Bottle feeding your baby

A guide for parents who have made an informed decision to bottle feed their baby
Contact a professional for further information

This booklet gives general information on how to bottle feed your baby. However, all babies are different. Contact your public health nurse, doctor or dietitian for information that suits your baby’s needs or if you are concerned about anything to do with feeding your baby.

We use the term public health nurse throughout the booklet, but midwives and other nurses, are also a valuable source of further information.

Powdered milk is not sterile

Powdered formula milk is not sterile. It may contain bacteria that could make your baby ill. To reduce this risk, it is important to follow the instructions in this booklet for washing and sterilising equipment, and preparing and handling feeds safely.

Expressed breast milk

If you feed your baby expressed breast milk in a bottle, the same cleaning and sterilising instructions in this booklet apply when preparing bottles.

The advice for preparing feeds using powdered formula milk was revised by the Food Safety Authority of Ireland in 2007¹. This booklet contains this new information to help you prepare bottle feeds as safely as possible. It is important that you read it carefully. This new method is different to the method advised previously.

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¹. Food Safety Authority of Ireland (FSAI), Information relevant to the development of guidance material for the safe feeding of reconstituted powdered infant formula, 2007.
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Introduction

How you choose to feed your baby is important. Breastfeeding is best.

Why is breast milk best for my baby?

- Breast milk is the most natural food for your baby.
- Breast milk contains beneficial ingredients not present in formula milk.
- Breast milk helps your baby’s brain to develop.
- Breast milk reduces your baby’s risk of developing allergies.
- Breast milk is particularly good for premature and ill babies.
- Babies who are not breastfed are more likely to get chest, ear and tummy infections. They are also more likely to develop diabetes, obesity and heart disease in later life.

How does breastfeeding benefit the mother?

- Breast milk is ready to feed and is free – formula milk has to be bought and prepared.
- Breastfeeding helps mothers return to their pre-pregnancy shape.
- Breastfeeding can help mothers’ physical and emotional well-being.
- Breastfeeding gives mothers some protection against breast and ovarian cancer as well as brittle bones (osteoporosis) in later life.
- Breastfeeding is also good for the environment, as it requires no extra equipment or treatment and involves no packaging or waste.

The Department of Health and Children recommends that:

- for the first 6 months, the only food you give your baby is breast milk; and
- from 6 months to 2 years or beyond, you continue breastfeeding while giving your baby suitable other food from a spoon.

This way of feeding is the best way to make sure your baby develops well and stays healthy.
Consider breastfeeding your baby
If you are unsure how you are going to feed your baby, consider breastfeeding. If you decide not to breastfeed and change your mind, it may be possible to start breastfeeding beyond the first few days or to re-start breastfeeding if you have stopped. Contact your local health centre for details of people who can help.

Any amount of breastfeeding benefits your baby
Breastfeeding even for short periods is beneficial. If you choose not to breastfeed your baby exclusively, it is still worth giving them some breastfeeds even if other feeds are of formula milk. However, introducing formula milk will reduce your supply of breast milk.

Nearly all mothers can breastfeed
There are very few medical reasons why a mother would not be able to breastfeed. If you need a particular medicine that is not suitable while breastfeeding, a safe alternative can usually be found. Ask your doctor or pharmacist.

Support is available
Your midwife, public health nurse, lactation consultant and breastfeeding support groups can give you information and support. Contact your local health centre for details.

All mothers should look after themselves
All mothers need to take care of themselves, eat well and get plenty of rest. This is especially important when you are breastfeeding.

Babies should not drink ordinary milk before the age of 1
If you choose not to breastfeed or if you stop breastfeeding, you will need to give your baby formula milk instead until they are at least a year old.
Bottle feeding is expensive
Formula milk and the equipment needed costs money.

Bottle feeding is less convenient
If you are going to bottle feed your baby, you will need:
• clean water for preparing feeds and for washing bottles;
• a way to sterilise bottles;
• a way to boil water; and
• a clean place to prepare feeds.

Introduction: Key points
• Breastfeeding is best and has many advantages for you and your baby.
• Breastfeeding even for short periods or combined with feeding formula milk is beneficial.
• There are lots of people who can help support you. Contact your local health centre for details.
• If you choose not to breastfeed, give your baby formula milk instead until they are at least a year old.
• Feeding your baby with formula milk costs more money and is less convenient than breastfeeding.
What you need

To feed your baby formula milk you will need to buy:

- bottles;
- teats;
- a bottle brush and a small teat brush;
- sterilising equipment;
- a tongs for handling sterile equipment; and
- formula milk.

You will also need:

- a clean work surface and a place for washing bottles and equipment; and
- suitable water for preparing feeds from powdered formula milk and a way to boil it.

A clean work surface

You will need a clean surface to prepare feeds, for example a flat counter top. Before you prepare a feed:

- wash the surface with soapy water,
- rinse the surface,
- wipe the surface with disinfectant,
- rinse the surface again, and
- dry the surface.
Bottles and teats

Bottles
Bottles come in different shapes and sizes. Wide-necked bottles can be easier to fill. It is useful to have about 6 to 8 bottles or enough to have a different bottle for each feed over a 24-hour period. This way you can sterilise them in bulk once a day.

Teats
Teats come in different shapes, sizes and flow rates. It can be difficult to know which is the most suitable for your baby until you try one. It is generally best to start with a teat designed for new-born babies, but this may change as your baby grows. The ages shown by manufacturers are a guide only. Some babies continue to feed well on the same size teat, while others may require different sizes or flow rates as they get older.

Teats are usually made of latex or silicone – it is up to you which one you choose.

Check all teats and bottles regularly for signs of wear (such as discoloration or thinning). Check teats for tears before each use, as these can affect the flow rate. Teats should allow a steady flow of drips when the bottle is turned upside down. If you notice any problem, you should replace it.

Sterilising equipment
There are different ways to sterilise your baby’s feeding equipment.

(a) Steam is best
If you use steam to sterilise the equipment, you will need a steam sterilising kit and an electric socket. Steam is recommended as the best way to sterilise the equipment.

(b) Sterilising liquid or tablets
If you use a chemical steriliser, you will need a sterilising tank and sterilising liquid or tablets.

