



A new mom's guide to

Breastfeeding

UNC
HEALTH®
Johnston

This book is dedicated to **all** new mothers.

Like any new skill, breastfeeding takes knowledge and practice to be successful. Every woman is different, so have patience, it will take time for both you and your newborn to learn how to successfully breastfeed.

This book is designed to answer your basic questions and to help guide you through this process. Please ask your doctor or lactation consultant if you have any questions.



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Why is breastfeeding best?

With the upcoming arrival of your new baby, there are many decisions to be made. None more important than deciding which form of nutrition is best for you and your baby. Numerous government and private industry associations today recognize and promote the importance of exclusively providing breast milk to babies in the first twelve months of life.

Here are compelling, research-based facts about the importance of breast milk that may help you make an informed choice.

BEST FOR BABY

- Research shows that breastfed infants have fewer and shorter episodes of illness.
- Breastfeeding is the most natural and nutritious way to encourage your baby's optimal development.
- Colostrum (the first milk) is a gentle, natural laxative that helps clear baby's intestine, decreasing the chance for jaundice to occur.
- The superior nutrition provided by breast milk benefits your baby's IQ.
- Breastfeeding is a gentle way for newborns to transition to the world outside the womb.
- The skin-to-skin contact encouraged by breastfeeding offers babies greater emotional security and enhances bonding.
- The activity of sucking at the breast enhances development of baby's oral muscles, facial bones, and aids in optimal dental development.
- Breastfeeding appears to reduce the risk of obesity and hypertension.
- Breastfeeding delays the onset of hereditary allergic disease, and lowers the risk of developing allergic disease.
- Breastfeeding helps the baby's immune system mature, protecting the baby in the meantime from viral, bacteria, and parasitic infections.
- Breastfeeding increases the effectiveness of immunizations, increasing the protection against polio, tetanus, and diphtheria vaccines.
- Breastfeeding protects against developing chronic diseases such as: celiac disease, inflammatory bowel disease, asthma, and childhood cancers.
- The benefits of breastfeeding appear to last even after the baby has been weaned.

BEST FOR MOTHER

- Research shows that breastfeeding benefits the overall health of mothers, reducing the risk of breast and ovarian cancer, type 2 diabetes, and high blood pressure.
- Breast milk is always fresh, perfectly clean, just the right temperature, and is the healthy choice at the least cost!
- Increased levels of oxytocin stimulate postpartum uterine contractions, minimizing blood loss and encouraging rapid uterine toning.
- From 3 months to 12 months postpartum, breastfeeding increases the rate of weight loss in most nursing mothers.
- Breastfeeding offers some protection against the early return of fertility.
- Because breastfed babies are healthier, their mothers miss less work and spend less time and money on pediatric care.
- Breastfeeding women report psychological benefits such as increased self-confidence and a stronger sense of connection with their babies.

How breasts make and deliver milk

The lactation system inside your breasts resembles a tree. The milk glands (the leaves) are grapelike clusters of cells high up in the breast that make milk. Milk travels from these glands down through the milk ducts (the branches). These ducts then widen beneath the areola (the dark area surrounding the nipple), forming milk sinuses (the tree trunk), which then empties into the approximately twenty openings in your nipple (like the channels going down to the roots of the tree). These milk sinuses are located beneath your areola.

To empty these milk sinuses effectively, your baby's gums must be positioned over them so that baby's jaws compress the sinuses where the milk is pooled. If baby sucks only on your nipple, only a little milk will be drawn out, and your nipple will be irritated unnecessarily. **Remember the golden rule of effective latch-on: babies suck on areolas, not nipples. Baby must have enough of your areolas in her mouth to get the milk out.**

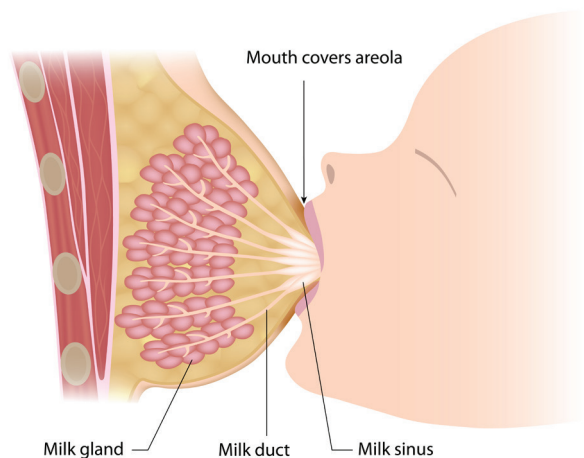
Your baby's sucking stimulates nerves in your nipple that send messages to the pituitary gland in your brain to secrete the hormone prolactin. Prolactin surges encourage continued milk production, which goes on around the clock. As your baby continues sucking, the sensors in your nipple signal the pituitary gland to secrete another hormone, oxytocin.

