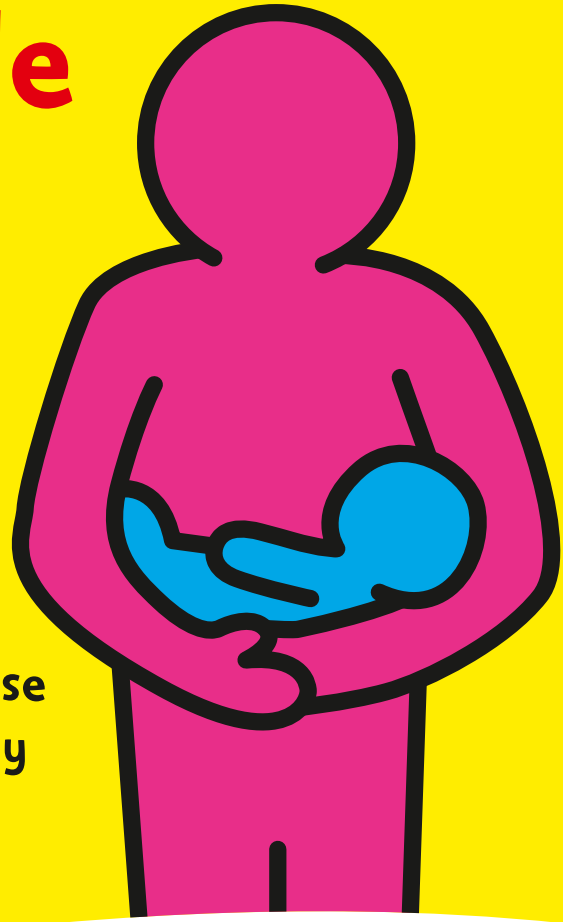
NHS

guide to bottle feeding



how to prepare infant formula and sterilise feeding equipment to minimise the risks to your baby

unicef UNITED KINGDOM

The Baby Friendly Initiative For all babies

start 4 life

A good start for a healthier life

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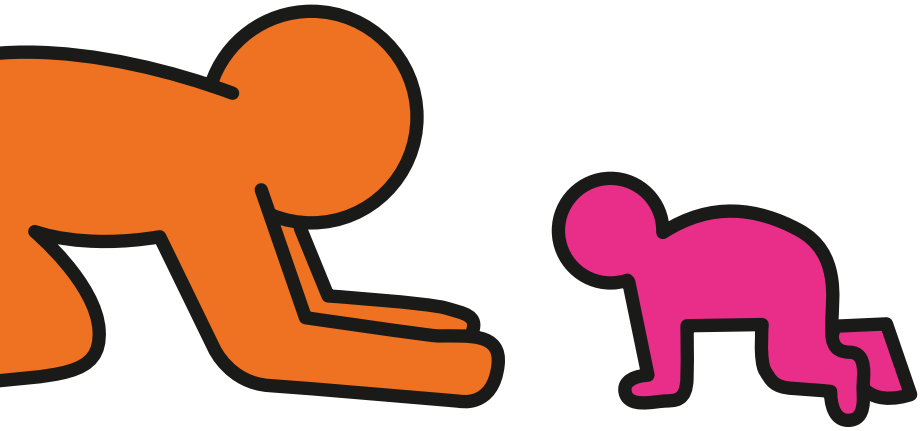


about this booklet

The information in this booklet comes from the Department of Health and the Food Standards Agency. It will help you bottle feed your baby safely.

It is very important that you follow the instructions in this booklet when you are:

- **sterilising feeding bottles;**
- **sterilising feeding equipment; and**
- **preparing infant formula feeds.**

If you need more information about bottle feeding your baby, speak to your midwife, health visitor or GP.