(c) Boiling
If you decide to boil the equipment, you will need a large saucepan with a tight fitting lid and a hob.

Tongs
You will also need a tongs for handling sterile equipment.

For more information on sterilising, see ‘Sterilising the equipment’ on page 15.
Suitable water

Use cold tap water that has been boiled (and then cooled for 30 minutes) to prepare feeds using powdered formula milk. For more information on preparing feeds, see ‘Preparing feeds’ on page 21.

- Do not use water from a hot tap.
- Do not use water that has been boiled more than once.
- Do not use fizzy or sparkling water.
- Do not use bottled mineral water or spring water, filtered water and artificially softened water, as they may contain high levels of salts.

You can ask your local health office, the Environmental Protection Agency, your group or private water scheme if your water is safe for preparing feeds.

If your tap water is not suitable for drinking, even after boiling…

- You can use bottled water that contains less than 20mg (1mmol) of sodium (Na⁺) per 1000ml (1 litre) – check the label. You must still boil this water before use.
- Another option is to use ready-to-feed formula milk instead of powdered formula milk. Ready-to-feed formula costs more than powdered formula.

REMEMBER

All water must be boiled before use

What you need: Key points

To feed your baby formula milk, you need:
- a clean work surface;
- a washing facility;
- a supply of bottles and teats;
- a bottle brush and a small teat brush;
- sterilising equipment and tongs;
- suitable water and a way to boil it; and
- formula milk.
Formula milk

Most formula milks are made from cows’ milk that is processed to make it suitable for babies. The different types of formula milk are outlined below.

**Standard formula milks**

**Formula milk labelled ‘from birth’ or ‘newborn’**
This is the recommended formula for babies. It is suitable from birth until 12 months or older. It is a whey-based formula and can be easier to digest than a casein-based formula.

**Formula milk labelled ‘for hungry babies’ or ‘extra hungry’**
This is a casein-based formula. It is thought to give babies a feeling of fullness for longer. It does not have extra calories or other nutrients.

**Follow-on formula milk**
This has a higher iron and protein content than other formula milks and regular cows’ milk. It is suitable for babies from 6 months of age. It should not be used for babies under 6 months. Babies generally do not need to change to a follow-on formula. Nutritious spoon feeds, including foods rich in iron (such as meat), are a more appropriate source of extra nutrients from 6 months than a follow-on formula.
Specialised formula milks

Specialised formula milks are available for specific medical conditions. Contact your public health nurse, doctor or dietitian if you feel your baby might need a specialised formula. Specialised formula milks include the following:

**Lactose-free formula**
This is for babies who do not tolerate lactose – the sugar found naturally in milk and standard formula. Lactose intolerance can cause frequent loose stools or diarrhoea. It is usually temporary and most babies grow out of it or recover within a short period (weeks to months). If you feel your baby does not tolerate lactose, contact your doctor or public health nurse.

**Pre-thickened formula**
This is for babies who regurgitate (spill) standard formula milk feeds. If this is a problem, talk to your doctor or public health nurse to see if this type of feed is appropriate.

**Pre-digested, hydrolysed or hypo-allergenic formula**
This is for babies who may be allergic or intolerant to particular ingredients in standard formula, for example cows’ milk protein. It contains ingredients in a form that is easier to tolerate. If you feel your baby is allergic or intolerant to particular ingredients, contact your doctor or public health nurse.

**Post-discharge formula**
This is designed for some premature babies when they are discharged from hospital. It contains higher amounts of some nutrients specific to a premature baby’s needs at this time. The staff at the Special Care Baby Unit will be able to tell you if your baby needs a post-discharge formula.
Other milks

Soya-based formula
Soya based formula is not recommended for babies under 6 months, including babies with an intolerance or allergy to cows’ milk protein or lactose. Soya formula milk may be used for babies who follow a vegan diet or if advised by a doctor or dietitian for very specific medical conditions.

Goats’ milk based formula
Goats’ milk based formula is not recommended for any baby under 12 months, including babies with an intolerance or allergy.

‘Goodnight’ milks
These are follow-on milks that claim to settle babies at bedtime. ‘Goodnight’ milks are not suitable for babies under 6 months.

‘Toddler’ milks or ‘Growing Up’ milks
These are designed for toddlers over 12 months of age. They are not suitable for babies under 12 months.

Formula milk comes in powder or liquid form

Powder: Powdered formula comes in packs, tins and individual feed sachets and must be mixed with water before use.

Liquid: Liquid formula comes in containers of ready-to-use milk.

Always check the label for the expiry date and storage instructions.
Use only breast or formula milk for first year
Give your baby breast milk or formula milk as their main drink until they are at least 12 months old.

No regular cows’ milk in first year
Do not give your baby regular cows’ milk as a milk drink in their first year.

Contact your doctor or nurse before switching formula
When your baby is settled on particular formula milk, you do not need to change. If your baby is not settled or feeding well, contact your public health nurse or doctor.

Only use specialised milks if advised to do so
Do not use specialised formula milks unless your public health nurse, doctor or dietitian recommends it.

Skimmed milk powder should never be used to prepare feeds
Skimmed milk powder is not the same as formula milk powder and is not suitable to prepare your baby’s milk feed. Powdered drinks and meal replacements designed for adults are also not suitable for babies.

Formula milk: Key points
- Give your baby breast milk or formula milk as their main drink until they are at least a year old.
- Formula milk labelled ‘from birth’ or ‘newborn’ is the recommended standard formula for babies, and can be used until your baby is 1 year old.
- When your baby is settled on a particular formula milk, there is no need to change. If your baby is not settled or feeding well, contact your public health nurse or doctor.
Washing and sterilising the equipment

It is important to wash and sterilise all the equipment you use to feed your baby before each use. Equipment includes bottles, teats, collars (rings), discs, caps and tongs. Washing and sterilising removes harmful bacteria that could grow in the feed and make your baby sick.

Before you start

- Wash your hands using warm soapy water, rinse and dry well with a clean towel.
- Prepare a clean work surface (see section ‘A clean work surface’ on page 7).

