

# *Feeding Baby Infant Formula*



*This information is intended for families who have made an informed decision to give their full-term healthy baby infant formula. Health Canada recommends exclusive breastfeeding for the first six months and continued breastfeeding for up to two years and beyond.*

## *Infant feeding decision*

It is important for you to make an informed choice when deciding how to feed your baby. This information is for parents and caregivers who are informed about the benefits of breastfeeding for baby and mom and have decided to give formula to their full-term healthy baby.

If you are breastfeeding and have decided to give your baby infant formula, it is important to know that adding formula to your baby's diet will decrease your milk supply. Be aware that once you stop breastfeeding, it may be difficult to start again.

For breastfed babies that need to be supplemented, expressed breastmilk is the best choice. If you supplement your breastfed baby with formula, you may want to consider an alternative method to bottle feeding such as cup or finger feeding. For infant feeding questions, call Huron Perth Public Health or your healthcare provider.

## *Choosing a formula*

All formulas, including store brand formulas, must meet standards set by Health Canada and will meet your baby's nutrient needs. Formula has all the nutrition your baby needs for the first 6 months of life. There is no need to give your baby solid foods or water before that.

Cow milk-based formula is the standard infant formula for healthy full-term infants. Infant formula that is labelled "iron-fortified" or "added iron" has more iron than formula that does not have this information on the label. Infants who are at risk of iron deficiency may need formula that is "iron-fortified". Talk to your health care provider to decide if your baby needs formula with more iron.

The following formulas are available but have no advantage over cow milk-based formula:

- added rice starch or thickened infant formula
- added prebiotics or probiotics (bacteria)
- added omega 3 fats (DHA or ARA)
- soy-based formula
- lactose-free formula
- follow-up or second stage.

**Never replace formula with:** goat or cow's milk; soy, rice or other vegetarian beverages; condensed or evaporated milk; PediaSure, Enfagrow, Baboo milk.

## Types of formulas

Infant formula comes in three forms: powder, liquid concentrate, and ready-to-feed. They have the same nutrition but are prepared differently. Powdered infant formula and liquid concentrate must be mixed with sterilized water. Do not add water to ready-to-feed formula. Check the expiry date on the formula. Do not use the formula after that date. Wash the top of the formula can before it is opened. Store the opened can of formula according to directions on the label.

## Preparing infant formula

There are three main steps to preparing infant formula.

### Step 1: Clean and sterilize bottles and equipment

- Wash your hands with soap and water then clean and disinfect the counter.
- Wash all the items used to make the formula (bottles, nipples, caps, rims, measuring cups, mixing fork or spoon, tongs, etc) in hot soapy water and rinse well.
- Put the equipment in a pot and cover completely with water.
- Bring the water to a rolling boil. Continue to boil for 2 minutes without the lid on.
- Remove items with sterilized tongs and let air dry on a clean towel. Cover the dried items and store in a clean place until ready for use.

For as long as baby is given formula, **sterilize** all the bottles and equipment for making the formula and **only use sterilized water to mix with the formula.**

**Note:** if you are using a home sterilizer (electric or microwave) to sterilize the bottles, follow the instructions that come with the sterilizer.

### Step 2: Sterilize the water

- Put water in a clean pot.
- Bring the water to a rolling boil. Continue to boil for 2 minutes without the lid on.
- Remove from heat and cool to room temperature.
- Store the water in a sealed and sterile container at room temperature for 24 hours or in the fridge for 2-3 days.

Do not use a kettle or the microwave to boil the water. It may not boil long enough or evenly.

**Use safe water sources when making infant formula** (see over).

### Step 3: Measure accurately

- Read the instructions on the formula can.
- Use the exact amount of sterilized water and formula.
- For powdered infant formula, use the scoop that comes with the can. When you measure a scoop, use the flat edge of a sterile knife to level the formula flat across the top of the scoop.

Too much or too little formula can make baby sick. Use the scoop that comes with the can.

### Use safe water

**Municipal water** is tested regularly and is safe to drink and use to make infant formula, but must be sterilized first (see Step 2).

**Well water** should be tested for bacteria, nitrates and nitrites.

Test well water for bacteria 3 times a year (spring, summer, and fall). Testing for bacteria is a free service for all Huron Perth residents on a private well.

Nitrates and nitrites are chemicals that may be found in well water. High levels of nitrates can lead to what is called “Blue Baby Syndrome” in infants less than six months of age, affecting the blood’s ability to carry oxygen.

A test for these chemicals can be done by a private lab for a fee.