Make snuggling up and feeding your baby a special time for you both. It is a time when you and your baby can bond with each other. While you're feeding your baby, maintain eye contact. Take time to cradle and caress your baby, look into your baby's eyes and your baby will look back at you. This helps your baby to feel safe and loved. You can also give them a different view of you (and the world around them) by switching arms halfway through feeding. Skin-to-skin contact helps your baby feel safe, secure and warm. Being cuddled naked, against your bare skin (covered with a blanket or towel) for as long as possible, is important. You can also have skin-to skin contact while you are bottle feeding. If you and your partner try and give most of the feeds yourselves, this will help build up a close and loving bond with your baby.

what is infant formula?

Most infant formula is made from cows' milk that has been treated to make it suitable for babies. Goats' milk based infant formula is also approved for use. You should not feed your baby other formulas unless your midwife, health visitor or GP recommends you to.

If you think a particular brand of infant formula disagrees with your baby, ask your GP, midwife or health visitor for advice.

different types of infant formula

Infant formula is available in two forms:

- ready-to-feed liquid infant formula, sold in cartons, which is sterile; and
- powdered infant formula, which is not sterile.

First infant formula

This is often described as suitable for newborns and should always be the first formula you give to your baby.

Your baby can stay on this formula when you start to introduce solid foods at around six months, and continue on it throughout the first year.

When your baby is one year old, they can start to drink whole cows' milk.

key fact

Unless your doctor or health visitor gives you different advice, first infant formula is the only type of formula your baby needs until they are one year old. When your baby is one year old, they can start to drink whole cows' milk.

'Hungry baby milks' or 'second milks'

These contain more of a protein called casein than first infant formula and this is thought to make your baby feel more full. However, there is no evidence that babies settle better or sleep longer when fed this formula. Unless your doctor or health visitor gives you different advice, there is no need to switch to these milks. Babies can drink first infant formula until they are one year old.

Follow on formula, 'Toddler' and 'Growing Up' milk

Other milks are available that are labelled as being suitable for babies aged six months and over, such as 'follow-on milk', 'toddler milk' and 'growing up milk'. They should never be fed to babies under six months old and there is no need to switch to these milks after six months. Your baby can have first infant formula up until the time when ordinary cows' milk can be introduced (at one year old). However, the labels on these milks can look very similar to those on first infant formula, so read them carefully to avoid making a mistake. Like powdered infant formula, follow-on formula is not sterile.

Other formula

Some follow-on formula has cereal added to it, and is described as a 'night-time feed for babies'. This type of formula is not necessary and there is no evidence that babies settle better or sleep longer when fed this. It should never be given to babies under six months.

If you think your baby might be allergic to cows'-milk-based formula, talk to your GP. They can prescribe special formula feeds for babies with cows' milk allergy. Some formulas in the shops are labelled as being 'hypoallergenic' but they are not suitable for babies diagnosed with a cows' milk allergy.

You should not give your baby soya-based infant formula unless your GP or a dietician has advised you to.

Infant formula can also be made from goats' milk. Goats'-milk-based formulas should not be given to infants with a cows' milk protein allergy, unless directed by a healthcare professional.

Remember, if you have any questions about the infant formula you are giving your baby, you can ask your midwife, health visitor or GP for information and help.

key fact

Cows' milk should not be given as a main drink to infants under one year, but it's okay to use small amounts of pasteurised whole cows' milk when cooking and preparing foods for your baby from six months onwards.

Other full-fat dairy products such as yoghurt or fromage frais can be given after six months, once your baby is used to eating solid foods.

key facts

types of milk to avoid

Not all milk is suitable for feeding babies. Here are some of the types of milk you should never give to a baby under one year:

- **Goats' milk**
- **Sheeps' milk**
- **Soya milk (unless your midwife, health visitor or GP advises otherwise)**
- **Other types of drinks known as 'milks' such as rice, oat or almond drinks**
- **Dried milk**
- **Evaporated milk**
- **Condensed milk.**

what you need for formula feeding

You need to make sure you clean and sterilise the equipment to prevent your baby from getting infections and stomach upsets. You'll need:

bottles with teats and bottle covers

bottle brush, teat brush

formula milk powder, or sterile ready-to-feed liquid formula

sterilising equipment (such as a cold-water steriliser, microwave or steam steriliser)

how to sterilise feeding equipment

There are several ways in which you can sterilise your baby's feeding equipment, such as:

- using a cold-water sterilising solution;
- steam sterilising; and
- sterilising by boiling.

