

## Guidelines for the Management of Cow's Milk Protein Allergy in Primary Care

Cow's milk protein allergy (CMPA) is an abnormal response of the body's immune system to the proteins in milk. CMPA affects 2-4% of infants and most children will outgrow the allergy.

If a diagnosis of CMPA is suspected on the basis of reported or observed clinical features, assess the child by taking an [allergy focussed history](#), physical examination and try to distinguish between IgE and non-IgE mediated allergy, to manage appropriately. The steps below detail how to manage IgE and non-IgE CMPA. Please also refer to the updated iMAP guidelines on the [recognition](#) and [management](#) of CMPA.

**Always support and encourage continued breast feeding where possible.**

1. Identify type of CMPA					
Symptoms	Mild to moderate Non-IgE CMPA (80% of cases of CMPA)	Severe Non-IgE CMPA	Mild to moderate IgE CMPA	Severe IgE CMPA	
	<i>Usually formula fed, at onset of mixed feeding</i>				
	<b>Delayed onset, 2-72 hours</b>		<b>Acute onset, minutes-2 hours</b>		
	<p><b>Usually several symptoms which persist despite first line measures</b></p> <p><b>Gastrointestinal:</b></p> <ul style="list-style-type: none"> <li>• Colic</li> <li>• Reflux/ GORD</li> <li>• Food refusal or aversion</li> <li>• Diarrhoea</li> <li>• Constipation</li> <li>• Abdominal discomfort</li> <li>• One incident or occasional blood &amp;/or mucus in stools</li> </ul> <p><b>Skin:</b></p> <ul style="list-style-type: none"> <li>• Pruritus</li> <li>• Erythema</li> <li>• Moderate persistent atopic dermatitis</li> </ul>	<p><b>Usually ≥1, severe and treatment resistant</b></p> <p><b>Gastrointestinal:</b></p> <ul style="list-style-type: none"> <li>• Diarrhoea</li> <li>• Vomiting</li> <li>• Severe abdominal pain</li> <li>• Significant blood &amp;/or mucus in stools</li> <li>• Irregular or uncomfortable stools</li> </ul> <p><b>Skin:</b></p> <ul style="list-style-type: none"> <li>• Severe atopic dermatitis</li> </ul>	<p><b>Skin:</b></p> <ul style="list-style-type: none"> <li>• Acute pruritus</li> <li>• Erythema</li> <li>• Urticaria</li> <li>• Angioedema</li> <li>• Acute flaring of persistent atopic dermatitis</li> </ul> <p><b>Gastrointestinal:</b></p> <ul style="list-style-type: none"> <li>• Vomiting</li> <li>• Diarrhoea</li> <li>• Abdominal pain/ colic</li> </ul> <p><b>Respiratory:</b></p> <ul style="list-style-type: none"> <li>• Acute rhinitis and/or conjunctivitis</li> </ul>	<p><b>Anaphylaxis</b></p> <ul style="list-style-type: none"> <li>• Immediate reaction with severe respiratory and/or cardiovascular system signs &amp; symptoms</li> </ul> <p><b>Gastrointestinal (rare):</b></p> <ul style="list-style-type: none"> <li>• Severe gastrointestinal reaction</li> </ul>	
2. Confirm diagnosis					
<p>Complete diagnostic dietary elimination trial: → Exclude cow's milk for 2-4 weeks:</p> <ul style="list-style-type: none"> <li>• If breastfed – mother to follow <a href="#">cow's milk free diet</a></li> <li>• If formula fed- prescribe 2-4 week trial of extensively hydrolysed formula (see first line options overleaf)</li> </ul> <p>→ If clear improvement in symptoms, confirm diagnosis with <a href="#">home milk challenge</a>:</p> <ul style="list-style-type: none"> <li>• If symptoms return exclude cow's milk. CMPA confirmed if symptoms clearly improve again.</li> <li>• Provide <a href="#">iMAP milk allergy fact sheet for parents</a> and <a href="#">BDA milk allergy fact sheet</a>.</li> </ul>	<i>Move directly to treatment and referral</i>	<i>Move directly to treatment and referral</i>	<i>Move directly to treatment and referral</i>		

### 3. Treatment and referral process

Advise strict adherence to a cow's milk-free diet for the mother/infant until the child is 9–12 months old and for at least 6 months.

