

Compendium of Breast Milk Substitutes



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Introduction

This compendium is intended as a reference for health professionals and is not intended to encourage the substitution of infant formulas for breast milk. **Breastfeeding should at all times be actively encouraged and supported.** Breastfeeding is the optimal method of feeding infants and can continue for up to 2 years of age and beyond.

Many breastfeeding challenges can be overcome with assistance from someone who has specialized training as a Breastfeeding Counselor or Certified Lactation Consultant. Breastfeeding support groups may also be available to help. Contact your local Health Unit for information in your community.

Breastfeeding significantly reduces illness and hospitalization by protecting infants against sudden infant death syndrome and many childhood diseases. Breastfeeding optimizes maternal/infant bonding and enhances infant cognitive development.

However, if a mother chooses to not breastfeed or to supplement breastfeeding, pasteurized donor breast milk or an appropriate commercial infant formula should be offered until baby is at least 9-12 months of age. Pasteurized donor breast milk is available for those in BC with medical risks. A doctor or midwife's order is required, including the child's name, birthdate, reason for donor milk, amount required and length of time required. All donors are extensively screened, and breast milk is tested and pasteurized prior to distribution. For more information, call "Children's and Women's Lactation Service and Milk Bank" in Vancouver at 604-875-2282.

To discuss commercial infant formula options, please contact the Community Nutritionist at your local Health Unit.

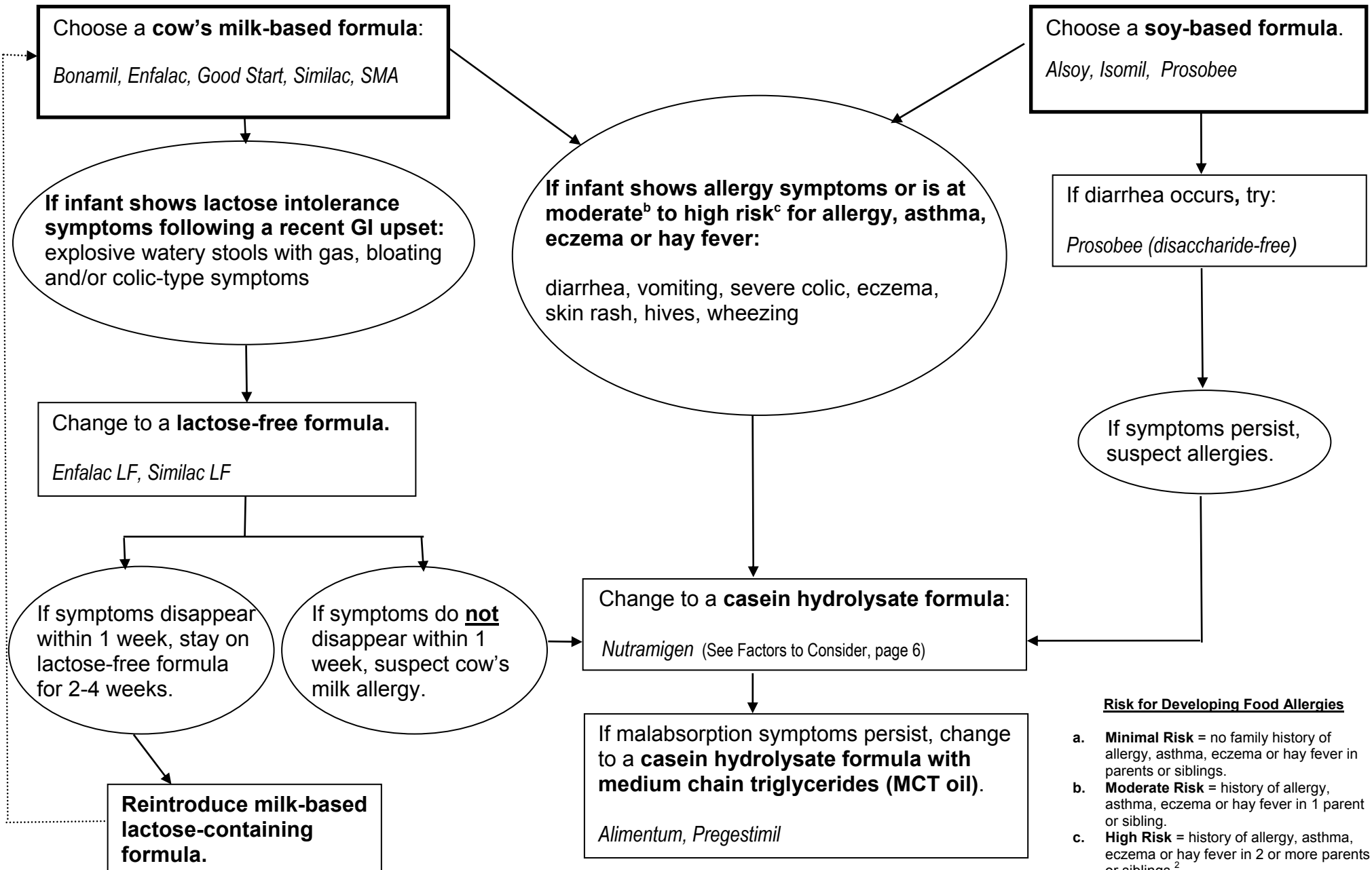
All product brand names are registered trademarks. Refer to labels for mixing instructions. Instructions and scoop sizes vary from formula to formula. All attempts were made to ensure information is accurate but please refer to product label for current product contents. This compendium is a reference and is not intended to replace professional advice.

