

- Cow's milk protein allergy (CMPA) is an immune mediated reaction to proteins in cow's milk. Also called cow's milk allergy, it affects 2-3% of children aged 1-3 years.
- Consider if any delayed reaction could purely be due to reflux and not CMPA – refer to HWE GOR guidance.
- Infants with gastro-intestinal symptoms on exposure to cow's milk are more likely to have CMPA than lactose intolerance, except after gastrointestinal infection.
- **Consider if symptoms could be due to more serious condition:** Intussusception, pyloric stenosis, bile stained vomit, haematemesis, abdominal tenderness/distension, presence of mass – refer immediately to urgent care.
- **Child maltreatment can co-exist with CMPA** - refer to [HWE GP FAQs for CMPA](#) to access safeguarding information, and resources to help cope with crying babies ([ICON](#)).

**Breastfeeding remains the optimal way to feed a baby with CMPA** - mothers should be supported to continue breastfeeding wherever possible & mum wishes. Provide [iMAP Supporting Breastfeeding Factsheet](#).

**Mum will only need to exclude cow's milk from her own diet if CMPA symptoms present when exclusively breastfeeding** (take an [allergy focussed clinical history](#) to determine). If so, provide [HWE Cow's milk free diet for breastfeeding mum](#) & recommend mum takes daily 10ug/400IU vitamin D and 1000mg calcium (OTC). **See overleaf for further treatment and referral/support details.**

### ① IDENTIFY TYPE OF CMPA

**Symptoms** – take an [allergy focussed clinical history](#) tailored to the presenting symptoms and child's age, including history of atopic disease, assessment of presenting symptoms, feeding history and any response to previous elimination and reintroduction of foods/infant formula – refer to [iMAP Guideline](#) and [NICE CG116](#)

<b>Non IgE mediated (delayed onset)</b>		<b>IgE mediated (immediate/acute onset)</b>	
<ul style="list-style-type: none"> <li>• Symptoms mostly <b>within 2-72 hours</b> of ingestion of cow's milk protein</li> </ul>		<ul style="list-style-type: none"> <li>• Symptoms mostly <b>within minutes</b> of (but may be up to 2 hours after) ingestion of cow's milk protein</li> </ul>	
<p><b>AND</b> usually several of the following are present:</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>• Loose or frequent stools</li> <li>• Perianal redness</li> <li>• Constipation</li> <li>• Abdominal discomfort</li> <li>• Blood &amp;/or mucus in stools in an otherwise well infant</li> </ul> <p><b>Skin:</b></p> <ul style="list-style-type: none"> <li>• Pruritus</li> <li>• Erythema</li> <li>• Significant atopic eczema</li> </ul>	<p><b>AND</b> one or more of the following is present, which is <b>severe and persisting, with or without faltering growth:</b></p> <p><b>Gastrointestinal:</b></p> <ul style="list-style-type: none"> <li>• Vomiting</li> <li>• Diarrhoea</li> <li>• Abdominal pain</li> <li>• Food refusal or food aversion</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 eczema</li> </ul>	<p><b>AND</b> one or more of the following is present:</p> <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 atopic eczema</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 &amp;/or conjunctivitis</li> </ul>	<p><b>AND ANAPHYLAXIS</b> requiring emergency treatment and acute admission:</p> <p><b>Respiratory:</b></p> <ul style="list-style-type: none"> <li>• Immediate reaction with severe respiratory &amp;/or cardiovascular signs &amp; symptoms</li> </ul> <p><b>Gastrointestinal (rare):</b></p> <ul style="list-style-type: none"> <li>• Severe gastrointestinal reaction</li> </ul>
<b>= Mild-moderate non IgE mediated</b>	<b>= Severe non IgE mediated</b>	<b>= Mild-moderate IgE mediated</b>	<b>= Severe IgE mediated</b>

### ② DIAGNOSIS

- **For mild-moderate non IgE mediated symptoms ONLY** - Provide [iMAP Factsheet for Parents](#) and exclude all cow's milk products for 2-4 weeks:
  - *If exclusive breastfeeding resulted in symptoms*, advise mum to follow [cow's milk free diet](#)
  - *If formula fed*, prescribe 2-4 week trial of **extensively hydrolysed formula (EHF)** – see overleaf

**If clear improvement in symptoms after 2-4 week trial of EHF/cow's milk free diet, CONFIRM DIAGNOSIS by HOME MILK CHALLENGE (essential step in clinical management):**

  - If symptoms return, restart mum's cow's milk free diet/1<sup>st</sup> line extensively hydrolysed formula
  - If symptoms clearly improve again **CMPA CONFIRMED** – NOW follow **TREATMENT AND REFERRAL** overleaf
- For **Mild-moderate IgE mediated**, **Severe non IgE mediated** and **Severe IgE mediated symptoms** follow **TREATMENT AND REFERRAL** below.