Washing the equipment

1. Make sure your hands and the work surface are clean.

2. Separate the teats, collars, discs and caps from the bottles.

3. Wash all parts of the bottles.
   - Wash the bottles, teats, collars, discs and caps thoroughly using a clean bottle brush in hot soapy water.
   - Scrub the inside and outside of the bottle, paying particular attention to the rim.
   - Use a small teat brush to clean the inside of the teat or turn it inside out and wash.
   - Make sure all traces of milk and any oily residue are completely removed. If milk is not removed by thorough washing, the sterilisation process may not be effective, leaving bacteria to grow in the feed.

4. Wash the tongs in hot soapy water.

5. Rinse all the equipment thoroughly in clean running water and place on a clean work surface or directly into the sterilising unit.
Rinse the bottle brush and teat brush and leave to dry.

Sterilise all the equipment before using it (see ‘Sterilising the equipment’ below).

You can use a dishwasher to wash feeding equipment if the equipment is dishwasher proof and stacked correctly following the manufacturer’s instructions.

**Sterilising the equipment**

**Washing is not enough**

Until your baby is a year old, you need to sterilise all equipment before each use to kill any bacteria that may be present after washing. Equipment includes bottles, teats, collars, discs, caps and tongs.

If your baby uses a soother, you must also sterilise this between use, until your baby is 1 year old.

**Different instructions for different methods**

There are different ways to sterilise feeding equipment. Follow the appropriate instructions below depending on the method you choose.

**You need equipment**

Make sure you have the equipment that you need for sterilising (see ‘Sterilising equipment and tongs’ on page 8). Remember to also keep this equipment clean.

**Dishwashers are not suitable**

Dishwashers are not suitable for sterilising equipment.
(a) **Steam sterilisation**

Steam is recommended as the best way to sterilise equipment. You can use either an electric steam steriliser or a microwave steam steriliser.

1. Make sure your hands and the work surface are clean.
2. Follow the manufacturer's instructions.
3. Put the washed equipment with the correct amount of water in the steriliser unit. Leave the equipment in the steriliser for as long as the manufacturer recommends.
4. Wash and dry your hands, then use a sterile tongs to take the equipment out of the steriliser. **Take care, as equipment may be hot.** Place the equipment on a clean work surface.
5. If the bottles are not used straight away, put them together immediately to keep the teat and the inside of the bottle sterile (see ‘Assembling bottles after sterilising’ on page 19).
(b) Boiling

1. Make sure your hands and the work surface are clean.

2. Use a large saucepan with a tight fitting lid. Keep this saucepan for sterilising equipment only.

3. Put the washed equipment into the saucepan with enough tap water to cover it completely. Make sure there is no air trapped in the bottles or teats so that the boiling water comes in contact with all parts of the equipment.

4. Cover the saucepan with a lid and bring the water to the boil. Continue boiling for at least 3 minutes. Make sure the equipment remains fully submerged in the boiling water at all times. **Take care to avoid scalds.**

5. Wash and dry your hands. Then use a sterile tongs to take the equipment from the saucepan. **Take care, as the equipment may be hot.** Place the equipment on a clean work surface.

6. If the bottles are not used straight away, put them together immediately to keep the teat and the inside of the bottle sterile (see ‘Assembling bottles after sterilising’ on page 19).
(c) Sterilising liquid or tablets

1. Make sure your hands and the work surface are clean.
2. Follow the manufacturer’s instructions.
3. Make up the solution in a sterilising tank using sterilising liquid or tablets. Make a fresh solution every 24 hours.
4. Put the washed equipment in the solution and make sure everything stays completely submerged. Make sure there is no air trapped in the bottles or teats so that the solution comes in contact with all parts of the equipment. Leave the equipment in the solution for as long as the manufacturer recommends.
5. Wash and dry your hands, then use a sterile tongs to take the equipment from the solution. Drain the solution from the equipment and place on a clean work surface. You do not need to rinse the equipment before you use it. However, if you wish to rinse it, use cooled boiled water.
6. If the bottles are not used straight away, put them together immediately to keep the teat and the inside of the bottle sterile (see ‘Assembling bottles after sterilising’ on page 19).

Use a tongs to handle sterilised equipment

Once the equipment is sterilised, do not touch with your hands any part of the bottle that may come into contact with milk or your baby’s mouth or you may contaminate it. This includes the inside and outside of the teat, the sealing disc and the inside of the bottle, cap and collar. Even washed hands can be a source of infection and should not touch these parts. Use a sterile tongs instead.
Assembling bottles after sterilising

If you are not using sterilised bottles straight away, put them together immediately to keep the teat and the inside of the bottle sterile.

1. Make sure your hands and the work surface are clean.
2. Use a sterile tongs to handle any part of the bottle that will come in contact with the milk or your baby’s mouth, for example the teat and sealing disc.
3. Put the sealing disc on the top of the bottle.
4. Put the teat in the collar.
5. Put the collar containing the teat into the cap.
6. Put the cap containing the collar and teat onto the bottle and tighten securely.
7. Store sterilised bottles in a clean space.
Bottles can stay sterile for 24 hours
An empty bottle with a tight fitting cap will remain sterile (on the inside) for 24 hours if you assemble it correctly and do not open it.

If you do not use the bottle within 24 hours, wash and sterilise it again before using it.

Washing and sterilising the equipment:
Key points

- Wash and sterilise all equipment before each use.
- You can sterilise using steam, sterilising solution or boiling water.
- Steam is recommended as the best way to sterilise equipment.
- If you don’t use sterilised bottles straight away, put them together immediately to keep the inside sterile.
- An empty bottle with a tight fitting cap will remain sterile for 24 hours if you assemble it correctly and do not open it.
Preparing feeds

Before you start

- Wash your hands using warm soapy water, rinse and dry well with a clean towel.
- Prepare a clean work surface (see ‘A clean work surface’ on page 7).
- Make sure you have washed and sterilised the feeding equipment (see ‘Washing and sterilising the equipment’ on page 14).

Take your time

When preparing feeds, choose a time when you are not rushed or too tired.

It is important that you follow the instructions exactly when preparing feeds.

Use a sterile tongs

Do not touch the sterile teat, sealing disc or the inside of the bottle, cap or collar with your hands. Use a sterile tongs to handle any part of the equipment that will come in contact with the milk or your baby’s mouth, for example the teat and sealing disc.

