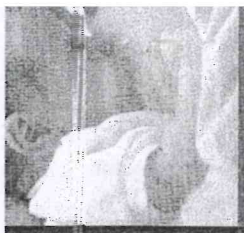
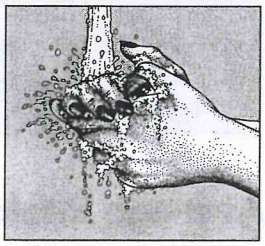


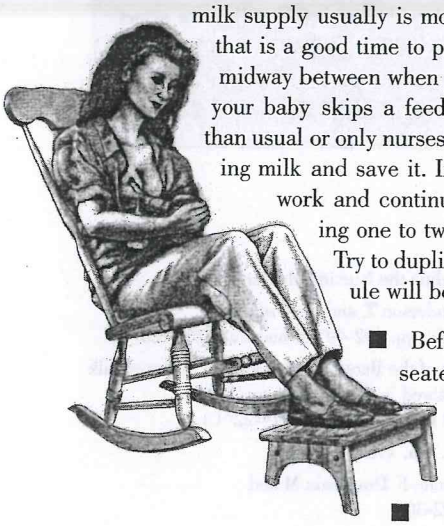
# Breastmilk Collection and Storage

## Guidelines For Normal Newborns

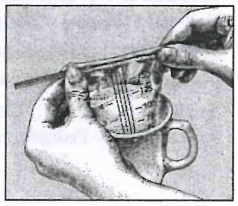
## Collecting Breastmilk



- Wash hands well with soap and hot water.
- Wash breastpump parts that come in contact with the breast or milk, as well as the collection containers, in either a dishwasher or by hand using hot, soapy water. Rinse with cold water and air dry on a clean towel. Check with your hospital or healthcare provider for any other instructions.
- When to pump depends on you and your baby's schedule. Your milk supply usually is most plentiful in the morning, so that is a good time to pump. Try to schedule pumping midway between when your baby feeds. Be flexible. If your baby skips a feeding, nurses for a shorter time than usual or only nurses on one side, pump the remaining milk and save it. If you are planning to return to work and continue breastfeeding, begin pumping one to two weeks before you start work. Try to duplicate what your pumping schedule will be, once you are back to work.



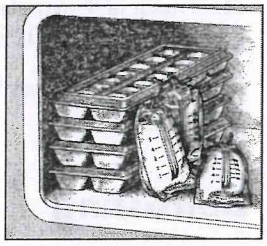
- Before pumping, get comfortably seated and relaxed. Pump your breasts according to the breastpump manufacturer's instructions.
- There are several containers available for storing breastmilk, including specially designed plastic bags and plastic or glass containers. There are advantages to each; use the type which is most functional for you. The Medela Collection-Storage-Freezer (CSF™) Bag is especially designed with two-layer construction to provide maximum protection for storing breastmilk.



- Pump or express breastmilk into a clean collection container.
- It is normal for human milk to vary in color, consistency and odor, depending on mother's diet and the type of storage container used.

## Storage

1. If you do not intend to use expressed breastmilk within a few days, freeze it immediately in the coldest section of your freezer, being careful not to let the container touch the inside self-defrosting walls of the freezer.



2. When you freeze your breastmilk, be sure to leave additional space at the top of the container. Breastmilk, like most liquids, expands as it freezes.
3. When using plastic bags, use those designed for breastmilk collection. Before storing, fold down the top several times and seal with freezer or masking tape. Place smaller bags in a larger outer bag to help protect contents against punctures. The Medela sterile CSF Bags come with twist ties for easy sealing and don't need to be double bagged.
4. If you intend to store the milk for longer than just a few hours, label the container with date and amount.
5. Freeze milk in small portions, 2 to 4 ounces per container. Smaller amounts thaw more quickly and you will waste less milk if your baby consumes less than you anticipated.
6. Seal container tightly.
7. You may continue to add small amounts of cooled breastmilk to the same container throughout the day. After each addition, chill in refrigerator.
8. If you are not going to use the fresh milk within 5-7 days, freeze it as soon as possible.
9. You may also add to previously frozen milk. First refrigerate all freshly expressed milk until cold. Then, add the new to the frozen milk. The newly added milk must be of a lesser amount than the previously frozen milk.[1]