Oxytocin causes the elastic tissue around each of the many milk glands to contract, squeezing a large supply of milk through the milk ducts into the sinuses and out the nipple. This is called the milk ejection reflex, or MER. The milk may come out so fast that it leaks out the side of your baby's mouth. If you were pumping or expressing by hand, you would see the milk spray out in every direction.

The first milk your baby receives at each feeding is the foremilk, which is thin like skim milk because of low fat content. As baby continues to suck, more oxytocin brings on phase two, squeezing out the later milk (called hindmilk), which is much higher in fat and slightly higher in protein and, therefore, helps baby gain weight and helps baby's tummy feel full.

The more milk that is removed from your breasts, the more milk your body makes to replace it. Frequent removal of milk from your breasts by your baby or by a pump will stimulate your body to produce more milk. When your baby breastfeeds less, the body responds by cutting back on milk production. This supply and demand system is how mothers produce enough milk for twins or even triplets.

Before you breastfeed or pump, manually hand express to bring the milk down to baby before breastfeeding or help increase the milk supply with pumping.



Video Resources

Our website has a list of resources to help with your breastfeeding journey.

Please take the time to view these short videos on how to hand express your milk and ways to maximize your milk production.

Breastfeeding: Getting Started

EVALUATING THE FEEDING

- Your baby should breastfeed 8-12 times per 24 hours. Wake the baby every 2-3 hours, during the day to make sure your baby does not sleep more than 3 hours at a time. You do not want your baby to get the day and night sleep cycle turned around.

Example: If your baby wakes up at 6 a.m. and by midnight he has fed 10 times, you know that he can sleep from midnight to 6 a.m. safely because he is well fed and hydrated. (note: your baby should feed 6-8 times in the first 24 hours)

- Usually your breasts will feel fuller before and softer after a feeding. Changes in fullness will be less noticeable when baby is older and your breasts become more efficient at producing the exact amount of milk your baby needs.
- Most mothers will notice a milk let down a few minutes after the feeding begins. If you don't feel any sensation in your breasts, that's okay, not everyone feels this let down. Your baby's sucking will strengthen and you'll hear more frequent swallowing when the milk let down increases the milk flow.
- One sign that affirms your baby is getting enough milk includes hearing baby swallow after every one or two sucks. Baby should generally seem content during and after a feeding.
- If you feel your baby sucking vigorously, hear swallowing through much of the feeding, notice your milk ejection reflex, and see your baby drift contentedly off to sleep, chances are your baby is getting enough milk.

NUMBER OF WET DIAPERS

- A baby who is getting enough milk will have 4 to 6 wet diapers or more per day by the fourth day after birth.
- To learn what a wet diaper feels like, put two tablespoons of water on a clean diaper.
- It may be easier to judge the wetness of a diaper by comparing its weight to a dry diaper rather than the way the surface of the diaper feels to the touch.
- After the first month or so, your baby's wet diapers will be even wetter--the equivalent of 4 to 6 tablespoons of water.
- The color of the urine tells you whether baby is getting enough milk to keep him adequately hydrated.
 - Pale or water-colored urine suggests adequate hydration
 - Darker, apple-juice-colored urine (after the first four days) suggests that baby is not getting enough milk. If your baby is not getting sufficient amounts of milk, you may notice a "brick dust" residue on the diaper, due to urate crystals from over-concentrated urine (a normal finding in the first few days), which should disappear after increasing baby's milk intake. Talk to your doctor or lactation consultant if you see any of these signs.

