

Infants & Toddlers Healthy Environments

Staying Healthy: Nutrition, Feeding, and Physical Activity

Good nutrition, proper feeding, and physical activity are important aspects of children's good health. Proper exercise and diet can prevent obesity and some chronic illnesses. You play an important role to encourage and model healthy habits for infants and toddlers. This lesson helps you understand portion control, meal components, food safety, and ways to promote lifelong physical fitness. In addition, you will learn safe and healthy bottle-feeding practices for infants.

Objectives

- Describe the benefits of family style dining.
- Practice and promote portion control for young children.
- Demonstrate the proper procedure to bottle-feed infants.
- Provide opportunities for active play and physical fitness.



Since healthy lifestyle attitudes begin in the early years, you can help infants and toddlers develop life-long healthy habits. Children need you to offer healthful food choices and model healthy lifestyles. Understanding what to eat and how much to eat are important skills for young children to learn. At the same time, understanding the importance of physical activity and how to achieve it is equally significant for young children. Establishing and maintaining healthy lifestyle attitudes ultimately affects young children's learning and reinforces the significance and strength of the mind-body connection.

Family Style Dining

One of the best ways to model healthy eating is through family style dining. Family style dining is considered a best practice when eating with infants and toddlers. It involves sitting at the same table with young children, in small groups, with the children serving themselves when possible, and eating together with adults while sharing

pleasant conversation.

When you participate in family style dining with young children, you:

- Prevent behaviors that increase the possibility of arguments, taking someone else's food, stuffing food into the mouth, potential choking, and playing with food
- Promote language and vocabulary development. Children learn the names of new foods, and adults can model complex language around the size, color, texture, taste, and smell of foods. Meals are also a natural time for conversations about interests and ideas.
- Model manners and how to use utensils
- Establish warm relationships between infants and toddlers and their peers
- Promote hand-eye coordination as children handle dishes and utensils.
- Promote decision-making and problem-solving as children decide what to eat, how much to eat, and how to express their wants and needs.
- Allow children to see adults making healthy choices. This is an excellent opportunity to model these important lifelong behaviors.

Family style dining has a special look and feel. It should allow you and children to relax and enjoy the meal and each other's company. However, family style dining does not happen without challenges. Toddlers might spill their drinks, drop their forks, fidget in their seats, and squabble with peers. However, these behaviors, common in early childhood, are to be expected as toddlers gain a greater sense of independence and mastery of their physical skills. Read more about family style dining in the resource *Benefits and Steps for Family Style Dining* located in the Learn Activities section below.

As with other caregiving routines, such as diapering, toileting, and napping, proper documentation of feeding is essential. Information should be shared daily between children's homes and the program so families and teachers know when the child last ate, and therefore when they may be hungry again. Take time to consider how you will track what children eat during family style dining; talk with your trainer, coach, or administrator about good strategies for recording and sharing this information with families. Some families may prefer to receive information digitally and others may prefer to receive information on paper; your program may have a specific way in which to share information with families and others may allow you to have more flexibility. The information you share with parents and guardians is valuable. When parents make an effort to improve or maintain their good health, those benefits are strongly related to their children's good health. (Murphey, Cook, Beckwith & Belford, 2018).

Take a moment to watch these examples of family style dining.

Meal Components and Patterns

Offering infants and toddlers the appropriate foods, including human milk, formula and beverages, is necessary for proper growth, development, and health.

Feeding children nutritious foods starting in infancy affects brain development, skeletal and muscle development, tooth development, as well as a reduction in tooth decay. Nutritious foods give infants and toddlers energy to play and learn. Unhealthy foods, such as those high in sugar and fat, can make them tired and sluggish, which affects their emotional and social well-being.

For an age-based chart on the recommended foods for meals and snacks designed to meet a child's nutritional needs visit: <https://www.fns.usda.gov/cacfp/meals-and-snacks>. You can also find the recommended daily servings of each food group for breakfast, snack, and lunch in the *Infant Meal Pattern* resource located below in the Learn Activities section.

For a comprehensive resource on feeding infants, see the U.S. Department of Agriculture (USDA) resource, Feeding Infants in the Child and Adult Care Food Program at <https://www.fns.usda.gov/tn/feeding-infants-child-and-adult-care-food-program>.