Type of CMPA	Mild to moderate Non-IgE CMPA (80% of cases of CMPA)	Severe Non-IgE CMPA	Mild to moderate IgE CMPA	Severe IgE CMPA
Treatment if breastfed	Encourage and support mother to continue breast feeding. Refer for health visitor/breast feeding support if required. Advise mother to follow cow's milk free diet and mother to start daily calcium and vitamin D supplement.			
Treatment if botte fed/ mixed fed	Prescribe extensively hydrolysed formula (EHF)*	Prescribe amino acid formula (AAF)	Prescribe EHF	Prescribe AAF
Where to refer	Local paediatric dietitian for cow's milk free weaning advice and appropriate reintroduction via the <a href="#">milk ladder</a>	Secondary care allergy service (paediatricians and dietitians)	Secondary care allergy service (paediatricians and dietitians)	Urgent referral to secondary care allergy service (paediatricians and dietitians)

\*For mild to moderate non-IgE CMPA, suggest 6 month check planned at time of prescribing to review progress and ensure initiation of the milk ladder.

### 4. When to stop EHF or AAF milk prescriptions

- The child is 12-15 months old. Most children at 1 year of age can safely transition onto a supermarket plant-based milk as their main milk drink. A dietitian will advise on the most suitable alternative.
- The formula has been prescribed for more than one year.
- The child is able to drink cow's milk.

### Extensively Hydrolysed Formula (EHF)

EHF is the first line treatment for mild to moderate CMPA in primary care. These formulas are tolerated by 90% of infants with CMPA. Infants who do not tolerate one formula may tolerate another. Therefore it is worth prescribing only 1 or 2 tins initially and if not tolerated or taken after perseverance trying another EHF.

Whey based formula can be more palatable but should be used cautiously in infants with gastrointestinal symptoms as they contain lactose.

Extensively Hydrolysed Formula	Additional information
<b>FIRST LINE</b>	
Alimentum	From birth to one year. Casein based. <i>Not suitable for vegetarian, vegan, Halal or Kosher diets.</i>
Nutramigen 1 with LGG®	From birth – 6 months. Casein based with probiotic. <i>Not suitable for vegan, Halal or Kosher diets.</i>
Nutramigen 2 with LGG®	From 6 months. Casein based with probiotic. <i>Not suitable for vegan, Halal or Kosher diets.</i>
<b>SECOND LINE</b>	
Aptamil Pepti 1	From birth – 6 months. Whey based. Contains lactose. <i>Not suitable for vegetarian or Halal diets.</i>
Aptamil Pepti 2	From 6 months. Whey based. Contains lactose. <i>Not suitable for vegetarian or Halal diets.</i>
Aptamil Pepti Syneo	From birth. Whey based with pre and probiotic. Contains lactose. <i>Not suitable for vegetarian or Halal diets.</i>
SMA Althera	From birth to one year. Whey based. Contains lactose. <i>Suitable for vegetarian and Halal diets.</i>
<b>FOR INITIATION BY DIETITIAN OR SECONDARY CARE ONLY</b>	
Nutramigen 3 with LGG®	From one year onwards. Casein based with probiotic. <i>Not suitable for vegetarian, vegan, Halal or Kosher diets.</i>

## Amino Acid Formula (AAF)

AAF should be reserved for infants with severe CMPA symptoms and should **NOT** be used first line for the management of mild to moderate CMPA in primary care.

If a patient presents with a clear anaphylactic reaction to cow's milk these formula should be commenced in primary care, with immediate onward referral to a specialist or secondary care.

Amino Acid Formula (Listed alphabetically)	Additional information
<b>EleCare</b>	From birth. <i>Suitable for vegetarian, Halal and Kosher diets.</i>
<b>Neocate LCP</b>	From birth to one year. <i>Suitable for vegetarian, Halal and Kosher diets.</i>
<b>Neocate Syneo</b>	From birth. Contains pre and probiotic. <i>Suitable for vegetarian, Halal and Kosher diets.</i>
<b>Nutramigen Puramino</b>	From birth. 33% MCT. <i>Suitable for Halal and Kosher diets.</i>
<b>SMA Alfamino</b>	From birth. <i>Suitable for vegetarian and Halal diets.</i>
<b>Neocate Junior</b>	From one year. Replaced Neocate Advance/ Active. <i>Suitable for vegetarian, Halal and Kosher diets.</i>