NUMBER AND NATURE OF BOWEL MOVEMENT

- In the first few days, infants' stools gradually change from the sticky black meconium stools to green, then brown. By day four of birth, the stools become "milk stools," which are yellow and seedy--the color of mustard.
- Between week one and week four, babies who are getting enough **hindmilk** will produce at least 2-3 yellow, seedy stools a day. Because breast milk is a natural laxative, some breastfed babies produce a stool with each feeding, which is a good sign that baby is getting enough milk. When a baby has only two or three bowel movements a day, expect to see a substantial amount in the diaper--more than just a stain.
- After the first month or two, the gut matures and the frequency of bowel movements decreases. At this stage, your baby may normally have only one bowel movement a day; some breastfed babies have one bowel movement every 3-4 days, yet are still getting enough milk.
- While urine output tells you that baby is getting a sufficient **quantity** of fluid in the milk, stool output tells you about the **quality** of the milk, (i.e., whether baby is nursing long enough and well enough to trigger mother's milk let down, which brings the creamier, high-calorie hindmilk). When week-old babies are not producing sufficient stools, it's time to take a closer look at what's going on at the breast. Contact your lactation consultant as needed.

Hindmilk

the milk obtained in the latter part of one session of breastfeeding a baby, which contains more fat than the milk at the start of the session (the foremilk)

WEIGHT GAIN

- Most infants, whether breastfed or bottle-fed, will lose an average of five to seven percent of their birth weight in the first days of life, due to the loss of excess fluid. Your pediatrician will check your babies weight a few days after birth and again in 10-14 days.
- When mothers and babies share an uncomplicated birth and feed frequently with a good latch-on, babies lose less weight. Babies who get off to a slow start at breastfeeding (either because of a medical complication or problems with latch-on) tend to lose more.
- Babies who are getting adequate amounts of milk will continue to gain weight. Most infants normally take a couple of weeks to regain their birth weight.
- After regaining his birthweight, the average infant gains 4 to 7 ounces a week, or a minimum of one pound a month. Some babies gain weight quickly in the first months after birth; others gain more slowly, but are still within the normal range.

When you are discharged from the hospital, the babies discharge forms will have the most current weight. This is a figure your pediatrician will want to know at your baby's first check-up, since weight gain is measured from baby's lowest weight, not the birth weight.

DON'T WORRY

- Breastfeeding is a confidence game, and nothing undermines a mother's confidence like being afraid her baby isn't getting enough milk. Your baby is getting enough milk if they are producing enough wet diapers and bowel movements, and gaining sufficient weight.
- Feeding frequently (cluster feeding) or wanting to nurse soon after the last feeding are not necessarily signs that your baby is hungry. Babies nurse for lots of reasons besides hunger. Your baby may be seeking just the closeness and comfort of breastfeeding, or may need a little more sucking to ease himself into sleep.
- If the diaper count is telling you that baby is getting enough milk, don't worry about your milk supply. Nurse your baby frequently throughout the day. Be sure your baby is latched on and sucking well, and then **don't worry**.

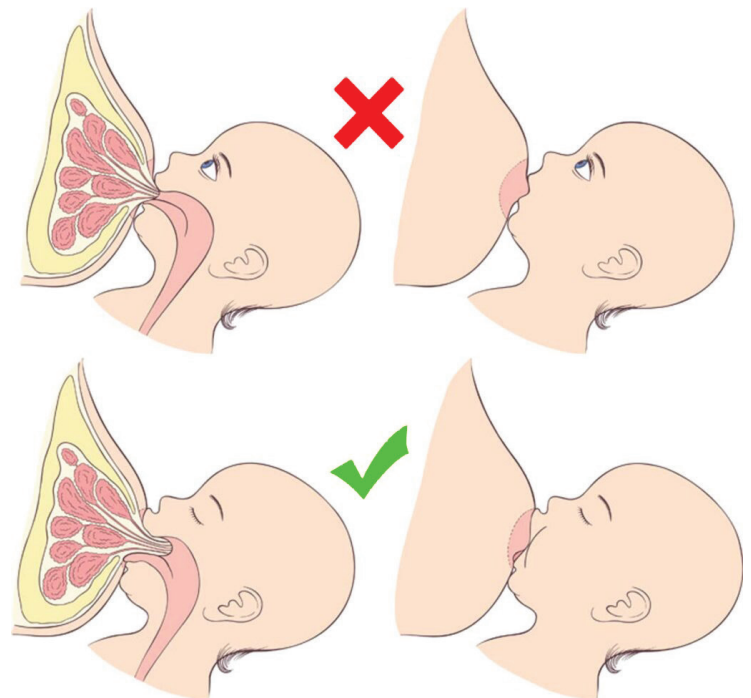
Cluster Feeding

Cluster feeding happens when your baby wants to nurse more often than usual, eating once and then coming back for more feedings. Cluster feeding commonly happens during growth spurts or in the evening.

