimes pertussis symptoms do not develop for as long as 3 weeks.

The disease usually starts with cold-like symptoms and maybe a mild cough or fever. In babies, the cough can be minimal or not even there. Babies may have a symptom known as "apnea." Apnea is a pause in the child's breathing pattern. Pertussis is most

dangerous for babies. About half of babies younger than 1 year who get the disease need care in the hospital.

Early symptoms can last for 1 to 2 weeks and usually include:

- Runny nose
- Low-grade fever (generally minimal throughout the course of the disease)
- Mild, occasional cough
- Apnea – a pause in breathing (in babies)

Pertussis in its early stages appears to be nothing more than the common cold. Therefore, healthcare professionals often do not suspect or diagnose it until the more severe symptoms appear.

After 1 to 2 weeks and as the disease progresses, the traditional symptoms of pertussis may appear and include:

- Paroxysms (fits) of many, rapid coughs followed by a high-pitched “whoop” sound (babies with pertussis may not cough at all)
- Vomiting (throwing up) during or after coughing fits
- Exhaustion (very tired) after coughing fits



Figure M.11 – This baby with pertussis needed ECMO to take over the work of her heart and lungs and dialysis to keep her kidneys working.[805]



Figure M.12 – This child with pertussis has broken blood vessels in his eyes and bruising on his face from coughing.[806]

Pertussis can cause violent and rapid coughing, over and over, until the air is gone from your lungs. When there is no more air in the lungs, you are forced to inhale with a loud "whooping" sound. This extreme coughing can cause you to throw up and be very tired. Although you are often exhausted after a coughing fit, you usually appear fairly well in-between. Coughing fits generally become more common and bad as the illness continues, and can occur more often at night. The coughing fits can go on for up to 10 weeks or more.

Recovery from pertussis can happen slowly. The cough becomes milder and less common. However, coughing fits can return with other respiratory infections for many months after the pertussis infection started.[807]

Children who receive antibiotics should be excluded for 5 days of treatment. Children who do not receive treatment, should stay home for 21 days from the onset of symptoms.[808]

Pinworms

A pinworm ("threadworm") is a small, thin, white roundworm (nematode) called *Enterobius vermicularis* that sometimes lives in the colon and rectum of humans. Pinworms are about the length of a staple. While an infected person sleeps, female pinworms leave the intestine through the anus and deposit their eggs on the surrounding skin.

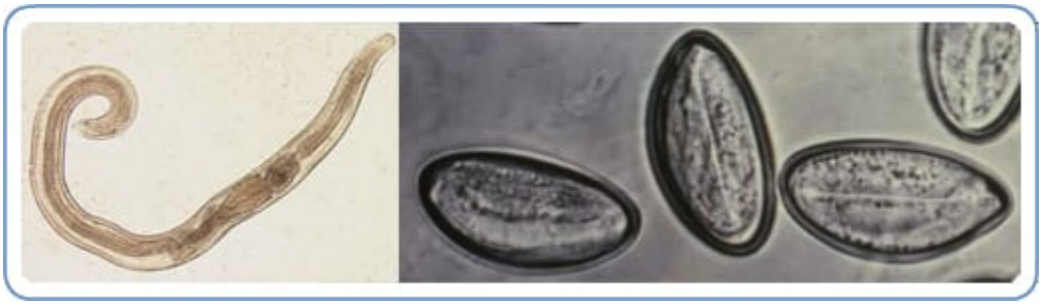


Figure M.13 – A pinworm and pinworm eggs [809]

Pinworm infection (called enterobiasis or oxyuriasis) causes itching around the anus which can lead to difficulty sleeping and restlessness. Symptoms are caused by the female pinworm laying her eggs. Symptoms of pinworm infection usually are mild and some infected people have no symptoms.

Pinworm infection often occurs in more than one person in household and institutional settings. Child care centers often are the site of cases of pinworm infection.

