

Cow's Milk Protein Allergy (CMA): Re-introduction and following a dairy free diet

**Paediatric Dietitians
Gloucester Royal Hospital
0300 422 5506**

Who is this session for?

Children who have a confirmed non-IgE Cow's milk protein allergy (CMPA) and are following a dairy-free or partially dairy-free diet.

Please contact us on 0300 422 5506 for a 1:1 appointment if there are any concerns regarding:

- Weight or growth
- IgE (immediate) reactions
- Multiple food allergies

Outline of Session

- What is CMPA is and how it is diagnosed
- Outgrowing CMPA
- A well-balanced dairy-free diet
- Meeting vitamins and minerals on a dairy-free diet
- Dairy-free alternative milks and products
- Dairy reintroduction (milk ladder)
- Questions and useful links

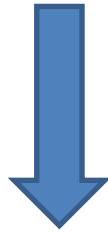


What is Cows milk allergy (CMPA)?

- **CMPA** is an abnormal response by the bodys immune system in which **proteins** in a food(in this case cows milk) are recognised as a potential threat . This can then cause the immune system to become '**sensitised**'. When this happens, there is potential that when cow's milk is consumed the immune system remembers this protein and may react to it by producing allergic symptoms. (**Allergy UK**)

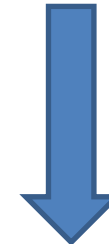
Types of CMPA and Diagnosis:

Immediate reactions
(IgE mediated)
symptoms typically
show within minutes of
having milk



Blood tests (RAST test)
Skin prick test

Delayed reactions
(non-IgE mediated)
symptoms typically
show within hours,
sometimes days, after
having milk



Food exclusion &
reintroduction

Symptoms of non-IgE Cow's Milk Protein Allergy

- Diarrhoea or constipation, stomach ache, nausea, reflux or vomiting, blood or mucus in stools, wind, discomfort with feeding
- Itchy skin rashes & eczema
- Runny or blocked nose

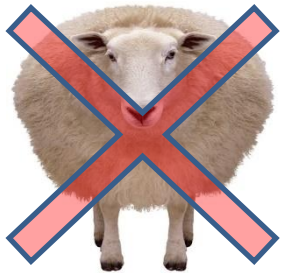
Sure its CMPA? What is Lactose Intolerance?

- Body cannot digest the sugar in cow's milk (lactose)
- Often confused with cow's milk protein allergy
- An intolerance, not an allergy
- Very rare – affects 1% of UK population
- Can be temporary following an upset tummy/ gastro bug/antibiotics
- Symptoms are very similar to cow's milk protein allergy:
 - Diarrhoea, nausea & occasional vomiting, wind, tummy ache



