

Formula Feeding Your Baby

If a baby cannot be breastfed, offer infant formula to baby until 9-12 months of age.

If your baby is fed formula, this will provide enough nutrition for their first 6 months of life. There is no need to give solid foods, including pablum, to a formula fed baby less than 6 months of age.

Choosing a formula

Infant formulas mostly differ in the type of sugar and protein that they have.

Regular formula

Start with a cow's milk formula. Regular infant formulas are made with lactose (type of sugar) and cow's milk (type of protein). Most infants under 12 months of age who are not breastfed should be given a cow's milk based formula.

Specialty formulas – Only used when doctor has diagnosed intolerance to cow's milk protein formula.

Soy formulas are made with soy protein and are lactose free. They are for babies who do not tolerate lactose or milk proteins.

Elemental formulas are also lactose free and are made with hydrolysate proteins, which are easy to digest for infants with allergies. If you have a family history of food allergies, your physician may recommend that you start your baby off with a soy or elemental formula if you do not want to breastfeed.

Lactose free formulas, are made without lactose, but do have cow's milk proteins. Infants are not usually born with a lactose intolerance, so these formulas are usually not needed.

Other infant formulas may be thickened, which is thought to be helpful for infants with reflux. Specialized formula for premature babies are also available.

What about iron?

There are two types of formula – regular and iron-fortified. A regular formula that is not “iron fortified” still has iron, just not as much as the type that is labelled “iron-fortified” or “added iron.” In general, it is recommended that infants who are not breastfed receive an iron-fortified formula. Talk to your health care professional if you think your baby is not tolerating an iron-fortified formula.

Buying and Preparing Formula

There are three different types of formula. All three offer the same energy, vitamins & minerals.

- **Liquid concentrate** (need to mix with water). Harmful to baby if you forget to dilute it!
- **Ready-to-feed** (no preparation required)
- **Powder** (need to mix with water). **Powdered** formula is not sterile. Infants who are premature, low birthweight, ill, or less than two months of age are at highest risk of getting sick from non-

sterile powdered formula. These babies should not be fed powdered formula unless specifically recommended by your physician.

Equipment needed

- Bottles
- Nipples
- Rings (to hold nipples on)
- Large pot with lid to boil water and equipment
- Measuring cup
- Bottle & nipple brush (for cleaning)
- Bottle liners (depending on type of bottles used)
- Container for storing prepared formula

Sterilize all bottles, rings, utensils, and nipples in boiling water for 2 minutes. Do this for at least the first 4 months of a baby's life.

Preparing formula

- All equipment must be sterilized in boiling water.
- **Boil water** in a pot on the stove on “high”, and allow it to boil **for at least 2 minutes after it reaches a “rolling” boil.** Let the water cool slightly before you use it to make formula. **Prepare formula within 30 minutes of boiling the water.**
- Wipe the top of the can of formula before opening to get rid of any dust or dirt that might get mixed in with the formula inside when the can is opened.
- Check the expiry date, usually on the side or bottom of the can
- Do not use the can if it is dented. If it is dented when you take it out of the case, try returning it to the store.
- Read the instructions! Each formula has its own instructions, so do not assume you know the correct amounts
- Measure carefully.

Water for formula

Water that is OK to use for making formula:

- If you live in town/city, use the water from the cold water tap. This water is closely monitored so it safe for your baby to drink.
- If your water comes from a well, have your well water tested at least twice a year for bacteria, nitrates, and fluoride content. If it is high in bacteria, high in nitrates, or high in fluoride, another water source should be used. Call the Health Unit for more information.
- Bottled spring water is a safe option if the water is purchased from a store in a sealed container and municipal tap water is not available.

None of these types of water are sterile. Make sure to boil any kind of water for babies less than 4 months of age. Well water should be boiled for as long as you feed formula to baby, even if longer than 4 months.

Do not use:

- Mineral water – high mineral content can be harmful to babies;
- Distilled water – all of the minerals have been removed, and can be harmful to babies; not sterile
- Carbonated water – carbonation is not suitable for babies;

- Water from a water softener – too high in sodium and/or potassium, and can be harmful to babies

How much will baby eat?