## Storage Guidelines

**Breastmilk Storage Guidelines**

| | Room Temperature | Refrigerator | Home Freezer | -20°C Freezer |
|---|---|---|---|---|
| Freshly Expressed breastmilk | 4-10 hrs[2,3] | 5-7 days[4,5] | 3-6 months[6] | 6-12 months[6] |
| Thawed breastmilk (Previously Frozen) | Do not store | 24 hrs[7] | Never refreeze thawed milk | Never refreeze thawed milk |

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10. If you carefully washed your hands before pumping or expressing, your breastmilk will be safe for around 4-10 hours[2,3] at room temperature, 66-77° F. If possible, immediate refrigeration is preferred.

11. If the temperature in the room, car or outdoors exceeds 77° F/25°C, chill milk immediately to preserve freshness.

12. Fresh milk may be stored in the refrigerator from 5 to 7 days at 39° F.[4,5]

13. Frozen milk may be stored in the back of the freezer portion of a home refrigerator freezer, for up to six months.[6]

14. Frozen milk may also be stored in a 10-12° F/ -20°C deep freezer for up to 12 months.[6]

15. Defrosted milk may be kept for up to 24 hours in the refrigerator.[7]

## Defrosting

To thaw frozen human breastmilk:

- Use oldest milk first.
- Place sealed container in a bowl of warm water for 30 minutes, or place under warm running water. Don't use hot water, as this can destroy some of the protective properties of the milk.
- Place milk in the refrigerator the night before you will use it. Refrigerator defrosting takes 8 to 12 hours.
- Thawed refrigerated milk is safe for 24 hours, if kept refrigerated. ***Do Not Refreeze.***
- Discard any thawed milk not used during a feeding.
- Breastmilk is not homogenized and cream may rise to the top of the container. The separation of the cream is not a problem. Gently shake the container to mix the layers together.

***CAUTION:*** *Never microwave breastmilk. Microwaving can cause severe burns to baby's mouth from hot spots that develop in the milk during microwaving. Microwaving can also change the composition of breastmilk.*[8]

## Intake Guidelines

How much breastmilk should you anticipate for your baby for each feeding? That depends on the individual infant, but here are some guidelines that may help:[9]

## Average intake by age:

| | | Total Daily Average |
|---|---|---|
| 0-2 months | 2-5 oz. per feeding | 26 oz. |
| 2-4 months | 4-6 oz. per feeding | 30 oz. |
| 4-6 months | 5-7 oz. per feeding | 31 oz |

## Average intake by weight:

| | |
|---|---|
| 8 lbs. (3,600 gr.) | 21.3 oz. (639 ml) in 24 hours |
| 9 lbs. (4,000 gr.) | 24.0 oz. (720 ml) in 24 hours |
| 10 lbs. (4,500 gr.) | 26.7 oz. (801 ml) in 24 hours |
| 11 lbs. (4,900 gr.) | 29.3 oz. (879 ml) in 24 hours |
| 12 lbs. (5,400 gr.) | 32.0 oz. (960 ml) in 24 hours |
| 14 lbs. (6,400 gr.) | 37.3 oz. (1,119 ml) in 24 hours |
| 16 lbs. (7,300 gr.) | 42.7 oz. (1,280 ml) in 24 hours |

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[1] Lauwers J. and Woesner C: Counseling the Nursing Mothers, 1999

[2] Hamosh M, Ellis L, Pollock D, Henderson T, and Hamosh P: Pediatrics, Vol. 97, No. 4, April 1996, pp 492-497 (4 hours at 77° F /25° C)

[3] Barger J and Bull P: A Comparison of the Bacterial Composition of Breastmilk Stored at Room Temperature and Stored in the Refrigerator. Int. J. Childbirth Educ 2:29-30, 1987 (10 hours at 66-72° F /19-22° C)

