



Infant feeding in emergencies

A guide for mothers



World Health Organization, Regional Office for Europe

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Target 16 HEALTHY LIVING

By the year 2000, there should be continuous efforts in all Member States to actively promote and support healthy patterns of living through balanced nutrition, appropriate physical activity, healthy sexuality, good stress management and other aspects of positive health behaviour.

Keywords

BREASTFEEDING

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Foreword

This booklet is designed to help you if you are a mother, soon-to-be a mother, or want to help one of your friends or relatives to breastfeed their baby. Once you have finished with this booklet, please pass it on to a friend who needs help to breastfeed her baby.

The concept for this booklet was born during the last war in Europe, in Bosnia and Herzegovina in 1994, when it was clear many mothers had become so accustomed to bottle-feeding that most women had lost their knowledge on how to breastfeed.

Although originally developed for mothers during emergency situations, we at WHO are hopeful and confident that this booklet can be of use to all mothers everywhere.

Many breastfeeding experts throughout the world have commented and contributed to the development of this booklet and WHO would like to express their sincere gratitude to all those who worked to make this booklet one of the best up-to-date guides for mothers.

*Aileen Robertson, Ph.D.
Acting Regional Adviser
Nutrition Policy, Infant Feeding and
Food Security (NIF)*

Introduction

Every emergency is different. It may be a natural disaster such as an earthquake or a flood. It may be political unrest leading to fighting or bombardment. It may be an industrial accident, contamination of the water supply, a power failure, road or rail crash or other tragedy. The common factor in all emergencies is that normal daily life is disrupted and essential services become overstretched or collapse. People may have to leave their homes. Supplies of food, water or energy may be scarce, wages may not be paid and the value of money may change rapidly. Whether the emergency is great or small, short or long, the main anxiety for parents is their children's health and survival. This booklet is written to help you feed your baby during an emergency.

- Breastfeeding is the best way to keep your child and yourself healthy.
- Your breast-milk alone is all your baby needs for the first 6 months.
- You can start breastfeeding again even if you stopped some months ago.
- At around 6 months introduce solid foods, but breastfeeding is still important into the second year and beyond.
- This booklet answers the questions that people ask about infant feeding in difficult times. It helps you to feed your baby safely and to get your breastmilk back if you have stopped breastfeeding.

Why is breastfeeding so important?

Breastfeeding is important everywhere for the best child health, growth and development. Breast-milk is superior to any other product given to a baby. It contains the ideal balance of nutrients and anti-infective factors, tailor-made for each individual child.

A breastfed baby receives the most nutritious, luxurious and appropriate food ever known. A millionaire's baby fed with commercial baby milk has a poorer diet than the poorest family's baby who is breastfed.

Are commercially-made baby milks as good as breastfeeding?

Artificial feeding, using commercially-made baby milks and bottles, is promoted by companies to make profits. This undermines breastfeeding. Even some health professionals believe that artificial feeding is as good as breastfeeding and their belief influences us to think that it is modern and safe. Artificial feeding can cause health problems in stable situations. It is an even greater risk during an emergency.

Why are commercially-made baby milks not so good?

Commercially-made baby milks¹ can never match breast-milk, even those made by the most sophisticated and scientific methods. They do not contain anti-infective factors. Even if a manufacturer could copy human milk, it could never be right for each child, because each mother's milk changes according to her child's needs. Colostrum, the early, thicker, yellow-coloured breast-milk, acts as the first immunization, and provides a super-dose of antibodies and vitamins. Colostrum helps expel the baby's first dark faeces (meconium). The change from colostrum into mature milk matches the

¹ Also called infant formula, breast-milk substitute or artificial milk.

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newborn's needs. Breast-milk then changes composition during a breastfeed and changes according to the child's age.

But can every woman breastfeed?

Most women are able to breastfeed, but unfortunately a lot of common practices make breastfeeding go wrong. In this century, breastfeeding skills have been lost. Mistaken ideas went into medical textbooks and training. Separation of the mother and baby after birth, feeding to a timetable, giving extra bottles of artificial milk or any other fluid, and other common practices can all make breastfeeding go wrong and reduce a mother's breast-milk supply.

The following practices can make breastfeeding go wrong

- Separation of mother and baby**
- Delaying the first feed**
- Restricting the frequency of feeding**
- Washing the nipples before or after a breastfeed**
- Feeding to a timetable**
- Taking the baby off the breast before the baby is finished**
- Giving other fluids before the first breastfeed**
- Giving supplementary feeds of artificial milk**
- Giving plain water, dextrose, glucose or sucrose water or 'teas' between feeds**
- Saying anything which makes a mother doubt her ability to produce milk**
- Giving free samples of commercial baby milks**
- Isolating the mother from those who support breastfeeding**
- Using nipple shields, bottle teats and dummies (pacifiers)**
- Using drugs during childbirth which sedate the baby**

**The following practices can help
breastfeeding go well**

Breastfeeding soon after birth

Skin-to-skin contact between mother and baby

**Good positioning and attachment of the baby
at the breast**

Frequent baby-led feeding

**Letting the baby come off the breast
spontaneously**

Exclusive breastfeeding²

**Building a mother's confidence through kindness
and encouragement**

**Having contact with people who give
emotional support**

Avoiding bottle teats, dummies and nipple shields

Avoiding creams and ointments on the nipples

**Avoiding soap on the breasts and washing them
only during normal daily bathing**

**But why don't the experts tell us this if
breastfeeding is so important?**

Awareness of the importance of breastfeeding is growing fast. However there is still lack of understanding about how to help mothers, even among well-educated health professionals. This is not their fault; established medical practices have unknowingly damaged breastfeeding for years. Now practices are changing. In both rich and poor regions, enlightened health authorities encourage the reform of hospital practices and community support for breastfeeding. Training for health professionals is improving. Global

² Exclusive breastfeeding means feeding the baby frequently, on demand (baby-led) day and night, without giving bottles, dummies or other foods or fluids, but allowing for essential medicines.

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initiatives such as *The WHO/UNICEF³ Baby-Friendly Hospital Initiative (BFHI)* promote ‘*The Ten Steps To Successful Breastfeeding*’. These are based on the best knowledge of practices which help mothers and babies breastfeed happily right from the start. WHO and UNICEF urge all health professionals to implement **The Ten Steps** in all health facilities.

