

Guide for Milk Substitutes in Cow's Milk Allergy

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Breastfeeding is recommended for the many benefits it brings to both the mother and child. If breastfeeding is not possible, this Guide can assist health professionals in recommending substitute milks when an infant has cow's milk allergy (CMA). This Guide also provides information about safe, nutritionally equivalent alternatives if a particular specialised formula is not available due to supply issues. Commercial names and suppliers of specialised infant formula in Australia and New Zealand, and their availability is provided for ease of reference.

Exclusion of cow's milk from a breastfeeding mother's diet is not necessarily required in CMA and should be discussed with a medical specialist. If undertaken, cow's milk exclusion should be supervised by a dietitian.

Table 1: Abbreviations used in this document

AAF - Amino acid formula	FPIAP - Food Protein Induced Allergic Proctocolitis
CMA – Cow's milk allergy	FPIES - Food Protein Induced Enterocolitis Syndrome
eHF – Extensively hydrolysed formula	OTC - Available over the counter
EoE – Eosinophilic oesophagitis	PBS – Pharmaceutical Benefits Scheme (AU)
FPE - Food Protein Enteropathy	PSA - Pharmac Special Authority (NZ)

Table 2: Commercially available specialised infant formula suitable for cow's milk allergy (CMA)

Suitable formula (see table 3 for indications)	Brand names and suppliers	Availability*
Soy based infant formula	<ul style="list-style-type: none"> Alula® Gold Soy (Sanulac) Karicare® Soy (Nutricia) 	OTC
Extensively hydrolysed formula (eHF)	<ul style="list-style-type: none"> Aptamil® Allerpro SYNEO™ 1, 2 and 3 (Nutricia) - contains lactose 	OTC
Extensively hydrolysed formula (eHF)	<ul style="list-style-type: none"> Alfaré® (Nestlé) TO BE DISCONTINUED IN 2023 (AU) Aptamil® Gold+ Pepti-Junior® (Nutricia) 	PBS and PSA listed (prescription required)
Rice protein based formula (see page 2 for further information)	<ul style="list-style-type: none"> Alula® Gold Allergy (Sanulac) Novalac® Allergy (Aspen Australia) 	OTC
Amino acid based formula (AAF) for infants <12 months of age	<ul style="list-style-type: none"> Neocate® Gold, LCP and SYNEO™ (Nutricia) Elecare® (Abbott) Elecare® LCP (Abbott) Alfamino® (Nestlé) 	PBS and PSA listed (prescription required)
Amino acid based formula (AAF) for children >12 months of age	<ul style="list-style-type: none"> Neocate® Junior (Nutricia) Neocate® Junior Vanilla (Nutricia) Elecare® Vanilla (Abbott) Alfamino® Junior (Nestlé) Essential Care Jr (Cortex Health)* 	PBS and PSA listed (prescription required) * Not currently PSA listed

* PBS and PSA item numbers for formula products are listed on <http://www.pbs.gov.au> and <https://www.pharmac.govt.nz/>

Rice protein based formula

There are two rice protein based formula available in Australia:

- Alula® Gold Allergy (Sanulac) – whilst there are no product specific studies hypo-allergenicity or growth studies currently available, each batch is tested for milk and soy contamination.
- Novalac® Allergy (Aspen Australia) - Product specific hypo-allergenicity and growth studies have been undertaken.

Data is limited for use of rice protein based formula in non IgE mediated food allergies.

Infant formula NOT recommended for cow's milk allergy (CMA)

The following types of formula are NOT recommended for infants with CMA:

- Standard infant formula including anti-regurgitation, lactose free, organic, newborn, and follow on.
- Goat milk based infant formula.
- Other mammal milks and formula.
- A2 formula.

Table 3: Specialised formula and indications in cow's milk allergy (CMA)

Type of Allergy	First choice	Second choice (if first not tolerated)	Third choice (if second not tolerated)
Immediate (IgE mediated) CMA (not anaphylaxis)	<ul style="list-style-type: none"> • eHF (<6 months) or • Rice protein based formula* 	AAF	
	<ul style="list-style-type: none"> • Soy formula** (>6 months) or • Rice protein based formula* 	eHF	AAF
Anaphylaxis	<ul style="list-style-type: none"> • AAF or • Soy formula** (>6 months) or • Rice protein based formula* 		
FPIES	<ul style="list-style-type: none"> • eHF (<6 months) or • Rice protein based formula* 	AAF	
	<ul style="list-style-type: none"> • Soy formula (>6 months and already soy-tolerant/after medically supervised soy introduction), or • Rice protein based formula* 	eHF	AAF
Non IgE mediated CMA (FPE, FPIAP)	<ul style="list-style-type: none"> • eHF (<6 months) 	<ul style="list-style-type: none"> • AAF • Rice protein based formula* 	
	<ul style="list-style-type: none"> • Soy formula** (>6 months and growing well) 	<ul style="list-style-type: none"> • eHF • Rice protein based formula* 	AAF
EoE	<ul style="list-style-type: none"> • AAF 		

Atopic dermatitis (eczema) alone is not an indication for specialised infant formula.

* Unless allergic to rice. eHF or AAF is recommended if poor growth and/or multiple non IgE food allergies.

** Unless allergic to soy. Soy is offered as an option for IgE-mediated CMA and anaphylaxis based on expert opinion, and review of the literature which presents very limited evidence of IgE mediated clinical reactions to soy in children with IgE-mediated CMA. (Adapted from Kemp et al.,2008).

Guidance regarding specialised formula substitutes for cow's milk allergy (CMA)

If an infant's usual formula is unavailable, use table 3 to select suitable substitutes. The most straightforward approach is to select a product from the same group that the child is already on (e.g. substitute one eHF for another eHF).

Recommendations for a substitute formula should involve a review of factors that led to the initial choice, and any change in clinical history. For example:

- A thriving child with non-anaphylactic IgE-mediated reactions to cow's milk formula was established on eHF due to age being less than six months, but is now older than six months, therefore soy formula should be considered.

When AAF for children older than 12 months is required, but is unavailable:

- A paediatric allergy dietitian should be consulted to assist with modifying the recipe for a substitute AAF.
- For all formula changes, recipe instructions should be reviewed with the family, as scoop to water ratios can vary substantially.

For children over 12 months using soy as their milk replacement:

- Calcium fortified soy milk is an appropriate replacement for soy formula, if they are growing well and eating a wide range of family foods.

For children with cow's milk and soy allergies:

- Most plant based milk replacement products that are not calcium fortified are too low in protein, fat, and calcium. Therefore, they are not nutritionally adequate for children under two years of age, unless growth and nutrition have been assessed carefully.
- Children under four years of age only need 400-500 mL of calcium fortified plant based milk replacements a day to meet their calcium requirements. Larger quantities can reduce appetite, nutritional intake, and growth.

Referral of infants and children with CMA to a paediatric allergy dietitian is recommended to assess nutritional needs.

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