[4] Sosa R, Barness L: AJDC, Vol 141, Jan. 1987

[5] Pardou A, Serruys E, Mascart-Lemone F, Drawmaix M and Vis H L. Biol Neonate 1994; 65:302-309

[6] Williams-Arnold L D: Human Milk Storage for Healthy Infants and Children, 2000, p 9

[7] Lawrence R, and Lawrence R: Breastfeeding: A Guide For the Medical Profession, 1999, p 894

[8] Renfrew M, Fisher C, and Arms S: Bestfeeding: Getting Breastfeeding Right for You, p 95, 1990

[9] Scipien G, Barnard M, Chard M, Howe J, and Phillips P: Comprehensive Pediatric Nursing, p218, 1975


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# FOUR BREASTFEEDING PROBLEMS—SOLVED

By Marianne Neifert, M.D.

• **SORE NIPPLES** Although the major cause of severe or chronic sore nipples is trauma from incorrect latch-on and sucking, other factors can exacerbate the problem. Inappropriate nipple care (such as overdrying or excessive moisture) can delay healing, and nipple cracks and wounds can be infected by bacteria or yeast present in the baby's mouth. So first be certain that your baby is latched on correctly, and then take care of your nipples. Try applying medical grade ultrapure lanolin after feedings or wearing new moisture-retaining, hydrogel dressings between feedings. Your doctor can prescribe an antibiotic or an antifungal medication if an infection is present.

**Solution:** Begin breastfeeding on the least sore side to trigger your milk-ejection reflex. Once milk flow has begun, the baby should suck less vigorously when brought to the second, more irritated breast. Frequent, short feedings are preferable, since delaying the interval between feedings results in greater breast engorgement and a ravenously hungry baby—a combination that can cause further nipple trauma. If your nipple pain is so severe that you must interrupt breastfeeding, temporarily express your breast milk using a fully automatic, electric breast pump, which usually is more comfortable than your sucking baby.

• **BLOCKED MILK DUCTS** A plugged duct, also known as a blocked duct or a caked breast, results when one of the milk ducts draining the lobes of the breast becomes partially obstructed. It creates a firm, tender, engorged area of the breast, and often forms a lump near the armpits. If not quickly remedied, a blocked duct can progress to a breast infection.

A blocked duct usually occurs when you haven't breastfed your baby often or long enough. Women who produce abundant milk are particularly prone to it, and being separated from your infant or going for long periods without nursing is another common risk factor. In addition, constrictive clothing (such as a tight underwire bra or straps from a baby carrier that are pulled too tight) can interfere with milk flow.

**Solution:** Nurse your baby as much as possible. Start several consecutive feedings on the affected side, since babies nurse more vigorously and take more milk from the first breast. You can also place your baby so that her chin points toward the plugged duct, a position that will help promote drainage. Warm compresses or a warm shower can trigger your let-down reflex and improve milk flow, and gentle massage of the blocked area can also be effective. (Be careful not to press too firmly, however, as causing trauma to your breast increases the risk of mastitis.)

*Apply pure lanolin to soothe sore, cracked nipples*

Recurrent clogged ducts can be a sign of breast inflammation or low-grade infection; treatment with antibiotics sometimes curbs the problem. Occasionally, a breast lump is mistaken for a clogged duct. Any lump which persists for more than several days should be checked by a doctor.

• **MASTITIS** This breast infection occurs in at least two percent of breastfeeding women. Flu-like symptoms are typical—fever, chills, headache, body aches, and fatigue—along with an area of the breast that is tender, red, and firm. Mastitis is often preceded by a clogged duct, an infected cracked nipple, irregular or ineffective milk removal, or simple exhaustion.

**Solution:** Take doctor-prescribed antibiotics for 10 to 14 days. If infection occurs while you are breastfeeding a healthy baby, continue nursing or your milk production will likely decrease, making breastfeeding more difficult after the infection has cleared. Nurse your baby on the unaffected breast first, and move him to the painful breast only once the let-down reflex has been triggered. Ibuprofen can help reduce inflammation and pain, and ice or warm packs can provide comfort. If direct breastfeeding is too painful, pump.