The following instructions apply to all feeding equipment you use for your baby – whether you are using expressed breast milk or infant formula.

Remember to first wash your hands well with soap and water and clean the work surfaces with hot soapy water

before sterilising, always clean and rinse

- Clean the feeding bottle and teat in hot, soapy water as soon as possible after a feed, using a clean bottle brush.
- Rinse all your equipment in clean, cold running water before sterilising.

key fact

All feeding items must be thoroughly washed and rinsed before they are sterilised. Dishwashers will clean bottle feeding equipment but will not sterilise it. This is because temperatures reached in a dishwasher are not high enough for sterilisation, so you need to both clean and sterilise the bottles.

cold-water sterilising solution

- Follow the manufacturer's instructions.
- Change the sterilising solution every 24 hours.
- Leave feeding equipment in the sterilising solution for at least 30 minutes.
- Make sure that there is no air trapped in the bottles or teats when putting them in the sterilising solution.
- Keep all the equipment under the solution with a floating cover.

steam sterilising (electric steriliser or microwave)

- As there are different types of steriliser it is important to follow the manufacturer's instructions.
- Make sure the openings of the bottles and teats are facing down in the steriliser.
- Manufacturers will give a guide as to how long you can leave equipment that you are not using straight after sterilising before it needs to be resterillised.

sterilising by boiling

- When you use this method, you must take care to ensure safety and prevent scalds or burns. Never leave hot pans and liquids unattended, especially if children are present.
- Make sure that whatever you sterilise in this way is safe to boil.
- Boil the feeding equipment in water for at least 10 minutes, making sure that all items stay under the surface of the water.
- Remember that teats tend to get damaged faster with this method.

key facts

Be careful to prevent anyone, especially children, from being burned or hurt if you are using the boiling method.

Regularly check that teats and bottles are not torn, cracked or damaged.

- Wash hands thoroughly. Clean and disinfect the surface where you will put together the bottle and teat.
- It is best to remove the bottles just before they are used.
- If you are not using the bottles immediately, put them together fully with the teat and lid in place to prevent the inside of the sterilised bottle and the inside and outside of the teat from being contaminated.

how to make up a feed

preparation and hygiene

Even when tins and packets of powdered infant formula are sealed, they can sometimes contain harmful bacteria that could make your baby ill. Although these bacteria are rare, the infections they cause can be life-threatening.

key fact

To reduce the risk of infection, make up each feed as your baby needs it, using boiled water at a temperature of 70°C or above. The step-by-step guide shows you how to do this. Water at this temperature will kill any harmful bacteria that may be present. Remember to let the feed cool before you give it to your baby.

A baby's immune system is not as strong nor as well developed as an adult's. This means that babies are much more susceptible to illness and infection. Therefore, good hygiene is very important when making up a feed.

All equipment used to feed your baby must be sterilised. Bottles, teats and any other feeding equipment need to be cleaned and sterilised before each feed to reduce the chances of your baby getting sickness and diarrhoea.

It is best to use drinking water from the tap that has been freshly boiled (and cooled slightly to 70˚C or above) to make up a feed. Do not use water that has been previously boiled or artificially softened water.

This is because the balance of minerals in previously boiled water and artificially softened water may not be suitable for making up formula feeds.

key fact

Do not boil water in advance and store it in sterilised bottles in the fridge for later use. The water needs to be hot when the powdered infant formula is added, to kill any harmful bacteria that may be present.

Bottled water

Bottled water is not recommended to make up a feed as it is not sterile and may contain too much salt (sodium) or sulphate.

