

The latest research shows that 9 out of 10 women start out by breastfeeding their babies. Most women want to breastfeed. There is no doubt in any research that breastfeeding your child is the preferred option. Unfortunately, despite our wishes, hopes and efforts, sometimes breastfeeding doesn't work out, and it is important that you are aware that we as LiveLife pharmacists and assistants are there to help guide these parents towards the most appropriate alternative for their baby.

This information leaflet will help you to understand infant formula, what is in it, what the differences are between them and how to make them up correctly. And most importantly, remember we are here to help you, not judge you, and will be as supportive as possible in this sometimes stressful time in a parent's life.

What is baby formula made from?

If a mother is unable to breastfeed their child, the **ONLY** safe alternative in the first 12 months of life is infant formula.

Most infant formulas are made from cow's milk, but the amount and type of protein, fat, and carbohydrates have been changed to be more like breast milk. Some extra minerals (such as iron) and vitamins have also been added.

These changes make the formula the right balance of nutrition for babies.

It is important to note that breast milk has other natural components which lower the chance of your baby getting sick, but these are not in formula. Pages 3 and 4 of this leaflet will explain some different types of formula.

So if she can't breastfeed, why can't normal milk from the supermarket be used?

Infants cannot digest cow's milk as easily as they digest formula. Also, cow's milk contains high concentrations of protein and minerals, which can stress a newborn's immature kidneys and cause severe illness at times of heat stress, fever, or diarrhoea. In addition, cow's milk lacks the proper amounts of iron, vitamin C, and other nutrients that infants need. It may even cause iron-deficiency anaemia in some babies, since cow's milk protein can irritate the lining of the stomach and intestine, leading to loss of blood into the stools. Cow's milk also does not contain the healthiest types of fat for growing babies.

For these reasons, it is important to use infant formula as the ONLY alternative to breastfeeding until the child is at least 12 months of age. Please note that sources state that between 6-9 months, a small amount of cow's milk may be incorporated into cooking baby's food. Speak to the pharmacist if needed.

Correct preparation of infant formula is so important – so what IS the correct technique?

- Ensure all equipment is properly sterilised. We have products in the pharmacy to help parents in this process. E.g. bottle sterilisation kits and Milton solution/ tablets. Be careful to prevent anyone, especially children, from being burned or hurt if you are using the boiling method of sterilisation.
- Regularly check that teats and bottles are not torn, cracked or damaged.
- Even though infant formula tins are "sealed," it is still possible for some bacteria to be present. Therefore, to reduce the risk of infection, make up each feed as your baby needs it, using boiled water at a temperature of 70°C or above. Water at this temperature will kill any harmful bacteria that may be present.
- Always use freshly boiled tap water for making up feeds. Do not use bottled water, as these can often be quite high in sodium and sulphate. Put the water in the bottle first before the formula (and while it is still hot).
- Do not add extra powder formula to the mix than recommended by the manufacturer, as this may lead to stomach upset, constipation and dehydration in the infant. Use the scoop provided and lightly "scrape" off any excess; do not pack down into the scoop.
- It is best to not use a microwave to heat the formula, as this may lead to uneven heat distribution and possible cause of burning in the infant.
- Pre-prepared feeds should be kept in the refrigerator for no more than 24 hours. If kept at room temperature, they should be kept for no longer than 2 hours.
- A handy hint for those needing to feed their baby away from home: pack a measured amount of the powder in a sealed plastic container and some boiled water in a flask to keep it warm. This will then allow you to make up the feeds conveniently when required.

Is feeding your child formula as good as breast milk?

The recommendation is definitely to try and breastfeed your baby for the first 6 months of life, as there are many benefits for mother and baby. However, some mothers may not be able to breastfeed for this time, and formula is a fantastic option for them. Infant formula has come leaps and bounds in recent times and is getting better and better at mimicking that all-important breast milk to ensure your baby still gets their essential nutrition. We will go through the different types of formula in this information leaflet so you can choose the most appropriate option for your baby (see pages 3-4).

So what are these benefits from breast milk that you mentioned above?

Breast milk is natural, normal food for babies, and is perfectly designed for human infants. Just a few of the benefits for baby are:

- It is a complete food containing all your baby's nutritional needs for the first 6 months of life.
- It satisfies both hunger and thirst; extra water is not needed.
- It increases a baby's resistance to infection and disease.
- It lessens the risk of allergy and food intolerance.

There are benefits for the breastfeeding mother too:

- It's convenient, cheap and always there when you need it.
- It's always fresh, clean and safe.
- It quickly soothes a fussy, unhappy baby.
- It helps your uterus return to normal sooner after childbirth.
- Mothers who don't breastfeed have increased risks of cancer of the breast and ovaries, heart disease and osteoporosis.
- Breastfeeding helps create a close and loving bond between you and your baby and can be a deeply satisfying experience for you both.

What if the parent wants to swap the formula— are there any do's and don'ts in this?