Is baby latching on and sucking efficiently?

LATCH-ON AND SUCKING CHECKLIST

- You see the pink of baby's lips. This tells you that baby's lips are turned outward rather than tucked tightly inward.
- Much of the areola (at least a one-inch radius) is inside baby's mouth. As the baby is sucking, you do not see the base of your nipple, but only the outer part of your areola.
- Baby's tongue is between the lower gum and your breast. If you pull down gently on baby's lower lip, you should be able to see it. With a good latch-on, baby's tongue extends over the lower gum, forming a trough around the nipple and cushioning pressure from the jaw.
- Baby's ears are wiggling. During active sucking and swallowing the muscles in front of baby's ears move, indicating a strong and efficient suck that uses the entire lower jaw.
- Milk does not leak much from the corners of baby's mouth. Baby swallows the milk instead.
- You don't hear clicking sounds, which would indicate that baby does not have his tongue positioned correctly and is latched on incorrectly.



- You hear baby swallowing. During the first few days after birth, baby may suck 5 to 10 times before you hear a swallow. That's because colostrum comes in small amounts. You may have to listen carefully to notice swallows. After your milk has "come in," swallowing will be obvious. After the baby's initial sucking has triggered the milk ejection reflex, you should hear a swallow after every suck or two. This active sucking and swallowing should continue for five to ten minutes on each breast (up to 20 minutes).
- You do not see dimpling (the middle of baby's cheeks caving in) during sucking. This would indicate that the baby has a poor seal on the breast and is breaking suction as he moves his gum and tongue. Unlatch baby and try latching on again.

Eventually, you will know that your baby is latched-on and sucking efficiently by the way it feels. If you have a lactation consultant helping you, pay close attention to how your nipple feels after you have gotten the baby latched on correctly. There should be no pinching pain.

Also pay attention to how the sucking feels on the areola. You may actually feel a tingling sensation as baby draws the milk out of the milk sinuses. When baby is not latched on securely to the areola and it is painful, take your baby off and start again. Be sure that you wait until baby's mouth is wide open and the tongue is down and forward before pulling baby onto the breast. Rushing the latch-on results in baby gumming just the nipple. You'll get sore and baby won't get enough milk.

Be patient. If you and the baby are getting frustrated, stop, take a 20-30 minute break. Then work with baby again. It takes a week or so for most mothers and babies to become skilled at breastfeeding.

WHAT TO DO IF YOU JUST CAN'T SEEM TO GET IT RIGHT

- Get help right away from a lactation consultant if you're having trouble latching your baby onto the breast or feel that your baby is not sucking well. A lactation consultant will show you how to get baby to latch on better. She can also show you how to teach baby to suck correctly. Incorrect sucking also causes sore nipples
- Make certain that your baby is getting enough to eat. The first rule in solving breastfeeding problems is to feed the baby. Keep track of baby's wet and stool diapers to determine if he is getting enough milk. After your milk has "come in," baby should have 4 to 6 wet diapers a day and at least 2 to 3 substantial yellow, seedy stools. Some babies have a stool with every feeding. (The frequency of bowel movements decreases after the first month, as babies intestines mature.) If your baby is losing weight and is not having an adequate amount of wet or stool diapers, talk to your doctor and/or lactation consultant.
- If supplementary feedings are necessary, avoid using bottles. Supplements can be given with a cup, spoon, eyedropper or feeding syringe, or a nursing supplementer. Using one of these will prevent the possibility of nipple confusion, caused by feeding baby with artificial nipples.
- You will need to use a double electric breastpump to keep up your milk supply until baby becomes a more efficient breastfeeder. The milk you pump can be given to your baby. To establish and maintain a milk supply for baby who can't yet nurse very well, you need a high-quality electric pump. These can be purchased or rented.
- Don't be discouraged. Moms need to learn how to help their babies latch-on correctly and babies need to be taught how to suck correctly. This takes time and lots of commitment, like any worthwhile goal in life. Remember, it does get easier. Don't give up!