Ten Steps to Successful Breastfeeding

Every facility providing maternity services and care for newborn infants should:

- 1. Have a written breastfeeding policy that is routinely communicated to all health care staff.**
- 2. Train all health care staff in skills necessary to implement this policy.**
- 3. Inform all pregnant women about the benefits and management of breastfeeding.**
- 4. Help mothers initiate breastfeeding within a half-hour of birth.**
- 5. Show mothers how to breastfeed, and how to maintain lactation even if they should be separated from their infants.**
- 6. Give newborn infants no food or drink other than breast-milk, unless medically indicated.**
- 7. Practise rooming-in – allow mothers and infants to remain together – 24 hours a day.**
- 8. Encourage breastfeeding on demand.**
- 9. Give no artificial teats or pacifiers (also called dummies or soothers) to breastfeeding infants.**
- 10. Foster the establishment of breastfeeding support groups and refer mothers to them on discharge from the hospital or clinic.**

³WHO is the World Health Organization. UNICEF is the United Nations’ Children’s Fund. These organizations work together to promote breastfeeding.

In an emergency we cannot wait for practices to change. When water or fuel supplies are disrupted, breastfeeding can save lives. Breastfeeding keeps babies and toddlers healthy and well nourished, even in bad conditions; it can also protect women's health.

Do babies also need tea and water?

Breast-milk, including the first milk colostrum, is the perfectly balanced food and drink for babies. **No other food or liquid is needed in the first 6 months of life.** Plain water, glucose, dextrose or sugar water, teas, herbal drinks, juices, gripe water, milk or any other fluid (including commercial baby milks) all reduce the amount of breast-milk that the baby takes in. All these products are unnecessary, except in the rarest cases, and they can all do harm. They can introduce germs, cause allergies and irritate the baby's intestines. If given soon after birth they will delay the establishment of breastfeeding and reduce breast-milk supply. Exclusive breastfeeding is the ideal and **all other fluids interfere with the process.** Breast-milk contains the exact amount of water that the baby needs, even in the hottest, driest climates. The fluid in breast-milk is better absorbed by the baby than any other that might be given.

When do babies need more than just breast-milk?

At around 6 months introduce solid foods (any family foods available: see section on page 34), but ideally continue breastfeeding for 2 years or beyond. When your baby starts to eat solid foods, then you can give her cooled boiled water, though breast-milk will supply enough fluid if safe water is unavailable. **Babies should not drink sugared drinks or teas.** These drinks contain no useful nutrients and damage the teeth. Tea reduces iron-absorption and can lead to iron deficiency anaemia. Breastfeeding into the second year and beyond can provide about a third of the child's energy and protein needs, is a good source of the important vitamins A and C and protects against infection. Sick toddlers can

breastfeed even when they refuse other foods. This maintains nutrition, speeds recovery and gives comfort.

So a sick baby should go on breastfeeding?

Yes, a sick baby must continue to breastfeed⁴ because breast-milk actively fights disease. Breast-milk contains numerous disease-fighting substances. For example, if germs which cause diarrhoeal disease are in your environment, your body produces antibodies against them in your breast-milk to protect your baby. Breast-milk is easy to digest so a sick baby is less likely to vomit after feeding.

Do breastfed babies get fewer diseases?

Yes, definitely. Breastfeeding protects against common infections, especially diarrhoeal and respiratory diseases. Even in the best, most hygienic conditions, artificially-fed babies are 5 times more likely to suffer diarrhoeal disease. When water and fuel supplies are disrupted, infections spread rapidly. Artificially-fed babies are 14 times more likely to die from diarrhoeal diseases and 3 times more likely to die from respiratory diseases than breastfed babies. Breastfeeding lowers the risk of a baby getting urinary tract infections which can lead to kidney disease, and ear infections which can lead to deafness.

But my friend's baby got ill and he was breastfed.

Of course some breastfed babies get infections, but most get them less severely. They recover more quickly, and are less likely to die from infections or become malnourished, than artificially-fed babies. The more vulnerable the baby the more he needs breast-milk.

⁴If the baby is too weak to suckle he should be given expressed breast-milk (EBM).

So breastfeeding is like a medicine?

Yes, and it protects long-term health too. Breastfeeding lowers the risk of a child developing diabetes. Exclusive breastfeeding can delay allergies such as asthma and eczema. Studies show breastfed children to be more intelligent, especially premature babies who received breast-milk. Immunization works better in breastfed babies.

Studies suggest that breastfeeding reduces the risk of badly formed teeth, poor eyesight, some childhood cancers, raised blood pressure and coronary heart disease in adult life.

Some studies suggest that the longer a woman breastfeeds the lower her risk of ovarian and pre-menopausal breast cancer, and bone disease (osteoporosis) and hip fractures when she is old. Diabetic women need less insulin when they breastfeed.

Breastfeeding protects against:

Diarrhoeal diseases
Respiratory infections
Urinary tract infections
Ear infections (otitis media)
Diabetes mellitus
Asthma and wheezing

People say that stress stops the milk, so during stressful times how can we breastfeed?

In societies where women never doubt their ability to breastfeed, mothers have suckled their babies for centuries during famines and wars and saved their lives. In societies where bottle-feeding has become common and confidence in breastfeeding has declined, women have breastfed even less during emergencies. Aid workers

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did not realize that when they distributed commercial milks and bottles, they were destroying women's confidence, stopping their babies stimulating their breast-milk production and increasing the risk of illness.

If you understand how women's bodies work, despite the stress, you can help yourself and others to cope with a difficult situation. Stress has no effect on the milk-making hormone (prolactin), but it can have a temporary effect on the hormone which makes the milk flow out of the breast (oxytocin). The temporary stoppage of this reflex is a useful biological mechanism to stop milk being ejected from the breast at difficult moments.

Stress has always been part of life and if it destroyed breastfeeding, the human race would never have evolved. When an early human mother and her baby were escaping from a wild animal, it would help for the milk flow to stop while she was running away. But as soon as she reached shelter, the flow would re-start through putting her baby to the breast.

We know the signs of fear: a dry mouth, increased heart beat, cold feet and trembling. These signs slow down after a while, even when the cause of the fear continues. It is the same with the oxytocin reflex: the milk flow may stop for a short time when you are very shocked, but even though the cause of the shock remains, the flow of breast-milk will resume as long as you keep putting your baby to your breast.

The milk-making system is very robust. The oxytocin reflex is sensitive: it can stop temporarily, but it resumes quickly. We all need comfort during stressful times. Ask someone to give you a gentle back massage. This can help your oxytocin reflex, together with the baby suckling freely, to stimulate the breast-milk to start flowing again.

Breastfeeding, with skin-to-skin contact, helps you feel closer. This can help your baby feel secure and limit the damage of the emotional traumas of stressful situations. The breastfeeding hormones help many women feel calmer in stressful situations.

Show this booklet to the health professionals or anyone who is trying to help you. The most important point for health professionals, aid workers, family or friends to remember is that a few minutes of comfort and reassurance can get breast-milk flowing and protect a baby's health and life. Distributing bottles and artificial milk can cause illness and death.

