

## Breast milk - expressing

It is quite common for mothers to feed their baby using their expressed breast milk. Breast milk can be expressed by hand, or with a manual or electric breast pump. Breast milk must be collected and stored correctly to prevent the risk of bacterial growth.

### Mothers express milk for a variety reasons

Some mothers choose to feed their babies with expressed breast milk. There are many reasons for this decision, including:

- The baby needs extra breast milk as a 'top-up feed' following a breastfeed.
- The baby may not be able to suckle well at the breast.
- The mother is going back to work.
- The mother may prefer to feed using a bottle.
- The mother is going out or simply wants a break from the responsibility of feeding the baby.
- Some women regularly express to maintain or increase their milk production.

### How breast milk is produced

Milk is stored inside the breast in tiny sacs or alveoli and travels to the nipple via ducts. To increase the amount of milk coming from the breast, a 'let-down' reflex is triggered. This process starts when the nerve endings in the nipple are stimulated by either the baby sucking at the breast or by the mother expressing the breast.

Hormones play an important role in milk production. When the nipple is stimulated, a signal is sent to the pituitary gland in the brain to release a hormone called oxytocin. Oxytocin causes the milk-filled alveoli to tighten and milk is squeezed into the ducts where it travels down to the nipple and begins to drip out.

A baby's suckling mouth is the most successful trigger, but stimulating the nipple by hand (combined with breast massage and breast expression) can also start the milk-releasing process.

### Three ways to express milk

In the first week, after your milk has 'come in', you can expect to produce about 300–500ml of breast milk in a 24-hour period. This should increase to about 600–700ml over the following two to three weeks. Breast milk can be expressed by:

- Hand
- Hand-held breast pump
- Electric breast pump.

### By hand

Expressing milk by hand is a cheap and convenient method. Once you master the skill, you can express your milk at any time. It also means you don't have to buy or hire any special equipment, which (particularly in the case of electric pumps) can be expensive.

It may take a little practice to learn this skill, but it is worth the effort. Before preparing to hand express:

- Wash your hands thoroughly with soap and water.
- Try to relax. The let-down reflex is delayed by anxiety, although it will eventually occur. It may help to have your baby close to you. If that is not possible, have a photograph nearby or think about your baby.
- Massage your breasts with the flat of your hands, working towards each nipple.
- Place a finger and your thumb either side of the nipple at the base and gently stretch and roll the nipple.
- Place your thumb above your nipple at the edges of the areola (dark area around the nipple) and the first finger below.
- Using your thumb and finger, gently press your breast tissue back towards your chest wall and squeeze. By doing so, you are moving back along the milk ducts, gathering some milk (which is lying in the ducts) and then squeezing it forward. Drops of milk should soon appear on your nipple. Gently rub these first drops into your nipple. This will further stimulate your let-down reflex and increase the milk flow.
- Continuously press and squeeze in a rhythmic massaging movement. The milk will soon begin to flow – sometimes even squirting out.
- Sometimes your hand may become tired so, switch hands regularly.
- Once the milk dwindles to a few drops, move your finger onto another area of your breast and continue to press and squeeze.

## Expressing by hand takes time

You will need to set aside adequate time to express each breast. Repeat the above technique on each breast. If you express each breast three times, for five minutes, it will not take more than half an hour to express both breasts.

Even if you use a pump, it is a good idea to finish off the expressing session by hand to squeeze out the remaining drops of milk.

## Hand-held breast pump

Many mothers prefer to use either a manual or electric breast pump. They find it is quicker and produces more milk each time. They may also prefer this method because they don't have to handle their own breasts to express the milk.

It is important not to use any kind of pump until your breast milk has 'come in' and your supply is established. Also, avoid using a pump if you have nipple damage (cracked nipples) or an oedematous (swollen and puffy) nipple or areola.

There are numerous breast pump designs on the market. Some are well designed, others are not so good. A hand pump must be:

- Effective
- Comfortable
- Easy to use
- Safe to use – that is, it should not damage the nipple or areola, or cause muscle strain
- Economical.

## Getting started

Suggestions for using a hand-held pump are as follows:

- Stimulate the let-down reflex by hand. Once the milk has started flowing, switch to the pump.
- Place the flange of the pump directly over your nipple and hold it firmly against your breast.
- Rhythmically squeeze and release the pump handle. Milk will begin to flow into the collection bottle.
- Adjust the suction strength so that it is comfortable and not causing any pain or discomfort. Excess suction will not result in the removal of extra milk, and may result in pain and nipple damage.
- Finish expressing by hand for a few moments to remove the last drops of rich milk.

## Electric breast pump

Many mothers choose an electric breast pump. There are a few well-designed pumps available for hire. Electric breast pumps cost approximately \$20–25 per week to hire and are available from many pharmacies, however be aware that most pharmacies will require a large deposit (\$200+) for the pump. Alternatively, you can contact the Australian Breastfeeding Association; they hire pumps at very reasonable rates. You can choose double pump kits that allow you to express from both breasts at the same time. This is a real timesaver when expressing full-time. Suggestions include:

- Choose a model with adjustable suction. Suction that is too high can be painful, can cause nipple damage and will not remove any extra milk from the breast.
- Stimulate the let-down reflex by hand. Once the milk flow has started, switch to the pump.
- Start with low pressure and then slowly increase the pressure to your level of comfort. If it is painful, check that the mouthpiece of the pump is centred directly over your nipple and reduce the suction.
- Finish expressing by hand to remove the last rich drops of milk.