Use powdered or ready-to-use formula

You can prepare feeds using powdered formula milk or ready-to-use (ready mixed) formula milk.

Powdered formula is not sterile

Powdered formula may contain bacteria that can make a baby ill. Bacteria can also come from hands, surfaces and the water you use to make up the feed. To reduce the risk, it is important to take care when preparing feeds. The advice for preparing feeds using powdered formula milk was revised in 2007 and is described below. Follow the instructions carefully, as they are different to those given previously.

Don’t add any extras to the bottle

Do not put anything other than your baby’s milk into the bottle. For example never add rusks, cereal or sugar.
Preparing feeds using powdered formula milk and hot water – the preferred method

1. Make sure your hands and the work surface are clean.

Use a sterile bottle.

- Take a sterile bottle directly from the steriliser or open a sterile bottle by twisting off the collar and removing the sealing disc.
- Make sure the cap stays covering the teat.
- Place on a clean work surface.

2. Use boiled water.

- Boil fresh tap water in a kettle or a covered saucepan.
- Once boiled, allow the water to stand in the kettle or covered saucepan for 30 minutes but no longer. This will make sure the water is at a suitable temperature of 70°C. Water at 70°C is hot enough to kill bacteria that may be in the powder.

If boiled water is left for longer than 30 minutes, it may not be hot enough to kill bacteria.

If boiled water is left for less than 30 minutes, it may be too hot and harm heat sensitive nutrients.

- **Take care to avoid scalds.**

3. Pour the required amount of hot water (boiled water left to cool for 30 minutes) into the sterile bottle.

- Use the markings on the bottle to measure.

- **Take care to avoid scalds.**

4. Check the formula milk pack to see how many scoops of powder you need for the volume of water. Always use the scoop provided in the pack. Standard formulas in Ireland are prepared by adding 1 level scoop of powder to each 30ml (1 fluid ounce) of water.
Add the required number of scoops of powdered formula to the bottle of water.

- Fill the scoop provided in the pack with the powder.
- Level the scoop with the leveller in the pack. Don’t pack the powder down.
- Make sure no powder remains stuck to the scoop.
- Reseal the pack to protect it from bacteria and moisture.

If a leveller does not come in the pack, sterilise a plastic spatula or knife, dry it with a clean towel and store it in the formula pack with the scoop.

Put the bottle together.

- If the feed is not for immediate use, place the sealing disc on the neck of the bottle first to prevent the milk from spilling.
- Put the cap containing the collar and teat onto the bottle and tighten securely.

Shake the bottle well until all the powder is dissolved.

**Cool the feed quickly** to the desired temperature by holding the bottle under cold running water or placing it in a large container of cold tap water. Make sure the cold water does not reach above the neck of the bottle during cooling as this water could contaminate the feed.

Wipe the bottle dry with a clean towel and use immediately.

If you need to prepare feeds in advance to use later:
- cool them completely after preparation;
- store them in the back of a refrigerator (at 5°C or below); and
- use within 24 hours.
Do not store bottles of formula in the refrigerator door, as the temperature may increase if the door is opened frequently.

If you cannot keep feeds cold during storage, make up fresh feeds each time your baby needs one.

**REMEMBER**

**Put water in bottle first**
Put the hot water (boiled water cooled to 70°C) in the bottle first then add the powder.

**Add correct amount of powder**
Add the correct number of scoops of powdered formula for the amount of water in the bottle. Too much or too little powder can make your baby ill.

**Use individual bottles**
Make up feeds directly in individual bottles, and not in large containers, to reduce the risk of contamination.

**Times when you cannot use hot water (boiled water cooled to 70°C)**

**When using some specialised formulas**
Some specialised powdered formulas cannot be prepared with hot water – check the manufacturer’s instructions for preparation details.

**When hot water is not available**
If you do not have access to hot water when a feed is due, for example when travelling, it may be more convenient to use ready-to-use formula milk. Alternatively, if the journey time is short, you may be able to prepare feeds at home and keep them cold until you need them (see ‘Transporting feeds’ on page 30).

If it is not possible to use hot water (boiled water cooled to 70°C) to prepare powdered formula feeds, follow the instructions on page 25.
Preparing feeds using powdered formula milk – when you cannot use hot water

Feeds prepared in this way must be used immediately.

First, prepare bottles of sterile water
It is best to do this as you put the bottles together after sterilising.

1. Make sure your hands and the work surface are clean.
2. Use a sterile bottle.
   - Take a sterile bottle directly from the steriliser or open a sterile bottle by twisting off the collar and removing the sealing disc.
   - Make sure the cap stays covering the teat.
   - Put it on a clean work surface.
3. Use boiled water.
   - Boil fresh tap water in a kettle or a covered saucepan.
   - Pour the required amount of boiled water into the sterile bottle.
   - Use the markings on the bottle to measure.
   - Take care to avoid scalds.
4. Put the bottle back together.
   - Put the disc on the neck of the bottle to prevent the water from spilling.
   - Put the cap containing the collar and teat onto the bottle and tighten securely.
5. Allow the water to cool to room temperature.
6. You can store bottles of sterile water in a clean place for up to 24 hours. Sterile water does not need to be kept in a refrigerator. If you do not use the water within 24 hours, throw it away and wash and sterilise all the equipment before using again.
Only add the formula milk powder as feeds are needed

1. Make sure your hands and the work surface are clean.

2. Take a bottle of sterile water and open by twisting off the collar and removing the sealing disc. Make sure the cap stays covering the teat. Place on a clean surface.

3. Check the level of water in the bottle using the markings on the bottle.

4. Check the formula milk pack to see how many scoops of powder are required for the volume of water. Standard formulas in Ireland are prepared by adding 1 level scoop of powder to each 30ml (1 fluid ounce) of water. Always use the scoop provided in the pack.

5. Add the correct number of scoops of powdered formula to the bottle of water.

6. Put the cap containing the collar and teat onto the bottle and tighten securely.

7. Shake the bottle well until all the powder is dissolved.

8. Use immediately.

**REMEMBER**

Only add the formula powder to the water when your baby needs a feed

When you prepare a feed using boiled water at room temperature, you must use it immediately

You cannot store it.
Preparing feeds using ready-to-use formula milk

1. Make sure your hands and the work surface are clean.
2. Shake the container of ready-to-use formula milk well.
3. Wipe the top of the container with a clean cloth.
4. Open the container using clean hands and a clean scissors.