**Bottled water** is not sterile. It must be sterilized before making infant formula.

**Never use** carbonated, mineral, or water from a water softener to prepare infant formula.

### A note about fluoride in drinking water

Fluoride is found naturally in the ground water in many areas in Huron and Perth counties. Fluoride levels that are higher than ideal ( $>1.5$  mg/L) may cause **mild dental fluorosis** in children. Fluorosis happens when permanent teeth are still forming below the gums. Mild fluorosis appears as small, white flecks or larger white areas on the permanent teeth.

If you live in a community with high naturally occurring fluoride, and are concerned about dental fluorosis, use another source of water (i.e. bottled water) to prepare infant formula or use prepared, ready-to-use formula instead. Pitcher filters (e.g. Brita) do not remove fluoride.

## Preparing powdered infant formula

Powdered infant formula is not sterile. It may contain bacteria that in rare cases can lead to severe illness, such as meningitis. It must be prepared properly to reduce the risk of bacterial growth. Use sterilized equipment and the correct temperature of sterilized water to prepare the formula.

Follow the instructions on the formula can. Before you use the formula, check the expiry date on the can. Once the can is opened, follow the instructions on the can for where and how long to store it.

***It is safest to prepare powdered infant formula one bottle at a time to feed your healthy full-term baby right away.***

Health Canada recommends that infants who are premature, have a low birth weight or weakened immune system drink sterile liquid infant formula (liquid concentrate or ready-to-feed) if they're not being breastfed.

### **To prepare one bottle of powdered infant formula to feed right away:**

- Use previously boiled water that has been cooled to room temperature or body temperature (37°C).
- Pour required amount of water into a sterilized bottle.
- Add the correct amount of formula according to the label. Mix well until there are no lumps.
- Check that the formula is not too hot for baby by placing a few drops on your wrist. The formula should feel lukewarm. If it is too hot, cool it quickly under cold running water.
- Feed baby the bottle right away. Throw out formula after 2 hours.

### **To prepare powdered infant formula for later use (up to 24 hours later)**

- Use boiled water that has cooled to 70°C.
- Add the correct amount of 70°C water to the sterilized bottles.
- Add the correct amount of formula to the bottles. Mix well until there are no lumps.
- Cool the bottles quickly under cold running water.
- Put the bottles in the fridge. Make sure the fridge temperature is 4°C or below to prevent harmful bacteria from growing.
- Use the bottles within 24 hours.



### **NEVER MICROWAVE THE BABY'S BOTTLE.**

Microwaving causes "hotspots" that may burn baby's mouth. Do not microwave formula in plastic containers.



When it's time for a feeding, the formula should be **warmed using hot tap water** until it feels lukewarm (neither hot or cold).

## *Preparing liquid concentrate formula*

- Use previously boiled water that has been cooled to between room and body temperature (37°C).
- Pour the correct amount of liquid concentrate into a sterilized bottle.
- Add the correct amount of water.
- If more than one bottle is made at a time, put the bottles in a fridge that is 4°C or below.
- Use the bottles within 24 hours.

## *Preparing ready-to-feed formula*

- Do not add water.
- Add the formula to sterilized bottles.
- If more than one bottle is made at a time, put the bottles in a fridge that is 4°C or below.
- Use the bottles within 24 hours.

## *How to warm prepared bottles of formula*

Prepared bottles should be warmed to between room and body temperature (37°C).

- Put the bottle in a dish of hot water for no more than 15 minutes.
- Shake the bottle to evenly distribute the heat.
- Test the temperature of the formula before feeding baby. Place a few drops on the inside of your wrist. It should feel lukewarm.
- Once the formula is warmed to the right temperature for your baby, feed your baby right away. The bottle should be used within 2 hours.
- Do not warm prepared formula more than once.
- Throw away any unused formula.

## *Safe use and storage of prepared formula*

- Keep prepared bottles of formula at the back of the fridge where it is coolest. Do not store prepared bottles in the fridge door.
- Use prepared bottles within 24 hours.
- Once a bottle is taken out of the fridge to feed your baby, it should be warmed right away and used within 2 hours. When your baby is finished drinking from that bottle, throw out any leftovers. Prepare smaller bottles if you find you are throwing out a lot of formula.
- Rinse bottles and nipples right away after use.
- Do not freeze any kind of formula.

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For information on infant formula recalls in Canada, go to Health Canada's website: <https://recalls-rappels.canada.ca/en>

## Choosing a bottle and nipple

Baby bottles come in many shapes and sizes. They are made out of soft plastic or glass. Choose bottles that do not have BPA. Check bottles regularly and throw them out if they have chips or cracks.

