# THE BREAST MILE G U I D E

Producing, Collecting and Storing Top Quality Milk for Your Baby





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# The TOP 10 Benefits of Breast Milk For Baby



# 1. The American Academy of Pediatrics recommends it

Human milk is preferred over formula feeding for all infants, including premature and sick newborns. Breast Milk is recommended for the first 12 months, whenever possible.

## 2. It may lower the risk of childhood cancers...

On top of giving baby a healthy start with your breast milk's antibodies, which help protect baby from the cold and flu, breastfeeding may even boost his ability to fight off more serious stuff. A study published in the Journal of Human Lactation found high levels of the cancer-fighting TNF-related apoptosis inducing ligand (TRAIL) in human milk. This means better protection against illnesses like lymphoblastic leukemia and Hodgkin's disease.

# 3. Breast milk provides perfect infant nutrition

Breast milk always has the right proportions of fat, carbohydrates and protein. Formula companies constantly change their proportions, while in reality, breast milk composition changes naturally from feeding to feeding, depending on the needs of the child

#### 4. It may boost baby's brainpower.

Add breastfeeding to the list of ways to get an edge on the SATs. A study published in JAMA Psychiatry followed nearly 14,000 children over the course of six-and-a-half years, and the kids who were exclusively breastfed had a significantly higher average IQ test score than those who weren't. Plus, on average, they received higher ratings from their teachers.

# 5. Breast milk is more digestible than formula

Babies can digest human milk more easily than the milk of other animals. Human milk provides more absorbable protein, iron and zinc than cow's milk for babies. In addition, cow's milk often increases risk of allergens and irritation in babies' digestive tracts

#### Diaper changes won't be as stinky.

Moms in our circle swear that breastfed babies have sweeter smelling poop than formula-fed babies, whose stools smell more like, well, adult poop. Formula isn't quite as easily digested, and the remnants that are left behind make the poop bulkier and pungent.

#### 7. Allergies and ailments are no biggie.

According to the American Academy of Pediatrics, food allergies, eczema and asthma are less common in babies breastfed for at least four months — likely due to colostrum and breast milk's influence on immune responses in a newborn's lymphoid tissue. Translation: fewer trips to the doctor's office.

#### 8. Perfect food for sick baby

Breast milk is easily digested, and soothing to the intestines, so there is no need for artificial and expensive electrolyte solutions. If a baby gets a respiratory illness, formula may cause even more mucus. In contrast, breast milk contains antibodies to these ailments, as well as being highly digestible and not contributing to excess mucous formation.

#### 9. Oh, and it'll save you a ton of cash too.

Believe it or not, formula and supplies for just six months can cost upwards of \$1,500. While double electric breast pumps can be pricey — some go for more than \$200 many insurance plans will cover them.

# 10. Breast milk contains no genetically engineered materials and no synthetic growth hormones

Most consumers are completey unaware of how much genetically engineered food they are consuming because the U.S. government does not require this food to be labeled as such. When your baby is provided breast milk, you know exactly where babies' food originated!



### Use Instructions EcoNursingPads

Simply put the EcoNursingPads between your breast and bra as pictured.



### Care Instructions EcoNursingPads

It is **IMPORTANT** to properly wash and completely dry your pads to prevent any issues and below are some care tips to keep in mind:

- It is helpful to rinse your pads after use in order to prevent milk sitting on the pads between washes. Sitting milk can lead to mold or bacteria developing on the pad.
- Any pad, reusable or not, if not changed frequently can hold in moisture and cause a smell or molding to occur. Thus, be sure to change your pads frequently and always when wet.
- A smell/molding can occur when they have been exclusively air dried. Thus, dry your pads THOROUGHLY on regular heat in the dryer until they are COMPLETELY DRY. They will also be softer when dried in your machine.





