Hertfordshire and West Essex Integrated Care System

Healthcare professional guidance: Cow's milk protein allergy (CMPA) in infants

NHS Hertfordshire and West Essex Integrated Care Board

- Cow's milk protein allergy (CMPA) (also called cow's milk allergy) is an immune mediated reaction to proteins in cow's milk. CMPA affects 2-3% of children aged 1-3 years
- There is a risk of overdiagnosis because CMPA symptoms are nonspecific and in cases of non IgE mediated CMPA the diagnosis pathway (see below) may not be completed
- Consider if any symptom(s) could be due to reflux or other functional gut disorder and not CMPA
- Optimise eczema treatment. Removing cow's milk alone from the diet of a child with non IgE mediated CMPA and eczema is unlikely to resolve eczema. Consider referral to dermatology in cases of persistent eczema
- **Consider signposting to health visitor/infant feeding service at any stage (refer to HWE GP FAQs for contact details) for infant feeding/breastfeeding support, concerns reflux may be due to overfeeding etc**
- **Consider if symptoms could be due to a more serious condition**. Immediately refer any of the following to urgent care: Intussusception, pyloric stenosis, bile-stained vomit, haematemesis, abdominal tenderness/distension, presence of mass
- **Child maltreatment can co-exist with CMPA** - refer to HWE GP FAQs for safeguarding information, and resources to help parents/carers cope with crying babies
- **Breastfeeding remains the optimal way to feed a baby with CMPA** - Mothers should be supported to continue breastfeeding wherever possible & mum wishes. **Mum will only need to exclude cow's milk *from her own* diet if CMPA symptoms present when exclusively breastfeeding (see page 2)**

- All children aged 6 months to 5 years (except for those having more than 500ml of any infant formula a day) should be given a purchased daily vitamin supplement containing vitamins A, C and D
- Eligible families can get free vitamin drops with the NHS Healthy Start scheme
- Breastfed infants (including mixed fed) – should be given daily vitamin D from birth (even if mother is taking vitamin D)

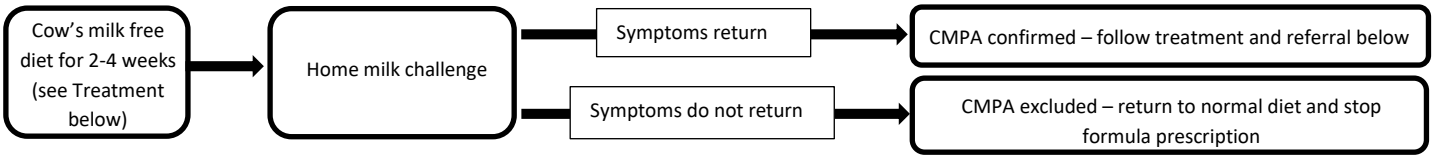
① IDENTIFY TYPE OF CMPA

Symptoms – take an allergy focussed clinical history including history of atopic disease, assessment of presenting symptoms **and response to any treatment,** 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 symptoms) • Symptoms mostly **within 2-72 hours** of ingestion of cow's milk protein		**IgE mediated (immediate/acute onset symptoms)** • Symptoms mostly **within minutes** of (but may be up to 2 hours after) ingestion of cow's milk protein	
AND Several of the following are present AND persisting despite first line treatments: **Gastrointestinal:** • Persistent irritability/Colic • Reflux/GORD • Food refusal or aversion • Abnormally loose or frequent stools • Perianal redness • Soft stool constipation (soft stools with excess straining) • Abdominal discomfort • Blood &/or mucus in stools in an otherwise well infant **Skin:** • Pruritus • Erythema • Significant atopic eczema	**AND** one but usually more of the following is present, which are severe and persisting & often treatment resistant, with or without faltering growth: **Gastrointestinal:** • Vomiting • Diarrhoea • Abdominal pain • Food refusal or food aversion • Significant blood &/or mucus in stools • Irregular or uncomfortable stools **Skin:** • Severe atopic eczema	**AND** one or more of the following is present: **Skin:** • Acute pruritus • Erythema • Urticaria • Angioedema • Acute flaring of atopic eczema **Gastrointestinal:** • Vomiting • Diarrhoea • Abdominal pain/colic **Respiratory** • Acute rhinitis &/or conjunctivitis	**AND** ANAPHYLAXIS requiring emergency treatment and acute admission: **Respiratory:** • Immediate reaction with severe respiratory &/or cardiovascular signs & symptoms **Gastrointestinal (rare):** • Severe gastrointestinal reaction
= Mild-moderate non IgE mediated	**= Severe non IgE mediated**	**= Mild-moderate IgE mediated**	**= Severe IgE mediated**

