



Healthcare professional guidance: Cows' milk protein allergy in infants

- Cows' milk protein allergy (CMPA) is an immune mediated reaction to proteins within cows' milk
- Confirmed CMPA occurs in 2 - 3% of children aged 1 – 3 years
- **Breastfeeding is the best way to feed a baby** with cows' milk protein allergy. Mothers will need to exclude cows' milk from their own diets and take a calcium and vitamin D supplement
- Except after gastrointestinal infection, infants with gastrointestinal symptoms on exposure to cows' milk are more likely to have cows' milk protein allergy than lactose intolerance

1 Identify type of CMPA

<p>Symptoms - Take an allergy-focused clinical history tailored to the presenting symptoms and age of the child, including history of atopic disease, assessment of presenting symptoms, feeding history and any response to previous elimination and reintroduction of foods (For more detailed advice see NICE CG116 and iMAP Guideline)</p>			
<ul style="list-style-type: none"> • Delayed onset • Mostly within 2 - 72 hours after ingestion of cow's milk protein • Infant is formula fed, exclusively breast-fed or at onset of mixed feeding 	<ul style="list-style-type: none"> • Acute onset • Mostly within minutes of (but may be up to 2 hours after) ingestion of cow's milk protein • Often infant is formula fed or at onset of mixed feeding 	<p>AND usually several of the following are present:</p> <p>Gastrointestinal:</p> <ul style="list-style-type: none"> • Colic • Reflux/GORD • Food refusal or aversion • Loose or frequent stools • Perianal redness • Constipation • Abdominal discomfort • Blood &/or mucus in stools in an otherwise well infant <p>Skin:</p> <ul style="list-style-type: none"> • Pruritus • Erythema • Significant atopic eczema 	<p>AND one or more of the following is present which is severe & persisting, with or without faltering growth:</p> <p>Gastrointestinal:</p> <ul style="list-style-type: none"> • Vomiting • Diarrhoea • Abdominal pain • Food refusal or food aversion • Significant blood &/or mucus in stools • Irregular or uncomfortable stools <p>Skin:</p> <ul style="list-style-type: none"> • Severe atopic eczema
<p>AND one or more of the following is present:</p> <p>Skin:</p> <ul style="list-style-type: none"> • Acute pruritus • Erythema • Urticaria • Angioedema • Acute flaring of atopic eczema <p>Gastrointestinal:</p> <ul style="list-style-type: none"> • Vomiting • Diarrhoea • Abdominal pain/colic <p>Respiratory:</p> <ul style="list-style-type: none"> • Acute rhinitis &/or conjunctivitis 	<p>AND ANAPHYLAXIS requiring emergency treatment & acute admission:</p> <p>Respiratory:</p> <ul style="list-style-type: none"> • Immediate reaction with severe respiratory &/or cardiovascular system signs & symptoms <p>Gastrointestinal (rare):</p> <ul style="list-style-type: none"> • Severe gastro-intestinal reaction 	<p>= Mild - moderate non Ig E mediated</p>	<p>= Severe non Ig E mediated</p>
<p>= Mild - moderate Ig E mediated</p>	<p>= Severe Ig E mediated</p>		

2 Diagnosis

Please note: Initial diagnosis does not have to be made by Paediatrician or Paediatric Dietitian

- For **Mild – moderate non Ig E mediated ONLY** - exclude cows' milk for 2 – 4 weeks ([iMAP Factsheet for Parents](#)):
 - If breast fed - advise mother to follow cows' milk free diet
 - If formula fed - prescribe 2 – 4 week trial of 1st line Extensively Hydrolysed milk (see overleaf)
- If **clear improvement** in symptoms – **confirm diagnosis** by [home milk challenge](#)
 - If symptoms return, re-start mothers cows' milk free diet/1st line Extensively Hydrolysed milk
- If **clear improvement** in symptoms - **CMPA CONFIRMED** – now follow **3 Treatment and referral** overleaf
- For **Mild – moderate Ig E mediated, Severe non Ig E mediated** OR **Severe Ig E mediated** symptoms
 - Follow **3 Treatment and referral** overleaf

3 Treatment and referral based on type of CMPA

Extensively hydrolysed (EH) milks are not halal. Parents of Muslim children who require EH milks should be advised to seek medical exemption from their Imam