Warm Machine Wash Low Tumble Dry Line Dry No Bleach Do Not Iron Do Not Dry Clean No Fabric Softener



### **Medical Disclaimer:**

While the information in this publication was prepared to provide accurate information regarding topics related to general and specific maternal and pediatric issues, the information contained in the guide is made available with the express understanding that the authors are not dispensing medical advice and do not intend any of this information to be used for self diagnosis or treatment. IF YOU HAVE ANY QUESTIONS OR CONCERNS ABOUT YOUR HEALTH AND BEFORE STARTING OR STOPPING ANY TREATMENT OR ACTING UPON INFORMATION CONTAINED IN THIS GUIDE, YOU SHOULD CONTACT YOUR OWN PHYSICIAN, HEALTH CARE PROVIDER, OR LACTATION CONSULTANT. THIS GUIDE IS FOR INFORMATION PURPOSES ONLY, IT IS NOT MEDICAL ADVICE.

### A. Before You Get Started: Tips from the Experts

#### Take a Class

It is recommended by many physicians and health professionals for new mothers to take classes before baby is even born, or directly after giving birth. In breastfeeding classes, they don't just go over why breastfeeding is important, but also how baby and mother benefit from nursing. Classes are not only recommended for new mothers, but also for those who have tried breastfeeding before and found difficulties. Those with children who are unable to latch will also benefit greatly from attending a class.

Although the classes may not teach you everything about nursing, they give you a great base of knowledge, as well as resources for anything that may come up after you begin nursing.

#### Make sure to get help before you leave the hospital or birthing center:

No matter where you decide to give birth, please make sure to ask your doctor, lactation specialist or midwife on pointers of how to properly breastfeed. No question is a bad one when it comes to the precious care of your new baby. Not everything is as simple as it seems, either. We all have unique concerns that need to be addressed when choosing to use breast milk for babies

#### Skin-to-skin Can Help with That...

Research has shown that uninterrupted skin-to-skin contact (SSC) between mom and baby both relaxes mom and baby through releasing a hormone called oxytocin , and it also helps with feeding behaviors and induction of milk production and bonding. Skin-to-skin contact should occur early - just after birth if possible, and as often as possible thereafter.

If the mother is too tired to continually perform this, it is okay for her partner to place the baby directly on his bare chest, continuing the direct contact for baby to thrive.

#### **Understanding Engorgement Will Happen**

Most women are not told that engorgement, a feeling of fullness in the breasts, is common several days after delivery. This engorgement can often be painful, but having a game plan can help curb the pain and keep women from throwing in the towel when they have soreness and are scared.

Ice or over the counter pain medication recommended by your health professional may help. Bags of frozen peas can also work, because they contour to the breast and tend to fit in nursing bras. Taking a hot shower to help milk expression can also be comforting.

#### **Relax and Put Your Feet Up!**

Women are often told to try certain positions while nursing, and become so concerned with getting these poses correct that they never find comfort and end up in ways that are not comfortable for mom or baby. One of the most important things during nursing, is mom getting comfortable, which often means leaning back a bit and putting their feet up. Babies have a much easier time getting comfortable if the mother is comfortable. Partners can really be a help in this area, making sure that the nursing mother has pillows under her arms or that she has someplace to rest her feet. It's also a great time to get some pampering for mom!

It's also helpful to have a small basket of snack and waters nearby so nursing mother does not have to disturb a sleeping baby.

#### Think Close, Closer...

Hold your baby closely to you, not only mouth to breast, but their body to you as well. This is a time of comfort for both mother and baby, and is an important part of the bond between the two. By bringing baby close to you, you are already setting up the position for ideal nursing. This can also be accomplished by women who are exclusively pumping. Again, skin-to-skin contact increases the bond between mother and baby, and this could also mean having contact with baby while bottle feeding.

#### Pump More Quickly, but More Often

Many women make the mistake of focusing too much on the length of pumping, rather than the frequency. Women often get discouraged by not producing enough milk over a longer period of time, when in fact, pumping for shorter durations more often has an increased effect on milk production.

Pumping for milk production can be likened to the art of exercise training, in that one does not jump on the treadmill for the first time and run 5 miles. The more often you are able to train in shorter bursts, the more endurance you will have. In the same way, frequent, brief bouts of pumping help build milk supply better than sitting and pumping for longer periods of time. The most difficult part of this, is being able to fit it into your schedule.