② DIAGNOSIS

Mild-moderate non IgE mediated CMPA is the most common presentation of CMPA. A home milk challenge must be carried out after a period of exclusion to confirm diagnosis (NICE quality standard). **Do not advise home milk challenge if IgE mediated allergy suspected.**



If symptoms are not resolving after 4 weeks on a cow's milk free diet reconsider CMPA diagnosis

③ TREATMENT

Type of CMPA ➔	Mild-moderate non IgE mediated	Mild-moderate IgE mediated	Severe non IgE mediated	Severe IgE mediated
Treatment if breastfed	❖ If CMPA symptoms present when exclusively breastfeeding, advise mum to follow cow's milk free diet (HWE Cow's milk free diet for breastfeeding mum) + take 10ug/400IU vitamin D & 1000mg calcium (OTC) daily ❖ If child has started solid foods (weaning), child should follow cow's milk free diet			
Treatment if bottle fed/ mixed fed	**Prescribe Extensively Hydrolysed Formula (EHF)** **ADVISE PARENTS/CARERS THAT PRESCRIPTION USUALLY ENDS ON 1ST BIRTHDAY** 1st Line - **SMA Althera (400g)** 2nd Line - **Nutramigen 1 with LGG (400g)** 3rd Line - **Aptamil Pepti 1 (400g/800g)** **+ Advise cow's milk free diet for child if they have started solid foods** *Please note:* • ***EHF milks are tolerated by 90% of infants with CMPA*** • *EHFs advised above are all suitable from birth onwards & when solids are started (weaning) from around 6 months onwards*			**Prescribe Amino Acid Formula (AAF):** 1st Line - **Nutramigen Puramino (400g)** 2nd Line - **Neocate LCP (420g)** 3rd Line - **SMA Alfamino (400g)** **+ advise cow's milk free diet for child if they have started solid foods** *Please note:* • *Prescriptions for AAFs should account for only ~10% of CMPA prescriptions*
More specialist formulas may be requested by allergy specialists. See HWE GP FAQs				

④ AMOUNT OF CMPA FORMULA TO PRESCRIBE

Age of Child	Approx total volume of formula per day	Initial trial amount	Monthly amount
Up to 3 months (13 wks)	**420ml increasing to 1,080ml**	4 tins (1,600/1,680g)	**2,000/2,100g** (5 tins) ***increasing to*** **4,800/5,040g** (12 tins) *as child reaches 13 wks*
3-6 months (13 - 26 wks)	**1,080ml reducing to 840ml**	5 tins (2,000/2,100g)	**4,800/5,040g** (12 tins) ***reducing to*** **3,600/3,780g** (9 tins) *as child reaches 26 wks*
6-12 months (26 - 52 wks)	**840ml reducing to 600ml**	4 tins (1,600/1,680g)	**3,600/3,780g** (9 tins) ***reducing to*** **2,800/2,940g** (7 tins) *as child reaches 52 wks*
1-2 years (not routine)	**400-600ml**	Not applicable	**2,800/2,940g** (7 tins) **reducing to 2,000/2,100g** (5 tins)