Choosing a Suitable Breast Milk Substitute

A.) For most babies^a:

B.) For allergy management:

C.) For cultural/religious practices or galactosemia:



Risk for Developing Food Allergies

- a. **Minimal Risk** = no family history of allergy, asthma, eczema or hay fever in parents or siblings.
- b. **Moderate Risk** = history of allergy, asthma, eczema or hay fever in 1 parent or sibling.
- c. **High Risk** = history of allergy, asthma, eczema or hay fever in 2 or more parents or siblings.²

Infants with food allergies should be referred to a Registered Dietitian-Nutritionist for follow-up.

Human Breast Milk

- The extra cost of food for a breastfeeding mom is about \$20-\$40 per month.
- Formula feeding costs can be well over \$100 each month, not including the costs of bottles, liners, nipples, and heating equipment.
- In babies at risk for allergies, the breastfeeding mom should avoid eating peanuts and peanut products and may choose to alter her diet further.¹⁻³ Refer to Managing Food Allergy and Intolerance¹ for more information, or contact your Community Nutritionist.
- Children's & Women's Health Centre of BC offers a breast milk bank that is available by doctor's referral. Contact 604-875-2282.
- Current research supports **Vitamin D supplements for exclusively breastfed infants at 200 IU (5 ug) daily.**⁴

Mother's Milk	Kcal/100ml	Protein g/100ml	Fat g/100ml	CHO g/100ml	Iron mg/100ml	Comments
Colostrum (1-5 days)	58	2.3	2.9	5.7	0.045	<ul style="list-style-type: none"> ■ Protective functions. ■ Seals gut lining to prevent adherence of pathogens.
Mature Breast Milk (>30 days)	70	1.0 whey dominant (6%)	4.2 (53%)	7.2 (41%)	0.04	<ul style="list-style-type: none"> ■ Fat composition varies with duration of feed, age of baby, and time of day. ■ Contains 20-34 mg calcium per 100 ml.⁵

Cow's Milk - Based Formulas

- Standard choice for healthy term infants with no family history of allergy, asthma, eczema or hay fever. Use for 9-12 months of age and beyond, with the appropriate addition of solid foods.
- For supplementation of well-established breastfeeding.
- Starter formulas provide adequate calcium for infants up to 1 year of age. See DRIs, page 4.
- Healthy term infants have adequate iron stores to support hemoglobin synthesis for the first 3 months of life.^{6,7} However, it is recommended that formula-fed infants receive iron-fortified formula from birth as a precautionary measure.⁸ If an informed parent chooses a low-iron formula for the first 3 months of life, they must switch baby to an iron-fortified formula at 4 months of age when baby's stores are low. Additional sources of iron are found in iron-fortified infant cereals, meats and alternatives and dark green vegetables.
- Most commercial infant formulas are available in powders, concentrates and ready-to-feed formats. Check that powders and concentrates are mixed well and diluted according to directions on the label.
- If baby is gassy, try the concentrate or ready-to-feed.** Shaking vigorously to prepare the powdered formulas adds air and may exacerbate gas problems.