You know your baby is getting enough if they have regular bowel movements and wet diapers, and if they are gaining weight. Bowel movements should be soft and regular (every 1-2 days). There should be at least 6 heavy & wet diapers each day (after the 6th day of life), and the urine should be light yellow or colorless.

Babies tend to have a growth spurt around 2-3 weeks, 6 weeks, 3 months, and 6 months of age. Babies get hungry more often during a growth spurt. There is no need to give solid food or pablum during these growth spurts, just more formula!

At about 1-3 days of age, your baby's stomach is only the size of a cooked chick pea or hazelnut. It is very, very small and cannot hold much fluid.

From about 3 days to 7 days of age, your baby's stomach grows to the size of a cherry or medium grape.

From about 1 week to 6 weeks of age, your baby's stomach grows to the size of a walnut or lychee (type of fruit).

Birth to day three - Expect your baby to:

- Feed very often
- Take small amounts of formula – ½ to 2 oz at each feeding
- Take larger amounts each day

Day four to one month - Expect your baby to:

- Feed 8-12 times every 24 hours
- Take 1-3 oz. at each feeding
- Take more formula at each feeding as they get older
- Show you when they are hungry and full
- Gain weight well

After the first month - Expect your baby to:

- Feed every 3-4 hours

If you still find it confusing to know if your baby is getting enough formula, look at the last column of the table below, "Amount of Formula to Prepare per Day". Use this as a guide to know if your baby is taking in enough formula to ensure good nutrition.

Just make enough bottles of formula to last one day. Use any formula you make within 24 hours.

Infant Formula Amount to Prepare

Age	# of Feedings per Day	Amount of formula in each bottle	Amount of Formula to Prepare per Day
Birth	6 - 10	Birth - day 3 Baby will: * frequent feedings * ½ to 2 oz at each feeding * larger amounts each day	14 - 22 oz (410 – 650 mL)
2 weeks	6 - 10	2-4 oz (59 – 118 mL)	16 – 26 oz (470 – 770 mL)
1 month	6 - 8	2-4 oz (59 – 118 mL)	17 – 29 oz (500 – 860 mL)
2 months	5 - 7	2-4 oz ++ (59 – 118 mL ++)	22 – 35 oz (650-1030 mL)
3 months	5 - 7	5-6 oz (148 – 177 mL)	24 – 39 oz (710 – 1150 mL)
4 months	5 - 7		20 – 37 oz (590 – 1090 mL)
5 months	5 - 7		22 – 39 oz (650 – 1150 mL)
6 months	4 - 5	6-8 oz. (177 – 237 mL)	17 – 35 oz (500 – 1030 mL)
7 months	4 - 5		16 - 35 oz (470 – 1030 mL)
8 months	4 - 5		17 – 37 oz (500 – 1090 mL)
9 months	3 - 4	6-8 oz. (177 – 237 mL)	10 – 30 oz (300 – 890 mL)
10 months	3 - 4		10 – 31 oz (300 – 920 mL)
11 months	3 - 4		11 – 33 oz (330 – 980 mL)
12 months	0 - 3		0 – 21 oz (0 – 620 mL)

Note: This table is a guide for the approximate amount of infant formula to prepare. The infant's appetite should be the guide for how much infant formula to offer. Adapted from Manual of Clinical Dietetics 2000, Institute of Medicine 2005, and World Health Organization 2004/2006.

Safe storage of prepared formula

- Use prepared bottles within 24 hours.
- **Do not leave prepared formula out of the refrigerator for more than 2 hours.** (If there is formula leftover in the bottle after a feed, it must be discarded within one hour of starting the feed. Do not leave a partially fed bottle on the counter for 2 hours.)
- Opened cans of powder should be kept covered with the lid and used within one month.
- When a can of ready-to-feed or liquid concentrate is opened, any leftover contents should be poured into a glass container before being put in the refrigerator – the open can should not be stored in the fridge with formula still in it. The formula should be kept covered in the refrigerator and used within 24 hours of opening the original container.
- Do not freeze any kind of infant formula. Freezing affects the quality of the formula, and it will probably separate after thawing.

Warming a baby's bottle Warm the formula safely by:

- Placing the bottle in a bowl of hot water, OR
- Using an electric bottle warmer

Test the temperature by putting a few drops on your wrist. The formula should feel a bit warm, not hot.