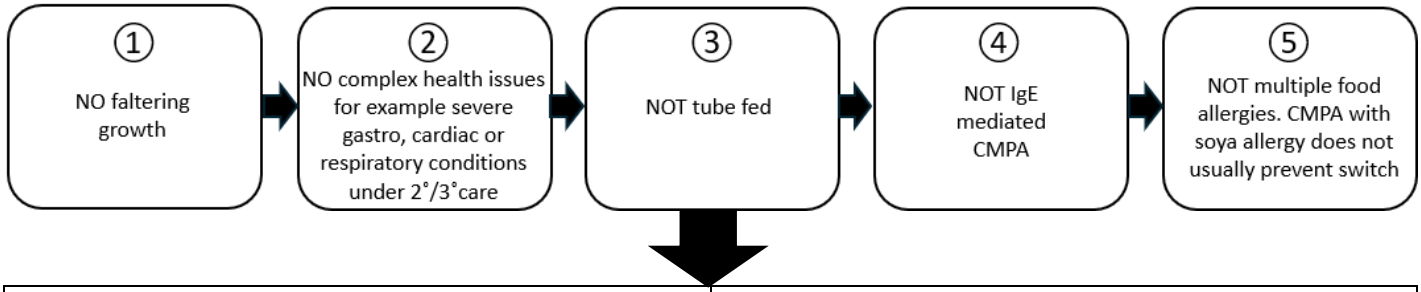
From 1st birthday, see overleaf & HWE CMPA Guidance for GP Practices - stopping CMPA formula at 1 year to check if prescription can be stopped.

⑤ REFERRAL

Type of CMPA ➔	Mild-moderate non IgE mediated	Mild-moderate IgE mediated	Severe non IgE mediated	Severe IgE mediated
In Herts refer to: SWH form on DXS ENH form on Ardens	**HCT Paediatric Dietitian only**	**HCT Paediatric Dietitian and Acute Paediatrician**	**HCT Paediatric Dietitian and Acute Paediatrician**	**URGENT: HCT Paediatric Dietitian and Acute Paediatrician**
In West Essex refer to:	**West Essex Community Allergy Service (HCRG) (Paediatric Dietitian)**	**Acute Paediatrician** (will refer to in house Paediatric Dietitian)	**West Essex Community Allergy Service (HCRG) (Paediatric dietitian) and Acute Paediatrician**	**URGENT: Acute Paediatrician** (will refer to in house Paediatric Dietitian)

⑥ WHEN TO STOP THE CMPA FORMULA PRESCRIPTION/SWITCH TO A FORTIFIED NON DAIRY ALTERNATIVE MILK

- **If outgrown milk allergy:**
  - Up to 1st birthday – stop prescribed CMPA formula. Purchased standard infant formula can be given until their 1st birthday
  - After 1st birthday – stop prescribed CMPA formula. Whole cow's milk can be given as main milk drink
- **If <u>not</u> outgrown milk allergy after 1st birthday**:
  - Where there is no faltering growth, it is usually appropriate to switch to a fortified non dairy alternative milk
  - Follow the **5 Step Check** below to see if the CMPA formula can be stopped – <u>all 5 criteria must be met</u>



5 Step Check met:	**5 Step Check <u>NOT</u> met:**
• **Stop the prescription and inform parents/carers** • **Advise a fortified non-dairy alternative milk** can be introduced to drink until child is able to tolerate cow's milk – HWE GP FAQs**.** Examples include: ○ Alpro Oat Growing Up Drink 1-3+® ○ Oatly®Barista Edition ○ Alpro Soya Growing Up Drink 1-3+® ○ KoKo®Super ○ Or suitable supermarket own brand – HWE Moving from formula to fortified non-dairy alternative milk • **Provide** Allergy UK Cow's milk free diet leaflet • **Provide** the Milk Ladder - this links to a patient leaflet that explains the steps to retry cow's milk – for use no earlier than 6 months after diagnosis	**Continue** to prescribe the CMPA formula • **Set number of issues** to monitor ongoing need • **Child must remain under dietitian care** - contact paediatric dietitian/paediatrician if no evident review in last 6 months • **Paediatric 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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Superseded version	2.0