What about women who have lost a lot of weight? Can they produce milk?

Thinness or weight loss rarely influence breast-milk supply. Human lactation is a remarkably resilient process. Most women gain body fat during pregnancy which acts as an energy store to make milk after the baby is born. However, even thin women who do not gain weight during pregnancy still produce enough good quality milk for their babies. The important thing is their babies suckle freely. Even in the Dutch famine in 1945 and the African famines in the 1980s, women continued to breastfeed and their babies grew. Only severe starvation makes lactation stop. In emergencies everyone is worried about getting food and of course you need sufficient food for yourself. The one food supply that you need not worry about is breast-milk.

Do we need special nutrition for breastfeeding?

You need enough food to maintain your own health and energy. Your breast-milk supply will continue as long as you let your baby suckle freely and effectively (see pages 17–22). When there is food rationing, pregnant and lactating mothers should have priority among the adult population. The extra energy needed by the body to make breast-milk is about 500 extra calories a day above basic

needs. This means, for example, two extra slices of bread, or an extra helping of potatoes or any other food available. However, women's bodies adjust to lactation by using nutrients more efficiently. You may feel hungrier, but you need not worry that you need special foods to make breast-milk. Diets vary around the world. Meat is not essential; vegetarian women who never eat meat or fish, and women who never drink milk, all breastfeed successfully and stay healthy. Eat a varied diet with vegetables if you can get them. Try to get salt which has iodine added, since iodine deficiency is common in most countries. There is no need to avoid certain foods while breastfeeding. In an emergency eat whatever is available. There is no need to take extra fluid. Just drink when you are thirsty.

But what about anaemic women? Does breastfeeding drain their strength?

No. Anaemic women can breastfeed quite normally, though it is best for their own health if they get treated. Drinking tea with your food reduces the absorption of iron, so try to drink tea two hours after a meal. In fact, exclusive breastfeeding can protect women from anaemia because it delays the return of menstruation. The small amount of iron that goes from your bloodstream into the breast-milk is less than that lost through menstruation.

Someone told me breastfeeding stopped you getting pregnant, but isn't that just a story?

Exclusive breastfeeding lowers your risk of getting pregnant. During the first 6 months, as long as you do not menstruate, and you breastfeed fully day and night, you have 98% protection from pregnancy. This is equivalent to the protection from other modern contraceptive methods. As you will learn from the following section (*How does breastfeeding work?*), the stimulation by your baby's mouth at your breast influences the hormones which affect your

fertility. If your baby gets bottle feeds, even of your expressed breast-milk, or is given a dummy, the suckling stimulus is reduced and the contraceptive effect of breastfeeding is less effective. You should not rely on this method of contraception after the baby is 6 months old.

Breastfeeding protects women's health

Less risk of:

Anaemia

Early breast cancer

Ovarian cancer

Bone disease in old age

Pregnancy in the first 6 months

Diabetic women need less insulin

How does breastfeeding work?

Both you and your baby have a part to play.

Every woman who gives birth produces colostrum and then breast-milk. As soon as a mother delivers her baby and the placenta (afterbirth), the milk-making process starts to work. This happens whether you are healthy or ill, overweight or underweight, have a normal or assisted birth or a Caesarean section. The only time this does not happen is if part of the placenta stays in the womb or if a mother suffers extremely severe bleeding during childbirth – both very rare events.

What about women with small breasts or flat nipples?

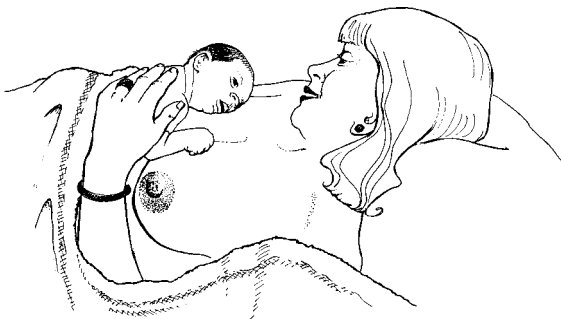
Every woman's breasts are suitable for feeding. They can be large, small or flat. The areola (the darker area surrounding the nipple) can be large or small, dark or pale, protrude or not show at all. The nipples can be long, short or flat. Women with inverted nipples can breastfeed as long as they get help and encouragement. What

matters in all cases is that the baby takes in a large mouthful of the breast, and not just the nipple. It is important that every woman feels confident that she can breastfeed her baby. Family, friends or health professionals can make or break that confidence.

You said the baby has a part too. What can he do?

The baby has a major part to play. After the birth, a healthy baby has the strength and skill⁵ to crawl up his⁶ mother's stomach, find the breast and nuzzle and lick his mother's nipple. In his own time he will open his mouth and start suckling. If no one stops the baby and he stays close to his mother, the baby looks for the breast whenever he feels hungry and suckles. Skin-to-skin contact stimulates the hormones that make breastfeeding and digestion go well. If your baby is healthy he should not be separated from you (see The Ten Steps, page 5). You can rest together. Routine medical observations can be done while you are holding your baby (Figure1).

Figure 1



⁵If drugs have been used late in labour they may make your baby less alert and he may take longer to be interested in the breast. Be patient. Your baby does not need other fluids; they will only delay his interest in the breast.

⁶He/she, his/her are used alternately from paragraph to paragraph, thus referring to a balance of male and female babies. The translator can do what is appropriate in her/his language.

Why is the baby's suckling-action important?

The baby's suckling action stimulates the milk supply. The earlier and more frequently the baby goes to the breast, the more quickly breastfeeding is established. Sometimes mothers cannot control the procedures after childbirth. Even if you could not have your baby near you, with a little help and confidence, your baby can re-stimulate the milk even if you have stopped breastfeeding. Women have breastfed adopted babies simply by letting the baby suckle their breasts (see section on pages 31–33).

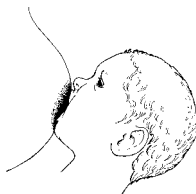
How does a baby stimulate the milk?

Signs of hunger start long before crying: a baby turns her head, opens her mouth wide, sticks her tongue out and salivates. When you stay close together, you learn to recognize these signs. You can then offer your breast before your baby cries. A baby learns to breastfeed better if she is not distressed before a feed.