5. Use a sterile bottle.
   - Take a sterile bottle directly from the steriliser or open a sterile bottle by twisting off the collar and removing the sealing disc.
   - Make sure the cap stays covering the teat.
   - Put it on a clean work surface.

6. Pour the ready-to-use formula milk into the sterile bottle. Use the markings on the bottle to measure the correct amount.

7. Put the cap containing the collar and teat onto the bottle and tighten securely.

8. Use immediately. Do not pour the milk back into the container.

9. If you need to prepare feeds in advance to use later:
   - store feeds in the back of a refrigerator (at 5°C or below); and
   - use within 24 hours.

Do not store feeds in the refrigerator door, as the temperature may increase if the door is opened frequently.
Ready-to-use formula milk is sterile only while the carton is unopened. You cannot store ready-to-use formula milk in an open carton.

Once opened, ready-to-use formula milk:
- must be treated like formula milk that has been prepared using powdered formula;
- must be put in a sterile bottle with a cap; and
- must be used immediately or stored in the back of a refrigerator (at 5°C or below) and used within 24 hours.
Preparing feeds: Key points

- Powdered milk is not sterile.

- Preparing feeds using powdered formula and hot water (the preferred method):
  - Use freshly boiled water that has been left to stand for 30 minutes, but no longer – this will make sure the water temperature is at 70°C, which will kill any bacteria that may be in the powdered formula.
  - Pour the hot water into the bottle first and then add the powder.
  - Add 1 level scoop of powdered formula for each 30ml (1oz) of water.
  - Cool the feed quickly to the desired feeding temperature and use immediately.

- Take care to avoid scalds.

- Take care when storing prepared feeds. If you need to prepare feeds in advance to use later, make sure to:
  - cool feeds completely;
  - store bottles of feed in the back of a refrigerator (at 5°C or below); and
  - use feeds within 24 hours.

- If it is not possible to use hot water to prepare feeds using powdered formula:
  - use containers of ready-to-use formula milk; or
  - prepare bottles of sterile water, but only add the formula powder when your baby needs a feed. When you prepare a feed like this, you must use it immediately. You cannot store it.

- Do not put anything other than your baby’s milk into the bottle.
Transporting feeds

If you need to transport prepared feeds, for example to a crèche, childminder or other day-care facility, make sure you keep the feeds cold during transport.

Short journeys

If the journey time is short (less than 2 hours), and you use a cool bag or cool box with frozen gel or ice packs, you can prepare feeds at home and keep them cold for the journey. Here’s how to do it.

1. Prepare the bottles of feeds as normal and cool quickly (see ‘Preparing feeds’ on page 21). Store in a refrigerator until ready to be transported.

2. Immediately before leaving, take the required number of bottles from the refrigerator and place in a clean cool bag or cool box with an appropriate number of frozen gel or ice packs to keep the bottles cold (at 5°C or below).

3. When you arrive at your destination, immediately put the feeds in the back of a suitable refrigerator.

4. If you bring feeds to a day-care facility for your child, make sure you mark each bottle with your child’s name and the date and time you prepared it.
**Longer journeys**

If the journey time will be longer than 2 hours, or if you cannot keep feeds cold (at 5°C or below), it is **not** safe to transport prepared feeds. The safest option is to bring supplies to prepare feeds on arrival.

If your baby is likely to need a feed during the journey, use ready-to-use formula milk (see ‘Preparing feeds using ready-to-use formula milk’ on page 27). Or if you prefer to use powdered formula, follow the instructions in ‘Preparing feeds using powdered formula – when you cannot use hot water’ on page 25.

**If travelling…**

Bring the required number of bottles of sterile water and the formula milk powder with you. Pre-measure the powder for each feed and store it in a container or use pre-packed sachets of formula milk powder. If you use a container, wash, sterilise and dry it before each use. Containers are available that store powder for individual feeds in separate sections.

You may also need to bring disinfectant wipes and paper towels.

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**Transporting feeds: Key points**

- Keep feeds cold during transport.
- If the journey time is less than 2 hours, you can transport feeds in a cool bag or cool box with frozen gel or ice packs to keep them cold (at 5°C or below) for the journey.
- If the journey time is longer than 2 hours, or if you cannot keep feeds cold (at 5°C or below), it is **not** safe to transport prepared feeds.
Feeding time

Warming feeds

You can give your baby milk at room temperature (once it has not been kept at room temperature for more than 2 hours). If the feed has been stored in a refrigerator, or if your baby prefers, warm it gently as described below.

1. Make sure your hands and the work surface are clean.
2. Make sure the bottle is sealed properly with the cap covering the teat.
3. Place the bottle in a container of warm water or a bottle warmer – make sure the water does not reach above the neck of the bottle as this water could contaminate the feed. Allow to warm to the desired temperature. Do not warm the feed for longer than 15 minutes.
4. Check that the feed is at a suitable temperature by dripping a few drops of the milk onto the inside of your wrist – it should feel lukewarm not hot.
5. Once the feed is warmed, remove it from the warm water and use immediately.
6. Discard any feed that your baby does not take within 2 hours. Never re-use or re-heat feeds.
Keep the warm water away from your baby

Do not use boiling water to warm feeds
This will avoid the risk of scalds.

Do not use a microwave to warm feeds
Microwaves can cause hot spots in the milk, which can scald your baby’s mouth.

Always test the temperature of the milk before feeding it to your baby

Warming feeds: Key points

- You can give your baby feeds at room temperature.
- Warm feeds for no longer than 15 minutes.
- Don’t microwave feeds.
- Check that the feed is at a suitable temperature by dripping a few drops of the milk onto the inside of your wrist – it should feel lukewarm, not hot.
- Use warmed feeds immediately.
- Discard any feed that your baby does not take within 2 hours.
- Never re-use or re-warm feeds.
Feeding patterns

Your baby will develop their own pattern of feeding. This can vary a little from day to day.

Appetite

Babies generally feed according to their appetite. It is good to allow your baby to recognise their own hunger cues and feelings of fullness and to respond appropriately. Do not force your baby to take more than they want or to finish the amount prepared. Babies may not finish all of each feed every time.