**Please note:** Both EHF and AAF have an unpleasant taste and smell, which is better accepted by younger infants. Unless there is anaphylaxis, parents should be advised to introduce the new formula gradually by mixing with the infant's usual formula in increasing quantities until the transition is complete

### PRESCRIBING DOs AND DON'Ts<sup>1</sup>

✓ DO	✗ DON'T
<ul style="list-style-type: none"> <li>✓ <b>Support and encourage breastfeeding</b> where it is clinically safe and the mother is in agreement.</li> <li>✓ <b>Refer ALL infants with CMPA to a paediatric dietitian</b> at diagnosis and prior to weaning to receive advice for a cow's milk free diet.</li> <li>✓ <b>Advise about a maternal milk free diet</b> for infants with CMPA who are breast fed (refer to paediatric dietitian).</li> <li>✓ <b>Prescribe only 1 or 2 tins initially</b> until compliance/tolerance is established.</li> <li>✓ <b>Request dietitian to review the prescription</b> if the patient is prescribed a formula for CMPA but able to tolerate significant amounts of any of the following foods – cow's milk, cheese, yogurt, ice cream, custard, milk chocolate, cakes, cream. If tolerating all dairy foods in their diet suggest trialling a graded transition to normal formula (for &lt;1year) or cow's milk (for ≥1year).</li> </ul>	<ul style="list-style-type: none"> <li>✗ <b>Do not add infant formulas to the repeat prescribing template in primary care</b>, unless a review process is established to ensure the correct product and quantity is prescribed for the age of the infant.</li> <li>✗ <b>Do not suggest goat's milk and formulas made from it, sheep's milk or other mammalian milks</b> for those with CMPA as there is a risk of possible allergenic cross-reactivity and they may be nutritionally unsuitable for infants and young children.</li> <li>✗ <b>Do not prescribe lactose free formula</b> (SMA LF®, Enfamil O-Lac®) for infants with CMPA. They are based on cow's milk protein and are unsuitable.</li> <li>✗ <b>Do not suggest rice milk</b> for those under five years due to high arsenic content.</li> <li>✗ <b>Do not routinely prescribe soya formula</b> (SMA Wysoy®) for those with CMPA. This is because a proportion of infants with non-IgE mediated CMPA may also react to soya. It should not be prescribed at all in those under six months due to high phyto-oestrogen content.</li> </ul>

<sup>1</sup> Based on Prescqiipp guidance. Appropriate prescribing of specialist infant formulae. B146 | November 2016 | 2.1

## GUIDELINES FOR QUANTITY TO PRESCRIBE

- Check the amount of formula prescribed is appropriate for the age of the infant (see table below).
- Refer to the most recent correspondence from the paediatric dietitian to confirm recommended quantity of formula.

Age/weight of infant	400g tins/28 days (approx.)	800g tins/28 days (approx.)
Birth to six months: 3.5-5kg	7	3.5
5.5-6.5kg	9	4.5
7-7.5kg	11	5.5
8-8.5kg	12	6
9-10kg	14	7
>6 months, once food intake established	6-12	3-6

## PAEDIATRIC DIETETIC CONTACT DETAILS

Area		Telephone number	Email address
East Surrey	Local Community Team	01293 600314	<a href="mailto:firstdietitians@nhs.net">firstdietitians@nhs.net</a>
	Acute Team	01737 768511 ext 6096	<a href="mailto:sash.dietitians@nhs.net">sash.dietitians@nhs.net</a>
Guildford & Waverley	Local Team	01483 464119	<a href="mailto:rsch.paediatricdietitians@nhs.net">rsch.paediatricdietitians@nhs.net</a>
North West Surrey	Local Team	01932 722202	<a href="mailto:asp-tr.paedsnutrition@nhs.net">asp-tr.paedsnutrition@nhs.net</a>
Surrey Downs	Local Community Team	01372 730040	<a href="mailto:CSH.CommPaedDietetics@nhs.net">CSH.CommPaedDietetics@nhs.net</a>
	Acute Team	01372 735565	<a href="mailto:esth.eghpaediatricdietitians@nhs.net">esth.eghpaediatricdietitians@nhs.net</a>