Every baby is born with reflexes to enable him to breastfeed. You may have noticed a baby doing the following:

1. A baby instinctively turns his head from side to side to look for his mother's breast.
2. A mother offers her breast and holds her baby close. The touch of her nipple stimulates him to open his mouth wide and take in a 'good mouthful' of breast (Figure 2). He takes in much of the

Figure 2



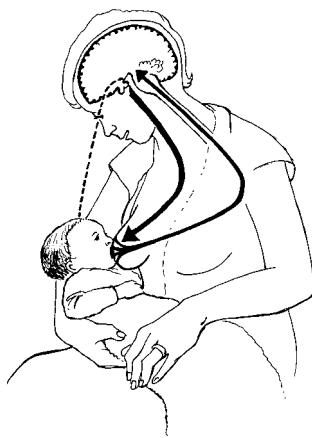
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underpart of the areola (the darker area surrounding the nipple). He holds his tongue down so that it goes under the breast. His lower lip is turned outwards and his chin indents the breast. The tip of the nipple touches the roof of his mouth far back. This stimulates him to make the milking action or 'suckling'.⁷

3. The suckling action is like a wave. The baby's tongue and lower jaw compress the darker area behind the nipple (the areola). The movements of the baby's tongue press the mouthful of breast against the roof of his mouth. This action presses out the milk. The baby's suckling stimulates nerves in the areola to send messages to the mother's brain which then releases two breastfeeding hormones which go through the bloodstream to the breast. The first hormone (called prolactin) stimulates the breast to make milk. The second hormone (called oxytocin) makes the milk flow (Figure 3).

Figure 3



⁷The term 'suckling' in English is different from sucking, although in English and many other languages the word sucking is often used for feeding at the breast. It is important to differentiate as sucking is a different action from suckling. Suckling is the milking action at the breast (as described) whereas sucking is how we drink through a straw. A baby usually sucks on a bottle or dummy, but suckles at the breast. If the translator can use different words or phrases for the two actions this will help get the information across.

The baby does not suckle continuously. At first he suckles quickly a few times to start the milk flowing. Then he changes to deep rhythmic suckling, sometimes pausing. Sometimes a mother mistakenly thinks her baby wants to stop feeding when he pauses and she takes the baby off. In fact the pauses mean the milk is flowing and feeding is going well. **Always let the baby end the breastfeed in his own time.** Of course in a special situation, a feed must be interrupted. Put your little finger in your baby's mouth and take him off gently so that he does not pull on your breast and hurt your nipple.

4. When the milk flows out of the breast, we call it the oxytocin or milk ejection reflex. Some women feel this as a tingling sensation in their breasts.

5. You can see now why nipple shape does not matter. What is important is that the baby gets 'a good mouthful' of breast and not just the nipple. This enables the baby to stimulate the nerves which trigger the hormones and also to press out the milk which collects in little 'sinuses' under the areola. A baby should **breastfeed, not just suck the nipple.** If she is 'well-attached' she can make a good milking action (suckling).

Three principles for happy breastfeeding

Make sure breastfeeding does not hurt you
– *the good attachment principle.*

Let your baby suckle as often and as long as she wants – *the supply and demand principle.*

Know that you can make enough milk for your baby – *the confidence principle.*

The first principle of breastfeeding: good attachment

When we understand the first principle of ‘good attachment’, we can help breastfeeding start well and we can prevent most common difficulties so that it continues well.

Why does good attachment not always come naturally to the baby?

Good positioning leads to good attachment

You now know how a baby feeds: the baby is stimulated by the touch of your nipple on his lip to open his mouth wide and take in a good mouthful of breast.

Why does the baby not always get this right?

A common reason is that a mother is not holding her baby in the best position to achieve good attachment. For example if a baby is held too high or too much to the side he cannot aim his mouth in the best direction. This is more common with first-time mothers or mothers who have previously bottlefed. However every baby is different and even experienced mothers may need a little help with a new baby. Here are the key points of good positioning:

Sit or lie wherever you feel most comfortable.

1. Your baby’s head and body should be in a straight line. Whether you hold her sideways, upright or under your arm, her body should ‘face’ yours. A baby cannot suckle or swallow easily if her head is twisted to one side or her arm is in front of her. Try drinking with your head twisted round sideways and you will realize it is not easy.

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2. Her face should face your breast, with her nose level with your nipple. This enables her to **take in more of the underneath of the areola than the top part**. The touch of the nipple on her lips will stimulate her to open her mouth wide (Figures 4a, 4b and 4c).

Figure 4a



3. Hold your baby close to your body so that she can take in a good mouthful of breast. Bring your baby to your breast, not your breast to the baby. Do not lean forward as this may give you backache.

4. If the baby is newborn, support her whole body, and not just her head and shoulders. This helps her stay close but still be able to move her head and neck freely.

5. If you feel your breast needs support, cup it from below with your spare hand. Avoid holding your fingers like scissors⁸ as this can pull the breast out of your baby's mouth and spoil the good attachment. This common practice comes from a mistaken idea that a baby cannot breathe easily at the breast. Actually nature has

⁸Also called 'the cigarette hold'.

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Figure 4b



Figure 4c



designed a baby's nostrils to be at the sides of her nose so that she can breathe while she breastfeeds. A baby can look squashed at the breast and that is fine. As long as she can extend her head freely she will adjust herself to breathe comfortably.

If you are exclusively breastfeeding, your baby is healthy and growing and your breasts are comfortable, then you are doing it right, whatever the position.

Sometimes it is hard to get a baby close because he is swaddled and his clothing gets in the way.

It will help to unwrap your baby's clothing to improve breastfeeding. In cold conditions wrap a shawl around you and your baby together. Your own body's heat will keep your baby warm. Tight swaddling around the head and body stops babies extending their necks freely to attach well. Tightly swaddled babies have a higher risk of respiratory infections. Free movement of arms

and legs is good for babies' physical development and warms them through increased circulation. Wrap the baby warmly but loosely. Layers of looser clothing trap more air and keep your baby warmer.

Tight swaddling can prevent easy breastfeeding

Even if my baby attaches well, how can I be sure there will be enough milk?

The second principle of breastfeeding: The supply and demand system

Your baby's suckling sends a message to your brain to say how much milk she needs. If your baby is hungrier today, she suckles more. In response, your brain sends out more milk-making hormones telling your breast to make more milk. **It is a supply and demand system.** If your baby is separated from you, or taken off your breast too soon or poorly attached, she cannot stimulate the amount of milk she needs. If your baby's stomach is filled with other fluids, she will not suckle so vigorously. Giving your baby a dummy, especially in the early days, may stop her stimulating your breast often enough.

Breast-milk contains a substance called 'inhibitor'. If milk is not removed from the breast, the inhibitor makes your body reduce milk production. The 'inhibitor' is there to shut down the milk-making system if the baby does not feed. So you can understand that restricting breastfeeding and not removing the milk will reduce the supply. Many women believe that their bodies cannot make enough milk and some health professionals mistakenly tell them this. In fact most women can produce far more milk than their babies need. All women are designed to feed twins, so producing enough for one is easy if you respond to your baby's need to

suckle. When a baby wants to suckle frequently, she is ordering the milk-making system to increase production; within a few days her orders are fulfilled. Supplementary feeds interrupt the baby's clear message to her mother's body.