Stop! Before you supplement the breastfed baby...

The Newborn Nursery at UNC Health Johnston does not supplement newborns with water or artificial infant milk (formula). The American Academy of Pediatrics states, "No supplements - water, glucose (sugar) water, formula, and so forth - should be given to breastfeeding newborns unless a medical indication exists." When supplementation is necessary, it is usually temporary and can be done safely by methods other than a bottle.

Reasons to exclusively breastfeed a healthy term baby and avoid supplementation:

- Encourages early milk production (supplementation may delay milk production).
- Decreases the chance of jaundice.
- Provides better weight gain.
- Higher protein levels in colostrum have a more stabilizing effect on blood sugar than glucose water.
- Water can give the baby a sense of fullness without providing adequate nutrition.
- Cow's milk formula and soy formulas can set up a potential allergic response.
- The suck on a bottle is different from the suck on a breast. A breastfed baby can develop a "nipple preference" and have difficulty latching on to the breast.



After you are discharged home, before giving your baby a supplement, please call Lactation Support Services at 919-938-7800, 919-585-8155 or 919-585-8137 OR your pediatrician.

Stomach capacity of a newborn

When mothers hear that colostrum is measurable in teaspoons rather than ounces, they often wonder if that can really be enough for their babies. The short answer is that colostrum is the only food healthy, full-term babies need.



A 1 day old baby's stomach capacity is about 5-7 ml, or about the size of a marble. Interestingly, researchers have found that the day-old newborn's stomach does not stretch to hold more. Since the walls of the newborn's stomach stays firm, extra milk is most often expelled (spit up). Your colostrum is just the right amount for your baby's first feedings!



By day 3, the newborn's stomach capacity has grown to about 0.75-1 oz, or about the size of a walnut. Small, frequent feedings assure that your baby takes in all the milk they need.



Around day 10, the newborn's stomach capacity is now about 1.5-2 oz, or about the size of a golf ball. Continued frequent feeding will assure that your baby takes in all the milk they need, and your milk production meets the demand.

Early skin to skin contact

Simply put, skin to skin is when the baby is placed bare-skinned onto your skin, on your chest.

Any assessments or procedures that are done routinely for your baby can either be delayed for this important time together, or performed while the baby is on your chest.

WHAT WILL RESULT FROM HAVING SKIN TO SKIN TIME?

Happier Baby

- Babies are comforted by being placed skin to skin with their mother right after birth. They are calmer and cry less. Being skin to skin is also pain-relieving to the baby, such as during an injection or heel-stick procedure.
- When babies are placed skin to skin, they warm up better and learn to stay warm faster. Skin to skin helps baby's respirations, heart rate, and blood sugar stay normal and their oxygen levels are highest when skin to skin. So you see, you are the best "recovery room" for your new baby!

Happier Mother

- Being skin to skin helps lower your stress, and makes you feel closer to your baby. This is a great time for both of you to get to know one another. The bonding that takes place during skin to skin time lasts long after birth.
- The movement of your baby's body on your body stimulates hormones that cause your uterus to contract and therefore bleed less.

THE BENEFITS CONTINUE

- Even after your first skin to skin time, continue to place your baby skin to skin over the next several days. This is a great task for your partner to help with after your baby is born.
- This will help calm a fussy baby. If baby is too sleepy to nurse, this will stimulate and arouse them to breastfeed.
- Skin to skin time continues to help make baby warm and comforted. And it continues to help make breastfeeding a successful and enjoyable experience.