Product (Manufacturer)	Kcal/100ml	Protein g/100ml	Fat g/100ml	CHO g/100ml	Iron mg/100ml	Comments
Bonamil (Nestle)	67	1.5 skim milk	3.6 coconut, soy oils	7.1 lactose	1.2	<ul style="list-style-type: none"> ■ Acceptable lower cost formula.
Enfalac (Mead Johnson)	67	1.43 skim milk powder & whey protein concentrate	3.8 palm olein, soy, coconut, sunflower oils	6.9 lactose (powder has corn syrup solids, maltodextrin)	Regular: 0.45 Fortified: 1.2	

-Compendium of Breast Milk Substitutes 2001

Cow's Milk - Based Formulas

Product (Manufacturer)	Kcal/ 100ml	Protein g/100ml	Fat g/100ml	CHO g/100ml	Iron mg/100ml	Comments
Enfalac AR (Mead Johnson)	67	1.7 skim milk solids	3.5 palm olein, soy, coconut, sunflower oil	7.5 rice starch, lactose, corn syrup solids, maltodextrin	1.2	<ul style="list-style-type: none"> ■ Milk-based formula with added rice starch which thickens further on contact with stomach acid. ■ Use on the advice of a physician when baby has severe regurgitation. ■ Limited research available on the ability of "added-starch" formulas to prevent reflux and regurgitation.^{9,10} ■ Consider feeding technique and positioning to help prevent reflux and regurgitation. ■ If allergy-induced reflux is suspected, trial Nutramigen.
Good Start (Nestle)	67	1.6 100% whey partially hydrolysed	3.5 palm olein, soy, coconut, safflower oils	7.4 lactose, maltodextrin	1.0	<ul style="list-style-type: none"> ■ Not recommended for infants with diagnosed allergy to <u>cow's milk</u>.³ ■ Not hypoallergenic.^{3,12} ■ Some research suggests whey hydrolysate formula is easier to digest and may help reduce the risk of cow's milk allergies in infants at risk for allergies.¹¹ ■ Very little research available that compares the preventive effects of partially hydrolysed and extensively hydrolysed formulas. ■ More research is needed to support prevention-based recommendations for partially hydrolysed formulas.^{3,13-17}
Similac Advance (Ross)	68	1.4 skim milk solids, whey	3.7 high oleic, safflower & sunflower oils, coconut & soy oils	7.3 lactose	Regular: 0.15 Fortified: 1.2	
SMA (Nestle)	67	1.5 skim milk, reduced mineral whey	3.6 beef oil (oleo) coconut & soybean oils	7.2 lactose	Regular: 0.15 Fortified: 1.2	

Lactose “Free” Cow’s Milk - Based Formulas

- ❑ Lactose is an important nutrient for infants – **primary lactose intolerance in infants is extremely rare**. A secondary, temporary lactose intolerance can occur following infection in the G.I. tract. Infants can usually be breastfed through short-term GI infections.
- ❑ **Lactose intolerance symptoms include:** multiple explosive watery stools with gas, bloating and/or colic. Stools may be green, frothy or mucousy. **Note: spitting up and vomiting are not signs of lactose intolerance.**
- ❑ For exclusively breast fed babies who experience lactose intolerance symptoms, suspect **foremilk/hindmilk imbalance** due to: not emptying the breast fully, switching sides too soon, poor latch, poor positioning or an unmanaged oversupply of breast milk.¹⁸⁻²⁰ Contact a Breastfeeding Counselor or Lactation Consultant through your local Health Unit for help.
- ❑ For formula fed babies: try a lactose-free formula when baby has multiple explosive watery stools with gas, bloating and/or colic. Symptoms should clear up within 1 week if the problem is lactose intolerance. Remain on the lactose-free formula for 2-4 weeks to give baby’s gut time to heal and repair.²¹ After 2-4 weeks, re-introduce regular cow’s milk-based formula.
- ❑ If GI symptoms do not clear up within a week, suspect cow’s milk allergy and change to Nutramigen formula, page 5. Contact your physician to rule out other conditions.
- ❑ Cow’s milk based lactose-free formulas are **not appropriate for babies with galactosemia** because these formulas contain galactosyl residues.