People become infected, usually unknowingly, by swallowing (ingesting) infective pinworm eggs that are on fingers, under fingernails, or on clothing, bedding, and other contaminated objects and surfaces. Because of their small size, pinworm eggs sometimes can become airborne and ingested while breathing.[810] Children and adults with a pinworm infection should be excluded only until their initial dose of treatment has begun.[811]

RSV

Respiratory syncytial (sin-SISH-uhl) virus, or RSV, is a common respiratory virus that usually causes mild, cold-like symptoms. Most people recover in a week or two, but RSV can be serious, especially for infants and older adults. In fact, RSV is the most common cause of bronchiolitis (inflammation of the small airways in the lung) and pneumonia (infection of the lungs) in children younger than 1 year of age in the United States. It is also a significant cause of respiratory illness in older adults.[812]

Symptoms of RSV infection usually include

- Runny nose
- Decrease in appetite
- Coughing
- Sneezing
- Fever
- Wheezing

These symptoms usually appear in stages and not all at once. In very young infants with RSV, the only symptoms may be irritability, decreased activity, and breathing difficulties.



Image M.14 – This infant has an RSV infection.[813]

RSV can also cause more severe infections such as bronchiolitis, an inflammation of the small airways in the lung, and pneumonia, an infection of the lungs. It is the most common cause of bronchiolitis and pneumonia in children younger than 1 year of age.

Almost all children will have had an RSV infection by their second birthday. People infected with RSV usually show symptoms within 4 to 6 days after getting infected. Most RSV infections go away on their own in a week or two.[814]

RSV can spread when an infected person coughs or sneezes. You can get infected if you get droplets from the cough or sneeze in your eyes, nose, or mouth, or if you touch a surface that has the virus on it, like a doorknob, and then touch your face before washing your hands. Additionally, it can spread through direct contact with the virus, like kissing the face of a child with RSV.

People infected with RSV are usually contagious for 3 to 8 days. However, some infants, and people with weakened immune

systems, can continue to spread the virus even after they stop showing symptoms, for as long as 4 weeks. Children are often exposed to and infected with RSV outside the home, such as in school or child-care centers. They can then transmit the virus to other members of the family.

RSV can survive for many hours on hard surfaces such as tables and crib rails. It typically lives on soft surfaces such as tissues and hands for shorter amounts of time.[815]

"Frequently, a child is infectious before symptoms appear. Therefore, an infected child does not need to be excluded from child care unless he or she is not well enough to participate in usual activities."[816]

Ringworm

Ringworm is a common skin infection that is caused by a fungus. It's called "ringworm" because it can cause a circular rash (shaped like a ring) that is usually red and itchy. Anyone can get ringworm. The fungi that cause this infection can live on skin, surfaces, and on household items such as clothing, towels, and bedding.

Ringworm goes by many names. The medical terms are "tinea" or "dermatophytosis." Other names for ringworm are based on its location on the body – for example, ringworm on the feet is also called "athlete's foot."[817]



Figure M.15 – Ringworm rashes[818]

Ringworm can affect skin on almost any part of the body as well as fingernails and toenails. The symptoms of ringworm often depend on which part of the body is infected, but they generally include:

- Itchy skin
- Ring-shaped rash
- Red, scaly, cracked skin
- Hair loss

Symptoms typically appear between 4 and 14 days after the skin comes in contact with the fungi that cause ringworm. [819]

The fungi that cause ringworm can live on skin and in the environment. There are three main ways that ringworm can spread:

1. From a person who has ringworm
2. From an animal that has ringworm.
3. From the environment.[820]

"There is no need to exclude children/staff with these common, mild infections once treatment has been started. Refer persons with a suspicious rash to their health care providers for appropriate diagnosis and treatment and allow them to return as soon as treatment has begun."[821]

Roseola

Roseola is a viral infection that commonly affects infants and young children. It involves a pinkish-red skin rash and high fever.

Roseola is common in children ages 3 months to 4 years, and most common in those ages 6 months to 1 year.

It is caused by a virus called human herpesvirus 6 (HHV-6), although similar syndromes are possible with other viruses.

The time between becoming infected and the beginning of symptoms (incubation period) is 5 to 15 days.

The first symptoms include:

- Eye redness
- Irritability
- Runny nose
- Sore throat
- High fever, that comes on quickly and may be as high as 105°F (40.5°C) and can last 3 to 7 days

About 2 to 4 days after becoming sick, the child's fever lowers and a rash appears. This rash most often:

- Starts on the middle of the body and spreads to the arms, legs, neck, and face
- Is pink or rose-colored
- Has small sores that are slightly raised

The rash lasts from a few hours to 2 to 3 days. It usually does not itch.