You said earlier that milk changes during a feed. Can you explain that?

Babies know what they need. Like many adults they need to satisfy their thirst before they eat the heavier part of the meal. The milk at the start of a feed (called foremilk) is more watery and high in lactose (milk sugar). The milk becomes fattier towards the end of a feed (called hindmilk). If you take your baby off one breast before he wants to come off spontaneously, then he may not get the fat-rich hindmilk. If you offer the second breast before he wants to stop at the first, he gets a second helping of foremilk. This unbalanced meal can lead to a restless, unsatisfied baby with wind, pain and colic.

Always let the baby end the feed in her own time

But I thought you must feed from both breasts?

There is no rule. Do what suits your baby and you. Offer the second breast, but do not worry if she refuses. Some babies want the second breast, others do not. Some want one at one feed and two at another. Some babies change their habits as they grow and develop. Your baby's appetite guides her according to her needs. Letting a baby feed when and how she wants to is called **baby-led feeding**.⁹ Baby-led feeding produces the best milk supply and a more satisfied baby who cries less and grows well.

Babies know best what they need so let them guide you

⁹Baby-led feeding is also called 'feeding on demand'. Exclusive breastfeeding also means baby-led feeding.

You said earlier that confidence was important but not everyone has that. What can we do?

The third principle of breastfeeding: Confidence

Older people may remember poor, hard-working women who breastfed all their children easily. These women unconsciously knew the basic principles of breastfeeding and assumed they would have breast-milk. In common with many modern women you may lack confidence in your ability to breastfeed. Perhaps your mother suffered the problems brought about by the mistaken medical practices. Perhaps you do not know anyone who has breastfed exclusively and you find it hard to believe that you can.

This booklet may give you some helpful facts, but your heart might still doubt. You can help yourself and your baby by asking your partner or a relative, a friend or any sympathetic person to support you, especially through the early days until breastfeeding is well-established. Ask them to read this book or at least the parts you find most helpful. Your helper can be like a trainer who helps a sports person. But unlike a trainer they must never be strict and always be gentle. In the past female relatives helped new mothers to breastfeed. In difficult situations we need to help each other whoever we are.

Breastfeeding mothers can support each other. If you are helping another mother remember that encouragement and kindness are as important as good information. Your confidence in her ability to breastfeed is vital. Never judge her, listen sympathetically and do not overwhelm her with advice.

A little relevant information is far more effective than a long lecture.

Multiple births

All the above information also applies to multiple births. Twins give double the stimulation; as long as they are well-attached you can produce enough milk. Mothers have breastfed triplets and even quadruplets. Mothers of multiples need lots of practical help to cope with the extra work.

I know women with breastfeeding problems. Can they be helped?

Some women experience difficulties with breastfeeding such as sore and cracked nipples, engorgement, blocked ducts, mastitis and abscesses. Many mothers and health professionals **accept these difficulties as inevitable, but they are all avoidable.**

Most breastfeeding difficulties are avoidable

These difficulties are more common where bottle-feeding has become usual. Many people, even some health professionals, have not learned to recognize how a baby breastfeeds well. This is partly because when you see more bottle-feeding than breastfeeding, you lose the chance to observe.

A bottle-fed baby is held differently (see section on positioning: page 17) and he uses his mouth differently on an artificial teat.

Breastfeeding should never hurt the mother

My mother told me that you always get sore nipples and you just have to put up with them.

Like many women your mother suffered unnecessarily. **Sore nipples can and should be prevented.** In most cases they are a sign of poor attachment. The baby is *sucking* on the nipple causing friction and damage instead of *suckling* on the breast with the wave-like action which cannot hurt the nipple.

About 90% of problems are caused by poor attachment

Sometimes the baby looks well-attached, but if you are not comfortable then try again. Sometimes a small change of position can help the baby get closer and open her mouth wider. Experiment with different positions. Let the baby's lips touch your nipple to stimulate her to open her mouth really wide. If the feeding feels uncomfortable, gently put your finger into your baby's mouth to detach her from the breast and start again. The baby may need time to learn, especially if she has been bottle-fed. Be patient and keep trying. **You can both do it.** Babies can smell their own mother's milk and this can make them frantic for the breast. If your baby's crying makes you tense, ask a calm person to hold the baby closely and calm her before you try again.

Ask for the help you need, give the help she needs

What about special creams for sore nipples? How can we get them during an emergency?

Unfortunately, nipple creams and sprays sometimes get sent with aid supplies. **Do not use them.** Most products worsen sore nipples by destroying the natural protective oils in the areola. Suckling the breast cannot make the nipples more sore if the baby has taken a

good mouthful of breast. A sore or cracked nipple starts to heal within 24 hours once attachment is right. If the soreness gets worse then the attachment is not yet quite right. Some women massage a little expressed hindmilk onto their nipples. This is soothing and may help healing.

Sore nipples can lead to cracked nipples which can be a source of infection and mastitis, so do not ignore them but try to improve your baby's attachment. Your baby and you are learning all the time. A baby has an in-built talent to feed well and within a few days you can both get it right.

With this baby-led feeding how can I be hygienic and wash my nipples?

Washing nipples before or after breastfeeds is one of those harmful practices that got into the medical books many years ago. **Never use soap on your nipple area.** Soap removes the natural oils which keep the skin healthy and protected against infection. Washing once a day is sufficient and if water is short and you have to wash less do not worry.

The most important hygiene practice is washing your hands thoroughly after defecation, changing nappies or cleaning your children's bottoms. Hand washing after defecation is a priority for everyone, but frequent nipple washing is unnecessary and can do harm.

In all cases of difficulty, the priority is to keep the milk flowing. Never 'rest' the breast. This can make engorgement or sore nipples turn to mastitis and mastitis turn to an abscess. The baby is best at removing milk, but if you really feel you cannot feed for a day or two, you must keep the milk flowing with gentle expression.

So if I get my baby well-attached, I will never get sore nipples?

Almost never, but there is one condition, a **fungal infection called candida albicans or thrush**, which can occur, especially after anti-biotic treatment. Women with thrush experience a stinging pain in the breast which continues after a feed. The skin may look red, shiny and flaky. The baby may or may not have white patches in his mouth or a rash on his bottom. Try to get nystatin or gentian violet.

Show this to a health professional

Table 2: Treatment of candida of the breast

Gentian violet paint:

To baby's mouth: 0.25% apply daily or alternate days for 5 days

or until 3 days after the lesions have healed.