Tips about general meal components:

- Provide a balance and variety of healthy foods to help infants and toddlers learn to like a variety of foods and make healthy choices.
- Do not use food as reward or punishment. This can cause negative emotional connections to food which can transfer into adulthood and result in unhealthy eating habits and emotional stress.
- Offer water between meals and snacks to quench thirst and establish the healthy habit of staying well-hydrated; infants 6 months and under should be offered breastmilk or formula. Parents and pediatricians will make the determination if water should be introduced prior to 6 months.
- Offering 100 percent juice is an option for snack, but it's not recommended. Juice is high in calories and sugar, and has little nutritional value. Increased consumption of fruit juice is associated with increased risk for obesity. Offer fruits and vegetables as snacks instead of juice.
- Serve milk at meal times.

Food Choking Hazards

Choking happens quickly and silently. You must ensure that the foods infants and toddlers come into contact with are not potential choking hazards. Choking happens quickly and silently. The general rule is that foods that are safe to eat are not round, hard, small, thick, sticky, smooth, or slippery. For a list of choking hazards and tips

to reduce choking incidents, see the [Reducing Choking Risks](#) resource in the Apply Activities section below. Certain foods are known choking hazards. For example, children under 4 years old should not be given:

- Hot dogs (whole or sliced into rounds)
- Whole grapes
- Raw peas and carrot rounds
- Hard candy
- Nuts, seeds
- Hard pretzels, chips, peanuts, or popcorn
- Rice cakes
- Marshmallows
- Spoonfuls of peanut butter
- Chunks of meat larger than what can be swallowed whole

Regardless of a child's age, watch to make sure they take reasonably sized bites. Intervene if a child stuffs their mouth or takes an overly large bite. Cut food into pieces no larger than 1/4-inch square for infants and 1/2-inch square for toddlers/twos, according to each child's chewing and swallowing capability. Never leave an infant or toddler unattended while eating. You should be within an arm's reach and in sight of infants and toddlers at all times.

Portion Control

It is your responsibility to serve proper portions of a well-balanced diet for each infant and toddler. Awareness of portion sizes and knowledge of infant and toddler physical development is important when serving healthy food.

Portion-control recommendations:

- Consider the fact that a child's stomach is about the size of his or her fist.
- Use small, child-sized pitchers, serving dishes, and child-sized plates, bowls and cups; this will help children serve themselves and limit themselves to healthy portions.
- Limit waste by only putting a portion of available food in the serving dishes; refill as needed.
- Remember that children's appetites and tastes change over time; it is normal for infants and toddlers to consume a lot one day and then eat considerably less the next day.
- Model adventurous eating; try each food item yourself even if you know you don't like it.
- Allow second helpings of nutritious foods.

- Avoid the "clean-your-plate club." This forces children to eat more than they may naturally want to.
- Encourage, but don't force, the one-bite rule; each child is asked to try one bite of all the food offered but not forced to do so.

Bottle Preparation

Stringent preparation procedures of bottles, whether they contain human breast milk or formula, exist to reduce improper preparation and contamination that can cause mild to severe illnesses.

Though preparation procedures are not difficult, they can be confusing because there are unique procedures for different types of milk (human milk, brands and types of formulas). The chance of improper preparation is greater when different staff members prepare bottles for feeding. Having clear and established routines for bottle preparation will be beneficial for all staff and reduce the chance of improperly preparing and feeding the children in your care.

Preparing Human Milk

The following are recommendations and tips for the feeding process with human milk:

1. It is important that the bottles are labeled with the infant's first and last name, date, and time the human milk was expressed. The labels and ink on the bottle need to be water-resistant so they are still readable if the bottle is thawed or warmed under running tap water. This is important since you may be thawing and warming bottles from different mothers at the same time in the same sink area.
2. Non-frozen human milk should be transported to your program in the containers you will be using for the feedings. When you receive the milk, you must place it in the refrigerator. Use refrigerated bottles of fresh breastmilk, kept at 40° Fahrenheit or below, within 48 hours from the time they were collected. Throw out unused breastmilk if not used within 48 hours.
3. Although some programs prefer not to use frozen milk, in the event your program allows it, frozen human milk can be transported to your program and stored in single-use plastic bags and then placed in your program's freezer. Breastmilk can be stored in a freezer (with a separate door from the refrigerator), for up to 3 months from when it was collected. Freezer temperature should be 0° Fahrenheit or below. Once the breastmilk is removed from the freezer and thawed, refrigerate it at 40° Fahrenheit or below and use it within 24 hours; do not refreeze it. Check with your program administrators regarding your program's policies around frozen human milk; some programs may choose not to store frozen human milk.
4. Thaw a bottle of frozen breastmilk in the refrigerator or hold it under running cold water. Thaw only as much frozen breastmilk as you think a baby will need for a feeding.

