

Choosing the right breast pump



A breast pump is a device that allows a woman to express breast milk from the breasts when it is not possible to breastfeed her infant directly. Many women choose to use a breast pump so that they can continue to provide breast milk while working or if their infant is admitted to the hospital. Of course, it is not necessary for all women who breastfeed to purchase or use a breast pump.

CHOOSING A PUMP.

There are a wide variety and quality of breast pumps available, each of which varies in cost, quality, and efficiency; the optimal pump depends upon your needs and how frequently the pump will be used. No one pump suits every woman. In most situations, you should wait to buy a pump until after your infant is born; this will allow you to determine your and your infant's individual needs.

Some of the most common reasons women use a breast pump include the following:

- To stimulate your milk production when you are unable to nurse your infant after birth, if your infant is in the hospital
- To maintain your milk supply when you are away from your infant (eg, after returning to work)
- To provide your baby with your breast milk

Professional (hospital use) electric breast pump.



A hospital use electric breast pump is recommended for women who must initiate and maintain their milk production for extended periods of time, such as those with a premature or hospitalized infant who cannot nurse immediately after delivery. This is the most efficient, easiest, and fastest type of pump, and is the most effective way to maintain an adequate milk supply for an infant's full nutritional needs.

The amount of time it takes to empty both breasts will vary depending upon the woman's experience with the pump, although it generally takes about 10 to 15 minutes after let-down has occurred. A hospital grade pump can be safely used by more than one woman in a hospital and may be rented for home use. Some commercial health insurance plans cover the cost of purchasing or renting a hospital grade breast pump.

Personal electric pump.



A smaller, personal electric breast pump is designed for one woman to use several times per day. These pumps are not as effective in establishing and maintaining a woman's milk supply long term (without intermittent breastfeeding). Most models allow you to pump one or two breasts at a time.

Most of the high quality personal pumps are self-contained in a carrying case (as a backpack or shoulder bag) that includes the motor, supplies, and in some cases, a cooler for storing milk.

These pumps work well for the working mother or when traveling. These pumps are intended for use by only one woman; sharing or re-selling of a personal pump is not recommended.¹

HOW TO PUMP.

Each of the different types of pumps has specific instructions for use. The following are general recommendations for use of a breast pump.

- Wash your hands with soap and water before pumping. It is not necessary to wash the breasts or nipples.
- Ensure that the pump pieces and milk collection containers are clean. Washing with hot soapy water is sufficient; it is not necessary to sterilize the pump or bottles when pumping for a healthy infant. Do not wash the pump tubing because it cannot be dried easily. If moisture or milk is noted in the tubing, contact the manufacturer. It may be necessary to purchase new tubing.
- Most women prefer to sit while pumping. For electric pumps, set the pump's suction strength to a comfortable level. Pumping should not hurt, even if you have sore or painful nipples. On some pump models, the cycling speed (the number of suction cycles per minute) can be set based on personal preference; some women start with a rapid cycle speed then slow the speed after their milk begins to flow in a steady stream. (See '[Let-down](#)' below.)

- Be sure that the flanges (the cone-shaped pieces that fit over the breasts and nipples) are the appropriate size. When pumping, the nipples should not rub against the tunnels of the flanges. It may be necessary to purchase larger flanges to pump comfortably and stimulate the breasts correctly. Be sure to purchase pump parts that are the same brand as that of the pump. Parts should not be interchanged from different manufacturers.

Let-down.



Let-down, also called the milk-ejection reflex, is the term used to describe what happens in the breasts when milk is released from the milk glands into the milk ducts ([figure 1](#)).

Let-down is a conditioned response usually brought on by the infant sucking at the breast and stimulating the release of the hormone oxytocin in the mother's brain. This causes cells in the breast to eject the milk. Some women experience let-down at other times, by just thinking about their baby or hearing their baby cry. For women who are dependent on the pump exclusively for breast stimulation (mothers of hospitalized infants), just seeing or hearing the breast pump may cause milk ejection.

Let-down usually occurs within the first minute or two of nursing or pumping. Some women feel a sense of heaviness or tingling in the breasts during let-down while other women cannot feel let-down at all.

Some women have difficulty with let-down while pumping. In this situation, only drops of milk are seen rather than streams of milk flowing from the nipples. Tips to promote let-down include:

- Gently massage the breasts before pumping
- Apply a warm wet cloth to the breasts before pumping
- Pump in a quiet, darkened room to avoid distractions
- Look at a picture of the baby or smell the baby's blanket

Pumping at work.

Women who return to work after birth and want to continue breastfeeding will need to express their milk several times during their working hours. Pumping will allow you to maintain your milk production and provide your expressed breast milk to your infant while you are separated. Pumping on a schedule similar to their infant's feeding pattern is usually sufficient; for most women, this means pumping two to three times over eight hours. If possible, starting back to work in the middle of the work week will help to ease the transition.

