

Feeding Your Newborn

Breastfeeding

This website contains lots of information from our lactation consultant physician about breast feeding. Briefly in this document we will explain the benefits of breast feeding and then refer you to the other breast feeding documents for more detailed information.

Human milk and infant formula are different. Not only does human milk provide all the protein, sugar, fat, and vitamins your baby needs to be healthy, but it has special benefits that formulas cannot match. It helps protect your baby against certain diseases and infections. Because of the protective substances in human milk, breastfed children are less likely to get ear infections, allergies, vomiting, diarrhea, pneumonia, wheezing, bronchiolitis and meningitis. Research also suggests that breastfeeding may help to protect against Sudden Infant Death Syndrome (SIDS).

Other reasons why breast milk is preferred:

- It is easier for babies to digest.
- It does not need to be prepared.
- It costs nothing and is always in supply.
- It is good for the environment since there are no bottles, cans, or boxes to put in the trash.
- It provides physical contact, warmth, and closeness, which help to create a special bond between a mother and her baby.

Breast feeding has health benefits for Mom:

- Burns more calories and helps you get back to your prepregnancy weight more quickly.
- Reduces the risk of ovarian cancer and, in premenopausal women, breast cancer.
- Builds bone strength to protect against bone fractures in older age.
- Delays the return of your menstrual period, which may help extend the time between pregnancies. (Keep in mind that breastfeeding alone will not prevent pregnancy.)
- Helps the uterus return to its regular size more quickly.

Formula Feeding: Powders and Concentrates

Most infant formulas are available in ready-to-feed liquid forms, concentrates, and powders. Although ready-to-feed formulas are convenient, they are expensive.

Formula made from concentrate is prepared by mixing equal amounts of concentrate and water. For example, mix 1 can of concentrate with 1 can of water or you can mix one bottle at a time. Leave the opened can of concentrate covered in the refrigerator for no more than 48 hours.

Powder formula is the least expensive and comes in premeasured packets or in a can with a measuring scoop. Add 1 level scoop of

powder for every 2 ounces of water. It will mix more easily and the lumps of powder will dissolve faster if you use slightly warmed water. Powder formula is light weight and convenient to transport. For instance, when you go out, you can put some powder in a bottle and add the water just before feeding. The powder will not spoil, even if it stays in the bottle several days before you add water.

Cow's milk, Soy, or Special Formulas

Cow's-milk-based formulas account for about 80% of the formula sold today. Although cow's milk is at its foundation, the milk has been changed to make it safe for your baby. It is treated by heating, etc. to make the protein easier to digest. More milk sugar (lactose) is added to try to replicate breastmilk, and the fat (butterfat) is removed and replaced with vegetable oils and, in some formulas, animal fats that are more easily digested by infants.

Soy-based formulas contain soy protein instead of cow's milk protein. They also contain a different type of carbohydrate (sugar), ie glucose polymers or sucrose instead of lactose (milk sugar). Pediatricians recommend soy formula most commonly for babies unable to digest lactose, the main carbohydrate in cow's milk formula. Many infants have brief periods when they cannot digest lactose, particularly following bouts of diarrhea when the lactase enzyme, which digests lactose, is "washed out" of the gut by the diarrhea. When placed on a lactose-free formula, the baby's digestive enzymes have a chance to return to normal. Depending on the severity and type of diarrhea, your baby may need to stay on the lactose-free formula for as little as a week or, rarely, as long as several months. Your pediatrician will tell you when it's safe to return to milk-based formula.

Soy formulas today contain a good source of protein, but not quite as good as cow's milk protein formulas (which, in turn, is not as good as human milk). Also, babies absorb calcium and some other minerals less efficiently from soy formulas than from cow's milk-based formulas. Because premature infants have higher requirements for these minerals, they usually are not given soy formula at all. Healthy full-term infants should be given soy formula only when medically necessary. Some strict vegetarian parents choose to use soy formula because it contains no animal products.

