

Chapter 4: Nutrition and Food Service

4.3 Requirements for Special Groups or Ages of Children

4.3.1 Nutrition for Infants



4.3.1.3: Preparing, Feeding, and Storing Human Milk

Expressed human milk should be transported and stored in clean and sanitary bottles with nipples that fit tightly or in equivalent clean and sanitary sealed containers to prevent spilling during transport to home or to the facility. Only cleaned and sanitized bottles, or their equivalent, and nipples should be used in feeding. The bottle or container should be properly labeled with the child's full name and the date and time the milk was expressed.¹ The filled, labeled bottles or containers of human milk should immediately be stored in the refrigerator on arrival.

Frozen human milk may be transported and stored in single-use plastic bags and placed in a freezer with a separate door or a stand-alone freezer, and not in a compartment within a refrigerator. To prevent intermittent rewarming due to opening the freezer door regularly, frozen human milk should be stored in the back of the freezer and caregivers/teachers should carefully monitor, with daily log sheets, temperature of freezers used to store human milk using an appropriate working thermometer.

Expressed milk brought by a parent/guardian should only be used for that child. Likewise, infant formula should not be used for a breastfed child without the parent/guardian's written permission. Labels for containers of human milk should be resistant to loss of the name and date/time when washing and handling. This is especially important when a frozen bottle is thawed in running tap water. There may be several bottles for different children being thawed and warmed at the same time in the same place.

The caregiver/teacher should check the child's full name and the date on the bottle so that the oldest milk is used first. Human milk should be thawed in the refrigerator if frozen. If there is insufficient time to thaw the milk in the refrigerator before serving, it may be thawed in a container of warm water, gently swirling the bottle periodically to evenly distribute the temperature in the milk and mix the fat, which may have separated. Frozen milk should never be thawed in a microwave oven because uneven hot spots in the milk may cause burns in the child and excessive heat may destroy beneficial components of the milk.¹⁻³

Human milk containers with significant amount of contents remaining after a feeding (>1 oz) may be returned to the parent/guardian at the end of the day as long as the child has not fed directly from the bottle. Returning unused human milk to the parent/guardian informs the parent/guardian of the quantity taken while in the early care and education program.

Although human milk does not need to be warmed, some children prefer their milk warmed to body temperature, around 98.6°F (37°C). When warming human milk, it is important to keep the container sealed while warming to prevent contamination. Human milk can be warmed

- In a waterless warmer
- By placing the container of human milk into a separate container of warm water
- By placing the container of human milk under running warm (not hot) tap water for a few minutes

Human milk should never be warmed directly on the stove or in the microwave. After warming the milk, caregivers/teachers should test the temperature before feeding by putting a few drops on their wrist. It should feel warm, not hot.²

Avoid bottles made of plastics containing bisphenol A (BPA) or phthalates, sometimes labeled with recycling code 3, 6, or 7.⁴ Use glass bottles with a silicone sleeve or silicone bottle jacket to prevent breakage, or use those made with safer plastics, such as polypropylene or polyethylene (labeled BPA-free) or plastics with a recycling code of 1, 2, 4, or 5.

Expressed human milk that presents a threat to a child, such as human milk that is in an unsanitary bottle, is curdled, smells rotten, and/or has not been stored following the storage guidelines of the Academy of Breastfeeding Medicine (see Human Milk Storage Guidelines table), should be returned to the parent/guardian.² Written guidance for staff and parents/guardians should be available to determine when milk provided by parents/guardians will not be served. Human milk cannot be served if it does not meet the requirements for sanitary and safe milk.¹

Although human milk is a body fluid, it is not necessary to wear gloves when feeding or handling human milk.⁵ The risk of exposure to infectious organisms during feeding or from milk that the child regurgitates is not significant.²

Some infants around 6 months to 1 year of age may be developmentally ready to feed themselves and may want to drink from a cup. The transition from bottle to cup can come at a time when a child's fine motor skills allow use of a cup. The

caregiver/teacher should use a clean, small cup without cracks or chips and should help the child to lift and tilt the cup to avoid spillage and leftover fluid. The caregiver/teacher and family should work together on cup feeding of human milk to ensure the child is receiving adequate nourishment and to avoid having a large amount of human milk remaining at the end of the feeding.⁶ Two to 3 ounces of human milk can be placed in a clean cup and additional milk can be offered as needed. Small amounts of human milk (≤ 1 oz) can be discarded.

There are many different factors that can affect how long human milk can be stored in various locations, such as storage temperature, temperature fluctuations, and cleanliness while expressing and handling human milk. These factors make it difficult to recommend exact times for storing human milk in various locations, but the Human Milk Storage Guidelines table can be helpful.

Human Milk Storage Guidelines			
Storage Locations and Temperatures			
	Countertop	Refrigerator	Freezer
	77°F (25°C) or colder (<i>room temperature</i>)	40°F (4°C)	0°F (-18°C) or colder
Freshly Expressed or Pumped Human Milk	Up to 4 hours	Up to 4 days	Within 6 months is best. Up to 12 months is acceptable.
Thawed, Previously Frozen Human Milk	1-2 hours	Up to 1 day (24 hours)	Never refreeze human milk after it has been thawed.
Leftover Human Milk From a Feeding (<i>baby did not finish the bottle</i>)	Use within 2 hours after the baby is finished feeding.		
Sources			
Eglash A, Simon L; Academy of Breastfeeding Medicine. ABM clinical protocol #8: human milk storage information for home use for full-term infants, revised 2017. <i>Breastfeed Med.</i> 2017;12(7):390-395. https://abm.memberclicks.net/assets/DOCUMENTS/PROTOCOLS/8-human-milk-storage-protocol-english.pdf . Accessed October 24, 2019			
Centers for Disease Control and Prevention. Proper storage and preparation of breast milk. https://www.cdc.gov/breastfeeding/recommendations/handling_breastmilk.htm . Reviewed August 6, 2019. Accessed October 24, 2019			

RATIONALE

By following this standard, early care and education staff is able, when necessary, to prepare human milk and feed a child safely, thereby reducing the risk of inaccuracy or feeding the child unsanitary or incorrect human milk.^{1,2} In addition, following safe preparation and storage techniques helps nursing mothers and caregivers/teachers of breastfed children maintain the high quality of expressed human milk and the health of the child.^{7,8}

TYPE OF FACILITY

Center, Early Head Start, Large Family Child Care Home, Small Family Child Care Home

RELATED STANDARDS

- 4.3.1.1 General Plan for Feeding Infants
- 4.3.1.4 Feeding Human Milk to Another Mother's Child
- 4.3.1.7 Feeding Cow's Milk
- 4.3.1.8 Techniques for Bottle Feeding
- 4.3.1.9 Warming Bottles and Infant Foods
- 5.2.9.9 Plastic Containers and Toys

REFERENCES

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6. American Academy of Pediatrics. Working together: breastfeeding and solid foods. HealthyChildren.org website. <https://www.healthychildren.org/English/ages-stages/baby/breastfeeding/Pages/Working-Together-Breastfeeding-and-Solid-Foods.aspx>. Updated February 23, 2012. Accessed October 24, 2019
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8. Binns C, Lee M, Low WY. The long-term public health benefits of breastfeeding. *Asia Pac J Public Health*. 2016;28(1):7–14

NOTES

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