

# Bottle-Feeding Your Baby<sup>1</sup>

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Families choose to bottle-feed their babies for many reasons. While bottle-feeding is not difficult, you need to know several things to feed your baby safely and ensure that he or she receives the nutrition and bonding needed for proper growth and development. If you are considering bottle-feeding your baby or have decided that bottle-feeding is the best option for your situation, this publication will help you learn about bottle-feeding.

## Bottle-Feeding Reasons People Choose to Bottle-Feed

Bottle-feeding may be a great option for you and your baby. Bottle-feeding provides flexibility for the mother, which may be desirable because of work obligations or a busy schedule. Bottle-feeding also gives the baby's father, older siblings, and grandparents the opportunity to bond with the baby, and it can also provide the mother with free time to rest. Bottle-feeding allows families to monitor how much formula the infant is consuming (American Academy of Pediatrics, 2012). Breastfeeding in public may be inconvenient or embarrassing for some mothers, so bottle-feeding may be the best choice for them.

Sometimes bottle-feeding is necessary. Some mothers may choose to bottle-feed if they have discomfort or pain from breastfeeding. In addition, some babies who cannot digest certain components of human milk will need to be bottle-fed with a formula that does not contain those substances. In the United States, bottle-feeding is advised if the mother has certain medical conditions such as HIV or untreated

tuberculosis. Mothers receiving chemotherapy treatments should also bottle-feed (American Academy of Pediatrics, 2005).



Figure 1. Bottle-feeding your baby can give fathers, grandparents, and older siblings a chance to bond with the baby.  
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## Bottle-Feeding Basics

Choosing the right size and shape of nipple for your baby and the right type of bottle is important for proper bottle-feeding (American Academy of Pediatrics, 2012).

### The Nipple

One specific type of nipple is not recommended over others, so the nipple your infant prefers is a good choice. However, ensure that the nipple hole is the right size for your infant. If the nipple hole is too big, your infant might start to gulp the formula, causing him or her to choke. On the other hand, if your infant is sucking very hard, the nipple size may be too small (American Academy of Pediatrics, 2012).

### The Bottle

The right bottle for your baby will be the one that your baby prefers. Many different types of bottles are available for various prices. What works for your baby may not work for another. You may need to try a few different bottles before you find the right one. Many parents are hesitant about using plastic bottles because of BPA (bisphenol A), a chemical used in containers such as plastic bottles. Preliminary research suggests BPA may affect hormone function, so reducing infant exposure is a good idea. Ways to reduce exposure to BPA include the following:

- Look at the bottom of the bottle. Avoid purchasing bottles with the recycle code 7. Instead, look for recycle codes 2 and 5, which are often found on opaque bottles (American Academy of Pediatrics, 2012).
- Do not heat bottles in the microwave or boiling water. If the bottle is made with BPA, these methods can cause the release of BPA into the formula.
- Throw away cracked or scratched bottles made with BPA because they can increase BPA release into the formula (American Academy of Pediatrics, 2012).

### Formulas

Numerous formulas are available for purchase, which may make selecting a formula difficult. Your baby's doctor may provide a recommendation, especially if your infant has special needs; however, most standard formulas are very similar.

The Food and Drug Administration (FDA) monitors all formulas for safety (American Academy of Pediatrics, 2012). The major formulas used today include cow's milk-based

formulas, soy formulas, hypoallergenic formulas, and specialized formulas.

### COW'S MILK-BASED FORMULAS

The most common type of formula used for infant feeding is cow's milk-based formula. However, these formulas are NOT the same as the cow's milk you buy from the store. This type of formula is made to resemble some of the features of breast milk. This is done by heating the milk to make the proteins more digestible, adding higher levels of lactose (milk sugar) to mimic the amount in breast milk, and replacing butterfat with vegetable oils for better infant growth and health (Joeckel & Phillips, 2009). In addition, regular cow's milk does not contain the iron, vitamin C, and other nutrients your baby needs for proper growth, so avoid feeding regular cow's milk to babies who are less than a year old (American Academy of Pediatrics, 2012).

### SOY-BASED FORMULAS

Soy-based formulas use soy as the protein source and either glucose or sucrose as the source of carbohydrate. These formulas may be used for infants who are allergic to cow's milk protein, although some babies are sensitive to soy protein as well (Osborn & Sinn, 2006). For vegetarian families, breast milk or soy-based formulas can be used. Soy-based formulas are used with infants born with galactosemia, a condition in which infants cannot tolerate galactose. Galactose is produced when lactose, the sugar in cow's milk-based formulas and human milk, is digested (American Academy of Pediatrics, 2005). Galactosemia is a serious condition, so babies with this disease should not be fed cow's-milk-based formulas or breast milk.