#### Know When to Seek Advice

Make sure to always leave with a contact number after you leave the hospital or birthing center. Many Medical offices, such as pediatric offices have lactation specialists on staff that are available to answer questions and offer consultation.

Lactation specialists are often covered by insurance plans, but there are options like La Leche League or other local organizations that are available to answer your question. There are also many support groups, often available by social media outlets with information on general questions. Always seek medical attention when there are concerns or questions that you may have. If you ever experience more than a little tenderness, you should always contact a medical expert. Always remember, new moms should never, ever hesitate to ask for help.

### **B. Healthy Eating for Nursing Mothers**

Most new breastfeeding mothers worry how their diets will affect nursing. Below are some key ideas to address these questions.

#### Eat a well-balanced diet for your health

As long as you are eating enough calories, and diversifying your food, more than likely your breast milk is adequate for best growth of your baby. One of the miracles of breast milk is that it can meet your baby's needs even when you are not eating perfectly.

On the other hand, just because your baby won't necessarily suffer from your dietary lapses, does not mean that your dietary decisions won't affect your body. First, you need strength and endurance to meet the demands of taking care of your newborn. Second, when you do not get the nutrients that your body requires, it depletes the reserves of these nutrients that have been stored in your body. This will ultimately affect your health and your energy to take care of yourself and your newborn.

It is common to feel extra hungry while breastfeeding, which happens because your body is working night

and day to produce milk for your baby. Being able to eat small meals and healthy snacks helps to keep your hunger in check and keep your energy high. Eating good foods not only gives you more energy and keeps you healthy, but it also gives baby the nutrients that he needs without depleting your "backup" supply.

#### **Do Not Count Calories**

As a breastfeeding mother, this is not the time to keep track of calories or plan on dieting. While there is no single answer to how many calories a breastfeeding mom needs, in general at least 500 more calories are needed to produce adequate milk. This is the equivalent of a total of 2,000 to 2,500 calories in a day.

Rather than counting calories, you should be following your hunger as a guide to how much you need to eat. The exact amount depends on many varying factors that are not the same for everyone. Some of the factors included as a guide may be: your weight, how much exercise you get, your metabolism and how frequently breastfeeding occurs.

If you are ever concerned about your weight, please contact a healthcare provider who can discuss options of diet and nutrients with you. There are medical professionals available to help.

#### Weight Loss Should be Slow and Steady

Again, many factors come into play with weight loss after giving birth. Some mothers find that the initial weight falls off rapidly, while others have a much lower rate of weight loss. Losing "baby pounds" depends on your body, food choices, activity level and metabolism.

The best plan no matter how much weight comes off immediately, is to lose pregnancy weight gradually. It took nearly a year for your body to grow and develop to carry the beautiful baby inside of you, and it will take at least the same amount of time to get back to your pre-pregnancy weight.

Do not try to diet while nursing, especially during the first two months after your baby is born. Reducing calories in your diet could result in decreased milk production, and could diminish your supply quickly. It is also extremely important to stay hydrated in order to produce enough milk for baby.

It has been said that women can safely lose 1 pound each week with a healthy diet and light exercise. A sudden drop in your calorie intake can affect your milk supply, so diets are not recommended. If you lose more than 1 pound per week after the first 6 weeks, you may not be getting enough calories. Seeking the advice of a medical professional is recommended for any questions related to diet or weight loss for nursing mothers.

#### **Include a Variety of Health Foods**

The key to a healthy diet is variety and balance. Eating a mix of different foods including healthy fats, proteins, and carbohydrates are vital to a healthy diet. Including all of these in your meals helps you to feel full longer and provides the nutrients that your body needs. Choosing from all food groups is important in order to get the vitamins and minerals that your body and your baby need. In other words, mix it up. Having different foods day to day will provide you with a greater chance of getting the vital nutrients that you need to stay healthy.

