The North West London Hospitals NHS
NHS Trust

Guidelines for suitable formulas and milk substitutes for children with cow's milk hypersensitivity

These guidelines aim to give an overview of the different cow's milk substitutes available and guidance on their prescription.

Cow's milk can provide an important source of energy, protein, vitamins and minerals. For children who have a cow's milk protein hypersensitivity, a suitable replacement is required. There are a wide range of cow's milk alternatives that are available on prescription for children under 2 years and it is possible to buy some suitable products from the supermarket or health food shops for the older child.

Breast milk is best for babies. However, as the infant gets older breastfeeding mothers may want to start introducing a cow's milk alternative or require a suitable formula to use within food preparation.

Guide to quantities of formula required

These amounts assume the child is solely formula fed and are for a 28 day period

- 0 - 7 months 10 – 12 x 400g tins
- 7 – 12 months 7 – 9 x 400g tins
- 12 months + 6-7 x 400g tins

Suitable formulas

From birth to 2 years

Children with cow's milk protein hypersensitivity will usually require the prescription of a suitable formula until **2 years of age** unless they develop tolerance to cow's milk within this time or show excessive weight gain whilst eating an otherwise varied diet. Excessive weight gain would be classified as the weight crossing centiles upwards on the charts in excess of the length/height centile. Cow's milk free diets can potentially be lower in fat than the normal weaning diet due to the exclusion of foods such as cheese and yogurt. Switching to an alternative such as oat or soya 'off the shelf milks' at an early age can further compound nutritional problems as these products are lower in fat, calories, vitamins and minerals such as calcium, iron and vitamin D. Paediatric Dietitians will advise on the most appropriate

formula provided the patient has been referred to them by the GP or consultant. The Paediatric Dietitian will communicate with the GP after each clinic visit regarding the prescription requirements for specialist formulas.

Children over 2 years

Children whose weight has been increasing appropriately and eat a varied diet, should be able to switch to soya or oat milk after the age of 2, although those who remain on particularly restrictive diets or have difficulty with their weight gain, may benefit from the continued prescription of their formula.

Rice milk is no longer recommended as a milk substitute for children under 5 due to concerns about the arsenic content of the product.

Vitamin and mineral supplementation

All children on standard soya or oat milk will require supplementation with a multivitamin containing vitamin D. If an infant or child is unable to take sufficient quantities of a substitute milk or formula, then calcium supplementation is likely to be required.

Extensively hydrolysed formulas

In extensively hydrolysed formulas, the milk protein is broken down into smaller peptides that are tolerated by many children with cow's milk protein hypersensitivity. They can be split in the category of casein or whey extensively hydrolysed formulas.

Extensively hydrolysed casein formulas

- Nutramigen 1 (Mead Johsnon) – from birth
- Nutramigen 2 (Mead Johnson) – 6 months +

The main difference between Nutramigen 1 and 2 is the significantly higher calcium content and a more palatable taste with Nutramigen 2.

Extensively hydrolysed whey formulas

- Aptamil Pepti (Milupa Aptamil) – from birth. Contains lactose and is more palatable than extensively hydrolysed formulas however the peptides are larger and it may be less well tolerated in some children.
- Pepti Junior (Cow & Gate) – contains MCT's which increase the price and are not necessary for most children with cow's milk protein allergy. It is more suitable for children with malabsorption problems such as protracted diarrhoea, severe food intolerance, short bowel syndrome and cystic fibrosis.

Amino acid formulas

These formulas are broken down into free amino acids and are highly unlikely to cause an allergic reaction. Amino acid formulas are appropriate when an extensively hydrolysed formula has not been tolerated or is inappropriate for use based on the child's symptoms.

- Neocate LCP (SHS) – suitable from birth
- Nutramigen AA (Mead Johnson) – suitable from birth
- Neocate Active (SHS) – suitable for some children after the age of 1. Not all children are appropriate to switch to Neocate Active as it has a higher energy content (1kcal/ml) and could cause excessive weight gain. It is useful to prescribe for children on very restricted diets due to its higher vitamin and mineral content that can help to meet their nutritional requirements and it is also particularly useful for children who have poor weight gain. It is designed as a nutritional supplement and the child should not be taking in excess of 600mls (2 sachets) per day.
- Neocate Advance (SHS) – suitable for certain children from the age of 1. Neocate Advance also has a higher energy content (1kcal/ml), but it's vitamin and mineral content is lower than Neocate Active making it useful if children require large volumes (e.g. if they receive their nutrition via an enteral feeding tube), but it is less useful as a nutritional supplement.

Hypoallergenic amino acid food supplement

- Neocate Nutra (SHS) is **not** a formula but a hypoallergenic amino-acid based Food for Special Medical Purposes. It is a powder that mixes with water to form a spoonable consistency and contains essential vitamins and minerals which may be useful in some infants and young children with cow's milk allergy and multiple food protein intolerance.
  Suitable for infants from 6 months and young children