

CDC Guidelines for Proper Storage and Preparation of Breast Milk

Human Milk Storage Guidelines				
Type of Breast Milk	Storage Locations and Temperatures			
	Countertop 77°F or colder (25°C) (room temperature)	Refrigerator 40°F (4°C)	Freezer 0°F (-18°C)	Deep Freezer -4°F or colder (-20°C)
Freshly Expressed or Pumped	Up to 4 hours	Up to 4 days	Up to 6 months	Up to 12 months
Thawed, Previously Frozen	1-2 hours	Up to 1 day (24 hours)	Never refreeze human milk after it has been thawed	
Left Over from a Feeding <i>(Baby Did Not Finish the Bottle)</i>	Use within 2 hours after the baby is finished feeding			
Adapted from " ABM Clinical Protocol #8: Human Milk Storage Information for Home Use for Full-Term Infants, " Revised 2017.				

By following recommended storage and preparation techniques, nursing mothers and caretakers of breastfed infants and children can maintain the safety and quality of expressed breast milk for the health of the baby.

These are general guidelines for storing human milk at different temperatures. Various factors (milk volume, room temperature when milk is expressed, temperature fluctuations in the refrigerator and freezer, and cleanliness of the environment) can affect how long human milk can be stored safely.

Before expressing or handling breast milk:

- [Wash your hands](#) well with soap and water. If soap and water are not available, [use an alcohol-based hand sanitizer](#) that contains at least 60% alcohol.
- Mothers can express breast milk by hand or with a manual or electric pump.
- If using a pump, inspect the pump kit and tubing to make sure it is clean. Discard and replace moldy tubing immediately.
- If using a shared pump kit, clean pump dials, power switch, and countertop with disinfectant wipe.

Storing breast milk after expressing:

- Use breast milk storage bags or clean food-grade containers with tight fitting lids made of glass or plastic to store expressed breast milk.
 - Avoid bottles with the recycle symbol number 7, which indicates that the container may be made of a BPA-containing plastic.
- Never store breast milk in disposable bottle liners or plastic bags that are not intended for storing breast milk.
- Freshly expressed or pumped milk can be stored at:
 - Room temperature (77°F or colder) for up to 4 hours.
 - In the refrigerator for up to 4 days.
 - In the freezer for up to 6 months.
 - In a deep freezer for up to 12 months.

Storage tips:

- Clearly label the breast milk with the date it was expressed.
- Do not store breast milk in the door of the refrigerator or freezer. This will help protect the breast milk from temperature changes from the door opening and closing.
- If you don't think you will use freshly expressed breast milk within 4 days, freeze it right away. This will help to protect the quality of the breast milk.
- Freeze breast milk in small amounts of 2 to 4 ounces (or the amount that will be offered at one feeding) to avoid wasting breast milk that might not be finished.

- When freezing breast milk, leave about an inch of space at the top of the container because breast milk expands as it freezes.
- If you will be delivering breast milk to a childcare provider, clearly label the container with the child's name and talk to your childcare provider about other requirements they might have for labeling and storing breast milk.
- Breast milk can be stored in an insulated cooler bag with frozen ice packs for up to 24 hours when you are traveling. Once you arrive at your destination, milk should be used right away, stored in the refrigerator, or frozen.

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Safe Thawing of Breast Milk

- Always thaw the oldest breast milk first. Remember first in, first out. Over time, the quality of breast milk can decrease.
- There are several ways to thaw your breast milk:
 - In the refrigerator overnight.
 - Set in a container of warm or lukewarm water.
 - Under lukewarm running water.
- Never thaw or heat breast milk in a microwave. Microwaving can destroy nutrients in breast milk and create hot spots, which can burn a baby's mouth.
- Use breast milk within 24 hours of thawing in the refrigerator (this means from the time it is no longer frozen or completely thawed, not from the time when you took it out of the freezer).
- Once breast milk is brought to room temperature or warmed after storing in the refrigerator or freezer, it should be used within 2 hours.
- Never refreeze breast milk once it has been thawed.

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Feeding Expressed Breast Milk

- Breast milk does not need to be warmed. It can be served room temperature or cold.
- If you decide to warm the breast milk, here are some tips:
 - Keep the container sealed while warming.
 - Warm breast milk by placing the container of breast milk into a separate container or pot of warm water for a few minutes or by running warm (not hot) tap water over the container for a few minutes.
 - Do not heat breast milk directly on the stove or in the microwave.
 - Test the temperature of the breast milk before feeding it to your baby by putting a few drops on your wrist. It should feel warm, not hot.
- Swirl the breast milk to mix the fat, which may have separated.
- If your baby did not finish the bottle, the leftover breast milk can still be used within 2 hours after the baby is finished feeding. After 2 hours, leftover breast milk should be discarded.

