

ABM Protocols

A central goal of **The Academy of Breastfeeding Medicine** is the development of clinical protocols for managing common medical problems that may impact breastfeeding success. These protocols serve only as guidelines for the care of breastfeeding mothers and infants and do not delineate an exclusive course of treatment or serve as standards of medical care. Variations in treatment may be appropriate according to the needs of an individual patient.

Protocol #8: Human milk storage information for home use for healthy full-term infants

STORAGE CONTAINERS

1. Hard-sided containers, such as hard plastic or glass, are the preferred containers for long-term human milk storage. These containers should have an airtight seal.¹
2. Plastic bags specifically designed for human milk storage can be used for short-term (less than 72 hours) milk storage.^{1,2} Use of plastic bags is not recommended for long-term storage as they may spill, leak, or become contaminated more easily than hard-sided containers, and some important milk components may adhere to the soft plastic and be lost.

GENERAL GUIDELINES

1. Hands must be washed prior to expressing or pumping milk.
2. Use containers and pumping equipment that have been washed in hot, soapy water and rinsed. If available, cleaning in a dishwasher is acceptable; dishwashers that additionally heat the water may improve cleanliness. If a dishwasher is not available, boiling the containers after washing is recommended. Boiling is particularly important where the water supply may not be clean.
3. Store in small portions to minimize waste. Most breastfed babies take between 2 and 4 ounces (60–120 mL) of milk when beginning with an alternative feeding method. Storing in 2-ounce (60 mL) amounts and offering additional amounts if the baby is still hungry will prevent having to throw away unfinished milk.
4. Consider storing smaller size portions [1–2 ounces (30–60 mL) each] for unexpected situations. A small amount of milk can keep a baby happy until mom comes to nurse the baby.
5. Several expressions throughout a day may be combined to get the desired volume in a container. Chill the newly expressed milk for at least 1 hour in the main body of the refrigerator or in a cooler with ice or ice packs, and then add it to previously chilled milk expressed on the same day.
6. Do not add warm breast milk to frozen milk because it will partially thaw the frozen milk.
7. Keep milk from one day separate from other days.
8. Do not fill the container; leave some room at the top because breast milk expands as it freezes.
9. Label containers clearly with waterproof labels and ink, if possible.
10. Indicate the date that the milk was expressed and the child's name (for daycare).
11. Expect that the milk will separate during storage because it is not homogenized. The cream will rise to the top of the milk and look thicker and whiter. Before feeding, gently swirling the container of milk will mix the cream back through again. Avoid vigorously shaking the milk.

12. The color of milk may vary from day to day, depending on maternal diet. It may look bluish, yellowish, or brownish. Frozen breast milk may also smell different than fresh breastmilk.³ There is no reason not to use the milk if the baby accepts it.

Milk storage guidelines

1. Milk may be kept at room temperature (up to 77°F or 25°C) for 6 to 8 hours. Temperatures greater than 77°F (25°C) may not be safe for room temperature storage.⁴ Containers should be covered and kept as cool as possible; covering the container with a cool towel may keep milk cooler.
2. Milk may be stored in an insulated cooler bag with ice packs for 24 hours.⁵
3. Milk may be safely refrigerated (39°F or 4°C) for up to 5 days.⁶ Store milk in the back of the main body of the refrigerator, where the temperature is the coolest.⁷
4. The type of freezer in which the milk is kept determines timetables for frozen milk. Generally, store milk toward the back of the freezer, where the temperature is most constant.⁸ Milk stored for the longer durations in the ranges listed below is safe, but there is some evidence that the lipids in the milk undergo degradation resulting in lower quality.⁹

- Freezer compartment located inside the refrigerator (5°F or -15°C): **2 weeks**
- Refrigerator/freezer with separate doors (0°F or -18°C): **3 to 6 months**
- Chest or upright manual defrost deep freezer that is opened infrequently and maintains ideal temperature (-4°F or -20°C): **6 to 12 months**

5. The above guidelines apply only to healthy, term infants; guidelines are different for hospitalized, sick, or preterm infants.

Thawing or warming milk

1. The oldest milk should be used first.
2. The baby may drink the milk cool, at room temperature, or warmed.
3. Thaw milk by placing it in the refrigerator the night before use or gently rewarm it by placing the container under warm running water or in a bowl of warm water.
4. Do not let the level of water in the bowl or from the tap touch the mouth of the container.
5. Milk may be kept in the refrigerator for 24 hours after it is thawed.
6. Never use a microwave oven or stovetop to heat the milk, as these may cause scald spots and will also destroy antibodies.^{10,11}
7. Swirl the container of milk to mix the cream back in, and distribute the heat evenly. Do not stir the milk.
8. Milk left in the feeding container after a feeding should be discarded and not used again.
9. As with all foods, do not re-freeze breast milk once it is thawed or partially thawed.

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The Academy of Breastfeeding Medicine Protocol Committee

Caroline J. Chantry MD, FABM, Co-Chairperson

*Anne Eglash MD, FABM

Cynthia R. Howard MD, MPH, FABM, Co-Chairperson

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*Lead Author(s)