If you express only occasionally, you may want to use a small portable battery/mains-driven pump. These can be very convenient, as they are small and light. However, they are not designed for frequent (greater than once or twice a day) use – if you are going to express frequently over a prolonged period of time, you will need a more sturdy electric motor breast pump.

## Some general tips to help with expressing breast milk

General suggestions include:

- Give yourself time to learn how to express milk properly; it is a learned skill like any other. Don't hesitate to ask for professional help.
- Aim to express at least every three to four hours to avoid breast engorgement. This is an uncomfortable condition and engorged breasts are difficult to express.
- Express as often as you would breastfeed in order to maintain your milk supply. For example, if your baby feeds six times over a 24-hour period, you need to express at least six times.
- Express more often if you find you cannot keep up with your baby's demands. You may need to express every two hours during the daytime for one to two days.
- If your baby cannot breastfeed and you are trying to establish your milk supply, you will need to express ten to twelve times over a 24-hour period.
- Express at least once overnight to maintain your milk supply. There are very few women who can maintain a good milk supply over a prolonged period if their breasts do not have milk removed at least every four to five hours. Prolactin, the milk-making hormone, is at its highest level in the body between midnight and 4am, so expressing during this time ensures a better milk supply.
- Most women will use a bottle to give their expressed breast milk, however some may choose to use a cup. It is best to discuss the best way to feed your expressed milk to your baby with your maternal and child health nurse.

## Supplementary feeds

Avoid using supplementary bottles of formula. Your breasts operate on a system of 'supply and demand'. If breast milk is removed, your body will make more; if you leave it in your breasts, you will stop making milk.

## Storage suggestions

Breast milk must be stored correctly to reduce the potential for bacterial growth. Suggestions include:

- Use fresh breast milk whenever possible.
- Express into clean and sterilised containers. These may be glass, plastic or sealable plastic bags.
- Label each container with the time and date the breast milk was expressed.
- Refrigerate the breast milk within one hour of expressing.
- Store breast milk in the back of the fridge where it is coolest (4°C or lower), not in the fridge door, if you are going to use it within the next three to five days.
- Freeze excess breast milk if you produce more milk than your baby requires.

- Freeze refrigerated breast milk immediately if you are not going to use it in the next few days.
- Do not top up refrigerated or frozen breast milk with fresh breast milk unless it has been chilled first.
- The shelf life of frozen breast milk depends on your freezer. If your freezer is inside the fridge, storage time is two weeks. If your freezer is separate from the fridge with its own door, storage time is up to three months. Breast milk can be stored for six to 12 months in a deep freezer (-18°C or lower).

## Thawing and heating of breast milk

Breast milk must be thawed and heated correctly to reduce the potential for bacterial growth.

- Thaw frozen breast milk by moving it from the freezer to the fridge for slow thawing over 24 hours.
- You can also run cold water over the container and gradually increase the temperature of the water. Do not overheat the milk as it will destroy some of the nutrients and may burn the baby's mouth.
- **Never** use the microwave. It is a potentially dangerous practice as it can cause 'hot spots' in the milk that may burn your baby's mouth.
- Frozen breast milk that is thawed in the fridge (but not heated) will last 24 hours in the fridge and four hours at room temperature. It cannot be refrozen.
- If milk has been thawed outside the fridge, using warm water, it will last for four hours in the fridge, but cannot be refrozen.

## Hygiene is important

Unwashed hands and unclean pumps or bottle-feeding equipment can contaminate breast milk. Hygiene suggestions include:

- Wash your hands thoroughly before expressing.
- Make sure all equipment, including the breast pump and bottles, are clean.

If you are using your own expressing equipment and are not sharing it with anyone else, there is no need to sterilise the equipment after each use. Washing thoroughly in hot soapy water, rinsing in hot water and storing in a clean covered container are adequate.

## Where to get help

- Australian Breastfeeding Association Breastfeeding Helpline 1800 686 2 686 (1800 mum 2 mum)
- Lactation Resource Centre Tel. (03) 9885 0855 – excellent source of information on topics related to infant feeding
- Breastfeeding clinics – many hospitals have breastfeeding support programs. The Royal Women's Hospital Breastfeeding Education and Support Services program is open weekdays 8.30am to 4.30pm. Tel. (03) 8345 2400
- Your local doctor
- Midwives from the hospital where you gave birth
- Lactation consultant – a list of private lactation consultants practising in your area can be found online at [www.alca.asn.au](http://www.alca.asn.au)
- Maternal and child health nurse – contact your local council for the address of your nearest MCH centre
- Maternal and Child Health Line (24 hours) Tel. 132 229
- Parentline (24 hours) Tel. 132 289

## Things to remember

- Breast milk can be expressed by hand, or with a manual or electric breast pump.
- Breast milk must be stored correctly to keep it free from contamination.
- See your doctor, midwife, lactation consultant or a trained counsellor if you have any concerns regarding infant feeding.

**This page has been produced in consultation with, and approved by:**

Royal Women's Hospital

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