



## Chapter 4: Nutrition and Food Service

### 4.3 Requirements for Special Groups or Ages of Children

#### 4.3.1 Nutrition for Infants

##### Standard 4.3.1.3: Preparing, Feeding, and Storing Human Milk



Expressed human milk should be placed in a clean and sanitary bottle with a nipple that fits tightly or into an equivalent clean and sanitary sealed container 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 infant's full name and the date and time the milk was expressed. The bottle or container should immediately be stored in the refrigerator on arrival.

The mother's own expressed milk should only be used for her own infant. Likewise, infant formula should not be used for a breastfed infant without the mother's written permission.

Bottles made of plastics containing BPA or phthalates should be avoided (labeled with #3, #6, or #7). Glass bottles or plastic bottles labeled BPA-free or with #1, #2, #4, or #5 are acceptable.

Non-frozen human milk should be transported and stored in the containers to be used to feed the infant, identified with a label which will not come off in water or handling, bearing the date of collection and child's full name. The filled, labeled containers of human milk should be kept refrigerated. Human milk containers with significant amount of contents remaining (greater than one ounce) may be returned to the mother at the end of the day as long as the child has not fed directly from the bottle.

Frozen human milk may be transported and stored in single use plastic bags and placed in a freezer (not a compartment within a refrigerator but either a freezer with a separate door or a standalone freezer). Human milk should be defrosted in the refrigerator if frozen, and then heated briefly in bottle warmers or under warm running water so that the temperature does not exceed 98.6°F. If there is insufficient time to defrost the milk in the refrigerator before warming it, then it may be defrosted in a container of running cool tap water, very gently swirling the bottle periodically to evenly distribute the temperature in the milk. Some infants will not take their mother's milk unless it is warmed to body temperature, around 98.6°F. The caregiver/teacher should check for the infant's full name and the date on the bottle so that the oldest milk is used first. After warming, bottles should be mixed gently (not shaken) and the temperature of the milk tested before feeding.

Expressed human milk that presents a threat to an infant, 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 as shown later in this standard, should be returned to the mother.

Some children around six months to a 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 mother 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 feeding. Two to three ounces of human milk can be placed in a clean cup and additional milk can be offered as needed. Small amounts of human milk (about an ounce) can be discarded.





### 4.3.1.3 - Preparing, Feeding, and Storing Human Milk

Human milk can be stored using the following guidelines from the Academy of Breastfeeding Medicine:

#### Guidelines for Storage of Human Milk

Location	Temperature	Duration	Comments
Countertop, table	Room temperature (up to 77°F or 25°C)	6-8 hours	Containers should be covered and kept as cool as possible; covering the container with a cool towel may keep milk cooler.
Insulated cooler bag	5°F – 39°F or -15°C – 4°C	24 hours	Keep ice packs in contact with milk containers at all times, limit opening cooler bag.
Refrigerator	39°F or 4°C	5 days	Store milk in the back of the main body of the refrigerator.
Freezer compartment of a refrigerator	5°F or -15°C	2 weeks	Store milk toward the back of the freezer, where temperature is most constant. Milk stored for longer durations in the ranges listed is safe, but some of the lipids in the milk undergo degradation resulting in lower quality.
Freezer compartment of refrigerator with separate doors	0°F or -18°C	3-6 months	
Chest or upright deep freezer	-4°F or -20°C	6-12 months	

Source: Academy of Breastfeeding Medicine Protocol Committee. 2010. Clinical protocol #8: Human milk storage information for home use for healthy full term infants, revised. *Breastfeeding Med* 5:127-30.

<http://www.bfmed.org/Media/Files/Protocols/Protocol%208%20-%20English%20revised%202010.pdf>

From the Centers for Disease Control and Prevention Website: Proper handling and storage of human milk – Storage duration of fresh human milk for use with healthy full term infants.

[http://www.cdc.gov/breastfeeding/recommendations/handling\\_breastmilk.htm](http://www.cdc.gov/breastfeeding/recommendations/handling_breastmilk.htm)

#### **RATIONALE:**

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 the frozen bottle is thawed in running tap water. There may be several bottles from different mothers being thawed and warmed at the same time in the same place.

By following this standard, the staff is able, when necessary, to prepare human milk and feed an infant safely, thereby reducing the risk of inaccuracy or feeding the infant unsanitary or incorrect human milk (2,5). Written guidance for both



### 4.3.1.3 - Preparing, Feeding, and Storing Human Milk

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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.

Excessive shaking of human milk may damage some of the cellular components that are valuable to the infant.

It is difficult to maintain 0°F consistently in a freezer compartment of a refrigerator or freezer, so caregivers/teachers should carefully monitor, with daily log sheets, temperature of freezers used to store human milk using an appropriate working thermometer. Human milk contains components that are damaged by excessive heating during or after thawing from the frozen state (1). Currently, there is nothing in the research literature that states that feedings must be warmed at all prior to feeding. Frozen milk should never be thawed in a microwave oven as 1) uneven hot spots in the milk may cause burns in the infant and 2) excessive heat may destroy beneficial components of the milk.

By following safe preparation and storage techniques, nursing mothers and caregivers/teachers of breastfed infants and children can maintain the high quality of expressed human milk and the health of the infant (3,4,6).

#### **COMMENTS:**

Although human milk is a body fluid, it is not necessary to wear gloves when feeding or handling human milk. Unless there is visible blood in the milk, the risk of exposure to infectious organisms either during feeding or from milk that the infant regurgitates is not significant.

Returning unused human milk to the mother informs her of the quantity taken while in the early care and education program.

#### **TYPE OF FACILITY:**

Small Family Child Care Home, Center, Large 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:**

1. American Academy of Pediatrics, Section on Breastfeeding. 2005. Policy statement: Breastfeeding and the use of human milk. *Pediatrics* 115:496-506.
2. Clark, A., J. Anderson, E. Adams, S. Baker. 2008. Assessing the knowledge, attitudes, behaviors and training needs related to infant feeding, specifically breastfeeding, of child care providers. *Matern Child Health J* 12:128-35.
3. Kleinman, R. E., ed. 2009. *Pediatric nutrition handbook*. 6th ed. Elk Grove Village, IL: American Academy of Pediatrics.
4. Samour, P. Q., K. King. 2005. *Handbook of pediatric nutrition*. 3rd ed. Lake Dallas, TX: Helm.
5. Lawrence, R. A., R. Lawrence. 2005. *Breast feeding: A guide for the medical profession*. 6th ed. St. Louis: Mosby.
6. Endres, J. B., R. E. Rockwell. 2003. *Food, nutrition, and the young child*. 4th ed. New York: Macmillan.