### ③ TREATMENT & REFERRAL – based on type of CMPA

Type of CMPA →	Mild-moderate non IgE mediated	Mild-moderate IgE mediated	Severe non IgE mediated	Severe IgE mediated
Treatment if breastfed	<ul style="list-style-type: none"> <li>❖ Advise mum to follow cow's milk free diet if CMPA symptoms present when exclusively breastfeeding (<a href="#">HWE Cow's milk free diet for breastfeeding mum</a>) + take daily 10ug/400IU vitamin D &amp; 1000mg calcium (OTC)</li> <li>❖ If child has started solid foods (also known as weaning), child must follow <a href="#">cow's milk free diet</a></li> </ul>			
Treatment if bottle fed/mixed fed	<p><b>Prescribe Extensively Hydrolysed Formula (EHF):</b></p> <p><u>1<sup>st</sup> Line</u> - SMA Althera (400g)  <u>2<sup>nd</sup> Line</u> - Nutramigen 1 with LGG (400g)  <u>3<sup>rd</sup> Line</u> - Aptamil Pepti 1 (400g/800g)</p> <p>+ advise <a href="#">cow's milk free diet</a> for child if they have started solid foods</p> <p><i>Please note:</i></p> <ul style="list-style-type: none"> <li>• <b>EHF milks are tolerated by 90% of infants with CMPA, therefore prescriptions for AAFs should only account for ~10% of CMPA prescriptions</b></li> <li>• <b>These first stage EHF's are all suitable from birth onwards &amp; when solids are started (also known as weaning) from around 6 months onwards</b></li> </ul>		<p><b>Prescribe Amino Acid Formula (AAF):</b></p> <p><u>1<sup>st</sup> Line</u> - Nutramigen Puramino (400g)  <u>2<sup>nd</sup> Line</u> - Neocate LCP (400g)  <u>3<sup>rd</sup> Line</u> - SMA Alfamino (400g)</p> <p>+ advise <a href="#">cow's milk free diet</a> for child if they have started solid foods</p>	
See <a href="#">HWE GP FAQs</a> for information on more specialist formulas requested by allergy specialist HCP				
From age 1 year onwards, see overleaf & <a href="#">HWE Managing supplies &amp; when to stop guidance</a> to check if safe to stop the prescription. Severe allergy/complex health issues/faltering growth require longer duration.				
Refer to: (HERTS)	*HCT Paediatric Dietitian only	*HCT Paediatric Dietitian <u>and</u> Acute Paediatrician	*HCT Paediatric Dietitian <u>and</u> Acute Paediatrician	<b>URGENT:</b> *HCT Paediatric Dietitian <u>and</u> Acute Paediatrician
*HCT Referral form is on DXS (in Herts Valleys) and on ARDENS (East & North Herts)				
Refer to: (WEST ESSEX)	<a href="#">West Essex Community Allergy Service (HCRG)</a> (Paediatric Dietitian)	Acute Paediatrician (who refers in house to Paediatric Dietitian)	<a href="#">West Essex Community Allergy Service (HCRG)</a> (Paediatric dietitian) <u>and</u> Acute Paediatrician	<b>URGENT:</b> Acute Paediatrician (who refers in house to Paediatric Dietitian)
❖ Consider signposting to health visitor/infant feeding service at any stage (refer to <a href="#">GP FAQs</a> for contact details): for infant feeding/breastfeeding support or other issues, e.g., concerns reflux may be due to overfeeding				

#### SOYA MILK in **mild-moderate non IgE mediated CMPA** (NOTE children with CMPA may also react to soya)

- Under 6 months of age - soya formula should not be considered.
- 6-12 months of age - provided no concurrent soya allergy (see [HWE GP FAQs](#)), if child will not take extensively hydrolysed formula and parents wish to give SMA Soya Infant Formula, it must be purchased OTC.
- Over age 1 year - if no concurrent soya allergy & child is not tolerating cow's milk, parents can purchase Alpro Soya Growing Up Drink 1-3+ (widely available from supermarkets/online).