Treatment for suspected CMPA

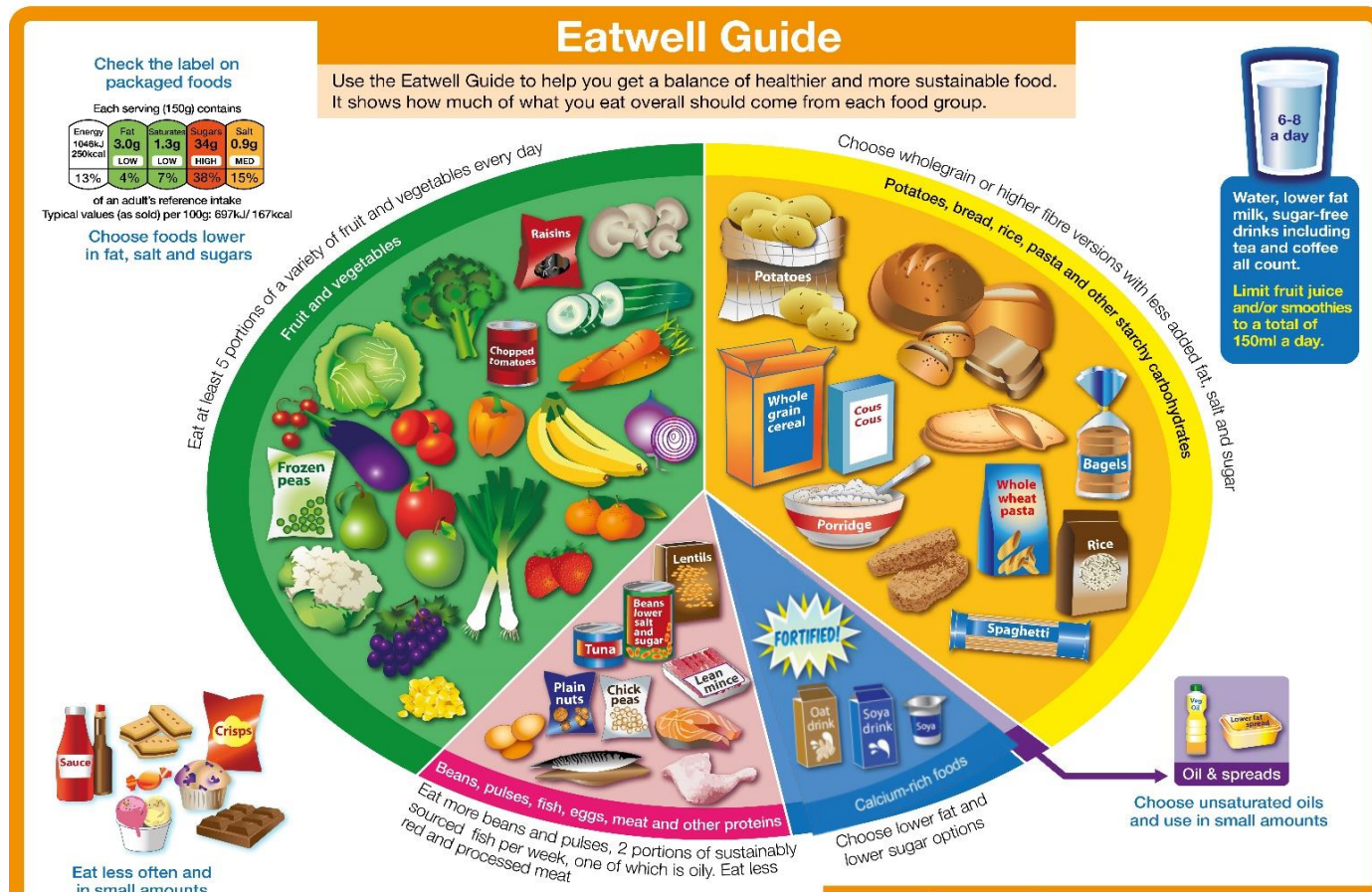
- A diet free from cow's milk and food made with cow's milk
- avoid milk and food products from other animals, such as sheep, goat & buffalo as the protein is very similar to the protein in cow's milk
- If under 1 year of age, your child should have breast milk or a suitable hypoallergenic formula



Will My Child Grow Out Of Their Cow's Milk Protein Allergy?

- CMPA is one of the most common food allergies to occur in children – affecting 2–5% of children
- Some children with mild to moderate non-IgE mediated cow's milk protein allergy will outgrow by their first birthday
- Most children will outgrow between 1 and 3 years of age
- Some may take longer than this or may not fully outgrow the allergy

- If your child has not been able to introduce dairy yet or is tolerating small amounts only - a well-balanced, age-appropriate diet can still be achieved
- Dairy is a rich source of calcium, Iron and protein. There are other foods your child may already eat or could eat that contain these nutrients.



Calcium

- It is important to ensure that your child is receiving enough calcium
- Calcium requirements change with age so it is important to consider this as your child gets older
- Use foods fortified with calcium to help meet requirements
- If you are struggling to meet calcium requirements through diet alone, an age-appropriate calcium supplement could be considered to top up intakes.

How much calcium?