Do not use a microwave to heat formula. The microwave heats the formula unevenly, so even if the bottle feels cool and you “shake” it, there may be “hot spots” in the formula that can burn baby's mouth. Plastic bottles and bottle liners can breakdown or melt in the microwave, causing chemicals to leak into the formula.

How to feed formula

- Always hold your baby when feeding him. Hold the bottle with your hand. Do not prop the bottle with a blanket or other object.
- Hold the baby with their head a bit higher than the rest of their body.
- Do not lay the baby down while drinking a bottle. Milk or formula may slip into your baby's airway causing him to choke.
- Be sure the hole in the nipple is the right size – when you hold the bottle upside down, about one drop per second should come out.
- Hold the bottle at a slight angle so that the nipple is always full of formula.
- To get your baby to open his mouth, try gently stroking his cheek near his lips with your finger. Never force the nipple into the baby's mouth.
- Younger babies need frequent burping. Burp your baby gently half way through the feeding and at the end.
- Your baby has had enough formula when his sucking slows down, he turns his head away, or he falls asleep. If your baby is full, stop the feeding even if there is still formula left in the bottle. Let your baby decide how much they want to eat.
- If your baby falls asleep while finishing a bottle, keep him upright on your shoulder or on your chest for at least 10 minutes. This allows any milk or formula still in his mouth to get safely to the stomach.

- Throw out left over formula that is in the bottle. The baby's saliva will go into the formula in the bottle, and it can cause bacteria to grow as well as start to break down the sugar and starches in the bottle. Throw out formula that has been out of the fridge for two hours.
- **Throw away formula that baby does not drink within one hour.** Formula should not be re-warmed during a feed.
- **Never put your baby to bed with a bottle.** The formula can pool in your baby's mouth and cause the baby's teeth to decay.

Vitamin & Mineral Supplements

Healthy full-term infants who are fed any iron-fortified infant formula generally do not require a vitamin and mineral supplement.

If you give your child supplements, make sure that your doctor knows about it. Carefully follow the directions on the label. Too much of any vitamin or mineral supplement can be harmful to your baby's health.

Iron

If your baby was full term and is healthy, they likely do not need to take an iron supplement. Talk to your doctor first. Iron supplements can be very dangerous if too much is taken.

Vitamin D

Current practice recommends that infants receive vitamin D. Vitamin D is added to formula and no further supplementation is required for formula fed infants.

If your baby is partially formula fed and partially breastfed, a vitamin D supplement is recommended depending on how much vitamin D the formula contains.

- If the formula contains 40 IU of vitamin D per 100 ml - **once a baby is consuming 16 ounces (375 mL) of infant formula, the vitamin D supplement can be discontinued.**
- If the formula contains 60 IU of vitamin D per 100 ml - **once a baby is consuming 12 ounces (375 mL) of infant formula, the vitamin D supplement can be discontinued.**

A vitamin D supplement is available in drug stores. Ask your pharmacist about the recommended dose.

Fluoride

It is suggested that families with infants and young children who use well water have their water tested for fluoride content.

Before considering the use of fluoride supplements or rinses, talk to your dentist or doctor. Call the health unit for more information.

Fussy Babies (colic)

All babies have fussy times, sometimes during the evening, night, or day. A "colicky" baby cries or screams for hours every day.

Experts are not sure about the cause of colic. There are many theories and myths. If you are concerned about your baby's crying, talk to your doctor or a public health nurse. They can provide some advice on coping with a colicky baby.

Here are a few things you may want to try:

- Take a late afternoon nap with your baby to give yourself a boost.
- Try the age-old treatment of walking or rocking the baby. To take some of the load off your tired arms, use a front carrier. The combination of body contact, swaddling and motion often puts babies to sleep. Do not worry about picking up your baby too often. You will not spoil a baby by comforting him/her.
- Take your baby for a car ride in his/her car seat. Often, the motion of the car puts babies to sleep.
- Try some of the over-the-counter remedies in drug stores. Ask your doctor about these products before using them.
- Give your baby a warm bath. You may have to deal with a few minutes of screaming at the beginning, but often a bath brings relief to a colicky infant.
- Never shake a baby, no matter how frustrated you become. Ask someone to come and give you a break. Shaking a baby can cause serious injury and may be fatal.