To mother's nipples: 0.5% apply daily for 5 days.

OR:

Nystatin cream 100 000 U/g.

Apply to nipples 4 times daily after breastfeeds.

Continue to apply for 7 days after lesions have healed.

Nystatin suspension 1000 000 U.ml

apply 1 ml by dropper to child's mouth 4 times daily after breastfeeds for 7 days, or as long as mother is being treated.

Stop using pacifiers, teats and nipple shields.

The baby needs treatment too otherwise he will reinfect his mother's nipples. The same oral preparation can be used for baby's mouth (and bottom) and for your nipples.

Continue breastfeeding, even if it is a bit uncomfortable. Stopping breastfeeding suddenly can lead to a worse situation. If it is really too painful to feed, gently express the milk (see section on expression on pages 36–37) and give it to your baby in a clean cup. But you must keep the milk flowing to avoid mastitis.

**Bottle teats and dummies can be a
source of candida infection**

You say breastfeeding should not hurt, but what about the engorgement that every woman gets a few days after the birth?

People confuse full and engorged breasts. Fullness is normal; engorgement can and should be prevented. A few days after the birth, your breasts may feel full, heavy and lumpy, but the milk flows easily. Offer your baby your breast frequently to remove the milk. Your breasts will gradually adjust to your baby's needs, and become softer and more comfortable. If the baby is ill (see section on feeding sick babies on page 35) and you cannot feed her directly, then express your milk frequently to keep it flowing.

Engorgement is when your breasts are overfull with milk and are swollen with tissue fluid and the extra blood supply. The skin looks shiny and stretched, your breasts feel painful and the milk does not flow easily. It may be difficult for your baby to attach and remove the milk. Follow these instructions.

Causes and prevention of breast engorgement

Causes

- Plenty of milk
- Delay starting to breastfeed
- Poor attachment to breast
- Infrequent removal of milk
- Restriction of length of feeds

Prevention

- Start breastfeeding soon after delivery
- Ensure good attachment
- Encourage unrestricted breastfeeding

Never ‘rest’ the breast. Always keep the milk flowing.

You mentioned blocked ducts, mastitis and abscess. Are they common and how can we treat them?

They do not need to be common conditions as they result from engorgement, infrequent feeding or poor attachment. They become rare if **The Ten Steps** are implemented. They all need rapid help.

A blocked duct shows as a tender red lump. This can happen if one part of the breast is not well-drained.

- Try to improve the baby’s attachment, perhaps by changing the position when you feed.
- Check that your bra or other clothing is not tight. Bras with flap openings can put pressure on one area of the breast and obstruct the milk flow. If you cannot get another bra, cut the cloth where it presses. If you feel comfortable without the bra, stop wearing it.
- Do not use the ‘scissor hold’ as that can obstruct the flow.
- If it feels more comfortable support your breast from underneath with your hand.

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- Gently massage the affected area while the baby is suckling.
- If possible apply warmth to the breast between feeds.

Mastitis is when the breast is red, swollen and painful. Unlike engorgement it may be in one breast only or just a part of the breast. You may feel ill and have a fever. Mastitis is caused by poor drainage of milk from sections of the breast. Sometimes germs will multiply because of the poor drainage and cause infective mastitis. It is difficult to tell, but if fever and flu-like illness persist it may be infective mastitis. If you can, ask a health professional to give you the following antibiotics and finish the course. See box below. They will not harm the baby.

Show this to a health professional

Antibiotic treatment for infective mastitis

The commonest bacterium found in breast abscess is *Staphylococcus aureus*. Therefore it is necessary to treat breast infections with a penicillinase-resistant antibiotic such as either flucloxacillin or erythromycin.

Drug	Dose	Instructions
Flucloxacillin	250 mg orally	Take dose at least 6 hourly 30 minutes before food for 7–10 days
Erythromycin	250–500 mg orally	6 hourly for 7–10 days

The commonly used antibiotic ampicillin is not usually effective.

If you can get paracetamol tablets for the pain, use them. They are safe to use while breastfeeding.

Whether you can get antibiotics or not, **it is very important that you keep the milk flowing.** The best way to remove the milk is to let your baby suckle.

The germs from infective mastitis will not harm your baby and are destroyed by his digestive enzymes.

It is a risk for both you and your baby to stop feeding. It may be hard to attach a baby to a swollen hard breast, so gently express a little milk first.

Some women do not want to breastfeed when they have mastitis. They need help to keep the milk flowing through gentle hand expression several times a day. The baby can be cup-fed with the milk which is still the best food for the baby. Resume breastfeeding as soon as possible.

An abscess is a hard, painful swelling filled with pus that can result from neglected mastitis. Use the same treatment as for mastitis. You may need a health professional to excise and drain the abscess, but you can still carry on feeding. If it is too painful, continue feeding from the unaffected breast and gently express milk from the affected breast for 2–3 days. Then resume feeding.

All these problems make breastfeeding look too difficult.

This is a dilemma with breastfeeding information. These preventable conditions still occur too often and they have to be treated. They are all signs that women are not getting enough help. In an

emergency it is vital that a woman can help herself or request the right help. In societies where everyone breastfeeds these conditions are rare. You can use the knowledge in this book to help yourself and other mothers to avoid these difficulties. You can also share it with health professionals.

You said earlier that you can breastfeed even if you have stopped completely. How can this be done?

Even if you stopped breastfeeding several months ago you can probably still squeeze a drop of fluid from your breast. Your milk-making system has not completely shut down. Re-starting breastfeeding after you have stopped is called **relactation**. Women who have never given birth have breastfed adopted babies, this is called **induced lactation**. The first is easier than the second.

The three principles of easy breastfeeding still apply.

- Good attachment
- Supply and demand
- Confidence

The aim is to persuade your baby to play her part. If she is now fully bottle-fed, she may have temporarily forgotten her natural skill to breastfeed and she needs reminding. Some babies just re-start suckling easily, others need gentle persuasion. The delicate period is when you want your baby to suckle a lot to stimulate the milk, but she still needs to get enough to eat. She needs to be hungry enough to suckle effectively at the breast, but not so hungry that she gets frustrated when the milk supply is still low.

Every baby is different. Some babies who are bottle-fed, attach well at the breast. Others are so used to the bottle they do not work at the breast. Ask someone to give you emotional and practical support through the first days: for example perhaps a relative or

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friend could help with housework, queue for food or care for your other children. You will need to spend a lot of time with your baby at the beginning.