Intervals

Babies may not always want to feed at the same fixed intervals. Young babies tend to need feeds more regularly, including during the night.

Night feeds

The need for night feeds varies among babies. Some babies will wake during the night for feeds for longer than others.

Feed size

Some babies prefer smaller feeds more often; others prefer larger feeds less often. Once your baby is feeding well over a 24-hour period and is growing well, this is ok.

Babies tend to gradually increase the amount they drink at each feed over time.

When your baby is taking spoon feeds they may drink less milk.

The following chart shows how much a baby usually drinks.

Average fluid intake

<table>
<thead>
<tr>
<th>Age</th>
<th>Average number of feeds in 24 hours</th>
<th>Average daily fluid intake according to baby’s weight</th>
</tr>
</thead>
<tbody>
<tr>
<td>Birth to 3 months</td>
<td>6 to 8 (feed every 3 to 4 hours)</td>
<td>150ml per kg (2½ fluid oz per lb)</td>
</tr>
<tr>
<td>4 to 6 months</td>
<td>4 to 6 (feed every 4 to 6 hours)</td>
<td></td>
</tr>
<tr>
<td>7 to 9 months</td>
<td>4</td>
<td>120ml per kg (2 fluid oz per lb)</td>
</tr>
<tr>
<td>10 to 12 months</td>
<td>3</td>
<td></td>
</tr>
</tbody>
</table>

From 6 months, additional drinks besides milk feeds may be part of your baby’s total fluid intake (see ‘Other drinks’ on page 39).
Babies differ
The amount of milk in each feed and the number of feeds a day listed here and on formula milk packs are guides only and can vary between babies.

The exact amount depends on your baby and can vary from feed to feed and from day to day.

No need to wake your baby if they are feeding well
You do not need to wake your baby for feeds if they feed the expected amount over a 24-hour period and are growing well (see ’How do I know if my baby is drinking enough milk?’ on page 45).

If your baby drinks less than you expect
If your baby regularly drinks less than you expect, tell your public health nurse.

Feeding patterns: Key points
• Your baby will develop their own pattern of feeding.
• Babies may not always want a feed at the same fixed intervals.
• Babies may not finish all of every feed every time.
• Babies drink different amounts.
• If your baby regularly drinks less than expected, tell your public health nurse.
Feeding your baby

This is a time for you and your baby to enjoy.

- Have everything you need close by.
- Sit down, relax and make yourself comfortable.
- Make sure your back, particularly your lower back, is supported.
- Avoid slouching.

Shake the bottle well and allow any air bubbles to settle before feeding.

Check that the milk is at a suitable temperature (see ‘Warming feeds’ on page 32).

Hold your baby close during feeds.

- Make sure your baby is well supported and comfortable.
- Hold your baby so their back is straight and their head is higher than the rest of their body.
- Choose a position that encourages eye contact.
- It is good to alternate the side on which you feed your baby – so if you hold your baby in your right arm at one feed, hold them in your left arm at the next feed. This helps your baby’s muscles to develop equally on both sides.

Allow yourself enough time for feeds. Actual feeding time is generally about 20 to 30 minutes, but you may need extra time to prepare feeds, to wind your baby after feeds and so on.

Never leave your baby alone with a bottle or prop the bottle up. Do not leave your baby with a bottle in bed. Feed your baby then take the bottle away.
Throw away any feed that is not used within 2 hours. Feeds left at room temperature for more than 2 hours can allow bacteria that may have got into the feed to grow and cause illness. Never re-use or re-warm feeds.

If possible, wash the used bottle immediately after use or rinse it in warm water. All bottles must be properly washed and sterilised before re-use (see ‘Washing and sterilising the equipment’ on page 14).

**How to help your baby avoid swallowing air while feeding**

- **Position:** Make sure your baby is in a good, well-supported upright position during feeds.

- **Air bubbles:** Allow any air bubbles that might be in the milk after shaking to settle before feeding.

- **Flow of milk:** Make sure the flow rate from the teat suits your baby. There should be a steady flow of drips when the bottle is turned upside down. If the flow rate is too fast or too slow your baby may swallow air when feeding.

- **Angle of bottle:** Tilt the bottle to make sure the teat and neck of the bottle are always full of milk during feeds.

- **Lip seal:** Check that your baby has a good seal around the teat with their lips. It may help to remove the teat from your baby’s mouth from time to time during feeds. This can help stop the teat collapsing in your baby’s mouth and your baby swallowing air.
How to help your baby to pass trapped air

Some babies are prone to having trapped air (wind), which can cause discomfort. To help avoid this, help your baby avoid swallowing air while feeding (see page 37), and help your baby to pass any wind they may have after feeds. Some babies may be able to do this themselves, but some babies may need help, especially in the first few months.

If your baby has trapped air and is unable to pass it, suggestions to help include:

- sitting your baby upright on your lap and gently rubbing their back until you hear a burp; or
- holding your baby up to your shoulder and gently rubbing their back until you hear a burp (keeping your baby’s back straight).

Have a tissue handy as a little milk may also come up – this is normal.

Feeding your baby: Key points

- Make sure you and your baby are well supported and comfortable during feeds.
- Make sure the milk is at a suitable temperature.
- Help your baby avoid swallowing air while feeding.
- Help your baby to pass trapped air if necessary.
- Do not leave your baby alone with the bottle.
- After each feed, discard any leftover milk.
- Use each bottle of formula milk within 2 hours of preparing it or removing it from the refrigerator.
Other drinks

Use breast or formula milk for first year

Give your baby breast milk or formula milk as their main drink until they are at least a year old.

Young babies do not need other drinks on top of milk feeds.

If your baby is thirsty (rather than hungry), for example when taking spoon feeds, or in very hot weather, you can offer sips of cooled boiled water. However, do not give so much water that your baby will not take their next milk feed.

Do not give your baby the following drinks

- **Regular milk:** Do not give your baby regular milk, in other words, fresh, carton or supermarket milk (including cows’, goats’ or sheeps’ milk), as a drink until they are at least 1 year old. It is ok to use regular milk when preparing foods.