Infant formula may be swapped, but it is important that the parents are doing this for the right reasons and choosing an appropriate alternative. If you are unhappy with your current formula, make sure you are preparing the formula correctly; the pharmacist may also like to check if you are feeding the baby anything else outside of this formula and what "ill effects" you believe the formula is causing etc.

Once you have chosen a replacement formula, it is preferred if the baby can be changed over slowly to avoid stomach upset; e.g. Replace 1 additional feed every 3 days until totally changed over to the new formula. Remember to consult the pharmacist if unsure what to choose.

So do you have to just do one or the other (breastfeed or formula)? Can I "mix-feed?"

Mix-feeding is when the mother chooses to breastfeed but also supplement with infant formula. This is often done, as some mums believe it offers the "best of both worlds." Their baby still gets the benefits of breast feeds, yet it gives mums more freedom to bottle feed if they need to be away from their babies. It also allows the other parent to become involved in the feeding process, which can be helpful, especially if the mother has other commitments (e.g. work).

There is an important consideration that mothers should be made aware of when choosing to mix-feed. As the amount of breastfeeding decreases, or if you do not express breast milk, the less breast milk the mother's body will produce and it can be difficult to switch back to breastfeeding once you've introduced formula. To explain further, if milk is not regularly removed from the breast and remains static, the body will produce less milk. So it is important for the mother to be aware of this before introducing formula into the baby's routine.

Some notes on starting solid foods

Solids can be introduced slowly, usually starting around 6 months of age. Iron and zinc are two minerals needed from solids from about 6 months but this varies between babies. Because we don't know which babies are in most need, we usually aim to start giving all babies solids containing these minerals from this age. Iron-fortified cereals are often used in Australia but these do not contain zinc. The best foods for these two minerals are meats and their vegetarian alternatives.

Some older guidelines also recommended further delay of certain foods such as cow's milk, nuts, wheat, egg and fish, which was thought to reduce the risk of allergy to these foods by allowing the baby's system to mature. However, it is now recommended for babies to be given a variety of foods and the type and order do not matter. A gap of 2-3 days between each new food can be helpful, just in case there is some reaction. Please speak to a pharmacist should you believe your baby is suffering with any allergies when introducing solids.

Nut allergies are a common concern. Studies so far have suggested that nuts pose no more risk of allergy to normal babies than any other foods. There is a large study being done in UK that will run until 2014 to see if early introduction of peanut products increases or decreases peanut allergies. Until that research is finished, no one can say for sure when the best time to introduce nuts is. Please note that whole nuts should be avoided up until age 5, due to the increased risk of choking.

There are so many different types with all these different descriptions?! How do I know what to choose?

Listed below are some of the names, words and descriptions you will see on formula in the pharmacy. It can often get quite confusing knowing which one to choose!! Hopefully after some explanation, you will be better prepared in choosing the most appropriate formula for your baby.

- **Stage 1** – for use from birth to 6 months of age
- **Stage 2** – for use from 6-12 months of age
- **Toddler formula** – for use from 12 months onward alongside the introduction of solids. Parents often use toddler formula as an “added extra” to their child’s diet to make sure they are getting all the vitamins, minerals and nutrition they need.
- **Alpha Pro/Opti Pro**—This description is to do with the balance of protein in the formula. Infant formula is there to replace breast milk when it is not available, so companies are constantly trying to improve the formula and mimic the natural make-up of breast milk as closely as possible. "Alpha pro" or "Opti pro" formulas have more of a certain type of protein (whey) in them that is found in breast milk and it is believed that this will be therefore more easy for the infant to digest.
- **AR / Thickened**—"AR" means "anti-regurgitation". These formulas are often recommended by health professionals for babies suffering with reflux. Generally they have a thickener added to them, which makes it harder for the formula to regurgitate/reflux back up into the oesophagus. However, it is important to note that if a parent believes their baby is suffering with reflux, they should speak to the pharmacist immediately, as there are additional management techniques sometimes required.
- **Prebioitics / Bifidus / Probiotics**—We see these words so often now in the pharmacy, but usually it is when you see the pharmacist recommending them to patients on antibiotics, or suffering with conditions such as gastroenteritis, irritable bowel syndrome and thrush. So why do they add them into formula? Well, it is also important for baby to have these "good" bacteria in their bodies, as they can help to keep the balance of your baby’s digestive system. Pre-biotics/Probiotics are also thought to have a positive effect on the immune system function.
- **Gold**—When they write “gold” it sounds like there must be something magnificent in the formula for baby. But what is it that they add to make these formulas “gold?” This word is actually used to describe formula that has additional omega-3 fatty acids. So omega-3 is generally sourced from fish oil –



why do they include this in infant formula? Isn't it for people suffering with high cholesterol and arthritis? Fish oils contain what is known as “omega 3 fatty acids.” This component of the fish oil is critical to eye and vision development, and along with another fatty acid “linoleic acid” makes up more than 1/3 of the fatty acids in the brain and the retina of the eye.