Water labelled as 'natural mineral water' may contain too much salt (sodium) or sulphate. If you have to use natural mineral water to make up a feed, check the label to make sure the sodium (also written as Na) level is less than 200 milligrams (mg) per litre, and the sulphate (also written as SO_4) content is not higher than 250 milligrams (mg) per litre.

Like tap water, bottled water is not usually sterile, so if you have to use it you will still need to boil it before you prepare the feed.

key fact

Bottled water is not recommended to make a feed.

a step-by-step guide to preparing a powdered-formula feed

1.	Fill the kettle with at least 1 litre of **fresh tap water from the cold tap** (don't use water that has been boiled before).
2.	Boil the water. Then leave the water to cool in the kettle for **no more than 30 minutes so that it remains at a temperature of at least 70°C**.
3.	Clean and disinfect the surface you are going to use.
4.	It's really important that you **WASH YOUR HANDS**.
5.	If you are using a cold-water steriliser, shake off any excess solution from the bottle and the teat, or rinse the bottle with cooled boiled water from the kettle (not the tap).
6.	Stand the bottle on a clean surface.
7.	Keep the teat and cap on the upturned lid of the steriliser. Avoid putting them on the work surface.

8. Follow the manufacturer's instructions and pour the correct amount of water into the bottle. Double check that the water level is correct.

key fact

Always put the water in the bottle first, while it is still hot, before adding the powdered infant formula.

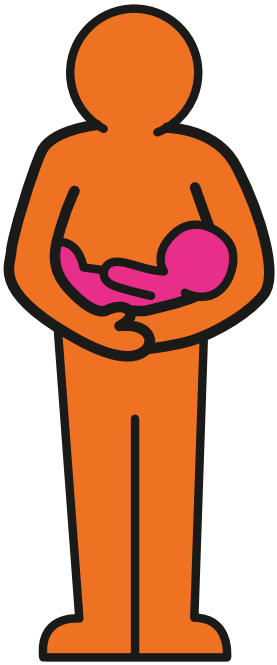
9. Loosely fill the scoop with formula – according to the manufacturer's instructions – and level it off using either the flat edge of a clean, dry knife or the leveller provided.

key facts

Check the manufacturer's instructions to find out how much water and powdered infant formula you will need. Different types of formula come with different scoops. Make sure that you use only the scoop that comes with the powdered infant formula that you are using.

Making up a feed with too much powder can make your baby ill (for example they can become constipated) and may cause dehydration. Too little powder will not provide your baby with enough nourishment. By using the scoop provided you are adding the correct amount of powdered formula.

10.	Holding the edge of the teat, put it on the bottle. Then screw the retaining ring onto the bottle.
11.	Cover the teat with the cap and shake the bottle until the powder is dissolved.
12.	It is important to cool the formula so it is not too hot to drink. Do this by holding the bottom half of the bottle under cold running water. Move the bottle about under the tap to ensure even cooling. Make sure that the water does not touch the cap covering the teat.
13.	Test the temperature of the infant formula on the inside of your wrist before giving it to your baby. It should be body temperature, which means it should feel warm or cool, but not hot.
14.	If there is any made-up infant formula left after a feed, throw it away.



key fact

Remember to let the feed cool before you give it to your baby. You can cool the bottle by holding it under cold running water or placing it in a bowl or sink which has cold water in it.

ready-to-feed liquid infant formula

Ready-to-feed liquid infant formula is sterile. This can help to reduce the risk of infections. It is suitable for high-risk infants – for example, those that are pre-term, low-birthweight or particularly vulnerable to infections.

Ready-to-feed liquid infant formula should be prepared and stored according to the manufacturer's instructions. Remember that all feeding equipment will still need to be sterilised if you are using ready-to-feed liquid formula.

key fact

Once opened, any unused liquid infant formula that remains in the carton needs to be stored at the back of the fridge on the top shelf with the cut corner turned down, for no longer than 24 hours.

storing a feed

A feed should be freshly made up when it is needed to reduce the risk of infection that can make your baby ill. If you have no choice and need to store a feed, it should always be stored at the back of the fridge and for no longer than 24 hours.