Safe cleaning of infant feeding items and pumping equipment:

Carefully cleaning, sanitizing, and storing your pump equipment, baby's bottles, and other feeding items will help to protect your breast milk from contamination. CDC has guidance on how to safely clean and store pump equipment and infant feeding items.

- [How to Clean, Sanitize, and Store Infant Feeding Items.](#)
- [How to Keep Your Breast Pump Kit Clean: The Essentials.](#)

Frequently Asked Questions

Why have I seen different recommendations for storing breast milk?

There are many different factors that can affect how long breast milk can be stored in various locations, such as storage temperature, temperature fluctuations, and cleanliness while expressing and handling breast milk. These factors make it difficult to recommend exact times for storing breast milk in various locations.

Does the temperature of the room matter if I plan to leave breast milk on the counter until I use it?

Yes. If you live in a warmer climate or keep your home at a warmer temperature, you should use breast milk sooner or place it in the refrigerator if it will not be used within a few hours. Breast milk does not spoil as quickly at cooler temperatures.

How can I determine the temperature of my refrigerator and freezer?

Chilling and freezing breast milk to proper temperatures is one of the best ways to slow the growth of bacteria. To be sure that your refrigerator is doing its job, keep its temperature at 40°F or below. The freezer should be at 0°F. Because few refrigerator controls show actual temperatures, using an inexpensive freestanding [appliance thermometer](#) will allow you to monitor the temperature and adjust the setting of the refrigerator and freezer if necessary. This may be important if you lose power or have mechanical problems.

Why can breast milk be stored longer in a deep freezer?

A refrigerator freezer door is usually opened frequently which can make it harder to maintain 0°F and could affect the quality of the breast milk over time. A free-standing freezer set at -4°F or colder can be used for longer term breast milk storage. Although freezing keeps food safe almost indefinitely, recommended storage times are important to follow for best quality.

If I don't use breast milk stored in the refrigerator within a few days, can I still freeze it to use later?

After 4 days of refrigeration, your breast milk should be used or discarded. Breast milk has properties that slow the growth of bad bacteria. These properties begin to decline after a few days of refrigeration. To help retain the protective actions of breast milk against bacterial growth, freeze breast milk sooner rather than later if you won't use it within a few days.

The power went out! Do I have to throw out all of my stored frozen breast milk?

Your breast milk might still be safe, but it depends on how long the power is out and how defrosted or warm the breast milk becomes. Freezers, if left unopened and full during a power outage, will keep food safe for about 48 hours (about 24 hours if half full). When freezers are full, the other frozen items help keep the freezer colder longer. The refrigerator will keep food cold for about 4 hours if it is unopened. While the power is out, keep the freezer and refrigerator doors closed as much as possible.

Once the power is back on, check the condition of your stored breast milk. Frozen breast milk that has started to thaw, but still contains ice crystals can be refrozen. If your breast milk has completely thawed, but still feels cold, put it into the refrigerator and use it within the next day or discard it.

Where can I store my breast milk at work?

Expressed breast milk is a food and may be stored alongside other foods in any refrigerator that is appropriate for food storage. Employers, coworkers, cleaning staff, other family members, and childcare providers should not consider or treat breast milk as a biohazard. Storing breast milk in a shared refrigerator and washing pump parts in community break rooms are unlikely to pose health risks (sanitary or safety issues); however, it is important that the breast pump equipment be cleaned, dried, and stored in a sanitary (clean) environment to protect the equipment (and expressed breast milk) from contamination.

What are the recommendations for properly storing expressed breast milk while traveling?

Traveling by air?

- You are allowed to carry more than 3.4 ounces of breast milk in your carry-on bag, as well as ice and gel packs.
- The [Transportation Security Administration \(TSA\)](#) has specific screening procedures for anyone traveling with breast milk.
- Consider keeping a copy of the TSA regulations in your carry-on bag.

Expressed breast milk may be stored and transported in an insulated cooler bag with frozen ice packs for up to 24 hours, or else frozen in dry ice ([follow safety precautions when handling dry ice](#)). Once breast milk is cooled, it should remain cool until it is consumed. Breast milk that has been transported in an insulated cooler bag with frozen ice packs can subsequently be refrigerated or frozen.

Depending upon the destination, if no reliable breast milk storage is available, a mother traveling with expressed breast milk could consider temperature-controlled shipping as an option for transporting breast milk, or discarding her expressed breast milk. Continuing to express breast milk regularly will help a mother to maintain her breast milk supply until she and her nursing infant or child can be reunited. Visit CDC's [Travel Recommendations for the Nursing Mother webpage](#) to learn more.

Learn More

- [Freezing and Food Safety](#) – USDA Food Safety and Inspection Service
- [Clinical Protocol #8: Human Milk Storage Information for Home Use for Full-Term Infants](#) – Academy of Breastfeeding Medicine
- [How to Keep Your Breast Pump Kit Clean: The Essentials](#) – CDC
- [How to Clean, Sanitize, and Store Infant Feeding Items](#) – CDC