- Do not thaw frozen breastmilk at room temperature, by heating on a stove, or in a microwave. Liquid may become very hot when microwaved even though the bottle feels cool. The hot liquid could seriously burn babies. Also, heating damages special substances in breastmilk that protect baby's health.
 - If breastmilk has a bad odor after thawing, it may have spoiled and should be thrown out.
5. The feeding process should always begin with the caregivers' hands being washed, followed by use of clean, sanitized bottles and nipples. Bottles that are made of plastics containing BPA should be avoided.
 6. It is not necessary to wear gloves when handling or feeding human milk to an infant.
 7. Shake the bottle of breastmilk before feeding the baby because breastmilk separates into two layers when it is stored.
 8. For those babies who prefer a warm bottle, hold the bottle under running warm (not hot) water immediately before feeding the baby. Warm only as much breastmilk as you think a baby will need for a feeding. Feed breastmilk immediately after warming. The temperature of the milk should not be greater than 98.6 F.
 9. After a feeding, throw out any unused breastmilk left in a bottle and wash the bottle with soap and hot water immediately.
 10. If there is a significant amount of human milk left in the container at the end of the day, you can return it to the family, *as long as the child has not been fed directly from the container.*

Feeding Human Milk to the Wrong Infant

When following proper bottle preparation techniques are followed, the chance of feeding human breast milk to the wrong infant is small. If an infant is fed another child's human milk by mistake however, that mistake could result in infant exposure to hepatitis B, hepatitis C, or HIV. If this event should ever happen in your program, you should immediately do the following:

1. Alert your manager so that you can inform the family together.
2. The two of you will need to inform the mother who expressed the human milk about the error and discuss with her how the milk was handled before it was delivered to your program. Your manager will also need to ask if she has ever had hepatitis B, hepatitis C, or an HIV blood test. It will be important to ask if she is willing to discuss this information with the family of the child who was mistakenly fed her milk; once again, your manager or administrator will help handle these particular questions.
3. Next, you and your manager or administrator will need to discuss the mistake with the family of the infant who was fed the wrong bottle. Let them know that the risk of transmission of

infectious disease is low, but that it would be best to notify their child's primary care provider of the mistake. Provide as much information as you can about the time and date the milk was expressed and how the milk was handled before coming to your program. Depending on the health history of the mother whose milk was given, the child who received the wrong bottle may need to have baseline blood tests for hepatitis B, hepatitis C, or HIV.

4. Your program will need to assess how the wrong milk was given and create a plan to prevent future mistakes from happening. With assistance and input from your manager or administrator, this plan should be shared with families.

Preparing Infant Formula

The following are recommendations and tips for feeding formula to an infant in your program:

1. The first step in preparing infant formula is **always wash your hands**.
2. Whether you use formula that is provided by families or by your program, it should come in a factory-sealed container.
3. If you are using infant formula provided by your program, it should be the same formula that your families use at home. Even small differences in brands can cause stomach upset and other problems in infants.
4. The formula families or your program provides may be ready-to-feed strength, liquid concentrate, or powdered.
 - a. The liquid concentrate should be diluted with water according to the directions on the can.
 - b. Powdered formula requires special care since it cannot be sterilized. Follow the manufacturer's directions on the can for safe handling. Before you open the can, wash your hands! The can and plastic lid should also be rinsed and dried. When scooping out the powder, it is important to **only** use the scoop that the manufacturer provides in the can. Other utensils may not measure accurately, and there is also the possibility of contamination from other utensils.
5. If the formula is iron-fortified, refrigerate it until just before you are ready to feed the infant.
6. Just as with human milk, all bottles of infant formula should be labeled with the child's first and last name, time and date of preparation.
7. All prepared formula should be **discarded** within one hour of feeding to an infant.
8. Open containers of ready-to-feed or liquid concentrate formula need to be covered, refrigerated, and labeled with the date it was opened and the child's full name. If this formula is not used within **48 hours**, it should be discarded. Prepared powdered formula that has not

been fed to an infant can be stored in the refrigerator for up to **24 hours**, and should be covered and labeled with the child's name and date of opening.

9. Just as with human milk, and depending on the family and child's preference, you can warm the infant formula by running it briefly under warm water, or, if used in your program, in a bottle warmer. Again, never use a microwave to warm the bottle of formula, and do not shake the bottle excessively. Too much shaking can cause the formula to foam which can increase the likelihood of feeding air to an infant which can lead to discomfort and pain.
10. The temperature of the formula should not be greater than 98.6 F. You can test the temperature of the prepared formula by sprinkling a few drops of it on the inside of your wrist before feeding.