Product (Manufacturer)	Kcal/100ml	Protein g/100ml	Fat g/100ml	CHO g/100ml	Iron mg/100ml	Comments
Enfalac Lacto-Free (Mead Johnson)	67	1.4 milk protein	3.5 palm olein, soy, coconut, sunflower oils	7.3 corn syrup solids	1.2	<ul style="list-style-type: none"> ■ Contains a tiny amount of lactose. ■ Lactose is replaced with corn syrup solids.
Similac LF (Ross)	68	1.4 milk protein	3.6 soy, coconut oils	7.2 maltodextrin	1.2	<ul style="list-style-type: none"> ■ LF means “lactose free”

Methods to Reduce Lactose in Breastmilk

*(discuss with Breastfeeding Counselor or Lactation Consultant prior to trying).

1. Optimize hindmilk intake:

Nurse off 1 breast until it is completely empty before switching sides. It may take several nursings to empty the breast fully. Emptying the breast fully supplies a higher fat feed, helping to delay gastric emptying and slow lactose release, preventing lactose overload in the gut.²² *Allowing baby to empty the breast completely, alleviated symptoms in 79% of infants studied.*¹⁸

2. If optimizing hindmilk does not alleviate symptoms, try lactase enzyme drops:

- If feeding baby from the breast, give baby 5 - 15 drops lactase enzyme orally, just prior to nursing. Empty the breast fully before switching sides.²⁰
- If feeding baby expressed breast milk, add 5 - 15 drops lactase enzyme to 8 ounces expressed breast milk. Refrigerate for 8 hours before feeding.^{20,22}

*Lactase enzyme drops may help to supplement endogenous lactase production until foremilk/hindmilk balance is restored and endogenous lactase production is back to normal. Lactase drops should only be required for a few feedings.²⁰ Lactase enzyme drops are **not scientifically proven** to manage lactose intolerance in breastfed babies.*

Note: Different formulas should not be mixed together to wean baby from one formula to another unless medically advised.

Soy - Based Formulas

- Choose a soy-based formula if baby is vegan, to support cultural/religious practices or if baby is diagnosed with galactosemia.
- Soy formula can be used for up to 2 years of age and is recommended over fortified soy or rice drinks.²³
- Soy formulas are not hypoallergenic. Some infants who are allergic to cow's milk protein are also allergic to soy protein.^{3,12}
- Soy formulas have no proven value in preventing atopic disease in healthy or at-risk infants.²⁴ More research is needed in the area of allergy prevention.
- All soy formulas are lactose-free and iron-fortified.
- Soy formulas are not generally recommended to prevent or manage colic.²⁴
- Soy formulas are vegetarian, but not vegan, as the Vitamin D is derived from animal sources.

Product (Manufacturer)	Kcal/100ml	Protein g/100ml	Fat g/100ml	CHO g/100ml	Iron mg/100ml	Comments
Alsoy (Nestle)	67	1.9 soy protein isolate	3.3 palm olein, coconut, safflower oils	7.5 corn maltodextrin, sucrose (in powder only)	1.2	■ Contains 70 mg calcium per 100 ml.
Isomil (Ross)	68	1.7 soy protein isolate	3.7 high oleic sun/safflower oil, coconut & soy oils.	7.0 corn syrup solids, sucrose	1.2	■ Contains 70 mg calcium per 100 ml.
Prosobee (Mead Johnson)	67	2.0 soy protein isolate	3.6 palm olein, soy, coconut, sunflower oils	6.8 corn syrup solids	1.2	■ Contains 70 mg calcium per 100 ml. ■ Sucrose-free.

Note: Different formulas should not be mixed together to wean baby from one formula to another unless medically advised.

Dietary Reference Intakes for Calcium (DRI)⁴

0 - 6 months = 210 mg
 7 -12 months = 270 mg
 1 - 3 years = 500 mg

Casein Hydrolysate Formulas

- Casein hydrolysate means that the milk protein has been altered to yield amino acids and small peptides which are more easily absorbed and therefore hypoallergenic (unlikely to cause allergies).
- May help to prevent or delay allergies in infants at moderate to high risk for allergies, asthma, eczema or hay fever.^{3,15,16,27} More research is needed in the area of allergy prevention.
- For non-breastfed infants with: fat or protein malabsorption, chronic intractable diarrhea, severe colic^{4,26} or diagnosed allergy to milk and/or soy proteins.
- Formulas with MCT oil (Alimentum and Pregestimil) are only used when there are problems with fat malabsorption.
- All of these formulas are lactose-free and iron-fortified.