A far less common reason for placing an infant on soy formula is milk allergy, which can cause colic, failure to thrive, and even bloody diarrhea. This reaction can be so dangerous to a newborn that some pediatricians prescribe soy formula from birth as a preventive measure when there is a strong family history of allergies to cow's milk protein. Unfortunately, as many as half the infants who have milk allergy are also

sensitive to soy protein, and they must be given a specialized formula or breastmilk.

Specialized formulas are manufactured for infants with particular disorders or diseases. There also are formulas made specifically for premature babies. If your newborn has special needs, ask your pediatrician which formula is best. Also, be sure to check the package for details about feeding requirements (amounts, scheduling, special preparations), since these may be quite different from regular formulas.

Iron fortified formula is always recommended, with rare exceptions. Cow's milk and soy formulas, and most specialized formulas are iron fortified. Because it is difficult for babies to absorb the iron in formula, extra iron is added. Never purchase "low-iron" formula unless directed to do so by your pediatrician. The American Academy of Pediatrics recommends that iron-fortified formula be given to all bottle-fed infants from birth to one year of age.

You and your pediatrician should work together to select a formula that best suits your baby's needs. Be sure to give your baby **formula**, not cow's milk bought from the grocery store, for the first year of life. Young infants cannot fully digest regular cow's milk as completely or easily as formula. Regular cow's milk contains high concentrations of protein and minerals, which can stress a newborn's immature kidneys and this can cause severe illness at times of heat stress, fever, or diarrhea. Also, regular cow's milk lacks the proper amounts of iron and vitamin C that infants need. It may even cause iron-deficiency anemia in some babies, since protein can irritate the lining of the stomach and intestine, leading to loss of blood into the stools. For these reasons your baby should not receive any regular cow's milk for the first twelve months of life.

Preparing formula for bottlefeeding

Make sure all bottles, nipples, and other utensils you use to prepare formula, or to feed your baby, are clean. If the water in your home is chlorinated, like Lincoln's city water supply is, you can simply wash things in your dishwasher or wash them in hot tap water with dishwashing detergent and then rinse them in hot tap water.

If you have well water or nonchlorinated water, either place the utensils in boiling water for five to ten minutes or use a process called terminal heating. In terminal heating, you clean, but do not sterilize, the bottles in advance. Then fill them with the prepared formula and cap them loosely. Next, place the filled bottles in a pan with water reaching about halfway up the bottles. Bring the water to a gentle boil for about 25 minutes.

Follow the manufacturer's directions exactly when preparing the different types of formula. If the formula is too diluted due to excess water, your baby won't get enough calories and nutrients to grow well. Too little water results in formula that is too concentrated and can cause diarrhea or dehydration. This will also give your infant more calories than she needs. If using Lincoln city water, there is no need to boil the water before mixing it with the formula. If using well water or if you are unsure of the water's quality, boil the water for approximately 1 minute before mixing it with the formula.

A few families still prefer to prepare their own infant formula, but most pediatricians discourage this. It is unwise to give your baby homemade formula without your pediatrician's advice.

Formula prepared in advance should be stored in the refrigerator. If you don't use it within 24 hours, throw it out. Cold formula doesn't necessarily have to be warmed up for your baby, but most infants prefer it at room temperature.

To warm the formula, place the container in warm water and rotate it frequently. To speed up this process, place the container in a pan of water at low heat on the stove. You also can thaw milk by leaving it at room temperature, but this takes much longer and can lead to bacterial growth if left out for many hours. Microwave ovens should not be used for heating bottles, as this can overheat the milk in the center of the container. Even if the bottle feels comfortably warm to your touch, the superheated milk in the center can scald your baby's mouth. Also, the bottle itself can explode if left in the microwave too long. If you warm a bottle or use it immediately after terminal heating, test it in advance to make sure it's not too hot for your baby. The easiest way to test the temperature is to shake a few drops on the inside of your wrist.

Incidentally, once milk is thawed, its fat may separate, but it is still safe to drink. Just shake the container gently until the milk returns to a uniform consistency. Thawed milk should be used within four hours. Never refreeze it.

Introducing Solid Foods

Solid foods are usually not necessary before 6 months of age. Breast milk or formula alone provides total nutrition before that time. Withholding solids until this time may lower the risk of food allergies.