Soy-Based Formula and Cow's Milk

After the weaning stage, most of the world's inhabitants cannot digest lactose, the naturally-occurring sugar found in milk. Because lactose intolerance is so prevalent after weaning, it is important to be prepared for this eventuality in your classroom. Lactose intolerant infants or infants who have other health issues may drink soy-based formulas. These bottles should also be labeled with the infant's name, date and time of preparation.

Cow's milk should **not** be served to infants from birth through twelve months of age unless the family provides written directions from their primary care provider. Between twelve and twenty-four months of age, children who are not drinking human breast milk or infant formula can be served whole milk. If there is a risk of obesity or other health concerns, these children can have reduced fat or 2% milk.

Special Concerns

Sometimes an infant cannot have infant formula or soy-based formula, due to certain health conditions. The infant may be allergic to milk or soy or may need extra calories to thrive. When this is the case, the family should provide a written plan from their primary care provider so that you can be sure to feed the infant appropriately; check with your manager or supervisor to determine if other paperwork and documentation needs to be completed for your program. All infants, but especially those under 6 months, who are thirsty should be given additional formula or breastmilk, but shouldn't be given water unless directed by their parent, guardian, or physician.

Nurturing Care and Bottle Feeding

Bottle feeding is a time to emotionally connect with an infant while satisfying the need for nourishment. It is a time for patience and comfort, a time to be alert for their feeding cues, to engage in eye contact, and a time to talk and respond to infants' vocalizations.

Feeding allows you to physically connect with an infant by holding him or her in a pleasing manner. Allow the infant to hold your finger or stroke the fabric of your shirt. This helps the infant to feel comforted and secure; bottles should never be propped during feedings.

Bottle-Feeding Techniques

The procedures for bottle-feeding are similar to breastfeeding approaches:

- One adult should serve as the primary care teacher, feeding the infant during most feedings.
- Begin feeding when infant provides cues (rooting, sucking, open mouth, etc.).
- Wash your hands and the infant's hands before feeding.
- Hold the infant during feedings; even if an infant can hold his or her own bottle. Create a calm, warm and pleasant atmosphere.
- Alternate sides of your lap.
- Allow breaks during the feeding for burping.
- Allow infant to stop the feeding when full.

Feeding Techniques to Avoid

- Bottles should never be propped.
- Do not bottle feed more than one infant at a time.
- Infants should not be permitted to have a bottle in the crib.
- Infants should not be permitted to carry a bottle while standing, walking, or running.
- Don't force an infant to eat or finish a bottle.
- Don't display anger or frustration concerning an infant's feeding.

Cue Feeding

Infants should be fed when they display feeding cues rather than on a schedule, unless the family gives written instructions otherwise. Feeding according to a cue meets the infant's nutritional and emotional needs and provides the infant with an immediate response. This teaches the infant that you are there to meet their physical needs, which helps them develop trust and feelings of security. When you consistently feed an infant the majority of their feedings, you are likely to understand their cues which lets you respond appropriately in a manner that is satisfying to the infant.

Cues that infants are hungry might include:

- opening their mouth
- moving hands at random
- rooting (i.e., infant turns head to side and makes sucking sounds)

Cue feeding also tells you when an infant is full and done eating. Cues that indicate a child is full include:

- Infant turning away from the bottle or nipple
- Increased attention to surroundings
- Keeping mouth closed
- Shaking head or saying "no"
- Infant playing with, chewing, or mouthing the bottle's nipple without sucking



Watch as these caregivers safely prepare bottles for and sensitively feed the infants in their care.

Physical Activity

Physical activity is a critical component of children's development and overall well-being. In this lesson, think of physical activity as one more way you can model healthy habits for children. Physical activity promotes a healthy lifestyle and prevents obesity.

In infant and toddler programs, there are two main ways to promote physical activity: offering daily opportunities for outdoor play, and modeling or encouraging movement or exercise indoors and outdoors. All children, including infants and toddlers, should have at least two or three chances to play outdoors each day, weather permitting (Caring for Our Children, 2019). In addition, young children should have two or more structured, or caregiver-led games that promote movement throughout the day, either indoors or out, and many opportunities to practice age-appropriate motor skills and movement. Toddlers should have at least 60 to 90 minutes outdoors, again, weather permitting, and should have at least 60 to 90 minutes, over the course of the program day, for more vigorous activity (e.g., running, jumping, dancing).