### ④ AMOUNT OF CMPA FORMULA TO PRESCRIBE (\*\*NOTE 4800g MONTHLY at highest need unless justified by dietitian)

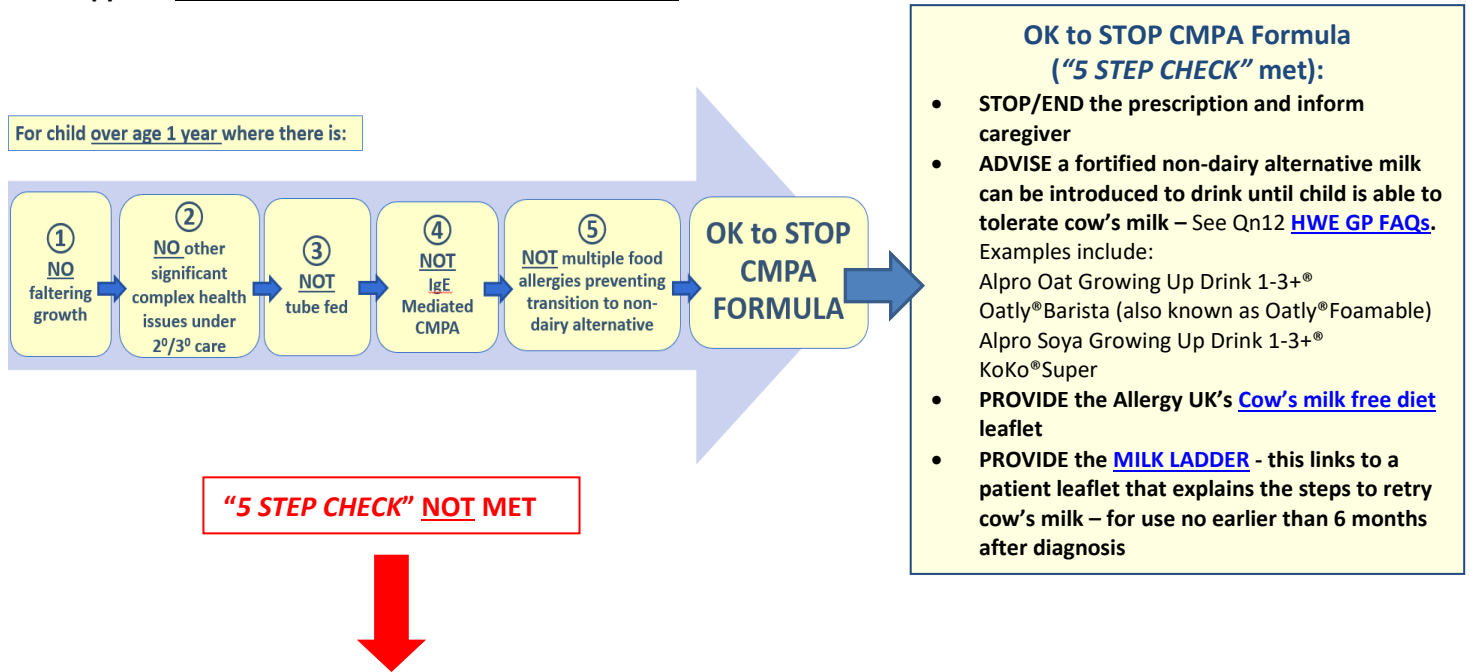
AGE of Child	Approx total volume of formula per day	INITIAL TRIAL amount	MONTHLY AMOUNT**
Up to 3 months (13 wks)	420ml increasing to 1080ml	4x400g tins (1600g)	<b>2000g</b> (5x400g) <i>increasing to 4800g</i> (12x400g) <i>Amount needed increases as child reaches 13 wks</i>
3-6 months (13-26 wks)	1080ml reducing to 840ml	5x400g tins (2000g)	<b>4800g</b> (12x400g) <i>reducing to 3600g</i> (9x400g) <i>Amount needed reduces as child reaches 26 wks</i>
6-12 months (26-52 wks)	840ml reducing to 600ml	4x400g tins (1600g)	<b>3600g</b> (9x400g) <i>reducing to 2800g</i> (7x400g) <i>Amount needed reduces as child reaches 52 wks</i>
<b>1-2 years (not routine)</b>	<b>400-600ml</b>	<b>2x400g tins (800g)</b>	<b>2800g</b> (7x400g) <i>reducing to 2000g</i> (5x400g)

Type of prescription (Acute/Repeat) is less important than the need for a review process in place to monitor progress

## ⑤ WHEN TO STOP THE CMPA FORMULA PRESCRIPTION/SWITCH TO A NON DAIRY ALTERNATIVE MILK

- **If outgrown milk allergy:**
  - If under age 1 year – revert to OTC infant formula
  - From age 1 year onwards - revert to whole cow’s milk
- If **not** outgrown milk allergy, from the age of 1 year onwards, where there is no faltering growth, it is often appropriate to switch to a fortified non dairy alternative milk.

GP practices can follow the **“5 STEP CHECK”** for any child **OVER AGE 1 YEAR** to see if the CMPA formula can be stopped - **MUST MEET THE CRITERIA IN ALL 5 STEPS:**



**“5 STEP CHECK” NOT MET**

### IF CHILD DOES **NOT** MEET ALL CRITERIA TO STOP THE CMPA FORMULA:

- **CONTINUE** to prescribe the CMPA formula
- **Set number of issues to monitor ongoing need**
- **Child must remain under dietitian care - contact dietitian/paediatrician if no evident review in last 6 months**
- **Dietitian/paediatrician must advise whether a fortified non-dairy alternative milk is appropriate, if & when it is safe to start the milk ladder and when it is safe to stop the CMPA formula**

<b>Developed by:</b>	Ruth Hammond, Prescribing Support Dietitian, and the wider Prescribing Support Dietetic Team, Herts & West Essex ICB in conjunction with multiple ICS stakeholders, providers and partners.		
<b>Approved by:</b>	Hertfordshire & West Essex Area Prescribing Committee	<b>Version:</b>	1.0
<b>Date approved:</b>	April 2024	<b>Review Date:</b>	April 2027