- **Soya formula:** Do not give your baby soya formula if they are under 6 months unless your baby is vegan or your doctor or dietitian recommends it.
  
  Do not give your baby regular soya milk, even if it is fortified, as it is not suitable for babies.

- **Goats’ milk formula:** Do not give your baby goats’ milk-based formula, as it is not suitable for babies under 1 year.

- **Tea or coffee:** Do not give your baby tea or coffee, as they reduce your baby’s ability to use iron from food. These also contain the stimulant caffeine, which is not suitable for babies.

- **Fizzy drinks, squash and fruit drinks:** Do not give your baby fizzy drinks, squash or fruit drinks, as they can damage your baby’s teeth. These drinks can also reduce your baby’s appetite for milk feeds and spoon feeds.
A note about water

Use boiled tap water
The most suitable water for your baby is cooled, boiled tap water.
Do not use water from a hot tap or water that has been boiled more than once.

Don’t use other types of water
Do not give your baby bottled mineral water, spring water, filtered water or artificially softened water, as they may contain high levels of salt (sodium).

When tap water is not safe
If your tap water is not suitable for drinking, even after boiling, you can use bottled water that contains less than 20mg (1mmol) of sodium (Na⁺) per 1000ml (1 litre). You must still boil this water before use. Do not use sparkling water.

Babies don’t need fruit juice
Babies do not need fruit juice. Fruit juices contain naturally occurring sugars and acids (even juices with no added sugar) and frequent use can cause tooth decay and erosion.

If you choose to give fruit juice:
- do not give it until your baby is at least 6 months old;
- make sure it is unsweetened;
- make sure it is well diluted (for example 1 measure of juice to at least 8 to 10 measures of cooled boiled water);
- do not give more than 1 small cup (measuring 120ml to 180ml [4oz to 6oz]) of diluted fruit juice per day and limit it to one mealtime only;
- do not give juice between meals; and
- do not give juice from a bottle.
Using a cup or beaker

As your baby gets older, introduce a cup or beaker for drinks. This is a gradual process but can start from about 6 months onwards. At the beginning you will need to help your baby.

Aim to replace all bottles with a cup or beaker by the time your baby is about 1 year old.

Using a bottle for too long can cause problems with your baby’s speech and dental health and can lead to feeding problems later.

Other drinks: Key points

- Give your baby breast milk or formula milk as their main drink until they are at least 1 year old.
- Young babies generally do not need extra drinks on top of milk feeds.
- Cooled boiled water is the most suitable drink if your baby does need extra drinks between milk feeds.
- From about 6 months, gradually introduce a cup or beaker for drinks. Aim to replace all bottles with a cup or beaker by the time your baby is about 1 year old.
**Vitamin D**

Vitamin D is important for healthy bones. It may also help prevent some illnesses.

Vitamin D can be made in the body from the effect of sun on skin during the summer (from April to September). You can also get it from a small number of foods such as:

- oily fish (for example salmon, mackerel and sardines);
- egg yolks (well cooked); and
- foods that have vitamin D added to them, such as breakfast cereals, fortified milk and margarines.

Because babies should not have their skin exposed to the sun, and often do not eat the foods listed here, they are at risk of vitamin D deficiency. Babies may also be at risk of vitamin D deficiency if their mother has a low level of vitamin D in their blood during pregnancy. Dark skin reduces the amount of vitamin D that is produced from sunlight, so babies of mothers with dark skin are at higher risk of vitamin D deficiency.

**How to make sure your baby gets enough vitamin D**

To help your baby get enough vitamin D, national policy recommends that you give your baby a vitamin D supplement that provides 5 micrograms (5μg), equivalent to 200 international units (IU), of vitamin D every day from birth to 12 months².

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². Food Safety Authority of Ireland (FSAI), Recommendations for a National Policy on Vitamin D Supplementation for Infants in Ireland, 2007.
Vitamin D supplements

Vitamin D₃ (cholecalciferol) is the recommended type of vitamin D supplement for babies. Choose a product that contains vitamin D₃ only.

You can buy vitamin D₃ supplements from your pharmacist or some supermarkets. Read the instructions carefully to make sure that you give your baby the correct dose of vitamin D₃, because every brand is different.

If your baby was born prematurely they may be advised to take a multivitamin supplement that includes vitamin D or a different dose of vitamin D. In this case follow the instructions of your baby’s doctor or dietitian.

More information

If you have any questions about vitamins, talk to your pharmacist (chemist), doctor, public health nurse or dietitian.
Caring for your baby’s teeth

It is important to care for your baby’s teeth as soon as they appear.

Bottles at feed times only

Give your baby a bottle at feed times only. Make sure your baby does not sleep with a bottle in their mouth. Do not give your baby a bottle to take to bed. Prolonged contact of teeth with milk feeds, juices or sugar-containing drinks, especially when your baby is asleep, can cause tooth decay.

Don’t dip soother in any food or sweet liquids

If your baby uses a soother (dummy), make sure it is clean. Do not dip it in sugar, syrup or other sweet foods.

Avoid sugary drinks and foods

Do not give your baby sugary drinks, juices or sugary foods, including chocolate and sweets, between meals.

Brush your baby’s teeth

Begin brushing your baby’s teeth as soon as the first tooth appears.

- Use a small soft toothbrush and water – toothpaste is not recommended for children under 2 years.
- From 2 years of age, use a tiny speck of fluoride-containing toothpaste and supervise to help make sure your child does not swallow the toothpaste.
- Brush your baby’s teeth in the morning and at night (bedtime).
**Common questions**

1. **How do I know if my baby is drinking enough milk?**

   If your baby is gaining weight well and having lots of wet nappies, it usually suggests that they are drinking enough milk.

   Your baby should have about 5 to 8 very wet nappies every day – 1 for every feed.

   Your public health nurse can weigh and measure your baby regularly to check that they are growing well.

   **Contact your public health nurse or doctor if you have any concerns about how much your baby drinks, your baby’s growth, or the number of wet nappies your baby produces.**

2. **What can I do if my baby is constipated?**

   If your baby is constipated, their stools (the contents of their dirty nappy) will be hard, like pellets, and difficult to pass.

   **Some babies make straining noises**

   It is normal for some babies to make straining noises when they dirty their nappy.