It is equally important to promote physical activity in the classroom as well. Music and movement is a great way to incorporate physical activity indoors and to allow children opportunities to express themselves and have fun with their peers.

Infants should have some supervised tummy time every day. Caregivers can slowly increase the amount of time an infant is on his or her tummy as the individual infant shows increasing enjoyment of the activity. Tummy time helps develop the strength for later motor movement. In addition, to support infant movement and caregiver interaction, infants should not be seated for more than 15 minutes at a time, except during meals or naps. You can find more information on tummy time in the resource *Tummy Time for Infants* located in the Learn Activities section below. In addition, much more on supporting physical development for both infants and toddlers can be found in the Physical Development course.



To encourage and model healthy feeding, eating, and physical activity habits, remember to:

- Feed infants on cue as they communicate their hunger.

- Build secure relationships with infants, which will help you recognize their feeding patterns.
- Listen for crying; it may indicate missed feeding cues.
- Don't wait for an infant to cry in hunger.
- Don't feed an infant who is not showing signs of hunger.
- Know that cues vary among infants; become familiar with each infant's mannerisms and cues.
- Don't use pacifiers when infants are hungry.
- For toddlers, practice family style dining
- Provide a variety of healthful foods
- Make sure drinking water is always available (children may enjoy the helpful rhyme: "water first for thirst")
- Post or share your weekly menu
- Provide appropriate-sized foods that are ready to eat when served
- Encourage infants and toddlers to try new foods
- Menus should be posted (any substitutions will need to be recorded on the posted menu before being served and document to share with families)
- Respect when an infant or toddler shows signs of fullness
- Stay at arm's reach and within sight of infants and toddlers at all times
- Document daily what and when infants and toddlers eat, and share this information with families at pick up
- Eat healthy foods and drinks. Do you drink soda, eat fast food, chips, or sweets in front of the children? Because they look up to you, the children in your care will want to consume food and drinks similar to what you consume.
- Sit down to drink and eat for snacks and meals. Teach children that they must sit while eating and drinking. Model this habit by doing so yourself.
- Be physically active during indoor and outdoor gross motor time. Do you supervise infants and toddlers while up, moving, and playing, or only when sitting? Children will imitate your behaviors.

Promoting Oral Health

Good oral health begins in infancy. See these practices for starting and sustaining good oral health habits for infants and toddlers: https://www.health.ny.gov/prevention/dental/birth_oral_health.htm. Share these with children's families. To help get parents thinking about building good oral hygiene habits early, you may want to

display the 5 Ways to Prevent Kids' Tooth Decay poster at

https://www.mouthhealthy.org/~media/MouthHealthy/Files/Infographics/ADA_MH_5ways.pdf?la=en.

After meals, it is important to encourage children to brush their teeth. Good oral health is associated with improved overall health. Make sure each child has his or her own toothbrush. Store toothbrushes so they do not touch each other and can air dry. Teach children proper brushing techniques.

Supporting Physical Activity Outdoors

To make sure children stay safe and healthy outdoors, follow these precautions:

- Make sure each child is dressed for the weather. Encourage parents to dress children in layers that can be easily removed if needed.
- Have extra clean mittens, jackets, and hats available if a child does not have appropriate gear.
- Make sure all the clothing a child is wearing is dry.
- Offer shaded and sheltered areas outdoors.
- Use sun protection on sunny days. For more information, visit [healthychildren.org](https://www.healthychildren.org/English/ages-stages/baby/bathing-skin-care/Pages/Baby-Sunburn-Prevention.aspx) at <https://www.healthychildren.org/English/ages-stages/baby/bathing-skin-care/Pages/Baby-Sunburn-Prevention.aspx>
- Make sure water is always available.



Benefits and Steps for Family-Style Dining

Understand the developmental benefits of family style dining



Tummy Time for Infants

Learn how tummy time supports development



Infant Meal Pattern

Get the specifics about meal patterns for breakfast, lunch, snacks, and supper



Explore

In *Exploring Nutrition & Physical Activity*, you will explore different websites that pertain to nutrition and exercise. Review the different websites to create activities and choose information that you can share with the children and families that you serve. Share your responses with your trainer, coach, or administrator.

Taking care of your own fitness is an important way to model healthy habits for young children. It can be difficult to squeeze in physical activity during the day. For one week, use the *Activity Planner* from the U.S. Department of Health and Human Services at: <https://health.gov/moveyourway/activity-planner>. This planner will help you set