#### **Avoid Contaminants**

It is a good idea to take extra steps to avoid exposure to contaminants in your food, as well as in your environment while you are nursing. Minimizing exposure to pesticides, insecticides, and other chemicals that are ingestible can make their way into your breast milk and ultimately your baby. Although research varies on results, it is known that environmental chemicals could affect a baby's long-term health. There are some ways that you could limit your baby's exposure to chemicals in the environment:

- Eat a variety of foods. Chances of pesticides being high in all foods you ingest are smaller when you limit each food to certain amounts, rather than eating the same foods all of the time.
- Understand which fruits and vegetables are highest in pesticides. The fresh foods reported to have the

most pesticides, referred to as the "dirty dozen" are apples, celery, strawberries, peaches, spinach, imported nectarines and grapes, sweet bell peppers, potatoes, blueberries, lettuce, kale and collard greens.

- Choose organic options if possible.
- Always wash fruits and vegetables well, or peel them.
- Choose produce that is in season in your area, get to know your local farmers, and buy locally when you can. The produce that travels the farthest, often has more pesticides
- Choose lean and organic meats. Chemicals are stored in fat, so remove extra fat and skin before cooking.
- Consider drinking filtered water while nursing. Though the EPA requires that all tap water meet certain standards, trace amounts of many chemicals may be found in tap water

#### Go Easy on Drinking Alcohol

In general, you should avoid drinking alcohol while you are breastfeeding. Alcohol easily enters your breast milk, and having as little as one drink may affect the reflex of your milk letdown.

First, the obvious reason not to partake in drinking alcoholic beverages is that it decreases your ability to take care of your baby safely. In addition, studies have shown that babies consume less milk within four hours after you consume an alcoholic beverage. In addition, your baby becomes more drowsy and falls asleep more quickly after your alcohol consumption, but you will often have a baby that does not sleep as long.

If you do want to enjoy an occasional alcoholic beverage, know that it takes two to three hours for your body to eliminate the alcohol in one serving of beer or wine. Specific time frames are based on your body size, and metabolism, but this is a general guideline. The more you drink, the longer it takes to eliminate the alcohol from your body. So, properly timing that drink may help to avoid contaminating your breast milk for a feeding. If do have a drink, wait at least two hours before nursing your baby, or you could "pump and dump" the milk. Breastfeeding or pumping and storing your milk, just prior to consuming an alcoholic drink, ensures that your baby doesn't miss a feeding.

In addition, drinking water with your alcoholic drink and eating before or during consumption, helps to lower the amount of alcohol in your blood and in your milk. If you have a problem with alcohol consumption, please consider seeking the help of a trained professional.

#### Have Lots of Water and Limit Caffeine

There's no need to keep a record on your fluid intake, but your body generally needs 8-12 cups of fluid per day when you are breastfeeding. Generally speaking, make sure that if you are thirsty, that you drink water when you feel the need. In addition, if your urine is clear or light yellow, it's a good sign that you are hydrated. The best fluid is water, but non-caffeinated teas, juices and other drinks can be a substitute for a small amount of the liquid requirements.

Most experts suggest that nursing moms limit their consumption of caffeine in all forms, including coffee, tea, soft drinks, energy drinks, and chocolate to no more than 300 mg/day, which is about how much you would get in three 5-ounce cups of coffee. In general, caffeine should be minimal as it is not easily broken down in your newborn's body, and the long-term effects are not well-documented. You should drink even less if you are nursing a newborn or premature baby.

#### **Keep Taking Your Vitamins**

It's best to consult with your health provider, but in general it is a good idea to continue taking your prenatal vitamin while you are breastfeeding. After a time, your medical doctor may recommend switching to a regular vitamin and mineral supplement, depending on your individual needs. Generally, you can discuss this on your first postpartum visit to get a clearer answer on what is best for your body.

Keep in mind that a supplement does not take the place of real foods. A well-balanced diet is the best way to get the nutrients your body needs, but a vitamin can provide some extra nutrients, especially on those days when taking care of your newborn takes precedence over your own care, such as eating wholesome foods.

### C. Collection of breast milk

#### **Pumping Your breast milk**

If you are unable to breastfeed your baby directly, it is important to remove milk during the times your baby normally would feed. This will help you to continue producing and making milk.