Type of CMPA	Mild - moderate non Ig E mediated	Severe non Ig E mediated	Mild - moderate Ig E mediated	Severe Ig E mediated
Treatment if breast fed	Advise mother to follow cows' milk free diet + start calcium & vitamin D supplement & cows' milk free diet for infant if weaning has commenced			
Treatment if bottle fed/ mixed fed	<p>Prescribe Extensively Hydrolysed (EH) milk Up to 6 months:</p> <ul style="list-style-type: none"> 1st line – Pepti 1 (400g/900g) 2nd line – Althera (450g) ‡ <p>6 months to 2 years:</p> <ul style="list-style-type: none"> 1st line – Pepti 2 (900g) 2nd line – Althera (450g) ‡ <p>+ advise cows' milk free diet for infant if weaning commenced</p>	<p>Prescribe Extensively Hydrolysed (EH) milk as for Mild – moderate</p> <p>Please note: EH milks are tolerated by 90% of infants with CMPA, therefore AA formula milks should only account for about 10% of scripts for infants with CMPA</p> <p>If 1st and 2nd line not tolerated, prescribe Amino Acid (AA) formula milk as for Severe Ig E mediated</p>	<p>Prescribe Extensively Hydrolysed (EH) milk Up to 6 months:</p> <ul style="list-style-type: none"> 1st line – Pepti 1 (400g/900g) 2nd line – Althera (450g) ‡ <p>6 months to 2 years:</p> <ul style="list-style-type: none"> 1st line – Pepti 2 (900g) 2nd line – Althera (450g) ‡ <p>+ advise cows' milk free diet for infant if weaning commenced</p>	<p>Prescribe Amino Acid (AA) formula milk Up to 2 years:</p> <ul style="list-style-type: none"> 1st line – Alfamino (400g) 2nd line – Nutramigen Puramino (400g) ‡ <p>+ advise cows' milk free diet for infant if weaning commenced</p>
+ Refer to:	Paediatric Dietitian	Paediatric dietitian and Paediatrician	Allergy Clinic, Dermatology Dept, Amersham Hospital	URGENT - Allergy Clinic, Dermatology Dept, Amersham Hospital

Soya milk in Mild - moderate non Ig E mediated

- Under 6 months of age - Soya milk should not be considered
- 6 months – 1 year of age - If child will not take an EH milk, a soya baby milk (Wysoy) can be suggested. Parents should be advised to purchase this OTC as cost is identical to a standard baby milk
- At 1 – 2 years: If still taking EH milk, advise parents to trial Alpro Growing Up Drink Soya 1-3+ (widely available). If tolerated, advise parents to purchase this & **stop prescribing EH milk**

Please note: Some children with CMPA may also react to soya

4 Amount of milk to prescribe

Age of child	Suggested formula intake per day	Suggested volume per day	Amount to prescribe per week (for trial to determine diagnosis)	Amount to prescribe per month
Up to 2 weeks	7 – 8 feeds (60 - 70ml per feed)	420 - 560ml	2 x 400g OR 1 x 900g	5 – 6 x 400g OR 2 – 3 x 900g
2 weeks – 2 months	6 - 7 feeds (75 - 105ml per feed)	450 - 735ml	2 x 400g OR 1 x 900g	5 – 8 x 400g OR 3 – 4 x 900g
2 – 3 months	5 - 6 feeds (105 - 180ml per feed)	525 - 1080ml	2 - 3 x 400g OR 1 - 2 x 900g	6 – 12 x 400g OR 3 – 6 x 900g
3 – 5 months	5 feeds (180 - 210ml per feed)	900 - 1050ml	3 x 400g OR 2 x 900g	10 – 12 x 400g OR 5 x 900g
About 6 months	4 feeds (210 - 240ml per feed)	840 - 960ml	3 x 400g OR 1 – 2 x 900g	9 – 11 x 400g OR 4 – 5 x 900g
7 – 9 months	About 4 feeds	About 800ml	2 x 400g OR 1 x 900g	9 x 400g OR 4 x 900g
10 – 12 months	About 3 feeds	About 600ml	2 x 400g OR 1 x 900g	7 x 400g OR 3 x 900g
1 – 2 years	About 2 feeds (+ used in cooking if infant unable to tolerate soya milk)	About 400 – 600ml	2 x 400g OR 1 x 900g/ 1000g	5 - 7 x 400g OR 2 x 900g/1000g

5 When to stop extensively hydrolysed or amino acid formula milk prescription

- At 2 years of age or sooner if child has grown out of allergy (i.e. able to consume cows' milk without symptoms)
- If advised to do so by Paediatric Dietitian/Paediatrician/Allergy Clinic

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