FORMULA FEEDING

Breast-Feeding Versus Formula Feeding

Breast milk is best for babies, but breast-feeding isn’t always possible. Use an infant formula if:

- You decide not to breast-feed.
- You need to stop breast-feeding and your infant is less than 1 year old.
- Occasionally you need to supplement breast-feeding with formula after breast-feeding is well established. Note: If you want to breast-feed but you think your milk supply is insufficient, don’t stop breast-feeding. Instead seek help from your physician or a lactation nurse.

Caution: Any bottle feeding, before breast-feeding has been well established, could reduce your supply of breast milk and make it difficult to continue breast-feeding.

The decision about the appropriate breast milk substitute for a child less than 1 year old should be made after talking with your physician or health care provider. When you and your physician select a method of infant feeding, you must consider your lifestyle and the costs of the different methods of feeding.

Types of Formulas and Cow’s Milk

1. **Commercial formulas** Infant formulas have been designed to meet the nutritional needs of your infant by providing all known essential nutrients in their proper amounts. Most formulas are derived from cow’s milk. A few are derived from soybeans and are for infants who may be allergic to or have difficulty digesting the type of protein in cow’s milk. Most commercial infant formulas are available in three forms: powder, concentrated liquid, and ready-to-serve liquid. Powder and ready-to-serve liquid are the most suitable forms when formula is used to supplement breast milk. Powder and concentrated liquid formulas are less expensive per feeding than ready-to-serve formulas. The majority of infant formulas contain lactose (milk sugar) as the only carbohydrate, just as breast milk does. Lactose aids digestion and promotes normal bowel function and healthy tissue formation. A mixture of easily digested fats is also contained in the formulas. These help protect your baby’s skin and aid the absorption and utilization of certain vitamins. All known vitamins necessary for the development and growth of your baby are provided by infant formulas, including vitamin A for building body cells and good vision; the B vitamins for maintaining the nervous system, skin, and tissues; vitamin C for healthy gums and teeth; vitamin D for strong bones and teeth; and vitamin E for proper functioning of red blood cells. Vital minerals such as calcium and phosphorus for developing bones and teeth, as well as iron for healthy blood and resistance to infection, are also among the nutrients supplied in formulas. The American Academy of Pediatrics recommends that all infants be given a commercial formula that is iron-fortified. These formulas do not contain enough iron to cause diarrhea, constipation, abdominal cramps, or any other symptoms. With iron-fortified formulas, no supplementary vitamins or minerals are needed.

2. **Homemade formulas from evaporated milk** If necessary, you can make your own formula temporarily from evaporated milk. (Evaporated milk formulas have some of the same risks as whole cow’s milk, namely, iron deficiency anemia and allergies.) Mix 13 ounces of evaporated milk with 19 ounces of boiled water and 2 tablespoons of corn syrup. Place this mixture in sterilized bottles and keep the bottles refrigerated until use (up to 48 hours).

3. **Cow’s milk** Breast milk is the first choice for feeding during the first year of life. A commercially prepared infant formula is the second choice. Whole cow’s milk should not be given to babies before 12 months of age because of increased risks of iron deficiency anemia and allergies. Skim or low-fat milk should not be given to babies before they are 2 years old because the fat in whole milk is needed for rapid brain growth.
Preparing Commercial Formulas

Mix concentrated liquid formula with water in a ratio of one to one. Mix each level scoop of powdered formula with 2 ounces of water. Never make the formula for your baby more concentrated by adding extra concentrated liquid or extra powder. Never dilute the formula by adding more water than specified. Careful measuring and mixing ensure that your baby receives the proper concentration of formula.

Most city water supplies are quite safe. If you make one bottle at a time, you don't need to use boiled water. When using tap water for preparing formula, use only water from the cold water tap. Let the water run for 2 minutes before you use it. (Old water pipes may contain lead-based solder and lead dissolves more in warm water or standing water.) Fresh, cold water is safe. After you prepare the formula with the cold water, you can heat the bottle to the preferred temperature. Ask your health care provider if you are not sure whether your water supply is safe for your baby.