Product (Manufacturer)	Kcal/100ml	Protein g/100ml	Fat g/100ml	CHO g/100ml	Iron mg/100ml	Comments
Enfalac Nutramigen (Mead Johnson) Available in ReadyTo Feed and Powder.	67	1.9 100% hydrolyzed casein, amino acid premix (50% free amino acid, 50% peptides)	3.4 palm olein, soy, coconut & sunflower oils	7.5 corn syrup solids, modified corn starch	1.2	<ul style="list-style-type: none"> ■ Most appropriate for infants with diagnosed cow's milk allergy and those at moderate^b to high risk^c for allergies, asthma, eczema or hay fever. See next page for Factors to Consider. ■ Not appropriate for fat malabsorption (no MCT oil). ■ Sucrose/disaccharide-free.
Alimentum (Ross) Available in ReadyTo Feed only.	68	1.9 hydrolyzed casein (60% aa, 40% small peptides)	3.75 33% MCT oil, coconut oil, safflower & soy oils	6.9 sucrose, modified tapioca starch	1.2	<ul style="list-style-type: none"> ■ Appropriate for fat malabsorption (contains MCT oil). ■ Corn-free.
Enfalac Pregestimil (Mead Johnson) Available in ReadyTo Feed and Powder.	67	1.9 100% hydrolyzed casein, amino acid premix (50% free aa, 50% peptides)	3.8 53% MCT oil, corn oil, soy oil, high oleic safflower oil	6.9 corn syrup solids, modified corn starch	1.2	<ul style="list-style-type: none"> ■ Used in hospitals for severe fat malabsorption (very high MCT oil content). ■ Sucrose/disaccharide-free

NOTE: Casein Hydrolysate formulas are very expensive. Can be ordered from Special Products Distribution at BC Children's and Women's Health Centre (604) 875-3020. Your local pharmacy may also be able to special order these formulas. **A referral is needed from a Registered Dietitian-Nutritionist or Physician to order formulas through Children's & Women's Health Centre of BC.**

Specialized infant formulas, not listed in this resource, are available for premature and low birth weight infants. These are used under the supervision of physicians and clinical dietitians.

- a. Minimal risk = no family history of allergy, asthma, eczema or hay fever in parents or siblings.
- b. Moderate risk = history of allergy, asthma, eczema or hay fever in 1 parent or sibling.
- c. High risk = history of allergy, asthma, eczema or hay fever in 2 or more parents or siblings.²

If Baby Appears to be Allergic to Cow's Milk-Based Formula: Factors to Consider When Choosing an Alternative.

Breast Milk

When there is a history of allergy, asthma, eczema or hay fever in parents and/or siblings, exclusive breastfeeding for at least the first six months of life is strongly recommended. If mother is having difficulty breastfeeding, it may be possible to avoid or limit formula use with lactation support.

Casein Hydrolysate Formulas

For optimal allergy risk-reduction, casein hydrolysate formulas are the best choice for baby when breastmilk is not an option. If an infant appears to be allergic to cow's milk formula, a 4-6 week trial of Nutramigen is recommended (See: Choosing a Suitable Breastmilk Substitute, page ii).

Infants with allergy symptoms require an individual assessment by a physician/allergist, and should be referred to a Registered Dietitian-Nutritionist (RDN) for follow-up to ensure that foods of equal nutrient value are substituted for foods that are restricted from baby's diet. Call your local Health Unit to see if an RDN who specializes in allergies is available for individual consultation in your region.

For babies with established milk allergy, offer Nutramigen until baby is 1 year or older.³

Dietary progression may be determined with a medically-supervised oral milk challenge.

