

Are you thinking of using infant formula?



How you feed your baby is an important decision. Chatham-Kent Public Health Unit supports all women and their families by providing fact based information. We want you to have all the information you need to make an “informed decision” that is right for you.

Know the Facts

Research shows that there are health differences between feeding infant formula and breastmilk. We know now, more than ever, how important breastfeeding is to you and your baby’s health.

For example, babies who are not breastfed have a higher risk of:

- Gastrointestinal infections that cause diarrhea
- Ear infections
- Respiratory tract infections like colds and pneumonia
- Sudden infant death syndrome (SIDS)
- Obesity and diabetes later in life

Mothers who do not breastfeed have a higher risk of:

- Breast and ovarian cancer
- Chronic diseases such as cardiovascular disease and type 2 diabetes

Buying infant formula and bottles can also be expensive.

Formula companies often give mothers samples of formula “just in case” they might need it. This free formula may come at a time when you are feeling tired, still getting to know your baby and not yet confident about breastfeeding.

The decision not to breastfeed can be difficult to reverse or change. It is important to continue to breastfeed, express breastmilk by hand or pump if you wish to offer your child breastmilk now or in the future.

Combining Breastfeeding and Infant Formula

If you have been advised to offer infant formula, consider combination feeding:

- Breastfeeding directly AND feeding infant formula as a supplement
- Feeding expressed breastmilk combined with infant formula

Once you have made your informed decision to use formula, it is important that you know how to safely prepare and store infant formula.

Help is available.

If you have any questions or concerns about feeding your baby or growing child you can speak to a Public Health Nurse on the **Infant and Child Health Information Line** 519.352.7270 ext. 2903

Infant Formula...Getting Started

Infant Formula Options

Any cow's milk-based infant formula, including generic brands, will meet your baby's nutrition needs. If you choose a low-iron infant formula, talk to your baby's health care provider to make sure your baby is not at risk for not getting enough iron.

Ready-to-feed or liquid concentrate infant formulas are sterile and have less risk for bacterial contamination compared to powdered infant formulas, but they cost more.

For safety, children less than 2 months old or children at high risk of health complications, such as, low birth weight, prematurity, or immunocompromised, should not be fed powdered formula unless advised by your doctor, midwife or health care provider.

If you absolutely have to feed your at-risk child powdered formula, follow the instructions for preparation on page 8.

Talk to your baby's health care provider before offering soy, lactose-free, hypoallergenic or thickened infant formula.

Infant formula marketed as organic, follow-up or second stage, made with prebiotics, probiotics or DHA fats, or made with "partially broken down" proteins are not necessary.

The following are not substitutes for infant formula and can be unsafe:

- Cow or goat milk (raw or pasteurized)
- Soy, rice or almond beverages
- Homemade evaporated milk formula
- Enfagrow® and Pediasure®

Since formula is a manufactured food, there is the possibility of safety issues. Health Canada's [Healthy Canadians](http://healthycanadians.gc.ca/recall-alert-rappel-avis/index-eng.php) (<http://healthycanadians.gc.ca/recall-alert-rappel-avis/index-eng.php>) is a website that provides safety and recall alerts (use search term 'infant formula'). Consider [signing up](#) for their health and safety updates.

There are many formula feeding options to consider such as cup (open cup, not sippy cup), bottle, spoon, syringe, lactaid or finger feeder. Please consult your public health nurse for more information.

Safe Feeding Equipment

Use glass or BPA-free bottles and nipples that have no cracks, discolouration or loose material that could break off. If you notice worn or damaged parts, throw them out.

To make feeding equipment (e.g., bottles, nipples and tongs) safe, boil them for at least two minutes at a rolling boil.

Follow the manufacturer's instructions when using a baby bottle sanitizer. See page 5 for steps on *How to Clean and Boil Feeding Equipment*.

Buying and Storing Infant Formula Containers

To lower the risk of bacterial growth and to retain the nutrients, follow these tips:

- Check the can for damage, or dents and 'best before' date
- Store unopened containers in a cool dry place
- Avoid direct sunlight or freezing

Once opened, if you have leftover liquid concentrate or ready-to-feed infant formula, it may be refrigerated for up to 48 hours if well covered or sealed in original container.

Follow manufacturer's instructions on how to store opened containers of powdered infant formula.

Water Options for Infant Formula Preparation

Prepare formula with fluoridated water to help your baby's developing teeth.

Safe water options include:

- Municipal tap water - use cold tap water
- Bottled water that states level of fluoride and nitrate on the label
- Well water that has been tested for bacteria and chemicals (fluoride and nitrates)

Well water might have high levels of natural fluoride. Health Canada recommends testing (offered by private labs for a fee) before mixing with infant formula. Talk to your health care provider about fluoride and nitrate levels if preparing infant formula with bottled or well water.

These safe water options still need to be boiled. Instructions on boiling water for formula preparation can be found on pages 6 and 8.