- Put your baby to the breast frequently, at least 10 times in 24 hours.
- Offer your breast whenever she wants to feed. Never force the breast; try to remind her how pleasant breastfeeding can be.
- Make sure that the position and attachment are right and comfortable for both of you.
- Whenever possible, enjoy skin-to-skin contact, even when the baby is asleep.
- It helps to sleep all night with the baby skin-to-skin.
- Do not use a dummy.
- Whether you are bottle-feeding or cup-feeding gradually reduce the amount of milk in these feeds as your milk increases.
- Use gentle hand expression to stimulate the breast.
- If you can squeeze a droplet of milk onto your baby's tongue, do this to awaken her interest.
- You can try dripping artificial milk from a spoon onto your breast so that it trickles into the baby's mouth while she suckles.

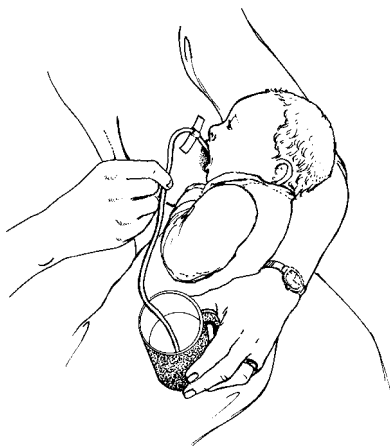
If the baby is getting frustrated before the milk comes back you can try making a breastfeeding supplementer. **Only use this method if you know you can sterilize the equipment for every feed** (see page 40, paragraph 6). Ask a health worker for very fine infant feeding tubes. Put donated expressed breast-milk, commercial baby milk or diluted cow's milk (see page 39, paragraph 4) in a cup, jar or other available container.

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Place the end of the tube along your nipple, so that the baby suckles the breast and the tube at the same time. Hold the tube in place, ideally with surgical tape (Figure 7).

Figure 7



Ask someone to hold the cup, if you find it awkward to hold. To start off the milk can be held higher than your breast and baby. As soon as the milk flows through the tube, hold it lower. The idea is to make the baby stimulate your breast-milk by effective suckling, so only a trickle must get through the tube. Reduce the milk in the cup by a teaspoonful¹⁰ at each feed as the breast-milk increases.

Stay confident. Many women, including grandmothers, have successfully restimulated breast-milk, many years after they stopped breastfeeding.

¹⁰If a teaspoon is inappropriate, use an equivalent local measure for up to 5ml, for example, a soft drink bottle cap.

Food supplies can be precarious. How can we feed the babies over 6 months who need more than breast-milk alone?

At around 6 months, start to introduce whatever foods you are eating yourself. Do not replace the breastfeeds; give solid foods in addition to your baby's usual breastfeeding pattern. Babies over 6 months can eat almost any food but should not have a high salt diet. When you prepare food, reserve some for the baby before you add salt; use iodised salt wherever possible, since iodine deficiency is common in most countries for the rest of the family. After 6 months, whether your baby has teeth or not, she will have a chewing reflex. There is no need to purée foods, just mash them with a fork, spoon or whatever is available. If there is enough food and you are still breastfeeding and your baby is growing well, restrict sugar. Sugar contains no useful nutrients, only energy. Some people describe sugar as 'empty calories'. Sugar harms a baby's growing teeth. Most other foods are more nutritious. However when there are serious food shortages, it is better to use sugar than nothing.

Always use a cup or spoon to feed your baby other foods. If the food is easily held, let the baby feed himself with his hands.

What about premature or very small babies?

As we said earlier, the more vulnerable the baby the more important it is he receives breast-milk. Breastfeeding is less stressful than bottle-feeding for a premature or small baby who can suckle.

If a baby is too premature or too weak to breastfeed, he can be tube fed with your expressed breast-milk. A cup can be safely used to feed a healthy pre-term baby from around 32 weeks gestation. Cups have several advantages over tubes. The baby controls his own intake and the contact with the expressed breast-milk may stimulate the digestive enzymes in his mouth. He is also held closely to be fed which is good for his development.

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If a baby has to be tube-fed he can benefit from nuzzling at your breast. He will then learn to associate the smell and taste of your breast with a full stomach. You can express a little breast-milk directly into his mouth. Stay near your baby as much as you can. Express your milk as soon as possible after the birth. Express frequently, at least 6–8 times a day. However small the amount any breast-milk is valuable for your baby's progress. Some mothers of premature or low birth weight babies can produce sufficient breast-milk, others need to supplement, ideally with expressed breast-milk from other mothers.

It is important when feeding expressed breast-milk to ensure that the baby gets enough of the fat-rich hindmilk. This fattier milk is more likely to stick to the sides of the feeding tubes. Less fat is lost from cup-feeding.

I can see the reason for expressing milk for sick or premature babies, but must all women learn to express?

If your baby is too small or sick to suckle at your breast, your milk can save his life. If you can express some milk directly into your baby's mouth this can stimulate him when he is learning to breastfeed.

If you ever get an overfull or engorged breast you can relieve the pressure in order to get the baby well attached.

If you have to be separated from your baby for work or any other reason, you can leave your breast-milk for your baby. Breast-milk can be stored at room temperature for 6 to 8 hours. It can be stored in a refrigerator for 24 to 48 hours and for 3 months in a freezer. If power cuts stop fridges and freezers working, throw away any thawed milk you cannot use within 8 hours. Never refreeze thawed milk.

How do I express milk?

Even where women have the choice to use pumps, many prefer hand expression. Hand expression imitates a baby's suckling action more naturally. Also sterilization of breast pumps is essential for safety and may be difficult to control in emergencies.

- Wash your hands thoroughly.
- Have a clean cup or container with a wide neck.
- Make yourself comfortable.

The following instructions are just guidelines. **You find the way that suits you** (Figures 6a, 6b and 6c).

- Hold your breast with your four fingers underneath and your thumb on top behind the nipple. Do not squeeze the nipple.
- Gently feel the little thickenings inside your breast under the areola. These are 'lactiferous sinuses' which is where the milk collects as it comes down.
- Compress your fingers and thumb rhythmically in a way that suits you.
- Move your hand round your breast, expressing milk from the sinuses.
- Do the same with the other breast.
- If you prefer use both hands on each breast.

You may find that your milk does not 'come down' as quickly as when your baby is near you. Think about your baby. If you have a photo look at it or smell some of his clothing. Ask someone to massage your back gently. This is where women can help and support each other. If you can find another mother who has hand expressed already, ask her to teach you.

Two helpful methods to teach another woman are:

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- if you are lactating let her watch you do it
OR
- make sure she is comfortable, then stand behind her and guide her own hand on her breast. In this way she has had practice under your guidance.

Figure 6a



Figure 6b



Figure 6c



I can see that breastfeeding is possible in most cases, but we still have to face the times when it is not possible: emergencies create orphans, abandoned babies and severely ill or wounded mothers.

Yes of course. Let us confront the issue of substitute feeding.