Bottle nipples are made from rubber, latex or silicone and come in different shapes. You can try different types to find the one your baby likes.

Nipples come in different flow rates: slow flow and fast flow. Slow flow nipples are best for newborns. Change to fast flow nipples as baby gets older.

### *You should replace the nipple if:*

- the formula comes out too quickly (formula should drip once per second when bottle is held upside down)
- the nipple has become discoloured
- the nipple has become swollen
- the nipple is cracked, is sticky or broken.

## Feeding baby

Create a calm environment. Hold baby close, make eye contact and talk softly. Holding and touching baby while feeding is important for bonding. Hold baby skin-to-skin while feeding when you can.

Support baby's head and hold it higher than the body. Hold the bottle for your baby so that the formula fills the nipple. Put the nipple just below baby's lower lip. Baby will respond with a big, wide-open mouth. This is when to put the nipple in baby's mouth. Much of the nipple should be in baby's mouth so that during feeding, baby has a wide open mouth on the large part of the nipple, not just the tip of the nipple.

Hold baby in the left arm for some feeds and the right arm for some feeds. This helps baby with muscle development while he is turning his head to look at you. When baby is feeding, do not prop the bottle or lay baby down. Your baby could choke if you do this. Burp your baby after each feeding.

## Let baby guide the feedings

Your baby will let you know when he is hungry and full. Follow his signs and feed him when he shows you he is hungry and stop when he has had enough, even if there is still formula in the bottle. During growth spurts, babies will drink more formula but they do not need solid foods. Babies have growth spurts around 2-3 weeks, 6 weeks, 3 months and 6 months.

These are signs your baby is hungry:

- makes sucking or soft sounds
- turns head from side to side
- searching to reach things with an open mouth
- puts hands in her/his mouth
- makes more body movements like stirring or moving arms

Feed your baby when he shows these early signs of hunger. Crying is a late hunger cue. If you wait until your baby cries when he is hungry, he may be too upset and not feed well. If baby is crying by the time you feed him, calm baby by cuddling, holding him skin-to-skin, or rocking him.

These are signs your baby is full:

- lets go of the nipple in a relaxed manner
- swallows become few and far between
- turns away from the bottle
- falls asleep
- closes his mouth
- does not look for more milk.

## How much formula to prepare

Always follow your baby’s feeding cues. The amounts given are only a guide. Your baby may drink more or less than the amounts shown. **Follow the instructions on the formula can to prepare either powdered or concentrate formula.**

| Age              | Approximate number of feedings in 24 hours | Approximate amount of formula to prepare per day |
|------------------|--------------------------------------------|--------------------------------------------------|
| Birth - 24 hours | At least 8                                 | 1.5 - 2 oz (40-60 mL)                            |
| 24 - 48 hours    | At least 8                                 | 2.5 - 4 oz (80-120 mL)                           |
| 48 - 72 hours    | At least 8                                 | 4 - 8 oz (120-240 mL)                            |
| 72 - 96 hours    | At least 8                                 | 8 - 16 oz (240-480 mL)                           |
| 4 - 7 days       | At least 8                                 | 10 - 20 oz (300-600 mL)                          |
| 1 - 4 weeks      | At least 8                                 | 15 - 25 oz (450-750 mL)                          |
| 1 month          | At least 8                                 | 25 - 35 oz (750-1050 mL)                         |
| 2 months         | At least 8                                 | 25 - 35 oz (750-1050 mL)                         |
| 3 - 5 months     | At least 8                                 | 25 - 35 oz (750-1050 mL)                         |
| 6 - 8 months     | At least 4                                 | 16 - 37 oz (480-1110 mL)                         |
| 9 - 11 months*   | At least 3                                 | 16 - 33 oz (480-990 mL)                          |
| 12 months*       | 3                                          | 16 - 21 oz (480-630 mL)                          |

*\*Part of this amount can be homogenized milk (3.25% milk fat) if your baby is eating a variety of foods, including iron-rich food daily. By 12 months, your baby should receive at least 500 mL (2 cups) of milk and/or formula but no more than 750 mL (3 cups)/day.*

**Source:** Dietitians of Canada. Infant Formula Amount to Prepare. In: PEN: Practice-based Evidence in Nutrition. 2014 Feb 18 [Accessed 2014 March 19]. Available from [www.pennutrition.com](http://www.pennutrition.com). Access only by subscription.

Chart adapted with permission from York Region Community and Health Services.