Figure M.16 – an infant with the rash characteristic of roseola.[822]

There is no specific treatment for roseola. The disease most often gets better on its own without complications.[823] "A child with fever and rash should be excluded from child care until seen by a health care provider. After the fever breaks, a child may return to care while the rash is still present, provided that the child feels well and is able to participate fully in all activities."[824]

Rotavirus

Rotavirus is most common in your infants and young children. Children, even those who are vaccinated, may get infected and sick from rotavirus more than once. That is because neither natural infection with rotavirus nor vaccination provides full protection from future infections. Children who are not vaccinated usually have more severe symptoms the first time they get rotavirus disease. Vaccinated children are less likely to get sick from rotavirus.[825]

Symptoms usually start about 2 days after a person is exposed to rotavirus. Vomiting and watery diarrhea can last 3 to 8 days. Additional symptoms may include loss of appetite and dehydration (loss of body fluids), which can be especially dangerous for infants and young children.

Symptoms of dehydration include:

- decreased urination
- dry mouth and throat

- feeling dizzy when standing up
- crying with few or no tears and
- unusual sleepiness or fussiness.[826]

People who are infected with rotavirus shed the virus in their stool (poop). This is how the virus gets into the environment and can infect other people (through contaminated food, surfaces, or unwashed hands). People shed rotavirus the most, and are more likely to infect others, when they have symptoms and during the first 3 days after they recover. People with rotavirus can also infect others before they have symptoms.[827]

"Children with rotavirus should be excluded from child care if the stool cannot be contained by diapers or toilet use."[828]

Rubella (German Measles)

Rubella is a vaccine preventable disease that is also called German measles, but it is caused by a different virus than measles.[829] It is usually mild with fever and a rash. About half of the people who get rubella do not have symptoms. If you do get them, symptoms may include

- A rash that starts on the face and spreads to the body
- Mild fever
- Aching joints, especially in young women
- Swollen glands



Figure 10.X – This is the rash of rubella on a child's back.[830]

Rubella spreads when an infected person coughs or sneezes. People without symptoms can still spread it. There is no treatment, but the measles-mumps-rubella (MMR) vaccine can prevent it.[831]

Shigella

Shigellosis is a very contagious diarrheal disease caused by bacteria called Shigella. Shigella causes about 500,000 cases of diarrhea in the United States annually.

Symptoms of the Shigella infection typically start one to two days after exposure and include:

- Diarrhea (sometimes bloody)
- Fever
- Abdominal pain
- A painful sensation of needing to pass stools even when bowels are empty

Shigella spreads when people put something in their mouths or swallow something that has come into contact with stool of a person infected with Shigella.

Exclusion is required for all diapered children whose stool is not contained in the diaper and toilet-trained children if the diarrhea is causing soiled clothing. Re-admission after diarrhea can occur when diapered children have their stool contained by the diaper (even if the stools remain loose) and when toilet-trained children are continent.[832]

Tuberculosis

Tuberculosis (TB) is a contagious disease, caused by the bacteria Mycobacterium tuberculosis. The bacteria usually attack the lungs, but can attack any organ in the body. Recommended treatment depends on whether a person has:

- Latent TB infection–has no symptoms and can't spread the TB bacteria to others; has potential to develop active TB disease if not treated
- Active TB disease–has symptoms such as a fever, cough, or weight loss; these persons may be able to spread the germ to others. Needs treatment to cure the disease.

TB is spread in the air when a person with active TB disease of the lung or throat coughs, sneezes, or speaks. The germs can be inhaled by someone else and they can become infected. TB is often spread between people who spend time together every day. TB in children usually comes from being around adults with active TB disease.