Soy Formulas

Adverse reactions to soy protein are common in infants, and allergies to soy can be lifelong. It is estimated that 14-70% of infants allergic to cow's milk protein are sensitive to soy protein.^{1,3,24} The American Academy of Pediatrics recommends that soy formula may be offered for 1 year or longer to milk allergic infants with a documented negative soy oral challenge.^{3,36} However, soy formula is NOT recommended for infants with severe GI symptoms that last for days, such as diarrhea, blood in stools and/or malabsorption.²⁴ Choose a casein hydrolysate formula for severe GI symptoms.³

Other factors to consider when choosing formulas for allergy management:

- **Age of the infant;** for optimal risk-reduction, consider waiting until 1 year of age or older before offering soy protein to an infant with early allergy symptoms, who has not been medically challenged for suspect allergies.
- **Severity of baby's reaction;** for optimal risk-reduction, consider remaining on casein hydrolysate formula until baby is 1 year or older if baby's early allergy symptoms were severe.
- **Parental concerns, including financial means;** casein hydrolysate formulas are twice the cost of milk and soy-based formulas. Families on income assistance can check with their financial aid worker to see if medically-necessary formula would be available to them at no cost.
- **Availability of formula within the community;** check with local pharmacies to see if casein hydrolysate formulas are readily available for purchase.
- **Baby's acceptance of formula;** infant formulas vary in smell and taste.*

*Mixing different formulas together is generally not recommended; however, a trial of Nutramigen may be an exception, given its unusual taste (sucrose-free). If baby will not accept Nutramigen full-strength at first introduction, mix 25% Nutramigen with 75% of baby's current formula (or breastmilk) for 2-3 days. Increase the volume of Nutramigen by 25%, while decreasing the volume of baby's current formula (or breastmilk) by 25% every 2-3 days, or until baby will accept Nutramigen full-strength.²¹

Formulas for Older Infants Consuming a Variety of Solids

- ❑ These formulas are not superior to starter formulas. It is not necessary to substitute “follow on” formulas for starter formulas.
- ❑ Starter formulas can be used to 12 months of age and beyond.
- ❑ These formulas have 30-50% more calcium than starter formulas but baby doesn’t need such high amounts of calcium at 6-12 months of age. Starter formulas provide adequate calcium for up to 12 months of age. At 12 months, most babies can be offered whole cow’s milk (120 mg calcium per 100 ml). See DRIs below.

Product (Manufacturer)	Kcal/100ml	Protein g/100ml	Fat g/100ml	CHO g/100ml	Iron mg/100ml	Comments
Enfalac Next Step (Mead Johnson)	67	1.7 skim milk powder	3.3 (45% fat calories)	7.4 corn syrup solids, lactose	1.2	■ Contains 80 mg calcium per 100 ml.
Follow-up (Nestle)	67	1.7 skim milk powder	2.8 (37% fat calories)	8.9 corn syrup solids, maltodextrin, lactose	1.3	■ Lower in fat than breast milk and starter formulas. ■ Supplement with fat sources. See page 11. ■ Contains 90 mg calcium per 100 ml.
Similac Advance Step 2 (Ross)	68	1.4 skim milk solids, whey protein concentrate	3.7 (49% fat calories)	7.1 lactose, corn syrup	1.2	■ Contains 80 mg calcium per 100 ml.
Follow-Up Soy (Nestle)	67	2.0 soy protein isolate	2.9 (39% fat calories)	8.0 corn maltodextrin, sucrose	1.2	■ Lower in fat than breast milk and starter formulas. ■ Supplement with fat sources. See page 11. ■ Appropriate for vegetarian babies from 12-24 months. ■ Lactose-free. ■ Contains 90 mg calcium per 100 ml.