Age	Calcium (mg per day)
0-12 months	525mg
1-3 years	350mg
4-6 years	450mg
7-10 years	550mg
11-18 year	800mg (girls) 1000mg (boys)
Breastfeeding mums	1250mg

How to meet 350mg calcium

- 100ml fortified plant milk
- 50mg tofu
- ½ slice of bread



- 4 tsb of soya yogurt
- 3tbsp (12g) ready oats
- 100ml fortified plant milk



- 85g broccoli
- 1 large orange
- 200ml fortified plant based milk



Scan here to take
you to the 'calcium
counter'



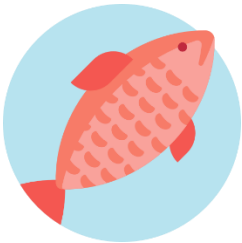
Vitamin D



- Vitamin D is needed to absorb the calcium from our diet.
- Most of our vitamin D comes from the sun, rather than food.
- Adults and children over the age of one should consider taking a daily supplement containing 10 micrograms of Vitamin D, especially during autumn and winter.

Iodine

- Iodine is a mineral that is a key part of the thyroid hormones needed for growth, metabolism and for brain development during early life.
- Milk and dairy products are a main source in the UK
- Other sources include: fortified dairy-free alternatives, fish, shellfish and eggs.



Aim for at least 2 portions of fish a week, including 1 of oily fish.

White fish tend to have a higher iodine content than oily fish, but oily fish have other health benefits too.



Check if the milk alternative your child uses is fortified with iodine

- If unable to include iodine rich sources in the diet, speak with your local pharmacist about a suitable supplement.
- Seaweed or kelp supplements should **not** be used as an iodine source.

Suitable Milk Alternatives

- Dairy-free milks can be introduced as a main milk drink between 12-14 months old as an alternative to cow's milk
- Always avoid organic and ensure that this is fortified with calcium and iodine too if your child is vegetarian/vegan.
- Soya and oat milk have the highest calorie content; and soya is the best for protein content.
- Alpro soya junior 1 year+ milk is currently the closest alternative to full fat cow's milk on the market, followed by Alpro oat junior 1 year+
- Unsuitable alternative milks include rice milk which should not be used with children under the age of 5 years
- There are a variety of own-brand and branded options available in the supermarkets. Tesco, Asda and M&S are particularly well fortified.
- 'Barista' versions are a good choice as these are typically higher in calories.

Plant based milks



Hazelnut



Pea



Hemp



Oat



Almo



Alpro Soya Growing Up Milk Drink
(can be used as main milk drink from 1 year)



Coconut



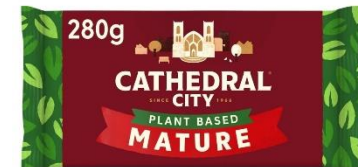
Cashew



= Dietitian approved

Cow's Milk Free Alternative Products









- Spreads
- Cheese
- Yoghurts & desserts
- Ice creams & frozen desserts
- Creams/Custards/Crème Fraiche
- Chocolate



My child has a restrictive diet or is vegetarian/vegan

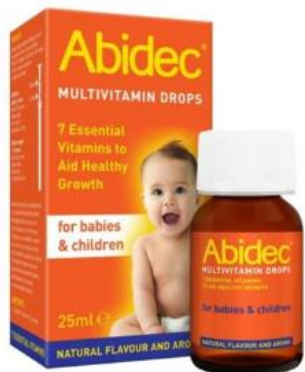
- Intake of iron, zinc, calcium, iodine and vitamin A, E, D and B12 could be compromised
- Ensure giving a multivitamin & mineral supplement
- Aim to boost absorption of plant based foods
- Use fortified foods as much as possible

How to max nutrient absorption

Nutrients		Plant-based	Improve bioavailability with	Animal-based
Iron		nuts, seeds, grains, dried fruit, beans, soy bean flour, oats, herbs	addition of Vitamins A and C, oil/fat, dairy or soybean products	liver, meat, fish,
Zinc		seeds, beans, oats, nuts, lentils, soy*	addition of proteins, soaking, sprouting	liver, meat, fish,
Iodine		fortified salt, seaweed	addition of dairy or soybean products	salt-water fish, dairy, eggs, liver chicken
Calcium		kale, finger millet, nuts, winter squash	cooking, sprouting, fermentation	milk/dairy products, fish
Magnesium		whole grains, green vegetables, nuts and seeds, tea	cooking, sprouting, lactic acid fermentation	fish, meat, chicken
Vitamin A		orange and yellow vegetables as carrots, sweet potatoes and winter squash	grinding, steaming, boiling addition of oil	liver, meat, fish, dairy products
Vitamin B2		leafy greens, nuts, seeds and whole grains	water-soluble, light-sensitive, but heat resistant, steaming, boiling, stir-frying	eggs, meat, fish dairy products
Vitamin B12		(yeast, tempeh, algae), fortified cereals	whey proteins, sorbitol	fish, beef, dairy, eggs
Vitamin D		mushroom, fortified cereals	addition of oil, calcium (dairy products)	salt-water fish, fortified dairy products