1. The best possible substitute used to be for another lactating mother to breastfeed the baby. We must now be cautious because in some situations there might be a risk of HIV transmission through breast-milk if the lactating foster mother happens to be infected with HIV. In some regions there may be very few people with HIV but it is always difficult to know when rates of the infection are rising.

In an emergency your own breast-milk may be the only source of food for another baby. If you are feeding your own baby, another baby will not 'steal' his milk, but will stimulate a larger supply. Women have done this for sisters and friends who were extremely ill or had died. This can be a life saver.

2. The next best substitute is expressed breast-milk given by another mother or mothers. This should be heated to 57 °C for 30 minutes. This kills viruses (including HIV) and bacteria. Most breast-milk does not carry infection, but it is best to be cautious. You will need the support of a health professional and equipment to be able to do this. You can help organize donation and collection of expressed breast-milk.

In an emergency you may have no choice and must use raw breast-milk. The safest way to give the expressed breast-milk is in a clean cup (see page 40, paragraph 6).

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3. If breast-milk is not available, you can use commercial baby milk (also called infant formula). Only use commercial milk if you know you can get a regular supply and you can afford it. Always use this product very carefully. Sterilize all the utensils before every feed. A cup is safer than a bottle (see page 40, paragraph 6).

You must also boil the water for each feed. Follow the instructions on the tin carefully. The babyfood companies are obliged to provide label instructions in your local language. If the labels are not in your language try to report this to the health authorities or aid workers. Such labels break the **WHO/UNICEF International Code Of Marketing Of Breast-milk Substitutes**.

Ask a health professional or aid worker to get a proper translation and to explain the instructions carefully. Different products need different measures of milk powder to water. **Never save left-over milk for the next feed.** When food is short give the left-over feed immediately to an older child or drink it yourself.

4. If you cannot get any commercial baby milk and you can obtain a regular supply of local cow's milk. Use the following recipe:
 - Boil 1/3 cup of water and
 - 2/3 cup of boiled cow's milk, to make 1 cup (200mls) of feed.
 - Add 1 level teaspoonful (5ml) of sugar.

You can also use this recipe if you make up the milk from tinned whole milk powder. First make up the milk to the label instructions, then modify it to the recipe.

Never use whole milk (whether fresh or tinned) for a baby under 6 months without modifying it to the recipe above

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5. An artificially fed baby will not be getting the perfect balance of nutrients that a breastfed baby gets. It therefore may be necessary to introduce solid foods a little before 6 months to widen the intake of nutrients. If you decide to do this make sure these foods are prepared as hygienically as possible. Remember he will not be getting the anti-infective protection of breast-milk and will be more vulnerable to any germs in solid food.
6. Sterilization is important in all artificial feeding. Wash your hands thoroughly with soap and water before preparing any feed for a baby. If you have fuel, boil all utensils for at least 20 minutes in water. You must do this before every feed.

OR

If you can obtain hypochlorite (bleach) keep utensils in a covered container or pan. Add one dessertspoonful (10 ml)^{//} of hypochlorite to a litre of water. Household bleach may be a different strength. If the label says it is 0.5%, add 2 dessertspoonfuls (20 ml).

Keep this out of the reach of children. You will need to change this solution daily. You can use the discarded fluid to soak cloth nappies or to disinfect the toilet area.

Wash the hypochlorite off with boiled water before you use the cup and other utensils.

If fuel is scarce and hypochlorite unobtainable, scrub everything very thoroughly with soap or detergent. Never use feeding tubes (for re-lactation) or a bottle unless you know you have continuous means of sterilization.

Cups are safer than bottles (see opposite)

^{//} Please investigate and use local common measures for translation.

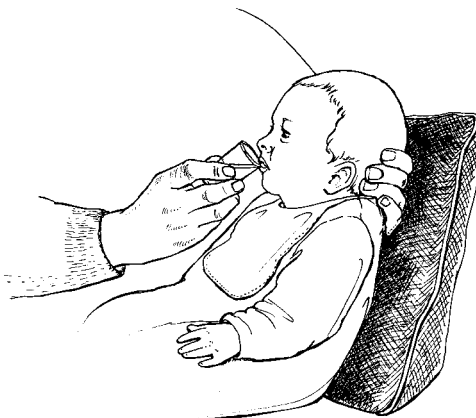
Is it possible to feed a baby artificially without a bottle?

Yes. Cups are safer than bottles because the teats and screw tops of bottles trap germs which get into the milk and make the baby ill. Babies can drink from cups from birth. Some people worry that the baby needs to suck on a teat, but it is safer for them to suck their thumbs or fingers. Also cup-fed babies must be held and this is vital for orphans who need lots of cuddling. There is always a temptation (especially in emergency situations) to leave babies to hold their bottles. This is dangerous and deprives babies of essential physical contact.

How do you cup-feed a baby?

The baby needs to be held slightly upright and the cup held against the upper lip (Figure 7).

Figure 7



Pre-term babies will lap the milk like a kitten. Full-term babies will sip the milk. **Never pour the milk down the baby's throat. Always let the baby lead the sipping and swallowing.**

A final word

This booklet shares some basic, up-to-date information. In an emergency this information is crucial because during difficult times many other factors threaten babies' and young children's health. Breastfeeding can protect them from much of the harm. Artificial feeding must be avoided as much as possible, but if it is unavoidable it must be done with the greatest care.

No one wants to experience an emergency or difficult situations, but when it does happen, many people find they have more strength and initiative than they believed they had. Many women who once thought they could not produce enough milk, breastfeed successfully during emergencies. They feel proud when they realize how much they have contributed to their children's health and survival. If this booklet has helped you to be one of those women, please share your knowledge and experience with others. When an emergency ends, it is still important to support breastfeeding. Only when it becomes the standard method of infant feeding everywhere during untroubled times, can we be surer that an emergency will not be such a threat to our babies' health and lives.

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The information in this booklet comes from international experts on breastfeeding, including health professionals, scientists and breastfeeding mother-to-mother support groups. Please contact WHO or UNICEF (addresses below) if you want more information.

Dr Aileen Robertson
Acting Regional Adviser
Nutrition Policy, Infant Feeding and Food Security (NIF)
WHO Regional Office for Europe
Scherfigsvej 8
DK-2100 Copenhagen Ø
Tel: (+45) 39 17 13 62
Fax: (+45) 39 17 18 54
e-mail: aro@who.dk

Ms Hind Khatib
Coordinator, Baby-Friendly Hospital Initiative
UNICEF
Palais des Nations
CH-1211 Geneva 10
Switzerland
Tel: 41 22 909 51 11
Fax: 41 22 909 59 00
e-mail: hkhatib@unicef.ch