Before you express breast milk, be sure to wash your hands well with soap and water. If soap and water are unavailable, use an alcohol-based hand sanitizer that contains at least 60% alcohol. Make sure the area where you are expressing and your pump parts and bottles are clean. Wash all the collecting bottles and breastpump parts that touch your breasts or the milk. Use hot, soapy water or a dishwasher (following manufacturer instructions) Rinse carefully. Air dry on a clean towel. Read the instructions book that comes with your pump and follow the suggestions. Sterilize your pump parts once a day as described.Practice pumping when you are rested, relaxed and your breasts feel full. Once a day try to breastfeed your baby only on one side and pump the other breast. Or pump for a few minutes if your baby skips a feeding or breastfeeds for only a short while. Refer to a breast milk Storage reference chart to learn how to store breast milk. If your baby is premature or ill, you may be required to sterilize your equipment. Breasts and nipples do not need to be washed before pumping.

If you need help to get your milk to start flowing, you can:

- Think about your baby. Bring a photo or a blanket or item of clothing that has your baby's scent on it.
- Apply a warm, moist compress to your breasts.
- Gently massage your breasts.
- Gently rub your nipples.
- Visualize the milk flowing down.
- Sit quietly and think of a relaxing setting.

#### Pumping when returning to work

- Employed moms can help their baby learn to take a bottle once breastfeeding is going well. If possible, it is best to wait for three to four weeks to introduce bottles. If you are having problems breastfeeding, ask for help from a lactation consultant or healthcare provider.
- Begin to pump to store milk at least one to two weeks before returning to work. Many moms that work outside the home use the fresh milk they pump at work for feedings the next day. They refrigerate Friday's milk for use on Monday. Save your frozen milk for emergencies.
- If your schedule allows, pump three times during an eight hour work shift, or every three hours you are away from your baby. Ten minutes of pumping during breaks and 15 minutes of pumping during lunch with a good pump will help protect your milk supply. If you can't pump three times, pump as much as you can during each day.
- Breastfeeding in the evening and on days off helps maintain your milk supply and protects your special bond with your baby.

### Ways to express your milk by hand or pump

| Туре                    | How it works  | What's involved  | Average<br>cost           |
|-------------------------|---|--|---------------------------|
| Hand<br>expression      | You use your hand to<br>massage and compress<br>your breast to remove milk. | <ul> <li>Requires practice, skill, and coordination.</li> <li>Gets easier with practice, and can be as fast as pumping.</li> <li>Good if you are seldom away from your baby or you need an option that is always with you. But all moms should learn how to hand express.</li> </ul>   | Free                      |
| Manual<br>pump          | You use your hand and wrist to operate a hand-held device to pump the milk. | <ul> <li>Requires practice, skill, and coordination.</li> <li>Useful for occasional pumping if you are away from your baby only once in a while.</li> <li>May put you at higher risk of breast infection.</li> </ul>   | \$30 to \$50              |
| Electric<br>breast pump | Runs on battery or plugs into an electrical outlet.                         | <ul> <li>Can be easier for some moms.</li> <li>Can pump one breast at a time or<br/>both breasts at the same time.</li> <li>Double pumping may collect more<br/>milk in less time, which is helpful if<br/>you are going back to work or<br/>school full-time.</li> <li>Need a place to clean and store<br/>the equipment between uses.</li> </ul> | \$150<br>to over<br>\$250 |

You can rent an electric pump from a lactation consultant at a local hospital or from a breastfeeding organization. This type of pump works well for creating a milk supply when a new baby can't feed at the breast. Mothers who have struggled with other expression methods may find that these pumps work well for them.



Under the Affordable Care Act, your health insurance plan must cover the cost of a breast pump. You may be offered a rental or a new one for you to keep. Your plan may provide guidance on whether the covered pump is manual or electric, how long the coverage of a rented pump lasts, and when they'll provide the

pump (before or after you have the baby). Learn more about your breastfeeding benefits at healthcare.gov and talk to your insurance company to learn their specific policies on breast pumps.

#### Did you know?

You can keep germs from getting into the milk by washing your pumping equipment with soap and water and letting the equipment air dry.