Children and staff with active TB disease should be excluded from the Head Start or child care center until treatment is started, and the doctor determines the child or staff member is no longer infectious. All children and staff should be tested for TB infection if there has been an exposure to a person with active TB disease within the center or at home.[833]

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Appendix N- Self-Assessment for Positive and Healthy Meals and Snacks

Appendix N: Self-Assessment for Positive and Healthy Meals and Snacks[834]

Section 1: Fruits

Fruits avalible daily			
Frequntly	Sometimes	Never	Ready to get started
Fruit options include fresh, frozen, and/or fruit packed in Water or juice (not packed in light or heavy syrup)			
Frequntly	Sometimes	Never	Ready to get started
Fruit options are accessible to Children for self-serving			
Frequntly	Sometimes	Never	Ready to get started
All fruit names are introduced to the children prior to the meal or snack			
Frequntly	Sometimes	Never	Ready to get started
Fruit names are written and/or pictured near where children eat			
Frequntly	Sometimes	Never	Ready to get started
Adults caring for children (mg, assistants, etc.) model to children how to serve themselves and participate in family style dining			
Frequntly	Sometimes	Never	Ready to get started

Notes / Reflections:

Section 2: Vegtables

Vegatbels avalible daily			
Frequntly	Sometimes	Never	Ready to get started
Vegetable options include and/or labeled "reduced sodium" or “no salt added”			
Frequntly	Sometimes	Never	Ready to get started
Vegetables are available to children for self-serving			
Frequntly	Sometimes	Never	Ready to get started
All vegetable names are introduced to the children prior to the meal or snack			
Frequntly	Sometimes	Never	Ready to get started
Vegetable names are written and/or pictured near where children eat			
Frequntly	Sometimes	Never	Ready to get started
Adults caring for children (mg, assistants, etc.) model to children how to serve themselves and participate in family style dining			
Frequntly	Sometimes	Never	Ready to get started

Notes / Reflections:

Section 3: Beverages

Fat free or 1% ild is provided daily for children			
Frequntly	Sometimes	Never	Ready to get started

Milk is available to children for self-serving			
Frequntly	Sometimes	Never	Ready to get started
Drinking water is available to children for self-serving			
Frequntly	Sometimes	Never	Ready to get started
If juice is served it is either 100% fruit or vegetable juice			
Frequntly	Sometimes	Never	Ready to get started
All beverage names are introduced to the children prior to the meal or snack			
Frequntly	Sometimes	Never	Ready to get started
Beverage names are written and/or pictured near where children eat			
Frequntly	Sometimes	Never	Ready to get started

Notes / Reflections:

Section 4: Menu Selections

Menu boards featuring daily meals and snacks are available and Visible near Where Children eat (e.g. classroom or space)			
Frequntly	Sometimes	Never	Ready to get started
The menu includes a variety of foods which consider cultural and ethnic preferences			
Frequntly	Sometimes	Never	Ready to get started
The menu is modified for children with food allergies / intolerances and children with disabilities			

Frequntly	Sometimes	Never	Ready to get started
A monthly menu is provided to all families and staff			
Frequntly	Sometimes	Never	Ready to get started
All beverage names are introduced to the children prior to the meal or snack			
Frequntly	Sometimes	Never	Ready to get started
A monthly nutrition and/or physical activity message is included on the monthly menu			
Frequntly	Sometimes	Never	Ready to get started

Notes / Reflections:

Section 4: ECE Providoers Role During Meal/Snack Time

Mealtime takes place at regular scheduled time and is part of the children daily routine.			
Frequntly	Sometimes	Never	Ready to get started
Adults caring for children have been trained and model appropriate mealtime behavior			
Frequntly	Sometimes	Never	Ready to get started
Adults caring for children turn off all visible screens, including televisions, tablets, phones, etc. During meal time an engaging conversation with the children			
Frequntly	Sometimes	Never	Ready to get started
Adults caring for children sit with children at the table during meal time			
Frequntly	Sometimes	Never	Ready to get started

Adults caring for caring for children discuss if children stomachs feel full before serving a second helping of food			
Frequntly	Sometimes	Never	Ready to get started
During meal time, adults caring for children encourage children to try new or less preferred foods			
Frequntly	Sometimes	Never	Ready to get started
A transition activity (e.g. Reading a book, coloring activity, listening to quiet music, etc.) is offered to children when they're done with their meal			
Frequntly	Sometimes	Never	Ready to get started

Notes / Reflections:

Action Plan

Based on your self-assessment, create an action plan. Tips for completing your action plan:

- Share ideas and planning with staff in your program to ensure clear expectations
- Determine how many steps you think it will take to achieve a goal;
- Define the steps and determine who is responsible for each step; and
- Set a time-line for the completion of a goal and dates by which each step should be complete.