Dietary Reference Intakes for Calcium (DRI) ⁴

0 - 6 months = 210 mg
 7 - 12 months = 270 mg
 1 - 3 years = 500 mg

-Compendium of Breast Milk Substitutes 2001

Feeding Beyond One Year						
Product (Manufacturer)	Kcal/100ml	Protein g/100ml	Fat g/100ml	CHO g/100ml	Iron mg/100ml	Comments
Whole cow's milk (pasteurized)	67	3.6	3.7 (50% fat calories)	5.1	0.05	<ul style="list-style-type: none"> ■ Whole cow's milk should not be introduced prior to 9-12 months due to high renal solute load, poor iron absorption and potential for GI irritation, constipation, & allergies.^{7,24,29} ■ Infants/toddlers should be consuming at least ¾ cup of a wide variety of solid foods per day (including iron-rich foods) before whole cow's milk completely replaces breast milk or formula.
2% cow's milk (pasteurized). 2% Lactaid Milk™ (pasteurized)	54	3.6	2.1 (35% fat calories)	5.2	0.05	<ul style="list-style-type: none"> ■ Lower in fat. Not recommended until 2 years of age.²³ If offered before 2 years of age, supplement with fat sources. See page 11. ■ See comments under whole cow's milk. ■ Lactaid Milk™ is 99% lactose-free.
Goat's milk (pasteurized)	75	3.9	4.5 (54% fat calories)	4.9	0.05	<ul style="list-style-type: none"> ■ Whole goat's milk should not be introduced prior to 9-12 months due to high renal solute load, poor iron absorption and potential for GI irritation, constipation and allergies.²³ ■ 1/3 of proteins are similar to whole cow's milk, therefore high cross reactivity in individuals sensitive to cow's milk.^{24,30,31} ■ Fats may be more easily digested than cow's milk fats.³¹ ■ Not always fortified with vitamin D and folate. Check labels. ■ Infants/toddlers should be consuming at least ¾ cup of a wide variety of foods per day (including iron-rich foods) before whole goat's milk completely replaces breast milk or formula.

High Calorie Formulas for Children with Special Nutritional Needs

Product (Manufacturer)	Kcal/100ml	Protein g/100ml	Fat g/100ml	CHO g/100ml	Iron mg/100ml	Comments
Pediasure and Pediasure with Fibre (Ross)	100	3.0 sodium caseinate, whey protein concentrate	5.0 20% MCT (45% fat calories)	11.0 maltodextrin, sucrose	1.4	<ul style="list-style-type: none"> ■ Nutritionally complete high calorie formula for children aged 1-10 years. ■ Pediasure with fibre has 0.5 g dietary fibre per 100 ml. ■ Lactose and gluten-free.
Nutren Jr. and Nutren Jr. with Fibre (Nestle)	100	3.0 50% whey protein	4.2 25% MCT (37% fat calories)	13.0	1.4	<ul style="list-style-type: none"> ■ Nutritionally complete high calorie formula for children 1-9 years. ■ Nutren Jr. with fibre has 0.6 g dietary fibre per 100 ml. ■ Lactose and gluten-free.
Resource Just For Kids (Novartis)	100	3.0 sodium caseinate, whey protein concentrate	5.0 20% MCT (44% fat calories)	11.0	1.4	<ul style="list-style-type: none"> ■ Nutritionally complete high calorie formula for children aged 1-12 years. ■ Lactose and gluten-free.

Diarrhea/Electrolyte Solutions

Product (Manufacturer)	Kcal/100ml	Comments
Enfalyte (Mead Johnson)	13	<ul style="list-style-type: none"> ■ Oral electrolyte solutions may be used for infants at risk for dehydration due to diarrhea and/or vomiting. Signs of dehydration include: lethargy, less than 4 wet diapers in 24 hours, dark yellow urine, no tears when crying, sunken eyes, sunken fontanel, dry skin or mouth. ■ Current research supports the <u>continuation of breastfeeding</u> during episodes of diarrhea and vomiting.³² ■ All formula feedings and solid foods should be discontinued for at least six hours during episodes of diarrhea and vomiting. Infant's usual formula can be reintroduced when diarrhea subsides, usually within 24 hours.²⁴ ■ Oral electrolyte solutions are not complete in nutrition and should only be used for 24 hours or less. Early refeeding (within 6-24 hours) of usual food and fluids is recommended.³² If diarrhea persists after 24 hours, seek medical attention. ■ For further information on nutrition management of infant diarrhea and vomiting, contact your local Health Unit.
Gastrolyte (Nestle)	7	
Pedialyte (Ross)	10	
Pedialyte Pops (Ross)		