   **Babies’ patterns vary**

   The pattern of dirty nappies can vary. Some babies may have one or more dirty nappies every day, others may have one every few days.

   **Babies’ stools vary**

   What the dirty nappy looks like can also vary. Breastfed babies tend to have softer, looser stools. Babies who are fed formula milk tend to have firmer or more formed stools.

   Babies’ stools can also vary in colour, from yellowish to brown.

   If your baby’s stools change a lot, are slimy, foul smelling or watery or cause your baby’s bottom to be sore, contact your public health nurse or doctor.
What you can do if your baby tends to be constipated

Make sure you prepare powdered formula milk correctly
- Follow the instructions in ‘Preparing feeds’ on page 21.
- Make sure you add the correct number of scoops of powdered formula to the correct amount of water.
- Do not add anything extra to your baby’s bottle.

Make sure your baby drinks enough
Make sure your baby is drinking enough fluids (see ‘Average fluid intake’ on page 34).

Try a teaspoon of prune, pear or apple juice
If the advice above does not work, contact your public health nurse or GP. Sometimes adding 1 teaspoon (5ml) of prune, pear or apple juice to one of your baby’s feeds can help. These fruits contain the sugar sorbitol, which can help stimulate a bowel movement.

Give appropriate spoon feeds
If your baby is taking spoon feeds, ask your public health nurse, doctor or dietitian about suitable food sources of fibre that may help with constipation, for example fruit and vegetables. High-fibre diets are not recommended for babies.

Contact your public health nurse or doctor for individual advice or if the suggestions here do not work.
What can I do if my baby brings up some feed?

It is quite normal for babies to bring up (spill) a little milk after a feed. Most babies grow out of this as they get older. If your baby is well and growing normally, there is no need for concern.

If your baby brings up some feeds, here are some suggestions to help.

Avoid pressure on your baby’s tummy after feeds
- Do not bounce or handle your baby too much after feeds.
- Do not let your baby ‘slouch’ after feeds, for example in a car seat.
- Dress your baby in loose fitting clothes and avoid tight waist-bands.
- Help your baby avoid trapped wind (see ‘How to help your baby avoid swallowing air while feeding’ on page 37 and ‘How to help your baby to pass trapped air’ on page 38).

Don’t give too much feed in one go
Check that you don’t give your baby too much feed at any one time. Smaller, more frequent feeds may help. If your baby is unable to take the expected amount of milk, let your public health nurse or doctor know.

Avoid extra drinks
Avoid giving your baby extra drinks between milk feeds.

Keep spoon feeds separate to milk feeds
If your baby is taking spoon feeds, give them at separate times to milk feeds so that your baby’s tummy does not become too full.

Keep your baby in a good position
Avoid positions that aggravate the spilling, but always put your baby on their back to sleep. Some parents find that slightly raising their baby’s head above the level of their tummy after feeds can be effective. For example, place something under the top of the cot – either a folded towel under your baby’s mattress or a book under the cot’s legs – so that there is a gentle incline (slope) in the mattress. The idea is that when your baby is lying down, their head is slightly above the level of their tummy.

Contact your public health nurse or doctor for individual advice or if the suggestions here do not work.
What can I do if my baby seems to cry a lot?

All babies cry, especially when they are very young. Crying is the main way young babies communicate. Try to understand why your baby is crying – this will become easier as you get to know your baby.

Common reasons for crying

Check that the crying is not due to any of these common reasons:

- discomfort;
- trapped wind;
- hunger or thirst;
- having a wet or dirty nappy;
- feeling too hot or too cold;
- being over-tired or over-stimulated;
- feeling lonely or bored; or
- illness – this is a less common reason, but if you suspect that your baby is ill, contact your doctor or public health nurse.

Tummy cramps

Some babies have particular crying episodes that are linked with tummy cramps. These often happen in the evenings. At these times, your baby may draw up their legs and go red in the face. Most babies grow out of this by 3 to 4 months of age.

Things to consider if your baby seems to cry a lot:

Feeds

Always make sure that the formula milk is prepared correctly (see ‘Preparing feeds’ on page 21). Do not change between formulas unless your public health nurse, doctor or dietitian advises it.

Trapped wind

If the crying is due to trapped wind, try the suggestions in ‘How to help your baby avoid swallowing air while feeding’ on page 37 and ‘How to help your baby to pass trapped air’ on page 38.
Techniques that may help

- Soothing background music or noise
- Gentle rocking
- Warm baths
- Walks
- Car rides
- Swaddling in a warm towel or blanket
- Placing a warm towel on your baby’s tummy

Massage

Gentle massage can sometimes help. For example:

- gently stroke your baby’s tummy in a clockwise direction; or
- lie your baby on their back and gently bring their knees towards their tummy in a cycling motion.

Contact your local health centre for details of baby massage classes that may be held in your community.

If you are finding it hard to cope

If you find it hard to cope with your baby’s crying:

- take time out – place your baby in their cot and take a short break;
- try not to exhaust yourself and seek support from family and friends – ask a relative, friend or someone you trust to care for your baby to give you a rest;
- contact your public health nurse or doctor for advice and support.

If the crying continues or sounds unusual or if you are concerned that your baby is ill or not growing well, contact your public health nurse or doctor.
When should I start spoonfeeding my baby?

Breast milk or formula milk provides all the nourishment babies need during the early months. From about 6 months, babies need more than just milk feeds, so it is appropriate to introduce spoon feeds by then.

Spoon feeds provide important extra nutrients that your baby needs at this time.

Spoonfeeding is also important for your baby’s overall development.

The exact timing depends on your baby and their readiness for spoon feeds.

**Between 4 months and 6 months**

You should wait until your baby is at least 4 months old (17 weeks) before giving spoon feeds and you should introduce spoon feeds no later than about 6 months (26 weeks), unless otherwise advised by a health care professional.

Ask your public health nurse for more information about spoonfeeding.
● Wash and sterilise all feeding equipment before use.
● Follow the instructions in this booklet for preparing powdered formula milk.
● Give your baby breast milk or formula milk as their main drink until they are at least 1 year old.
● Help is available. Contact your local health centre, public health nurse or doctor if you have any concerns about your baby or need advice.

Extra notes