#### Storage of breast milk

Store your breast milk in clean glass or hard BPA-free plastic bottles with tight-fitting lids. You can also use milk storage bags, which are made for freezing human milk. Do not use disposable bottle liners or other plastic bags to store breast milk.

Storage bottles or bags to refrigerate or freeze your breast milk also qualify as tax-deductible breastfeeding gear.

#### After each pumping

- Label the date on the storage container. Include your child's name if you are giving the milk to a child care provider.
- Gently swirl the container to mix the cream part of the breast milk that may rise to the top back into the rest of the milk. Do not shake the milk. This can cause some of the milk's valuable parts to break down.
- Refrigerate or chill milk right after it is expressed. You can put it in the refrigerator, place it in a cooler or insulated cooler pack, or freeze it in small (2 to 4 ounce) batches for later feedings.

#### **Storage Tips**

- It is normal for pumped milk to vary in color, consistency and scent depending on your diet. Stored milk separates into layers. Cream will rise to the top. Gently swirl the warmed bottle to mix the milk layers.
- You can continue to add small amounts of cooled breast milk to the same refrigerated container throughout the day. Avoid adding warm milk to already cooled milk.
- Pumped milk may be added to frozen milk provided it is first chilled and the quantity is less than what is frozen.
- Store your milk in breast milk collection bottles or in disposable bags specifically designed for breast milk.
- It is best to freeze milk in two to five oz portions. Small amounts will thaw more quickly. You will waste less milk this way and will avoid over-feeding. Keep in mind that liquids expand when frozen. Be sure to leave some extra room at the top of the container so the bottle or bag does not burst.
- Seal containers tightly. Write the date on a piece of tape on the bag or bottle. Remember to use the oldest milk first, so that it does not go to waste.

#### Tips for freezing milk

- Wait to tighten bottle caps or lids until the milk is completely frozen.
- Try to leave an inch or so from the milk to the top of the container because it will expand when freezing.
- Store milk in the back of the freezer, not on the shelf of the freezer door.

#### Tips for thawing and warming up milk

- Clearly label milk containers with the date the milk was expressed. Use the oldest stored milk first.
- breast milk does not need to be warmed. Some moms prefer to take the chill off and serve at room temperature. Some moms serve it cold.
- Thaw the bottle or bag of frozen milk (1) by putting it in the refrigerator overnight, (2) by holding it under warm running water, or (3) by setting it in a container of warm water.

- Never put a bottle or bag of breast milk in the microwave. Microwaving creates hot spots that could burn your baby and damage the milk.
- Swirl the milk, and test the temperature by dropping some on your wrist. The milk should be comfortably warm, not hot.
- Use thawed breast milk within 24 hours. Do not refreeze thawed breast milk.

#### Defrosting

- Thaw milk overnight in the refrigerator, or hold the bottle under warm running water to quickly thaw. You can also place the sealed container in a bowl of warm water for 20 minutes to bring it to body temperature.
- Thawed milk is safe in the refrigerator for 24 hours. DO NOT REFREEZE.

#### Your Milk Supply and Your Baby's Needs

- It used to be the general thought that mothers needed to make more and more milk as their babies grew. Scientists now know that a healthy milk supply remains fairly constant over the six months of exclusive breastfeeding.
- During the early weeks, babies eat very frequently and grow very quickly. By Day 10, babies should recover any lost birth weight. For the next few months, little girls should gain about an ounce a day, and little boys slightly more than an ounce a day.
- Within three to four months, a breastfed baby's rate of growth begins to slow down. The milk supply established in the early days will continue to satisfy the baby until it is time to introduce solids at 6 months.
- By the end of the first week of life, women who are breastfeeding one baby normally make between 19 to 30 oz of milk each day, and Infants between one and six months of age normally drink a similar amount. An average size "meal" for a baby is between three to five ounces of breast milk. Formula is harder to digest and less well absorbed. Formula fed babies may also need larger feeds. Please consult your doctor for advice.