Preparations Not Recommended but Occasionally Seen

Product (Manufacturer)	Comments
Evaporated whole cow's milk "formula"	<ul style="list-style-type: none"> ■ Not recommended prior to 9 months of age. ■ If parent insists on using evaporated whole cow's milk , follow these recipes for formulas containing appropriate carbohydrate and essential fatty acid blends (EFA). (Infants need essential fatty acids until the diet contains additional sources of essential fatty acids).³³ Infants receiving these formulas require iron supplementation.⁸ <p><u>Infants 0-5 months</u> 1 can evaporated whole cow's milk (385 ml) 2 cans boiled, cooled water (770 ml) 3 Tbsp. white sugar (45 ml) 1/2 Tbsp. soybean oil or canola oil.³⁴</p> <p><u>Infants 6-12 months</u> 1 can evaporated whole cow's milk (385 ml) 1 can water (385 ml) 1/2 Tbsp. soybean oil or canola oil.³⁴</p> <ul style="list-style-type: none"> ■ For infants older than 4 months, a more practical route for adding EFA is to add 1/2 Tbsp. non-hydrogenated soybean or canola oil margarine to cereal or vegetables, and later on to bread or toast. See NHTI Question and Answer document for other considerations in adding EFA sources to evaporated milk.³³
Evaporated goat's milk "formula"	<ul style="list-style-type: none"> ■ See evaporated whole cow's milk (above) and goat's milk comments on page 8. ■ Use brands fortified with vitamin D, vitamin C & folate (e.g., Meyenburg)
Sweetened condensed evaporated milk	<ul style="list-style-type: none"> ■ Not recommended.
Soy drinks, soy milks	<ul style="list-style-type: none"> ■ Not recommended for infants under 24 months due to lower fat content. Commercial soy formula is recommended for up to two years of age.²⁴ ■ If offered to infants between 12-24 months, supplement infant's diet with fat sources: add 2-3 teaspoons additional fat to food daily.³⁵ See fat sources, page 11. ■ Offer fortified versions containing calcium and vitamin D. Check the label for at least 5 grams of fat per 250 ml.
Rice drinks, rice beverages	<ul style="list-style-type: none"> ■ None are recommended as a fluid milk substitute in infants and children. ■ <u>Small portions</u> maybe used for children <u>over 1 year of age</u> for cereal or baking purposes. ■ Fortified and unfortified versions are very low in protein, fat and many other nutrients. Very high in cane, rice and other sugars. ■ Fortified versions contain calcium and vitamin D; regular versions do not. Check labels.

Suggested Fat Sources for Toddlers Consuming Lower Fat Formulas/Milks/Drinks

Non Dairy Sources	Dairy Sources	Mixed Foods
Medium or firm tofu Meats Egg yolks* Nut butters* Seed butters* Avocados Vegetable oils Soy yogurt, full-fat• Soy cheese, full-fat• Some non-hydrogenated margarines•	Cheese 3-4% M.F. yogurt Butter	Stir-fried foods Higher fat casseroles Mashed potatoes made with butter or margarine Home baked goods made with vegetable oil or non-hydrogenated margarine Buttered foods (toast, pasta, vegetables)

* higher allergenic foods

• may contain dairy ingredients

Summary of Major Revisions since 2000 Edition

- ❖ References included throughout Compendium.
- ❖ Information on Breast Milk Bank included in Introduction. (page i)
- ❖ Choosing a Suitable Breast Milk Substitute Flowchart revised. (page ii)
 - reference to whey hydrolysate formula omitted from column B.) but maintained under A.)
 - column B.) title changed to “For allergy management.”
 - use of casein hydrolysate formulas clarified under section B.)
- ❖ Iron content of regular Enfalac increased to 0.45 mg per 100 ml.
Iron content of iron-fortified Enfalac increased to 1.2 mg per 100 ml. (page 1)
- ❖ Comments revised for Enfalac AR and Goodstart. (page 2)
- ❖ Lactose intolerance section more elaborate. Management of lactose intolerance symptoms for breastfed and formula fed infants clarified. (page 3)
- ❖ Casein hydrolysate formula section revised to emphasize use of Nutramigen as first choice for allergy concerns. Alimentum and Pregestimil (containing MCT oil) are appropriate when fat malabsorption is present. (page 5)
- ❖ Further discussion on allergy management provided on page 6, “Factors to Consider when Choosing an Alternative to Cow’s Milk-Based Formula.”
- ❖ Evaporated whole cow’s milk “formula” section revised as per NHTI Question and Answer document. Recipe is included but not recommended or endorsed prior to 9 months of age. (page 10)
- ❖ Suggested Fat Sources for Toddlers Consuming Lower Fat Beverages found on page 11.

Contributors

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