It can be challenging to find the time and space to pump, especially for women who do not have a private office. You should discuss your need for a private space with your employer prior to returning to work. While a bathroom is one option, this is not ideal for pumping. It may be helpful to

speak with co-workers who have returned to work and pumped to determine if a private space is available. Some employers offer a "pump room" or other private area.

Pumping for a premature or ill infant.

Women whose infants are hospitalized due to prematurity or illness following birth must rely on a breast pump to stimulate their milk production. The first few weeks following delivery are critical in establishing a milk supply that meets the needs of their infants. Several important hormonal and structural changes take place within the breast during this time.

The amount of breast stimulation during this time is critical to this process. Women should pump frequently (at least eight times per day) for about 15 minutes each time until they are producing about one-half ounce per breast. Thereafter, most women find that pumping six to eight times daily and expressing for about two minutes after milk flow stops is sufficient to maintain an adequate milk supply.

Although milk volume varies with pumping after premature delivery, it generally increases from 320 mL (about 11 ounces) at the end of the first week to subsequent ranges from 450 to 1200 mL (about 2 to 5 cups) per day. Check with your healthcare provider or lactation consultant on the volume of milk required for your infant and ways to improve your milk supply if needed.

STORING BREAST MILK.

The temperature at which milk is stored depends upon the intended duration of storage prior to feeding. Breast milk that is pumped may be safely stored in the refrigerator (4 to 72 hours) or freezer (48 hours to 3 months) . It can even be left at room temperature (approximately 25 to 27° C) for up to four hours . Thawed breast milk can be safely stored in a standard refrigerator for up to 24 hours. Milk that was frozen and then thawed should not be refrozen.

Breast milk storage containers.

Breast milk should be placed in a sealed, clean, glass or rigid plastic bottle designed for storing food products. Although plastic breast milk storage bags are not recommended for hospitalized infants due to the loss of some nutrients, plastic bags can be used to store breast milk for healthy infants.

Milk should be stored in small amounts (one to four ounces) and labeled using permanent ink and a waterproof label. The label should indicate the date the milk was pumped. Milk from different pumping sessions may be combined; the milk should be cooled in the refrigerator before it is combined. Milk that is warm or refrigerated should not be added to frozen milk. The oldest milk should be used first.

PREPARING PUMPED BREAST MILK FOR FEEDING

Thawing and warming breast milk.

Milk can be warmed gradually to approximately 37°C in a warm water bath (not to exceed 20 to 30 minutes). One should avoid submerging bottles in water when using the warm water bath method. After warming the milk, the temperature should be tested immediately before it is given to an

infant; the milk should feel lukewarm or at room temperature, but never hot. Milk should be gently swirled to redistribute the cream that often rises to the top during refrigeration.

Rapid heating or microwaving adversely affects the breast milk's immunologic and nutritional properties. Microwaving also heats milk unevenly, which may potentially burn an infant's mouth .

Although freshly pumped breast milk has antibacterial properties, milk stored in a refrigerator for more than a day or two begins to lose this property .

HOW MUCH MILK SHOULD I OFFER?

Many women who exclusively pump or pump while at work wonder how much breast milk their infant will need at each feeding.

The volume of breast milk a baby needs increases with age; infants who are exclusively breastfed require approximately 23 to 24 ounces of breast milk at one month of age and 24 to 30 ounces at six months of age. After six months, most infants begin to consume other foods, and less milk may be needed .

One way to estimate the amount of milk a baby needs for a feeding is to multiply the baby's weight in pounds by 2.5, which will give you the overall volume for 24 hours . You can then divide that by the number of feedings/day. This is a general guideline with the understanding that some babies will want more and others less, and that the volume at each feeding can vary as well.

Feeding breast milk with a bottle.

Babies feed very differently from a bottle compared to the breast. Milk flow from a bottle is fast and the baby usually eats very quickly, sometimes by gulping. Many mothers feel that their infant drinks more milk when he or she is fed with a bottle than when nursed at the breast. It is common to worry that you will not pump enough milk to keep up with this volume.

Babies have little control over milk flow from a bottle while they have full control over milk flow from the breast. To minimize this problem, it may help to pace the baby while bottle feeding by taking frequent breaks. Slow flow bottle nipples are available and may help to minimize the differences in flow between bottle and breast feeding. A feeding should take 10 to 15 minutes or more, just like at the breast.

WHAT IF I HAVE QUESTIONS?

Your lactational consultant or your doctor is the best source of information for questions and concerns related to breastfeeding, pumping, storage of milk, or bottle feeding your infant. Certified lactational consultants is an invaluable resource for instruction and troubleshooting for problems.

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