Burping

Some babies burp easily, others do not. Try to burp your baby once during a feeding and then again at the end of a feeding. Also, burp your baby when he/she seems uncomfortable or if he/she falls asleep too soon. Air in your baby's stomach can cause pain. If your baby has difficulty burping, try changing the baby's position to raise the air bubble in his/her stomach.

Here are three ways to burp babies:

1. Hold baby at your shoulder and gently pat the middle of his/her back.
2. Sit with baby in a sitting position on your lap. Put one hand under his/her chin and the other on his/her back; gently pat his/her back.
3. Place your baby on his/her tummy for a few seconds, then bring him/her to your shoulder and gently pat his/her back.

Spitting Up

Babies often spit up small amounts of milk during the first 4-6 months, especially while burping. If your baby spits up a lot, it may be because your baby is drinking too fast or too much, swallowing air while sucking or having too much activity after feeding. If you are worried, talk to your doctor or a public health nurse.

If your baby is forcefully vomiting and it continues with every feeding, talk to your doctor.

Night Feeds (Not Sleeping Through the Night)

It is normal and healthy for young babies to wake up during the night for at least one feeding, and maybe more. Their small stomachs cannot hold enough milk to last through the night and they get hungry. Frequent feedings at night help to prevent Sudden Infant Death Syndrome (SIDS). Breastfed babies do not get into as deep of a sleep and tend to wake more often, therefore decreasing the risk of SIDS. Babies may wake for night feedings whether they are fed breastmilk or formula. Every baby is different.

Usually, when baby is several months old, he/she is able to go without a feeding for 5 to 6 hours at night. This is true except when your baby is going through a growth spurt or is teething. If your baby is going

through a growth spurt or teething, they may wake up more often, even if they have been sleeping well until that point. It is important to offer a feeding at these times. It means that the baby needs more breastmilk or formula, not that they need to have solid foods introduced sooner.

When your baby is ready, they will begin to sleep longer again. Every baby does this at a different age. Offering pablum at bed time either from a spoon or in a bottle mixed with formula is not the solution to get baby to sleep through the night. This may actually make the sleeping situation worse if baby is not ready for solid foods. If you do this and baby starts to sleep through the night, it is coincidence. Babies will sleep through the night when they are developmentally ready.

Teething

Teething can be painful. Red cheeks, drooling and irritability are all normal symptoms of teething.

A low-grade fever may also be associated with teething, but a high-grade fever, diarrhea and vomiting are not normal symptoms of teething. A consult with your health professional is advised.

Use a finger cot, a cool teething ring, or a clean cool damp washcloth for your child to chew on when teething. Teething biscuits containing sugar are not recommended.

Use of a pain reliever recommended by your health professional may be used, but TEETHING GELS can be dangerous and are not recommended.

Where can I get more information?

[Follow this link for contact information to find out more.](#)

Frequently Asked Questions

What are “follow up formulas”?

“Follow-up” formula or “second stage” formulas generally have more calcium and iron than regular infant formula. After your baby is 6 months of age, he should be able to get enough of these nutrients from the solid foods he is eating. If your baby is doing well on “starter” formula, it is OK to keep using that one throughout the first year. If your baby is not eating well, you might ask your doctor if you should change to a follow-up type formula. It is up to you as a parent whether you give this type of formula or not.

What about DHA?

Some formulas have added fatty acids that might be labelled “omega-3”, “DHA”, or “ARA.” These often cost more than other formulas, and there is no known health advantage to these formulas when compared to a regular formula. It is up to you as a parent whether you want to give this type of formula or not.

My baby seems fussy, should I switch formulas?

Once you choose a formula, stick with it. Switching formulas too often can cause stomach upset and changes in bowel habits in the baby. If you feel you need to switch formulas, talk to your health care provider first. If you do switch formulas, the baby needs to be solely on the new formula for at least one full week in order to know how well the baby is going to tolerate it.

If I am partially breastfeeding and offering formula as a supplement, what is the best formula to use?