Action Plan Worksheet

Start Date:

ECE Program Name:

Goal:

Objective / Steps	Actions Items (Child, Family, Program, Staff)	Program Environment	Program Policies
Sample Objective Step: Update menus over a 3 month period to integrate more fruits an vegetables	Discuss these changes with the children and how they help them grow strong and healthy	Update menu boards to share information about fresh fruits and vegetables.	Include healthy eating as a required topic at family orientation
Who is responsible?	Program Staff	Program Director, cook teachers	Program Director

Date	June 1st	July 1st	August 1st
Objective Step			
Who is responsible?			
Date			

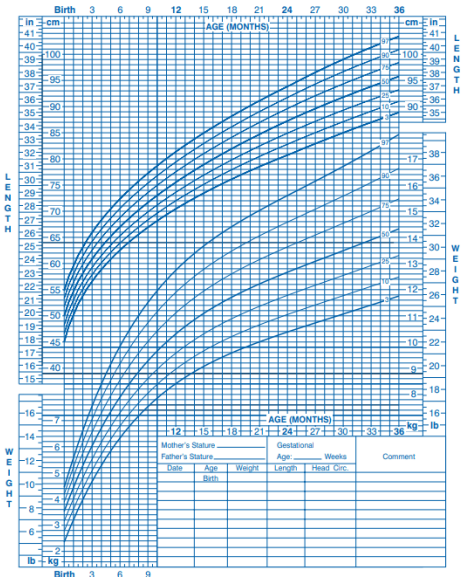
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Appendix O- Growth Charts

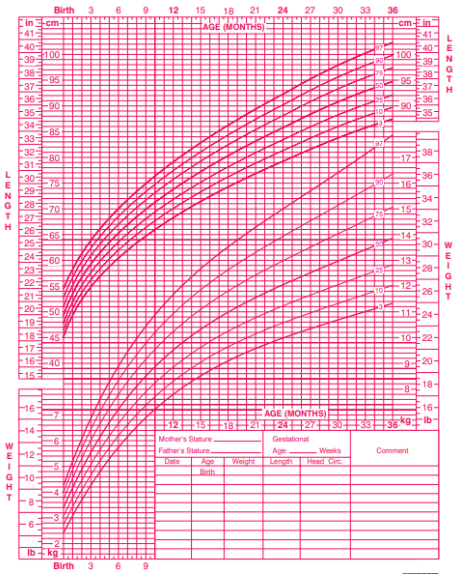
Appendix O: Growth Charts

Birth to 36 months (3rd -97th percentile)

Boys Length-for-age and Weight-for-age[835]

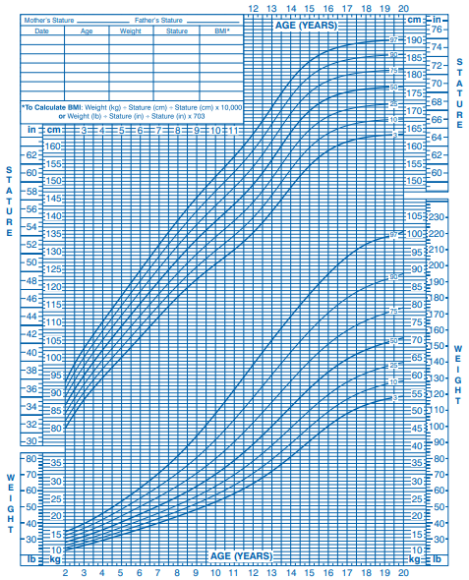


Girls Length-for-age and Weight-for-age[836]

