

- 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](#)

Non IgE mediated (delayed onset)		IgE mediated (immediate/acute onset)	
<ul style="list-style-type: none"> • Symptoms mostly within 2-72 hours of ingestion of cow's milk protein 		<ul style="list-style-type: none"> • Symptoms mostly within minutes of (but may be up to 2 hours after) ingestion of cow's milk protein 	
<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 and 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 and acute admission:</p> <p>Respiratory:</p> <ul style="list-style-type: none"> • Immediate reaction with severe respiratory &/or cardiovascular signs & symptoms <p>Gastrointestinal (rare):</p> <ul style="list-style-type: none"> • Severe gastrointestinal reaction
= Mild-moderate non IgE mediated		= Severe non IgE mediated	
		= Mild-moderate IgE mediated	
		= Severe IgE mediated	

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

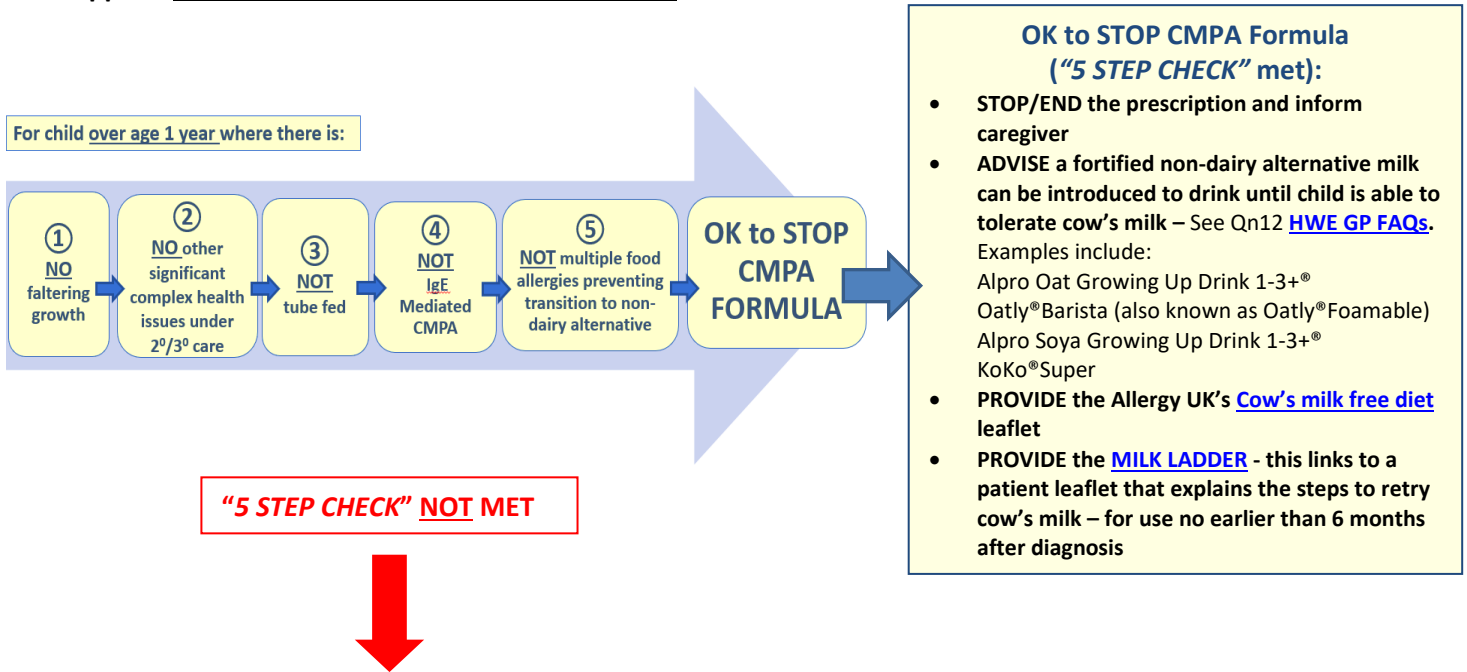
AGE of Child	Approx total volume of formula per day	INITIAL TRIAL amount	MONTHLY AMOUNT**
Up to 3 months (13 wks)	420ml increasing to 1080ml	4x400g tins (1600g)	2000g (5x400g) increasing to 4800g (12x400g) <i>Amount needed increases as child reaches 13 wks</i>
3-6 months (13-26 wks)	1080ml reducing to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



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**

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