Any infant formula left in the bottle after a feed should be thrown away.

Infant formula that has not been used and has been kept at room temperature must be thrown away within two hours.

Bacteria multiply very fast at room temperature. Even if a feed is kept in a fridge, bacteria can still survive and multiply, although they do this more slowly. The risk of infection increases over time so that is why it is important to make up the feed each time your baby needs it.

feeding away from home

If you need to feed your baby away from home, a convenient choice is to use ready-to-feed infant formula milk with an empty sterilised feeding bottle. However, if you are using powdered infant formula this is the safest way to make up a feed to take with you. You will need:

- a measured amount of infant formula powder in a small clean and dry container;
- a vacuum flask of hot water that has just been boiled; and
- an empty sterilised feeding bottle with cap and retaining ring in place which can be removed when you are ready to make up the feed.

Make up a fresh feed only when your baby needs it. The water must still be hot when you use it, otherwise any bacteria in the infant formula may not be destroyed.

Remember to cool the feed before giving it to your baby by holding the bottom half of the bottle under cold running water. Move the bottle about under the tap to ensure even cooling. Make sure that the water does not touch the cap covering the teat.

The vacuum flask does not need to be sterilised but should be clean and only used for your baby. The boiling water should kill any bacteria present in the flask. If the flask is full and securely sealed, the water will stay above 70˚C for several hours.

key fact

Remember to make up a feed only when your baby needs it.

transporting a feed

If it is not possible to make up a fresh feed by following the advice above or if you need to transport a feed – for example to a nursery or childminder – you should prepare the feed at home and cool it, for at least one hour, at the back of the fridge.

Take it out of the fridge just before you leave and carry it in a cool bag with an ice pack – and use it within four hours.

If you do not have an ice pack, or access to a fridge, the made-up infant formula must be used within two hours.

key facts

- **Feeds should be freshly made up. If you have to store made up formula keep it at the back of the fridge: use within 24 hours.**
- **If made-up formula is stored in a cool bag with an ice pack: use within four hours.**
- **If made-up formula is stored at room temperature: use within two hours.**

warming a feed

When you are ready to use the feed, place the bottle in a container of warm water to heat it up. Always test the feed on the inside of your wrist to make sure if it isn't too hot before you give it to your baby.

key facts

Never use a microwave to heat chilled infant formula as there is a danger of overheating the formula. It can also heat the milk unevenly (causing 'hot spots') and could scald your baby's mouth.

feeding your baby

- Make sure that you are sitting comfortably. Always hold your baby close to you and look into their eyes when feeding. This helps the baby feel safe and loved.
- Hold your baby fairly upright for feeds, with their head supported so that they can breathe and swallow comfortably.
- Brush the teat against your baby's lips and, when your baby opens their mouth wide, allow them to draw in the teat.
- If the teat becomes flattened while you are feeding, pull gently on the corner of your baby's mouth to release the vacuum.
- Your baby may need short breaks during the feed and may need to burp sometimes. When your baby does not want any more feed, hold them upright and gently rub or pat their back to bring up any wind. This may be a very small amount, as wind is not as big a problem as many people think.
- Look out for your baby's cues that they have had enough milk. Don't try and force your baby to take more than they want.

key fact

Never leave your baby alone with a bottle as there is a risk they might choke.

how often should i feed my baby?

Newborn babies may take quite small amounts of infant formula to start with. However, by the end of their first week, most will require approximately 150 to 200 millilitres (ml) per kg of the baby's weight per day, until they are six months old. For example, a baby aged four months, weighing 6 kg would need approximately 900–1200 ml of infant formula per day. This amount will vary from baby to baby. As solid food is introduced from around six months of age, your baby will gradually drink less infant formula.

Although most babies gradually settle into a feeding pattern, they vary in how often they want to feed and how much they want to drink.

Feed your baby when they show signs that they are hungry. Babies tend to feed little and often, so they may not finish their bottle. However, a big feed does not mean that your baby will go longer between feeds.

