**Recommendations**

- Breastfeeding is the normal and unequalled method of feeding infants. Breastfeeding is recommended, exclusively for the first six months, and sustained for up to two years or longer with appropriate complementary feedings.
- In the first nine months of life, commercial infant formulas are the only recommended alternative to breastmilk when mothers are unable to breastfeed or when parents have made an informed decision to use infant formula.
- Homemade infant formulas are not appropriate alternatives to breastmilk or commercial infant formula. Homemade infant formulas should only be considered for emergency short-term use if commercial formula is unavailable.
- Homemade infant formulas are not more natural than commercial infant formula. All ingredients in commercial infant formula are there in specific amounts for a nutritional purpose.
- Families who have made an informed decision to use homemade infant formula and who are experiencing financial hardship should be directed to community programs and supports that will help them access commercial infant formula.
- Families who continue to use homemade infant formula should be informed of the risk and offered a referral to a registered dietitian.

**Health Benefits:**

Homemade infant formulas are not an appropriate alternative to breastmilk or commercial infant formula except for emergency short-term use. This document provides guidance on homemade infant formula to assist health professionals when discussing the topic with parents.

**Key Questions**

**What are homemade infant formulas?**

Homemade infant formulas are unregulated formulas made at home. These formulas may contain a variety of ingredients such as: different animal milks which may or may not be pasteurized (e.g. cow, goat, buffalo, etc.), plant based beverages, coconut fat, meat broths and liver. Although recipes for homemade infant formulas are promoted on the internet and by some practitioners who give health advice, these formulas are not recommended.

The World Health Organization (WHO) provides homemade infant formula recipes using fresh, full-fat powdered, or full-fat canned evaporated animal milks mixed with water and sugar to meet the energy and hydration needs of non-breastfed infants who have no access to commercial infant formula in emergency situations (i.e. natural disasters), typically in developing countries. Homemade infant formulas should only be considered for emergency short-term use. These homemade formulas must be prepared safely, following directions from WHO’s Guidelines for Use of Breast-milk Substitutes in Emergency Situations. Unpasteurized milk in homemade infant formula recipes poses serious health risks. For information on how to pasteurize raw milk refer to [How to Pasteurize Milk at Home](#).
As homemade infant formulas are nutritionally incomplete, WHO recommends additional iron and micronutrient supplementation. However, the feasibility and safety of adding vitamins and minerals to homemade infant formula is of concern due to the real possibility of home mixing errors and lack of availability of complete multi-vitamin and mineral supplements.¹

Health Canada no longer provides a recipe for homemade infant formula due to the risks outlined below.

### Are homemade infant formulas an acceptable alternative to breastmilk or commercial infant formula?

Homemade infant formulas are not recommended alternatives to breastmilk or commercial infant formulas.²³⁵ Homemade infant formulas can cause severe malnutrition and potentially fatal illness in infants.⁶ These formulas may:
- be nutritionally incomplete (i.e. low in iron, essential fatty acids, and other essential nutrients.)¹⁴⁷ Poor iron status may persist into childhood and iron deficiency anemia is associated with long lasting adverse effects on cognition.⁸ Essential fatty acid deficiencies may lead to dermatitis, growth retardation, and impaired cognitive development.¹
- deliver a high renal solute load which can affect renal function with prolonged use.¹⁴⁷
- increase food safety risk.⁴
- exceed recommended levels of some vitamins or minerals. (e.g. vitamin A)¹⁴⁷

Breastmilk is the normal and unequalled food for infants. Health care providers may be able to support the family with breastfeeding or re-lactating if this is a goal of the family. Where breastmilk is not possible or chosen, commercial infant formula will meet the nutritional needs of infants and is the only recommended alternative to breastmilk for infants younger than nine months of age. All commercial infant formulas must undergo a full safety and nutritional quality assessment before they can be sold in Canada.²³ All manufacturers, importers and distributors of infant formula are responsible for ensuring that their products comply with Canadian legislation.²³ Health Canada cautions individuals against purchasing infant formula from Internet sites or from other countries. Infant formula that has not been approved by Health Canada pose a safety and nutritional risk, as they may not meet Health Canada safety and nutrition regulations.

Preterm infants and those with specific needs may require additional nutrients in addition to breastmilk or commercial formula. For information on commercial infant formulas refer to the Infant Formulas for Healthy Term Infants – Compendium & Summary Sheet.

### Are homemade infant formulas more economical than commercial infant formula?

The cost of using homemade infant formulas may be even higher than using commercial infant formula when one considers the vitamin and mineral supplementation needed to accompany homemade infant formulas. Although the use of homemade infant formulas has declined with the introduction of lower cost store brand infant formulas, homemade infant formulas may continue to be used due to a perceived lower cost and better availability in remote areas.²³ When the cost of store brand powdered and liquid concentrate infant formulas was compared to a common homemade evaporated milk infant formula recipe, it was found that there was little to no cost savings with providing the homemade infant formula.
In Canada there are supports in place to help families access commercial infant formula. Community agencies such as food banks, churches and service groups, as well as income support programs may be able to provide commercial infant formula or other financial and/or social supports for families. Families receiving income support can receive additional funds to cover the cost of commercial infant formula provided: they have a physician’s prescription for the infant formula, a health care provider has provided an estimate of the monthly cost of the formula for special diet approval, and the formula is purchased through a pharmacy. Further information can be found under the Government of Alberta Income Support Programs. Medically indicated formulas are covered for families with limited income through the Alberta Child Health Benefit and Government of Alberta Income Support Programs. The formula also needs to be purchased through a pharmacy with a physician’s prescription. In Alberta, free commercial infant formula is provided to HIV positive mothers through their infant’s first year through the Free Formula Programs for mothers with HIV.

Families should be encouraged to access these programs if needed. Health care providers may also be able to support the family with breastfeeding or re-lactating if this is a goal of the family.

Are homemade infant formulas more natural than commercial infant formula?

Homemade infant formulas are not more “natural” than commercial infant formula. “Natural” is often defined as containing no preservatives or additives. Although homemade infant formulas may be perceived as more natural or some alternative practitioners or companies promote them as such, there is no evidence to support these claims.

Some people may perceive commercial infant formula as unnatural as the ingredients are listed using technical terminology. For example, vitamin E is listed as DL-alpha-tocopherol-acetate and vitamin B6 is listed as pyridoxine hydrochloride. It is important to note that all ingredients in commercial formula, including the added vitamins and minerals, are included in specific amounts for a nutritional purpose. Additionally, all commercial infant formulas must undergo a full safety and nutritional quality assessment by Health Canada before they can be sold in Canada.

If providing an organic formula is important to parents, there are organic commercial infant formulas available to choose from. Organic formulas have received organic certification from a Certification Body accredited by the Canadian Food Inspection Agency but this certification does not represent specific health claims. For information on commercial infant formulas refer to the Infant Formulas for Healthy Term Infants – Compendium & Summary Sheet.

Families who continue to use homemade infant formula should be offered a referral to a registered dietitian.

Are there any other resources related to feeding healthy infants and children that I can use with my clients?

For infant nutrition resources visit Nutrition Education Materials at http://www.albertahealthservices.ca/nutrition/Page11115.aspx and click on Infants.

For more information related to healthy infants and children see Healthy Parents Healthy Children.
References