Vitamins for Children

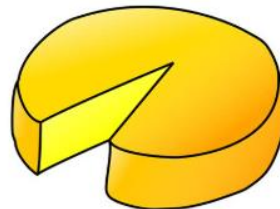
- **ALL** children aged 6 months to 5 years are given vitamin supplements containing vitamins A, C & D
- Babies who are breastfed are given a daily vitamin D supplement from birth
- Babies who are formula fed, who are getting more than 500ml (about a pint) of formula per day do not need extra vitamins



IRON

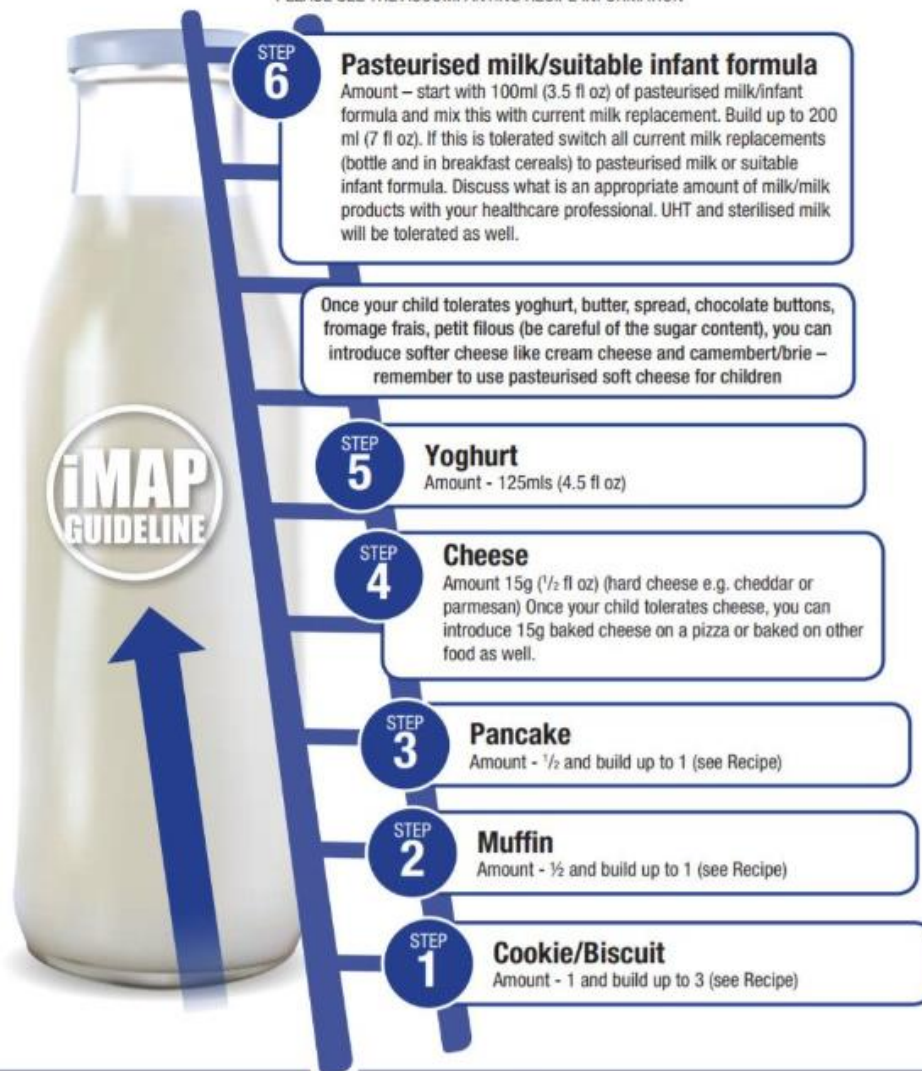
Reintroducing Cow's Milk Back Into The Diet