### HYPOALLERGENIC FORMULAS

The proteins used in these formulas are broken down into small pieces, possibly even free amino acids (the building blocks of protein). Hypoallergenic formulas may be used for infants with food allergies. These formulas also can be used to reduce the risk for developing food allergies in infants with a strong family history of food allergies (American Academy of Pediatrics, 2000).

### SPECIALIZED FORMULAS

Special formulas are made for premature infants and children with specific diseases and disorders. Check with your pediatrician to see if a special formula is needed (American Academy of Pediatrics, 2012).

### BREAST MILK

Yes, you can use your own breast milk in the baby bottle! Pumping your own breast milk can be a less expensive

option with a decreased risk for contamination. Breast milk contains unique properties that may improve immunity and lower risk for allergies, diarrhea, and Sudden Infant Death Syndrome (SIDS) (American Academy of Pediatrics, 2005).

## Types of Baby Formulas

Formulas are sold as powders, liquid concentrates, or ready-to-feed. The powder and liquid concentrated forms require the addition of water. Make sure to mix the formula correctly so you do not under- or over-dilute the formula and feed your baby fewer or more calories than needed (Osborn & Sinn, 2006). Even though diluting the formula will make the formula last longer, this can be dangerous for your baby and should be avoided.

## Water Sources for the Formula

Many formulas must be mixed with water. You can choose bottled, distilled, or tap water. When preparing only one bottle, you can generally just use cold tap water and then heat the bottle. However, if preparing an entire batch of formula, you need to boil water from your city or well water supply for 10 minutes. Or you can use bottled or distilled water instead (American Academy of Pediatrics, 2012).



Figure 2. Make sure to properly prepare formula for your baby, and always hold him or her while feeding in order to bond with your baby. Credits: Wavebreak Media

Nursery water is a special type of bottled water made specifically for infants that contains fluoride. Fluoride is a mineral important for healthy teeth. Tap water sometimes contains fluoride. The amount of fluoride in tap water varies depending on the amount naturally present or added to the

water supplied by your city or town or the amount naturally present in water from a private well. You may want to check the fluoride levels of your water supply. Infant formula also contains various amounts of fluoride. Talk with your baby's doctor to determine which water source and formula would provide the right combination of fluoride to meet your baby's needs (American Academy of Pediatrics, 2012).

Knowing how to correctly bottle-feed your baby is essential to your baby's nutrition and growth. Read the following questions and answers to learn more about bottle-feeding your baby.

## Frequently Asked Questions

### Should the Formula Have Anything Special Added to It?

#### IRON

Iron-fortified formulas are important to prevent iron deficiency. In general, iron in formulas does not cause constipation in babies. However, some parents worry iron may make their baby constipated. As a result, low iron formulas are still sold, despite the health benefits associated with using iron-fortified formulas. Iron-fortified formulas contain all of the vitamins and minerals needed, except for fluoride (American Academy of Pediatrics, 2012).

#### PROBIOTICS

Some formulas contain added probiotics, which are good or friendly bacteria already present in your baby's gut. High amounts of "good" bacteria in the gut may prevent large amounts of "bad" bacteria. In addition, studies show that formulas containing probiotics may help prevent or treat infectious diarrhea, lower the risk for food-related allergies, improve colic, and lower the risk for urinary tract infections (American Academy of Pediatrics, 2012).

#### OMEGA 3 FATTY ACIDS

Many formulas are supplemented with long-chain fatty acids like eicosapentaenoic acid (EPA) and docosahexaenoic acid (DHA). Some studies suggest that fats such as EPA and DHA may improve infant brain function; however, at this time, there is not enough evidence to prove this (Qawasmi, Landeros-Weisenberger, Leckman, & Bloch, 2012).

## Should I Give My Baby Vitamin D Supplements?

Not necessarily. Almost all formulas contain a minimum of 400 IU of vitamin D per liter (L; one liter is equal to about one quart) of formula, and most infants will consume at

least 1 L of formula per day by the first month of life. For these infants, no additional vitamin D is needed. However, if an infant is consuming less than 1 liter of formula per day or is partially breastfed, a 400 IU vitamin D supplement may be needed. A vitamin D deficiency can lead to rickets, a disease that causes softening of the bones (Wagner & Greer, 2008). Talk with your baby's doctor to determine if a supplement should be used.

## What Food Safety Steps Are Important To Prevent My Baby from Getting Sick?

By following a few basic steps when preparing and storing formula, you can help protect your baby from illness. Powdered and concentrated formulas require a few more steps to prepare, so the risk for contamination is often greater with these formulas.

### PREPARATION

1. Wash hands, formula scoops, and all work surfaces with soap and warm water.
2. Clean bottle with hot, soapy water, and then sterilize.
3. Use hot water to prepare formula (158°F). Be sure to follow the steps in the next question to cool properly.

### STORAGE

1. Use formula within 2 hours of initial preparation. After 2 hours, throw away any unused formula.
2. If you want to make the formula ahead of time, immediately cover and place it in the refrigerator after preparation. Use it within 24 hours (Centers for Disease Control, 2012).