Recurrences often happen when an ineffective antibiotic is prescribed or when the course of treatment is too short. The best way to avoid another bout of mastitis: Pump on a regular schedule while you are at work, and nurse your baby often when the two of you are together.

• **TOO MUCH MILK** An overabundant milk supply can be a mixed blessing. While it's nice to know that your baby is getting plenty of milk, leaking is inconvenient, overly full breasts are prone to mastitis, and your baby can feel as if she is drinking from a fire hydrant.

**Solution:** Try nursing your baby from one breast at each feeding. She should be better able to control the flow of milk as the initial spraying subsides. A few hours later, you can nurse her from the opposite side. (At first, it may be necessary to pump some of the excess milk from the unsuckled breast to prevent engorgement.) Your baby may also find it easier to nurse if you are leaning back in a recliner and the top of your baby's head is slightly above the top of your breast.

For more help with nursing problems, ask your doctor for a referral to a qualified lactation consultant or call 847/519-7730 for a La Leche League group near you.

LA LECHE LEAGUE INTERNATIONAL
1400 North Meacham Road • Schaumburg IL 60173.4808 USA • 847.519.7730 • fax 847.519.0035 • 1.800.LA.LECHE

# How To Know Your Healthy Full-Term Breastfed Baby Is Getting Enough Milk

- Your baby may have only one or two wet diapers during the first day or two after birth. Beginning about the third or fourth day, your baby will have at least six to eight really wet cloth diapers (five to six disposables).
- Your baby will pass meconium, the greenish-black, tarry first stool, over the first day or two. Baby will begin having at least two to five bowel movements a day beginning about the third day after birth.
- Your baby may lose up to seven percent of his/her birth weight during the first three or four days. Once your milk supply becomes more plentiful on the third or fourth day, expect your baby to begin gaining at least four to eight ounces (113 to 227 grams) per week or at least a pound (454 grams) a month. Be sure to count weight gain from the lowest weight (his weight on the third or fourth day), not from birth weight.
- Your baby will nurse frequently, often every one and one-half to three hours, averaging about eight to twelve times a day.
- Your baby will appear healthy, his color will be good, his skin will be firm, he will be filling out and growing in length and head circumference, and he will be alert and active.

## *If You Need To Increase Your Milk Supply*

***Get help.*** If your baby is not gaining well, or is losing weight, keep in close touch with your baby's doctor. In many cases, improved breastfeeding techniques will quickly resolve the situation, but in some cases, slow weight gain may indicate a serious health problem.

***Nurse frequently*** for as long as your baby will nurse. A sleepy baby may need to be awakened and encouraged to nurse more frequently.

***Offer both breasts at each feeding.*** This will ensure that your baby gets all the milk available and that both breasts are stimulated frequently.

***Be sure that baby is positioned correctly at the breast.*** Baby's lips should be on the areola (dark area surrounding the nipple), well behind the nipple. If you are not sure baby is sucking well, or feel any soreness, ask your health care provider, La Leche League Leader, or other breastfeeding specialist to help you.

***Try switch nursing.*** Switching breasts two or three times during each feeding will help to keep your baby interested in nursing. Switch breasts as soon as baby's sucking slows down and he swallows less often. Your milk supply will be stimulated by using both breasts at least twice at each feeding.

***Give your baby only human milk.*** If your baby has been receiving formula supplements, do not cut these out abruptly. Gradually cut back on the amount of supplement as your milk supply increases, but watch baby's wet and soiled diapers to be sure he is getting enough milk. Stay in touch with your baby's doctor.

***All your baby's sucking should be at the breast.*** If some supplement is necessary temporarily, it can be given by spoon, cup, or with a nursing supplementer, a device used to feed baby additional milk through a small tube while he nurses at the breast.

***Pay attention to your own need for rest, relaxation, proper diet, and sufficient fluids.*** Taking care of yourself will aid in increasing your milk supply and improving your general sense of well-being.

If you have any further questions or concerns be sure to get in touch with your La Leche League Leader or other breastfeeding specialist. Remember that a baby who is not gaining weight will need to be checked regularly by a doctor.


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For more information on breastfeeding check out our website
www.lalecheleague.org