Do not use carbonated, distilled, mineral or softened water to mix with formula. It is not good for baby.

Follow Your Baby's Cues

Trust that your baby knows how much to drink and follow their feeding cues. When your baby starts to show signs of fullness, stop feeding. Avoid pressuring your baby to finish the bottle.

Signs that your baby may be hungry:

- Restlessness
- Rooting (opening mouth, sucking)
- Sucking on a hand

Signs your baby may be full:

- They are falling asleep
- Sucking slows down
- Turning their head away
- Letting go of the nipple or losing interest
- Rooting will stop

Signs of stress while feeding:

- Squirming or struggling during the feed
- Gagging or choking while feeding
- Gulping or swallowing without taking a breath after each swallow
- Working hard to catch a breath, making squeaking noises
- Milk spilling/dribbling out of mouth
- Moving head away or pushing bottle away

Feeding time is a special time to get to know your baby. For safe, secure and comfortable bottle feeding, sit your baby almost fully upright in your arms. Do not prop the bottle during feeds; hold it parallel to the ground so that the nipple is $\frac{1}{2}$ to $\frac{3}{4}$ full of formula. Near the end of the feeding when there is less formula left, tip the bottle up.



Your baby will drink more at some feeds and less at other feeds. They will go through growth spurts and drink more. This is not a sign to introduce solid foods. (See the booklet [Feeding Your Baby from six months to one year](#) for information on when to introduce solid foods.) When you follow their hunger and fullness signs, you will feed them the amount that they need.

If you are unsure whether your baby is drinking enough, talk to your baby's health care provider. Making sure they are growing well and having 6-8 wet diapers a day, are some ways to know your baby is getting the amount that is right for them.

How to Clean and Boil Feeding Equipment

1) Clean and sanitize the counter. Wash your hands with soap and hot water. Dry hands thoroughly with a clean towel.



2) Wash all equipment (bottles, caps, nipples, tongs and can opener) with warm soapy water. Clean hard-to-reach areas with a bottle brush. Rinse the equipment well.



3) Place equipment into a pot and fill with water. Make sure equipment is fully covered with water except for the tongs. Leave tong handles sticking out.



4) Bring water to a boil and let the water boil for at least two minutes.



5) Keep equipment in the pot and cover or remove with sterile tongs and place them on a clean cloth or towel on the counter to dry.











- Sanitize: wipe down cleaned surfaces with a bleach and water solution
- Sanitizing solution is made by mixing 1 teaspoon of bleach to 1 litre of water in spray bottle. Spray on the surface and then wipe off

How to Prepare Liquid Concentrate

When preparing infant formula, follow the preparation instructions carefully. Refer to the previous pages in this factsheet for safe water options, as well as how to clean and boil the feeding equipment.

When feeding your baby, always follow their feeding cues. This means to feed them when they are hungry and stop when they are showing you they are no longer hungry. Watch your baby, not the clock.

1. Clean and sanitize the counter. Wash your hands with soap and hot water. Dry hands thoroughly with a clean towel. 
 2. Bring water to a rolling boil for two full minutes. Cool to room or body temperature. Boiling for longer periods of time is not recommended. If using an electric kettle make sure it comes to rolling boil for 2 minutes. 
 3. Wash the top of the container with hot water. If it comes in a can, open it using a clean can opener. Pour equal amounts of formula and previously boiled and cooled water into the bottle. 

 4. If you don't feed your baby right away, you can store the bottle in the refrigerator for up to 24 hours. 
 5. If you warm the infant formula, check the temperature by dripping a small amount onto the inside of your wrist. It should feel lukewarm or room temperature. (see instructions on warming, pg 10) 
 6. Feed your baby based on their feeding cues. 
 7. If baby does not drink the whole bottle, throw away within two hours. 
- Leftover concentrate should be stored and used according to the manufacturer's instructions

How to Prepare Ready to Feed Infant Formula

1. Clean and sanitize the counter. Wash your hands with soap and hot water. Dry hands thoroughly with a clean towel.



4. If you warm the infant formula, check the temperature by dripping a small amount onto the inside of your wrist. It should feel lukewarm or room temperature. (see instructions on warming, pg 10)



2. Wash the top of the container with hot water. If it comes in a can, open it using a clean can opener. Pour the desired amount of infant formula in the clean bottle.



5. Feed your baby based on their feeding cues.



3. If you don't feed your baby right away, you can store the bottle in the refrigerator for up to 24 hours.



6. If baby does not drink the whole bottle, throw away within two hours.



- Leftover infant formula should be stored and used according to the manufacturer's instructions

How to Prepare Powdered Infant Formula

When preparing infant formula, follow the preparation instructions carefully. Refer to the previous pages in this factsheet for safe water options as well as how to clean and boil the feeding equipment. The use of Automatic Infant Formula machines is not recommended. There is lack of available information on product quality and safety and water is not hot enough to kill off bacteria that may be present.

- 1) Clean and sanitize the counter. Wash your hands with soap and hot water. Dry hands thoroughly with a clean towel.