Techniques on waking a sleeping baby

To help baby awaken and feed more eagerly:

- Try to wake baby during REM sleep. This lighter stage of sleep is recognized by fluttering eyelids, sleep grins, clenched fists, and limbs that are not limp. A baby in deep sleep is harder to rouse.
- Undress both of you from shoulder to waist, and place baby skin-to-skin against your tummy and breast, while you drape a towel or lightweight blanket over baby's exposed back and head. Your own body heat should keep him toasty (a mother's skin temperature automatically goes up a bit while breastfeeding) but not so toasty that he falls asleep.
- If that doesn't work, hold baby upright and talk to them to encourage them to open their eyes.
- Instead of the usual bonding positions (which relaxes babies), straighten out their body and extend their arms - postures that perk up the brain.
- Stroke the palms of their hands and soles of the feet to help them wake up.
- Rub baby's face with a cool washcloth.

- Hand express a few drops of colostrum, your supermilk. Using your moistened nipple, tickle your baby's lower lip to stimulate them to open their mouth. Talk your baby into continuing to nurse with a bit of gentle chatter while you feed. If they nod off, stroke their legs or pat the back.
- Get in the habit of switching breasts as soon as baby begins to fade. Intersperse a burp or a brief back rub on the way to the other breast. This is called switch nursing.

If baby drifts off after only a few minutes of sucking, take your baby off the breast and help them wake up again before latching them on the other side. Wake your baby up several times if you have to, until they have nursed well for ten or fifteen minutes. When baby is done nursing, let them simply rest at your breast and lick your nipple, actions that get the milk-making hormones flowing.

What's your baby trying to say? Hunger Cues

I am hungry!

- Nuzzling my mom's breast
- Moving my eyes under closed eyelids
- Increasingly alert (waking)
- Moving my arms and legs
- Rooting
- Squeaking or lightly fussing
- Making hand to mouth movements

I am full and happy!

- Falling asleep after a good feed
- Becoming fussy at the breast or during feeding
- Stopping or slowing my pace of sucking or eating
- Turning my face away from nipple
- Closing my lips tightly when nipple or spoon is presented
- Increasing my attention to my surroundings

I want to be near you!

And, maybe, I'm hungry, too...

- Staring at your face
- Rooting or making sucking motions
- Making feeding sounds
- Smiling
- Having a relaxed face and body
- Following your voice and face
- Moving and raising head

I need a break!

- Looking, turning or arching my back away from you
- Extending my fingers, with a still hand (Stop!)
- Falling asleep during stimulation
- Frowning or having a glazed look or yawning

Storing breast milk

Mother's milk is precious to both you and your baby. It represents commitment on your part and ideal nourishment for your baby. Handle your milk with care. The same immune properties in your milk that protect your baby also help protect the milk from bacteria growth while it sits on the refrigerator shelf.

If pumping and storing breast milk is a necessity because of medical reasons or your work schedule, be sure that you are protecting the milk from harmful bacteria growth. There is nothing worse than going through all the work to pump and then having it spoil!

WHAT KIND OF CONTAINER SHOULD I USE WHEN STORING BREAST MILK?

The options include hard containers (made of hard plastic or glass) or soft containers (plastic bags). Each has advantages and drawbacks.

What kind to use comes down to two issues:

- Protecting the milk and all its valuable components.
- Your convenience and that of the baby's caregivers.

Hard Containers

Unfortunately, there is not a lot of research about how storage containers affect human milk. One study showed that the leukocytes in milk (the live cells that transfer immunity from you to your baby) sticks to the side of glass containers, but subsequent research showed greater numbers of leukocytes in glass containers than in plastic, as the cells were released from the sides of the containers over time.

The information currently available suggests that glass or hard-sided plastic containers (the kind of plastic that is clear, not cloudy) provide the best protection for nutrients and immunities. Hard containers should have secure, one-piece tops. If your baby is getting most of their nourishment directly at the breast, you don't need to be as concerned about nutrient loss through freezing and contact with storage containers as you do if your baby is getting only expressed milk and not nursing directly at the breast.

Soft Containers

Research has also shown a loss of antibodies and fat in milk that is stored in plastic bags, but this information applies only to disposable plastic nurser bags, the thin ones you can buy at most stores to use with baby bottles. If you do choose to store your milk in these, make sure to use two bags to protect against breakage and "freezer burn." Use twist ties to close the bags.

Plastic bags specially designed for freezing and storing breast milk are available from many companies that specialize in products for breastfeeding mothers and babies. These bags are sturdier than those used in baby bottles and have self-closures that are easier to seal and label. They do a better job of protecting milk components than nurser bags. Some types can be attached directly to your pump.