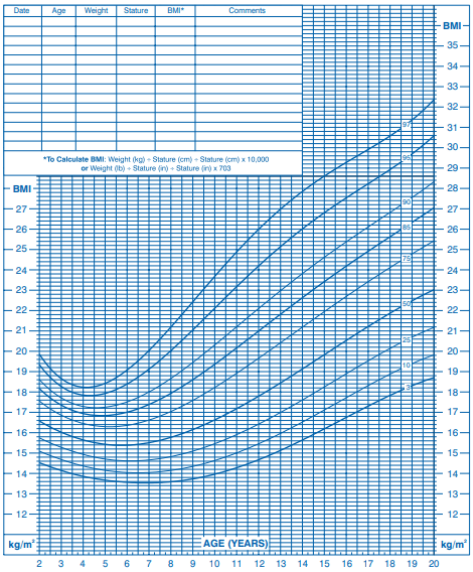


Children 2 to 20 years (3rd-97th percentile)

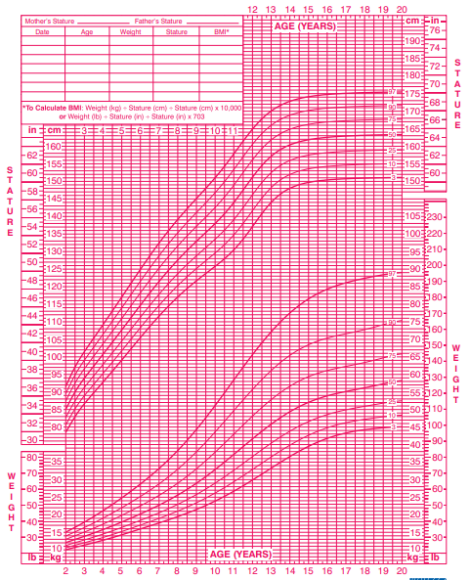
Boys Stature-for-age and Weight-for-age[837]



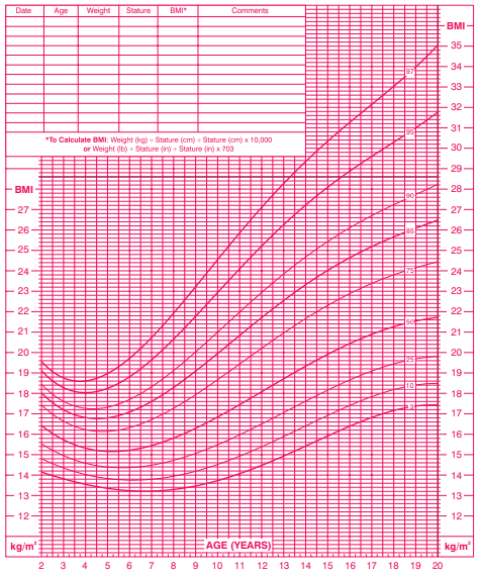
Boys BMI-for-age[838]



Girls Stature-for-age and Weight-for-age[839]



Girls BMI-for-age[840]



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Appendix P- Food Allergy Management and Prevention Plan Checklist

Appendix P: Food Allergy Management and Prevention Plan Checklist[841]

Check if you have plans or procedures	Priorities for a Food Allergy Management and Prevention Plan
-	1. Does your school or ECE program ensure the daily management of food allergies for individual children by:
	Developing and using specific procedures to identify children with food allergies?
	Developing a plan for managing and reducing risks of food allergic reactions in individual children through an Emergency Care Plan (Food Allergy Action Plan)?
	Helping students manage their own food allergies? (Does nota I to ECE programs.)
-	2. Has your school or ECE program prepared for food allergy emergencies by:
	Setting up communication systems that are easy to use in emergencies?
	Makin sure staff can epinephrine auto-injectors quickly and easily?
	Making sure that epinephrine is used when needed and that someone immediately contacts emergency medical services?
	Identifying the role of each staff member in a food allergy emergency?
	Preparing for food allergies reactions in children without a prior history of food allergies?
	Documenting the response to a food allergy emergency?

-	3. Does your school or ECE program train staff how to manage food allergies and respond to allergy reactions by:
	Providing general training on food allergies for all staff?
	Providing in-depth training for staff who have frequent contact with children with food allergies?
	Providing specialized training for staff who are responsible for managing the health of children with food allergies on a daily basis?
-	4. Does your school or ECE program educate children and family members about food allergies by:
	Teaching all children about food allergies?
	Teaching all parents and families about food allergies?
-	5. Does your school or ECE program create and maintain a healthy and safe educational environment by:
	Creating an environment that is as safe as possible from exposure to food allergens?
	Developing food-handling policies and procedures to prevent food allergens from unintentional contact in another food?
	Making outside groups aware of food allergy policies and rules when they use school or ECE program facilities before or after operating hours?
	Creating a positive psychosocial climate that reduces bullying and social isolation and promotes acceptance and understanding of children with food allergies?