- **HA/Allerpro**—"HA" means "hypo-allergenic". These formulas are for babies at high risk of allergies (eg where immediate family members have asthma, eczema, hay fever or food allergies). The protein has been broken down into smaller parts. Please note that this formula is not for babies with a cow's milk allergy. If there is a suspicion of cows milk allergy, the pharmacist may suggest goat/soy formula—PLEASE SPEAK WITH THE PHARMACIST. (Wondering what the difference is between the Karicare HA/AllerPro? The HA is partially hydrolysed protein, and the AllerPro is extensively hydrolysed—and thus a more specialised formula)



- **Lactose-free**—Lactose is the natural sugar in breast milk, cow's milk and formula. Sometimes a baby may not be able to break down or digest the lactose, and thus be “lactose intolerant.” These formulas are specialised for babies who are intolerant to lactose, but again, PLEASE SPEAK TO THE PHARMACIST if unsure.



- **Nucleotides**—Nucleotides are found naturally in the cells of our body and play a role in many biological functions, forming the basic of genetic information (e.g. DNA). They serve as energy stores, help to mediate hormonal action and participate in immunity. Breast milk contains more nucleotides in humans than in the milk of any other species; therefore formula companies sometimes choose to add small amounts which may be beneficial to the infant.

- **Pepti-junior**—These are formulas for babies with confirmed soy and cow’s milk protein allergy or malabsorption. Containing extensively hydrolysed cows' milk protein which has been broken down to small peptides, it is easier for the infant to tolerate and digest. Please note this is a highly specialised formula that is usually only recommended by a doctor/specialist.



There are so many different types with all these different descriptions?! How do I know what to choose? Continued.....

- **Breast Milk Fortifier**—Breast milk fortifiers are made to supplement partially or totally breast fed premature or low birth weight infants with additional nutritional requirements. They provide additional energy from protein and carbohydrates and contain vitamins, minerals and trace elements to supplement preterm breast milk. Why may a preterm infant require this when already breast fed? Breast milk is the best source of nutrition for neonates, however may be nutritionally inadequate for preterm infants (in particular <30 weeks gestation) due to their different needs and rapid growth. Studies of human milk fortification have demonstrated beneficial increases in nutrition, weight gain and growth in very low birth weight infants. Used only under specialist supervision and not something you will generally see in the pharmacy.
- **Premature Infant Formula**—Premature infant formulas are nutritionally complete infant formulas for premature or low birth weight infants requiring a partial or complete breast milk substitute. They are normally in the format of sterile, ready to feed bottles. Premature infant formulas are based on cows' milk formulas and contain higher energy and nutrient levels than in standard formulas to allow for a smaller intake and increased nutritional requirement of premature infants. Another specialised formula used with consultation from a specialist.

Can I use soy or goat's milk infant formulas?

- Soy and goat infant formulas have no cow's milk in them. They have all the vitamins, minerals and nutrition your baby needs. But most babies do not need to have these types of formulas. Soy and goat's milk formulas may also cost more than cow's milk formulas. If you would like to give your baby soy or goat's milk formula, you can use them from birth until 12 months of age.
- If you think the infant may have an allergy to a cow's milk formula, speak to the pharmacist. Soy or goat's milk formulas are usually not the best ones to use for babies with a cow's milk allergy. This is because some babies will react to soy or goat's milk as well. Signs your baby might have an allergy include vomiting, diarrhoea, a rash, or difficulty breathing.

I'm confused about a cow's milk allergy and lactose intolerance! Are they the same thing?

A cow's milk allergy is a food allergy; i.e. an adverse immune reaction to a food protein that is normally harmless to infants. Lactose intolerance is a non-allergic food sensitivity, and comes from a lack of production of the enzyme lactase, required to digest the predominant sugar in milk. Adverse effects of lactose intolerance generally occur after much higher levels of milk consumption than do adverse effects of milk allergy.

Soy infant formulas—Are made from soybeans, do not contain any animal products, and don't have lactose in them (a natural sugar in cow's milk and breast milk). The reasons soy infant formulas may be used include:

- If you want your baby to be a vegan (so don't want him/her to have a cow's milk formula).
- If your baby has a problem with lactose (lactose intolerance). BUT there are other formulas you can use for this problem, and soy formula may not be the first choice. So it's best to speak to the pharmacist before changing formula.

Goat's milk infant formulas—Are made from goat's milk; however, goat's milk is not very different to cow's milk.

- This type of milk contains lactose (so is not better for babies who have a problem with lactose).
- NB. If you do want your baby to have goat's milk, it is very important you use goat's milk formula, not regular goat's milk.



Some other important "bits" in formula

Iron – necessary for carrying oxygen around the blood and muscles

Zinc – needed for growth and development, immune and sensory function

Vitamin C – strengthens the immune system and helps in the absorption of iron



REMEMBER: Patient care hotlines are listed on all infant formula tins and will put you in contact with nurses and other feeding specialists. Use this service if you need to gather further information as this is a free and very valuable information tool!