Convenience is another issue. Plastic bags take up less room in the freezer and are one-use items, so there's no dishwashing involved. However, filling them and pouring milk out of them can be awkward and a concern when storing breast milk.

WASHING AND STERILIZING CONTAINERS WHEN STORING BREAST MILK.

When pumping milk for a full-term, healthy baby, do not worry about sterilizing storage containers or pump parts. Wash storage containers in hot soapy water, and wash hands thoroughly with soap and water before you pump. Check the manufacturer's instructions for information on washing parts of the pump. Storage containers and parts of some pumps can be washed in a dishwasher. Mothers who are pumping and storing breast milk for a sick or hospitalized baby will need to be more careful about milk handling and sterilization procedures.

HOW MUCH SHOULD I STORE IN EACH CONTAINER?

Store your milk in small amounts, about two ounces in each container, at least at first. (If you're pumping and storing breast milk for a premature baby, you may want to store it in even smaller amounts.) You can always add more milk as needed.

Milk left in a bottle after a feeding can be saved in the refrigerator until the next feeding, but after that it should be discarded. Eventually, you may decide to put more milk in each bottle, based on how much milk you add per feeding.

You can add more milk to already-frozen milk, but cool the added milk in the refrigerator first.

Leave about an inch of space at the top of the container to allow for expansion. Just like water for ice cubes, human milk expands when you freeze it. Hard containers will pop open as the milk expands. Bags will break. Squeeze out the air at the top of the bag and fasten it an inch above the milk. Make sure you add the date and time to the milk you are freezing. Use the oldest first.

HOW DO I SAFELY STORE MY MILK?

Bags containing human milk should be placed inside another container in the refrigerator or freezer. This makes for better protection and easier handling.

Lay the bags down in a container in the freezer to have flatter packages that thaw more quickly. (But be sure they're sealed well, or you'll have a leaky mess.)

Keep all your hard containers of milk together in the freezer or refrigerator inside a larger plastic box.

HOW LONG CAN I KEEP THE STORED MILK?

Amazingly, research has found that human milk stored in the refrigerator for eight days actually has lower bacterial levels than freshly expressed milk. For more details on recommended storage times, see the chart under Guidelines for Storing Breast Milk.

Since human milk can be kept in the refrigerator for up to eight days, it may be possible to provide your baby with fresh, not frozen, milk most of the time. This insures that your baby gets the maximum amount of nutrients and immunities. Use the oldest milk first and keep the supply rotating.

Previously frozen milk can be kept in the refrigerator for 24 hours after thawing. This means that you or the baby's caregiver can thaw milk for all of your baby's feedings at one time, or you can thaw the milk in the refrigerator overnight. This can make it faster to prepare a bottle when your baby is hungry. Milk that has thawed should not be refrozen.

GUIDELINES FOR STORING BREAST MILK

These guidelines are for mothers who are expressing milk for a full-term healthy baby. Use clean containers, and wash your hands with soap and water before expressing or pumping. When providing milk for a baby who is seriously ill and/or hospitalized, check with your health care provider for instructions.

Where Stored	Storage Temperature (F)	Storage Temperature (C)	How long it can be stored
At room temp	60°F	15°C	24 hours
At room temp	66-72°F	19-22°C	10 hours
At room temp	79°F	25°C	4-6 hours
In a refrigerator	32-39°F	0-4°C	7 days
In a freezer compartment inside a refrigerator			2 weeks
In a self-contained freezer unit of a refrigerator			4-6 months
In a separate deep freeze with a constant temperature	0°F	-19°C	6 months or longer

SAVE OR DUMP?

Type of Milk	Save or Dump?	Why?
Milk remaining in the bottle that has been offered to baby	Save for next feeding, otherwise dump.	Bacteria from the baby's mouth may have entered the milk during the feeding. This may lead to bacterial contamination if it sets too long (though as yet there is no research available).
Milk that has been thawed	Save in the refrigerator for 24 hours after thawing, then discard. Do not refreeze.	Milk that has been frozen has lost some of the immune properties that inhibit bacterial growth in fresh refrigerated milk.
Milk that has been kept in the refrigerator for seven days	Transfer to storage in the freezer, or discard.	Bacterial growth is not a problem, but milk sometimes picks up odors or flavors from the refrigerator or the container.