If you have well water, you need to boil your water for 10 minutes (plus 1 minute for each 1000 feet of elevation above sea level) or use distilled water until your child is 6 months old.

If you prefer to prepare a batch of formula, you must use boiled or distilled water and closely follow the directions printed on the side of the formula can. This prepared formula should be stored in the refrigerator and must be used within 48 hours.

Formula Temperature

In the summertime, many children prefer cold formula. In the wintertime, most prefer warm formula. By trying formula at various temperatures you can probably find out what your child prefers. If you do warm the formula, check the temperature of the formula before you give it to your baby. If it is too hot it will burn your baby's mouth. Be especially careful if you heat the formula in a microwave because the formula can get too hot very quickly.

Feeding Your Baby

1. **Schedules and amounts** Your physician will tell you when and how often to feed your baby. In general, your baby will probably need six to eight feedings per day for the first 3 weeks, five to six feedings per day from 1 to 3 months, four to five feedings per day from 3 to 7 months, and three to four feedings per day from 7 to 9 months. If your baby is not hungry at some feedings, increase the time between feedings. Newborns usually start with 1 ounce per feeding, but by 7 days they can take 3 ounces. The amount of formula that most babies take per feeding (in ounces) can be calculated by dividing your baby's weight (in pounds) in half. For example, if your baby weighs 8 pounds, your baby will probably drink 4 ounces of formula per feeding. No baby should drink more than 32 ounces of formula a day. If your baby needs more than 32 ounces and is not overweight, consider starting solid foods. Overfeeding can cause vomiting, diarrhea, or excessive weight gain.

2. **Position** Feeding should be a relaxing time -- a time for you to provide both food and comfort for your baby. Make sure that both you and the baby are comfortable:
   - Your arm supported by a pillow.
   - Baby in a semi-upright feeding position supported in the crook of your arm. This position reduces choking and the flow of milk into the middle ear.
   - The bottle tilted so that the nipple and the neck of the bottle are always filled with formula. (This prevents your baby from taking in too much air.)

3. **Length of feeding** Gently remove the bottle from time to time to let your baby rest. A feeding shouldn’t take more than 20 minutes. If it does, you are overfeeding your baby or the nipple is clogged. A clean nipple should drip about 1 drop per second when the bottle of formula is inverted.

4. **Formula storage** Prepared formula should be stored in the refrigerator and must be used within 48 hours. Prepared formula left at room temperature for more than 1 hour should be thrown away. At the end of each feeding, throw away any formula left in the bottle.

5. **Burping** Burping decreases spitting up. Air in the stomach does not cause pain. If you burp your baby, be sure to wait until your baby reaches a natural pause in the feeding process. Burping two times during feeding and for about a minute is plenty. More burping may be needed if your baby is a "spitter." Keeping your infant elevated for a minimum of 15-30 minutes following each feeding will help the "spitty" baby as well.
Traveling

When you are traveling, powdered or ready-to-serve formulas are the most convenient. To prepare the formula, simply add the appropriate number of scoops of powder to bottled, previously boiled water, or pour ready-to-serve formula into a sterilized bottle.

Extra Water

Babies do not routinely need extra water. However, when they have a fever or the weather is hot they should be offered a bottle of water twice a day. Run the water from the tap for 2 minutes before you use it for drinking. Keep some of this water in your refrigerator.

Fluoride Requirements

From 6 months to 16 years of age, children need fluoride to prevent dental caries. If the water supply where you live contains fluoride and your child drinks at least 1 pint each day, this should be adequate. Otherwise, fluoride drops or tablets should be given separately. This is a prescription item that can be obtained from your child’s physician.

Prevention of Baby-Bottle Tooth Decay

Sleeping with a bottle of milk, juice, or any sweetened liquid in the mouth can cause severe decay of your baby’s first teeth. Liquids tend to pool in the mouth during sleep. The sugar in these drinks is changed to acid by bacteria in the mouth. The acid then etches the tooth enamel and causes decay.

Prevent this tragedy of tooth decay by not using the bottle as a daytime or nighttime pacifier. If you cannot discontinue the nighttime bottle or replace it with a pacifier, fill it with water. This approach will prevent tooth decay.