- Milk (containing cow's protein) can be reintroduced into the diet at 9-12 months of age OR 6 months after starting a cow's milk free diet
 - Ensure your child is well before commencing
 - Begin at step 1 and consume the amount of food suggested
 - If the food is tolerated, continue giving your child this food and then try the next step and so on...
 - If the food is not tolerated, stop and try again with this step in 8-12 weeks. Continue to keep any milk containing food that was tolerated in the diet



THE iMAP MILK LADDER

To be used only in children with Mild to Moderate Non-IgE Cow's Milk Allergy
Under the supervision of a healthcare professional
PLEASE SEE THE ACCOMPANYING RECIPE INFORMATION



AT EACH OF THE FOLLOWING STEPS

Cookie, muffin, pancake, cheese and yoghurt

It may be advisable in some cases to start with a $\frac{1}{4}$ or a $\frac{1}{2}$ of that particular food and then over a few days to gradually build up to a whole portion - Please ask your healthcare professional for guidance on this

THE LOWER STEPS ARE DESIGNED TO BE USED WITH HOME MADE RECIPES. THIS IS TO ENSURE THAT EACH STEP HAS THE APPROPRIATE MILK INTAKE. THE RECIPES WILL BE PROVIDED BY YOUR HEALTHCARE PROFESSIONAL

Should you wish to consider locally available store-bought alternatives - seek the advice of your healthcare professional Re: availability

Foods you can include at each step

Step 1: home-made biscuits (see recipe below)

Or use the following: malted milk biscuits, garibaldi biscuits, bread that contains milk (such as milk roll or M&S sliced bread or naan bread).

Step 2: muffins (see recipe below)

Or plain fairy cakes, croissants, brioche, waffles, or shop bought scotch pancakes.

Step 3: pancakes (see recipe below)

Or use the following: dishes cooked in the oven for at least ½ hour at a temperature of at least 180C. These include shepherd's pie with milk and cheese, fish pie with milk and cheese, lasagne, pizza etc.

Step 4: cheese

Pick a hard cheese (such as cheddar or parmesan) and give it to your child uncooked. Aim to reach a 15g portion.

Step 5: yoghurt Aim to reach a 125g pot.

Once your child tolerates the steps above (1 to 5), you can try introducing the following foods:

- Fromage frais (Petit Filous)
- Cream cheese
- Soft cheese (such as camembert)
- Crème fraîche
- Ice cream
- Butter or spreads containing cow's milk
- White sauce
- Cheese sauce
- Custard
- Rice pudding
- Melted cheese on foods
- Chocolate buttons

Step 6: milk

If your child is **under** 1 year of age: ready made liquid formula milk or formula milk made up from powder.

If your child is **over** 1 year of age: cow's milk (including UHT or longlife milk).

Useful Links

For support

- Allergy UK www.allergyuk.org
- NHS Choices www.nhs.uk
- British Dietetic Association www.bda.org.uk



For recipes (cooking with cow's milk free alternatives)

- www.oatly.com
- www.alpro.com
- www.kokodairyfree.com
- www.provamel.com
- www.tofutti.com
- www.violifefoods.com



Resources and Support

Scan here to take you to
our self-help library of
resources!



- <https://www.gloshospitals.nhs.uk/our-services/services-we-offer/nutrition-dietetics/self-help-resource-library/>
- <https://patientwebinars.co.uk/condition/food-allergy-in-children/>
- <https://www.gloshospitals.nhs.uk/our-services/services-we-offer/nutrition-dietetics/paediatric-dietitian-resources/>
- <https://www.rosan-paediatricdietitian.com/webinars/>

Thank you for listening
That was **A LOT** of information
Any questions?

If you are concerned that your child has multiple allergies or losing weight you can opt in for a 1:1 appointment by calling the dietitians on [0300 422 5506](tel:03004225506).