If you are partially breastfeeding and offering formula as a supplement, and if your baby has no food allergies or intolerances, then a regular cow's milk based formula can be used. A specialty formula is only needed if there is an intolerance or allergy to cow's milk protein or lactose. Talk to a public health nurse or your physician about whether your baby needs to be supplemented with formula.

Do I need gripe water or medicine for gas?

Babies produce gas. It is normal for a baby to have gas caused by extra air in the digestive system. To help reduce gas:

- Feed your baby at the first signs of hunger, so that they do not feed too quickly and suck in a lot of air
- Burp your baby often through a feeding
- Allow baby to spend time on his stomach to help with digestion
- Move baby's legs in a bicycle motion to help move food and gas through the digestive system

You do not necessarily need medicine if you baby has gas. Talk to a health care professional if you have tried these suggestions and still have concerns about your child's gas.

How do I know when my baby is hungry or done drinking?

Signs that your baby is hungry:

- Smacks her lips
- Moves towards you
- Turns towards bottle when cheek is touched with the nipple
- Sucks on fingers or hands
- Searches with an open mouth

Signs that your baby is full:

- Stops sucking on nipple
- Turns head away
- Arms and legs stretched out
- Feels settled and relaxed
- Pushing the nipple out of their mouth

Stress while bottle feeding may be shown by some of these signs – try stopping the feeding and starting again, or feeding at a later time.

- Swallowing quickly without taking a breath after each swallow
- Making squeaking noises
- Gulping, choking
- Raising hands toward bottle with open hands or fists
- Breathing fast or working hard to catch their breath
- Milk leaking out the side of their mouth
- Squirming or struggling to be comfortable
- Pushing the nipple out of their mouth
- Opening eyes widely as if they look alarmed
- Frowning or crying

What type of bottle should I use?

Bottles come in different shapes, such as straight or angled (that lets less air into the nipple). Also, bottles can be made of either plastic or glass. Plastic bottles do not break, but they do break down so need to be replaced when they show signs of damage such as discoloration and cracks. Plastic baby bottles may contain a chemical called bisphenol-A (BPA) that may leach from polycarbonate plastic into breast milk or baby formula. Make sure that any plastic baby bottles you use are BPA-free.

How long do I need to keep boiling bottles?

Health Canada recommends that water and equipment used to make formula must be sterilized for at least the first 4 months of the baby's life. Plastic bottles and latex nipples do deteriorate over time and will need to be replaced.

What type of nipple should I use?

Nipples can be made of a number of materials (silicone, latex, or rubber) and can be different shapes (traditional, orthodontic, or flat-topped). Nipples are also available in a range of sizes and flow-speeds. Because you cannot know beforehand which nipple your baby will prefer, buy one of a few different types and try them out. Once you figure out which nipple your baby prefers, then buy enough to last a few months.

How often should I change the nipples?

Plastic bottles and nipples need to be replaced when they show the following signs of break-down:

- Color change
- Thinning- test this by pulling hard on the nipple. If it bounces back to its original shape, then it is OK. If not, then it needs to be thrown out and replaced.
- Sticky feel when dry
- Cracks
- Tears
- Hole gets larger (formula drips out very fast, or pours out in a stream)

How often you change the bottle nipples depends on what they are made of, how often they are used, and how often they are sterilized. Watch for signs of damage, and replace the nipples as soon as any of the above signs are noticed.

Can I clean bottles & nipples in the dishwasher?

A dishwasher will not sterilize bottles and nipples. A dishwasher also may not get the residue of formula out of the nipple hole or from around the top of the bottle. Use bottle and nipple brushes in hot soapy water in order to ensure they are properly cleaned.

What if I don't mix the formula correctly?

Under-dilution (using too little water or too much formula powder or liquid concentrate) can cause problems for the baby, including:

- Vomiting
- Diarrhea
- Inflammation of the intestines
- Stress on kidneys and overall digestive system

Over-dilution (using too much water) can cause problems for the baby, including:

- Low nutrient intake
- Water intoxication – can lead to seizures, hypothermia, electrolyte imbalance, and death

If either of these happens for one feeding by mistake, the baby will not likely suffer long term negative effects. But if it happens more than once, and over a period of time, then the baby can get very sick. Be sure to follow the directions for formula preparation very carefully.