- 6) Mix well by shaking or swirling the bottle, or stirring with a sanitized spoon until no lumps are present.



- 2) Bring water to a rolling boil for two full minutes. Boiling for longer periods of time is not recommended. If using an electric kettle make sure it comes to rolling boil for 2 minutes.



- 7) If prepared with water that is no less than 70°C, you can store the bottle(s) in the refrigerator for up to 24 hours.



- 3) If you are preparing bottles for later use (up to 24 hours later), cool water to no less than 70°C (it takes about 30 minutes, at room temperature for 1 litre of water to cool to around 70°C). You can also use a food grade thermometer to test water temperature.



- 8) If you warm the infant formula, check the temperature by dripping a small amount onto the inside of your wrist. It should feel lukewarm or room temperature. (see instructions on warming, pg 10)



- 4) Pour the correct amount of boiled water into the bottle first.



- 9) Feed your baby based on their feeding cues.



- 5) Immediately add the correct amount of infant formula powder to the water. If needed, use a knife (cleaned and boiled for at least two minutes) to make a level scoop.



- 10) If baby does not drink the whole bottle, throw away within two hours.



- If it is necessary for you to prepare a bottle while you are away from home without a kitchen:
 - 1) Mix powdered infant formula with previously boiled water in a sterile/clean bottle
 - 2) Feed immediately to baby

This method of preparation increases the risk of the formula to contain harmful bacteria versus mixing the powder with water that is no less than 70°C.

How Much Formula Should I Make?

If you plan on making formula ahead of time these are the average amounts a baby might need over a 24-hour period. These are ONLY guidelines. This may help until you have a better idea of how much your baby needs based on their feeding cues. See Feeding Cues (page 4).

Age of baby	Total amount of formula baby might need in 24 hours	Amount of formula baby might take
2 weeks	12-24 ounces 360 ml-720 ml	Try 2-3 ounces (60-90 ml) every 3-4 hours (6-8 feeds) for the first two weeks
1 month	18-32 ounces 540 ml-960 ml	Try 3-4 ounces (90-120 ml) every 3-4 hours (6-8 feeds)
3 months	25-48 ounces 750 ml-1440 ml	Try 5-6 ounces (150-180 ml) every 3-5 hours (5-8 feeds)
6 months	24-40 ounces 720ml-1200 ml	Try 6-8 ounces (180-240 ml) for 4-5 feedings per day
9 months	18-32 ounces 540 ml-960 ml	Try 6-8 ounces (180-240 ml) for 3-4 feedings per day

Note: This chart has been developed from material provided American Academy of Pediatrics (1).

- If baby still seems hungry, try increasing the amount of formula offered by ½ ounce (15 ml)
- If baby spits up frequently after feeds try decreasing amount offered by ½ ounce (15 ml)

References:

- 1) American Academy of Pediatrics. (2010) Your Baby's First Year. New York: Bantam Books.
- 2) World Health Organization in collaboration with Food and Agriculture Organization of the United Nations. Safe preparation, storage and handling of powdered infant formula. Guidelines(2007)cited [Oct 13, 2015]. Available from: http://www.who.int/foodsafety/publications/micro/pif_guidelines.pdf

Other Considerations

Vitamin D –All babies need Vitamin D to prevent a bone disease called rickets. This nutrient is already added to infant formula. Babies drinking only infant formula do not need a Vitamin D supplement.

Babies who are receiving both infant formula and breastmilk should receive a vitamin D supplement of 10 mcg (400 IU) per day. This will help prevent vitamin D deficiency. When your baby starts getting more vitamin D from other foods, generally around one year of age, you may be able to stop giving the supplement. Talk to your health care provider about vitamin D beyond 1 year of age.

Tooth decay – If your baby falls asleep while feeding, they have a higher chance of developing tooth decay, even if your baby has no teeth yet. Tooth decay can cause trouble with eating, sleeping and may even affect their adult teeth.

To lower the chance of tooth decay, wipe your baby’s gums or teeth with a damp, soft, clean cloth or infant tooth brush after each feeding or at least twice a day, even if your baby falls asleep.

Warming Previously Made Formula

If you choose to warm the formula before feeding, warm it for no longer than 15 minutes to room or body temperature by placing the bottle:

- Under warm running water
- In a bowl of warm water
- In an electric bottle warmer on a low setting

Always shake it up and check the temperature of the formula by dripping a small amount on the inside of your wrist before feeding. It should feel lukewarm not hot.

Avoid using a microwave to warm bottles as it can cause “hot spots” and burn your baby’s mouth.

If you have questions about how feeding is going or
for more information about this factsheet,
Call the Chatham-Kent Public Health Unit at
519.352.7270 ext. 2903
Or visit our website at
www.CKPublicHealth.com

Questions on healthy eating?
Speak to a Registered Dietitian at
Telehealth Ontario at 1-866-797-0000 or
www.unlockfood.ca

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