# Guide to storing fresh breast milk for use with healthy full-term infants

| Place                | Temperature               | How long  | Things<br>to know  |
|----------------------|---------------------------|---|--|
| Countertop,<br>table | Room temp<br>(up to 77°F) | Up to 3 to 4 hours is best.<br>Up to 6 to 8 hours is okay for<br>very clean expressed milk. | Containers should be covered<br>and kept as cool as possible.<br>Cover the container with a clean<br>cool towel may keep milk cooler.<br>Throw out any leftover milk within<br>1 to 2 hours after the baby is<br>finished feeding.   |
| Refrigerator         | 39°F or colder            | Up to 3 days is best.<br>Up to 5 days is okay for very<br>clean expressed milk.             | Store milk in the back of the main<br>body of the refrigerator. When at<br>work, you can place your<br>expressed milk in the refrigerator.<br>Use a canvas or insulated bag<br>that blends in with your<br>coworkers' lunch bags, and place<br>it at the back of the refrigerator. |
| Refrigerator         | 0°F or colder             | Up to 3–6 months is best.<br>Up to 9 months is okay for<br>very clean expressed milk.       | Store milk toward the back of the freezer where the temperature is most constant. Milk stored at 0°F or colder is safe for longer durations, but the quality of the milk might not be as high.   |
| Deep freezer         | -4°F or colder            | Up to 6 months.<br>Up to 12 months is okay for<br>very clean expressed milk.                | Store milk toward the back of the<br>freezer where the temperature is<br>most constant. Milk stored at 0°F<br>or colder is safe for longer<br>durations, but the quality of the<br>milk might not be as high.  |

### Guide to storing thawed breast milk

|                      | Room temperature  | Refrigerator     | Any              |
|----------------------|---|------------------|------------------|
|                      | (60°F to 85°F)  | (39°F or colder) | freezers         |
| Countertop,<br>table | Up to 1 to 2 hours is best. Up to 3 to 4 hours is okay. | 24 hours         | Do not refreeze. |

#### **Breast milk Odor and Taste Changes**

- Changes in breast milk odor and taste can be caused by medications, mother's diet, smoking and exposure of milk to light or cold temperatures during storage. In most cases, infants do not seem to mind odor/taste changes in breast milk.
- Some mothers produce milk that, when frozen, develops an off-odor and taste due to a normal breast milk enzyme called lipase. When thawed, this milk is often described as smelling unpleasant, rancid or soapy. It is safe to use and many infants will accept it. However, some infants may refuse to drink it, e ither with their first taste or later as they develop taste preferences feeding behaviors.

#### Test prior to freezing!

- Before freezing large amounts of breast milk, mothers can test their milk for odor and taste changes due to lipase. Collect and freeze 1-2 bags or small containers of breast milk for at least 5 days. Then evaluate the odor and see if your infant will drink it.
- Eliminating lipase-induced milk changes during freezing: if milk changes smell and taste during test f
  reezing, mothers can scald their fresh milk before they freeze it. Scalding milk after it has been frozen
  will not correct the odor/taste problem.

#### To scald fresh milk:

- Heat it in a pot until tiny bubbles form around the edges of the pan (approximately 180° F).
- Remove the milk from the stove and quickly chill it before freezing.
- Scalding milk reduces some of the beneficial components in breast milk, so whenever possible, give your infant fresh breast milk.

Whether you choose to breastfeed or pump, always remember that you are providing the best food for your baby. Breast milk has been shown in many studies to be the ideal choice for caring for your little one. Even if you have to bottle feed your breast milk, you are providing your child with the best nourishment that nature intended for the first years of life. Feel great that you are giving your baby the optimal nutrients, antibodies and comfort for their best development. Please always remember that this is meant as a guide, and any serious questions or concerns should always be addressed by directly contacting your personal healthcare provider.

\*\*Charts Adapted from 7th Edition American Academy of Pediatrics (AAP) Pediatric Nutrition Handbook (2014); 2nd Edition AAP/American College of Obstetricians and Gynecologists (ACOG) Breastfeeding Handbook for Physicians (2014); Academy of Breastfeeding Medicine (ABM) Clinical Protocol #8 Human Milk Storage Guidelines (2010); CDC Human Milk Storage Guidelines (2015).

\*\*Resource for Pumping and breast milk storage information provided by the Office on Women's Health in the Department of Health and Human Services.

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