Your baby is likely to need night feeds for at least the first few months of their life. You can expect night feeds to reduce as your baby gets older.

how will i know if my baby is hungry?

After a while, you will get to know the signs that show your baby is ready to feed.

- Your baby will begin to move their head and mouth around.
- They will find something to suck – usually their fingers.

If you can spot these signs before they are crying for food, your baby will be easier to feed. Babies cry for lots of different reasons. If they have been fed recently then hunger is unlikely to be the cause of their crying.

how do i know if my baby is getting enough infant formula?

Your baby's weight gain and the number of wet and dirty nappies will help to tell you if your baby is getting enough formula.

A few days after the birth, your baby should be producing around six wet nappies a day. These nappies should be soaked through with clear or pale yellow urine.

For the first few days after birth your baby will pass dark sticky stools (known as meconium). After the first week, however, your baby should pass pale yellow or yellowish-brown stools.

Your baby should have at least six wet and two dirty nappies a days, and the amount of poo varies from baby to baby. If you are concerned your baby is not getting enough milk, speak to your midwife or health visitor.

Your baby will be weighed (naked) at birth and again at around five and ten days. Once feeding is established, healthy babies should be weighed (naked) no more than once a month up to six months of age and at one year.

This weight should be filled in on the chart in your Personal Child Health Record (the red book). If you have any questions or concerns about your baby's weight gain, speak to your midwife or health visitor.

breastfeeding, giving infant formula and introducing solid foods

If you are combining both breastfeeding and formula feeding, and would like to discuss any changes, such as increasing your milk supply, remember to talk to your midwife or health visitor. You can also call the **National Breastfeeding Helpline** on **0300 100 0212** to speak to someone, often local, about breastfeeding your baby.

choosing to restart breastfeeding

Breastfeeding is the healthiest way to feed your baby. If you decide not to breastfeed or have stopped breastfeeding, it is possible to restart. This can be difficult because your milk supply will naturally reduce once you are not breastfeeding, but it can increase again to meet your baby's needs. Giving infant formula to a breastfed baby will reduce your breast-milk supply.

You do not need to eat any special foods while breastfeeding, but it is a good idea for you, just like everyone else, to eat a healthy diet.

If you are giving your baby infant formula milk, you should continue with this until they are one year old, after which time full-fat cows' milk can be introduced.

starting solid foods

You can start introducing your baby to solid foods at around six months. Carry on offering your baby breast milk or first infant formula, as well as other foods.

For more information about introducing solid foods visit **www.nhs.uk/start4life** or call Start4Life on **0300 123 1021,** textphone **0300 123 1054**

If you are pregnant or have a young child under four years and you or your family are getting certain benefits or tax credits, you could qualify for Healthy Start vouchers. If you are pregnant and under 18, you can get Healthy Start vouchers even if you don't get benefits or tax credits.

These can be spent on milk, fruit and vegetables, or can be put towards infant formula if you are not breastfeeding. Coupons for free vitamin supplements are also available through the Healthy Start scheme.

For more information or an application leaflet, visit **www.healthystart.nhs.uk** or call the Healthy Start helpline on **0845 607 6823**.

If you are already on Healthy Start, ask your midwife or health visitor whether you and your baby should be taking Healthy Start vitamin supplements and where you can collect them locally.

Breast milk is the best form of nutrition for infants, and exclusive breastfeeding is recommended for the first six months (26 weeks) of an infant's life. Thereafter, breastfeeding should continue for as long as the mother and baby wish, while gradually introducing the baby to a more varied diet.

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For further information please visit **www.nhs.uk/bottlefeeding**

Sign up for free emails, videos and texts from the Start4Life Information Service for Parents throughout your pregnancy and as your baby grows at **www.nhs.uk/start4life**

The information in this booklet was prepared in consultation with the Department of Health and the Baby Friendly Initiative. With thanks to the Public Health Agency (Northern Ireland).

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start 4 life
A good start for a healthier life