## How Do I Prepare the Formula So It's Not Too Hot for My Baby?

Cool freshly prepared formula by placing the capped bottle under cold running water or putting it in an ice bath. Squeeze a few drops of formula on your wrist to test the temperature before feeding your baby (Centers for Disease Control, 2012).

Some babies prefer cold formula, especially in hot weather, but most prefer the formula around room temperature. To heat formula that was previously prepared, put the bottle of formula in a bowl with hot water to heat it and then test the temperature. You can also put the bottle under warm running water. Never warm formula in the microwave. The milk may feel fine to your hand, but the temperature

may not be the same throughout (American Academy of Pediatrics, 2012). Commercial bottle warmers are popular but vary widely in quality. Talk to your baby's doctor about which one they recommend, if any.

## How Do I Bottle-Feed Correctly?

Always hold your baby during feedings rather than propping the infant with the bottle. This provides a chance to bond with your baby. Holding your baby during feedings instead of propping the bottle will decrease the risk of choking and ear infections (American Academy of Pediatrics, 2012).

Don't let your infant fall asleep while bottle-feeding because this puts him or her at risk for choking and baby bottle tooth decay. Tooth decay can occur when the milk collects around the teeth for an extended period of time (American Academy of Pediatrics, 2012).

## How Do I Know My Baby Has Consumed the Right Amount of Formula?

Let your baby guide the feeding. If your baby starts to get distracted or fussy, he or she is probably full. If your baby quickly drinks the formula, he or she is probably still hungry. The American Academy of Pediatrics recommends that you provide:

- 3–4 ounces (90–120 ml) per feeding for the first month.
- An addition of 1 ounce (30 ml) per month until 7–8 ounces (210–240 ml) is reached.
- No more than 32 ounces (960 ml) in a 24-hour period. If your infant seems to want more, try giving them a pacifier to suck on.
- An average of 2½ ounces (75 ml) of formula per pound of body weight per day.

The frequency and quantity of formula per feeding vary for every baby. As your baby grows, so does his or her stomach, so your baby can eat more at each feeding and eat less often. By 2–4 months, your baby will typically consume enough formula to sleep through the night (American Academy of Pediatrics, 2012).

## Does My Baby Need to Drink Water in Addition to Formula?

Formula and breast milk provide enough fluids to meet a healthy baby's needs. Once solid foods are added to the diet, your infant may need plain water, especially during



the hot months of the year. Do not give your infant more than 4 ounces (120 ml) of plain water/day for the first six months. Talk to your baby's doctor to determine how much is needed. If possible, provide water in a cup to allow for an easier transition off the bottle (American Academy of Pediatrics, 2012).

## When Should I Stop Bottle-Feeding My Baby?

To avoid overfeeding, digestive problems, and food allergies, only feed your infant formula/breast milk during the first six months of life. After this period of time, begin supplementing the formula with other foods. Between the ages of 12 and 24 months, gradually phase out bottle-feeding. Sippy cups are a useful transition between a bottle and a cup (American Academy of Pediatrics, 2012).

## Summary

If bottle-feeding is the right choice for you and your family, it is very important that you select an appropriate formula for your baby's needs, prepare the formula safely and correctly, and provide an adequate amount of nourishment for your baby's growth. Proper bottle-feeding techniques will help promote optimal growth and overall infant well-being.

## Recommended Resources

To get more information about bottle-feeding and infant nutrition, use the following websites and contact information:

**UF/IFAS Extension** - Provides open access to the EDIS website, the comprehensive, single-source repository of all current UF/IFAS peer-reviewed publications. Start here to explore Health and Nutrition topics in Florida. Learn more about nutrition for your infant. [http://solutionsforyourlife.ufl.edu/families\\_and\\_consumers/health\\_and\\_nutrition/](http://solutionsforyourlife.ufl.edu/families_and_consumers/health_and_nutrition/).

**American Academy of Pediatrics** - This website from the American Academy of Pediatrics answers numerous questions about infant nutrition, bottle-feeding, and breastfeeding. <http://www.healthychildren.org/english/ages-stages/baby/feeding-nutrition/Pages/default.aspx>.

**UF/IFAS Extension Family and Consumer Sciences (FCS) Faculty** - Look in the blue pages of your telephone book to find your local Extension office. UF/IFAS also lists the offices online at <http://solutionsforyourlife.ufl.edu/map/> or <http://solutionsforyourlife.ufl.edu>.

**Florida Dietetic Association** - For referral to a registered dietitian (RD) in your area, call the Florida Dietetic Association at (850) 386-8850 or check the yellow pages of your phone book.

**USDA WIC: Woman, Infants, and Children** - This website provides topics and helpful links that discuss formula feeding concerns, safety precautions, and bottle-feeding a newborn baby. <http://wicworks.nal.usda.gov/infants/bottle-feeding>.

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