How do I know if my baby is constipated and what can I do about it?

Babies who are formula fed generally have a bowel movement multiple times each day, especially in the first few weeks of life. However, it is also common for formula fed babies who are a bit older (not newborn) to have a bowel movement every 1-2 days. Formula fed babies' stool should be light colored, firm but not hard, and with a consistency similar to peanut butter. A formula fed baby may grunt or cry when they have a bowel movement, but as long as the consistency of the stool is normal, then they are not constipated.

If your baby has true constipation, he will be having a difficult time passing small, hard, dry stools that look like a "pebble." If your baby is passing "pebble" like stools, talk to your health care provider.

Will my baby be constipated on iron fortified formula?

Iron-fortified formulas are not likely to cause baby to be constipated. Each baby tolerates formula differently, whether it is iron-fortified or not. If your baby becomes constipated on a formula, talk to your health care provider.

How do I know if my baby has had an allergic reaction to the formula?

Babies who have a parent, brother, or sister with any type of food or environmental allergy are most at risk of having an allergic reaction to formula.

Signs of an allergic reaction include:

- Stomach cramps
- Nausea
- Vomiting
- Blood in stool
- Hives or rash
- Swelling of eyes, face, lips, tongue, hands, or feet
- Difficulty breathing, wheezing, coughing, or runny nose
- Shock of complete collapse (anaphylaxis)

If one or both parents or a sibling has any allergies, and if your baby is formula fed, you can still try a cow's milk based formula. If your baby is formula fed and having allergic reactions as diagnosed by a doctor, then a hypoallergenic formula will be needed.

Is liquid concentrate more expensive than powdered formula?

Not necessarily. Although it is more expensive at the time to buy a case of liquid concentrate versus a can of powdered formula, the overall cost of the diluted liquid concentrate and powdered formula works out to be almost the same (depending on brand and type), and sometimes the liquid concentrate works out to be less expensive.

Can I use an electric bottle sterilizer to sterilize bottles and formula?

There are a number of electric bottle sterilizer units available that claim to sterilize bottles and formula at the same time. Although it is unlikely that these units will cause any nutrient losses in the formula for heating at a high temperature, the ability of these units to ensure sterilization of the formula may depend on a few things. Although these machines may reach the appropriate temperatures for sterilization of

formula and bottles when the machine is made, over time they may be less effective. As well, unless there is a timed–temperature mechanism built in that will tell how long the formula stays at a given temperature, there is no way to know if the formula remains at a high enough temperature for long enough to ensure that it will be sterile.

If using an electric bottle/formula sterilizer, it is recommended that the water used to make the formula be sterilized by boiling at a rolling boil for 2 minutes, then cooled before being used to make formula. This step of sterilizing the water should be done before using an electric bottle/formula sterilizer.

Should I prepare the formula in the bottles or in a jug?

Formula can be prepared either in a large sterilized jug or in individual sterilized bottles. Either way, make sure the amount of formula and sterilized water used match preparation instructions, and make just enough formula to last 24 hours. If you make more before the first batch is gone, do not mix newly prepared formula with formula that is already a day old – keep each batch separate, and label so that it is clear when each bottle or container full of formula has been made.

When can I stop warming a bottle?

Warming baby formula is done to make it more acceptable to baby. If your own baby will drink formula that is a colder temperature, it is fine to offer it this way. Warming the bottle or leaving it cool does not affect the nutritional content of the formula.

What if I am going away from home?

- If formula will not be consumed within two hours from being prepared, they should be refrigerated until cold before being transported.
- Prepare formula and place in the refrigerator. When the formula is cold, remove from the refrigerator and transport immediately to its destination. The formula can then be stored in a refrigerator at the destination and used within 24 hours from when it was first prepared, or it can be warmed up and fed to baby.
- If the journey time takes more than 30 minutes, the cold formula should be transported under refrigeration or in a cooler or thermal lunch bag with an ice pack. It is important to keep prepared formula cold until it is time for feeding it to baby. It is not safe to carry prepared formula bottles out of the home if they are not kept cold.
- If using powdered formula, keep the dry powder and water separate to prevent the growth of germs, then mix together just before feeding your baby.