Transporting breast milk

HOW DO I SAFELY TRANSPORT MY MILK?

Research shows that bacteria does not grow readily in human milk, and that it can be kept safely at room temperature for 4 to 6 hours or more. Don't worry if you can't rush your milk to the refrigerator right after you express. If able, refrigerate the milk as soon as possible and keep it cool when taking it home. If you have refrigerator space available at work, place your milk in an insulated bag to store in a public refrigerator. Add reusable ice packs to transport home.

WHAT ARE THE BEST WAYS TO THAW AND HEAT STORED BREAST MILK?

Heat can destroy human milk's enzymes, immune properties, and other valuable components, so the milk requires gentle care before it is served to baby. Follow these guidelines:

- Defrost milk by holding it under warm running water. Or, place the container of milk in a bowl of warm water. As the water cools, replace it with more warm water until the milk is thawed and warmed to body temperature.
- Do not heat expressed human milk on top of the stove. It can easily overheat. Do not boil!
- Do not heat expressed human milk in a microwave oven. Even if the overall temperature of the milk stays below body temperature, there may be "hot spots" where the milk is overheated and some of its beneficial properties are destroyed. The uneven heating can also be dangerous when the bottle is given to baby.
- Human milk, like any milk that is not processed or homogenized, tends to separate when stored. The cream rises to the top. Swirl the bottle gently to mix the layers.
- Human milk has a thin, bluish look to it, quite different from either homogenized cow's milk or the grayish color of infant formula. Your baby's caregiver may need reassurance that this is normal.

At UNC Health Johnston, we are here to help.

Every facility providing maternity services and care for newborn infants should:

- Have a written breastfeeding policy that is routinely communicated to all health care staff.
- Train all health care staff in skills necessary to implement this policy.
- Inform all pregnant women about the benefits and management of breastfeeding.
- Help mothers initiate breastfeeding within half an hour of birth.
- Show mothers how to breastfeed, and how to maintain lactation even if they should be separated from their infants.
- Give newborn infants no food or drink other than breast milk, unless medically indicated.
- Practice and encourage rooming-in (allowing mothers and infants to remain together 24 hours a day).
- Encourage breastfeeding on demand.
- Give no artificial teats or pacifiers (also called dummies or soothers) to breastfeeding infants.
- Foster the establishment of breastfeeding support groups and refer mothers to them on discharge from the hospital or clinic.

Source: Protecting, Promoting and Supporting Breastfeeding: The Special Role of Maternity Services, a joint WHO/UNICEF statement published by the World Health Organization.

Breastfeeding Resources

UNC Health Johnston Women's Services

Lactation Support
919-585-8137

ZipMilk.org

ZipMilk NC is a community service of the NC Breastfeeding Coalition, providing listings for breastfeeding resources based on ZIP code. Names and contact information are provided by the individuals and organizations listed in ZipMilk.

By entering the ZIP code to search for breastfeeding assistance, the results will be organized by closest results from each category, but users can choose to limit the search by distance or type of assistance.

Categories included: professional breastfeeding support, community breastfeeding support, WIC program coordinators, equipment and supply vendors, and regional breastfeeding coalition leaders.

La Leche League

The La Leche League has many volunteer leaders that are experienced breastfeeding mothers who are familiar with research and current findings dealing with all aspects of nursing. They offer practical information and support to breastfeeding mothers through telephone help, monthly meetings, and libraries lend books out on childbirth, breastfeeding, and related parenting topics.

If you would like to learn about the La Leche League's mission, philosophy and goals, please visit www.llli.org

Find a local La Leche League group at www.lllofnc.org/localgroups

References

Online

- American Academy of Pediatrics, www.aap.org
- La Leche League International, www.llli.org/resources
- Breastfeeding Online, www.breastfeedingonline.com

Book

Breastfeeding: A Guide for the Medical Profession, 8e
Ruth A. Lawrence MD and Robert M. Lawrence MD, Nov 9, 2015

Breastfeeding And Human Lactation
Karen Wambach and Jan Riordan, Dec 3, 2014



unhealthjohnston.org
509 N. Bright Leaf Blvd.
Smithfield, NC 27577
919-934-8171

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