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INDEX

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1: Children's Well-Being and Early Childhood Education
11: Children's Mental Health
12: Basic Nutrition for Children
13: Protecting Good Nutrition and Physical Wellness
14: Providing Good Nutrition
15: Menu Planning and Food Safety
3: Creating Safe Indoor Environments
6: Child Maltreatment
8: Prevention of Illness
9: Supportive Health Care
Appendix A- 15 Must Haves for All Child Care Programs Checklist
Appendix B- Title 22 Licensing Regulation Highlights
Appendix C- Health and Safety Checklist
Appendix D- Example Injury/Incident Report Form
Appendix E- Example Playground Inspection Form
Appendix F- Example Emergency Self-Assessment Form
Appendix G- Example Emergency Response Plans
Appendix H- Emergency Mitigation Checklist
Appendix I- Developmental Milestones
Appendix J- Exclusion Form
Appendix K- Notice of Exposure to Contagious Disease
Appendix L- Individualized Health Care Plan
Appendix M- Infectious Disease Information
Appendix N- Self-Assessment for Positive and Healthy Meals and Snacks
Appendix O- Growth Charts
Appendix P- Food Allergy Management and Prevention Plan Checklist
I: Introduction
II: Safety
III: Health
IV: Nutrition

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GLOSSARY

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Sample Word 1 | Sample Definition 1

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    - Appendix C- Health and Safety Checklist - *CC BY 4.0*
    - Appendix D- Example Injury/Incident Report Form - *CC BY 4.0*
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    - Appendix H- Emergency Mitigation Checklist - *CC BY 4.0*
    - Appendix I- Developmental Milestones - *CC BY 4.0*
    - Appendix J- Exclusion Form - *CC BY 4.0*
    - Appendix K- Notice of Exposure to Contagious Disease - *CC BY 4.0*
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    - Appendix M- Infectious Disease Information - *CC BY 4.0*
    - Appendix N- Self-Assessment for Positive and Healthy Meals and Snacks - *CC BY 4.0*
    - Appendix O- Growth Charts - *CC BY 4.0*
    - Appendix P- Food Allergy Management and Prevention Plan Checklist - *CC BY 4.0*
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    - Detailed Licensing - *Undeclared*
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Ancillary Materials - Powerpoint Presentations

Greetings! Here are some rough PowerPoint presentations created to accompany the book by Jennifer Paris. Please note:

- These are geared toward Texas, so you will see our Houston Community College Learning Outcomes in them, as well as some references to Texas Minimum Standards
- Ch. 15 is missing because we are not using that chapter of the text in our course.
- They are a work in progress, with fewer photos than I would normally use. Future work
- They are designed to be used with an online course, so there ARE blanks on many slides. I ask the students to fill in the information for a quiz grade.

Please email at katherine.abba@hccs.edu with any comments or concerns.

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- Ch. 3 Safety, Health, and Nutrition in Early Childhood Education.pptx
- Ch. 4 Safety, Health, and Nutrition in Early Childhood Education.pptx
- Ch. 5 Safety, Health, and Nutrition in Early Childhood Education.pptx
- Ch. 6 Safety, Health, and Nutrition in Early Childhood.pptx
- Ch. 7 Health, Safety and Nutrition in Early Childhood.pptx
- Ch. 8 Safety, Health, and Nutrition in Early Childhood Education.pptx
- Ch. 9 Safety, Health, and Nutrition in Early Childhood Education.pptx
- Ch. 10 Safety, Health, and Nutrition in Early Childhood Education.pptx
- Ch. 11 Safety, Health, and Nutrition in Early Childhood Education.pptx
- Ch. 12 Safety, Health, and Nutrition in Early Childhood Education.pptx
- Ch. 13 Safety, Health, and Nutrition in Early Childhood Education.pptx
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