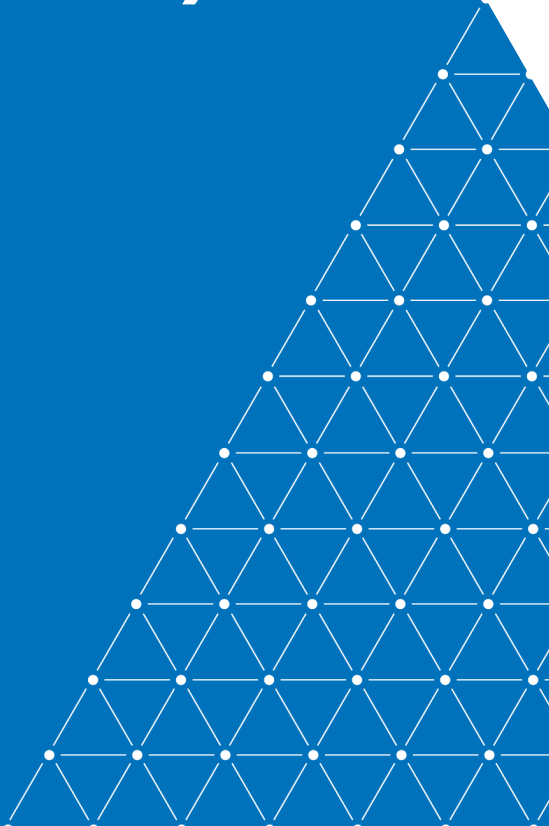


Managing Cow's Milk Protein Allergy (CMPA)

Dietetics

Patient information

A decorative geometric pattern in the bottom right corner, consisting of a grid of white dots connected by thin white lines to form a series of triangles.

Why have I been given this information?

You have been given this information because your baby (or a baby that you are a carer for) has been diagnosed with Cow's Milk Protein Allergy (CMPA).

Reading this information and following the advice in it helps to make sure that your baby:

- is less likely to get symptoms of CMPA.
- gets the nutrition that they need to stay healthy
- is able to have foods and drinks containing cow's milk reintroduced into their diet in a way least likely to cause an allergic reaction.

What is Cow's Milk Protein Allergy (CMPA) and the usual symptoms?

Cow's milk allergy occurs when the body's immune system reacts to proteins found in milk.

Allergic reactions can be:

Immediate symptoms (IgE allergy)

These start within minutes to 2 hours after CMP exposure.

Symptoms include:

- **rash**: on white skin the rash is likely to be red. On black or brown skin, it may look dark brown, purple or grey
- **hives** (raised, itchy bumps on the skin)
- **swollen face, eyes or lips**
- **being sick (vomiting)**. This may happen alongside the symptoms above.

OR

Delayed (non-IgE allergy)

These start within 2 hours to several weeks of CMP exposure. Your baby would normally have a collection of these symptoms. Symptoms include:

- watery poos (diarrhoea) or constipation (hard, dry poos which make it difficult or painful to have a poo) and which is ongoing.
- reflux or being sick (vomiting)
- being irritable, crying more than usual, or both.
- eczema (inflamed, itchy skin). This appears red on white skin and dark brown, purple, or ash- grey on black or brown skin.

Important: Sometimes we see a mixed picture of both of immediate and delayed allergies.

When can symptoms of CMPA start?

Symptoms start when babies are exposed to cow's milk protein.

- If your baby is breastfed this is usually:
 - when they start to have formula
 - when weaning (when your baby starts to have solid foods as well as breastmilk).
- If your baby is formula fed this is usually when they first have formula. Some babies who are very sensitive to cow's milk protein may react to traces of it in mum's breastmilk. Symptoms often start earlier in babies who are fed formula. This is because they are exposed to the milk proteins it contains sooner.

How is it possible to tell for sure that my baby has CMPA?

Many symptoms of CMPA can be similar to what babies may normally experience e.g. rashes, reflux, bowel changes.

We can tell that they are likely to be caused by CMPA if they get better or go away when milk is removed from the diet and come back when it is started again (reintroduced).

To check whether your baby does have CPMA and not another condition (correctly diagnose CPMA) it is important to:

- remove milk from their diet for 2 to 4 weeks (elimination of milk from the diet)
- introduce milk to their diet again ('challenge' with milk).

This is done at home.

Sometimes it may still not be clear after the milk 'challenge' whether a baby has CMPA. If so, you may need to repeat it.

Please see '**Early home re-introduction to confirm diagnosis**' for further guidance:

https://gpifn.org.uk/wp-content/uploads/2019/10/home_reintroduction_protocol_to_confirm_or_exclude_diagnosis_original.pdf



QR code for Early Home re-introduction to confirm diagnosis of CMPA

Could my baby have lactose intolerance?

Lactose is a sugar found in milk. Lactose intolerance is often confused with milk allergy, but it is not an allergy. It is very rare for babies to have lactose intolerance.

Like standard formulas, lactose free formulas contain cow's milk protein. This means that it is not suitable for babies or infants with CMPA as they are allergic to that protein.

Feeding your baby if they have CMPA

Are there any foods that I should avoid if I am breastfeeding my baby who has CMPA?

Traces of CMP (cow's milk protein) can pass into your breast milk from milk or milk products that you have eaten or drunk.

Less than 1 in 100 breastfeeding babies have CMPA due to milk proteins in breastmilk.

This means that **most mothers do not need to avoid cow's milk or milk products.**

If your baby is not reacting to CMP in your breastmilk you can continue to keep milk and milk products in your diet. If your baby is clearly reacting every time that you have CMP, you should avoid it.

What formula feeds can I give my baby with CMPA?

Only feed your baby formula milks which are 'hypoallergenic'. There are two types of these:

- **Extensively hydrolysed formula:** The cow's milk protein is broken-down into small pieces. Around 9 out of 10 babies with CMPA of babies improve (their symptoms will get better or go away) with this type of formula. Formulas available: Althera, Aptamil Pepti and Nutramigen
- **Amino acid formula:** If your baby has not improved with extensively hydrolysed formula or their symptoms were more severe, your baby may have been prescribed this type of formula. The formula is made from amino acids which are simple building blocks of proteins. This means it is 100% free of cow's milk protein. Formulas available: Alfamino, Neocate LCP, and Puramino. Arize is a hydrolysed rice protein formula, which acts like an amino acid formula because it is free from milk.

Top tip for formula feeding: If your child finds it difficult to take formula, try replacing 1oz (30ml) at a time of standard formula with specialized formula, mixing it with their usual milk. Slowly reduce this until they are drinking only the specialised formula.

Be aware

If your child's symptoms do not improve with either type of specialised formula it is unlikely that their symptoms are caused by CMPA.

Specialised formulas can sometimes cause your baby's poo (stool, faeces) to turn dark green. This is usual and not something to worry about.

What vitamin and mineral supplements should my baby take?

- **Formula fed babies** are likely to get all the vitamins and minerals that they need from their infant formula if they are drinking at least 500ml of it each day.

If they are drinking less than this, current advice is to give them a supplement containing vitamins A, C and D.

- **All Breastmilk fed babies** should take a supplement that contains vitamin D from birth, then moving onto vitamins containing A,C,D from 6 months of age.

What supplements should I take if I breastfeed?

When you are breastfeeding, your body needs:

- 1250mg of calcium each day. If avoiding cow's milk products you can use dairy free calcium fortified products
- 200ug of iodine each day
- 10ug of Vitamin D each day.

We advise you to take a breastfeeding support vitamin.

This will provide around:

- 700mg of calcium
- 150ug iodine
- 10ug Vitamin D.

You should get the rest of the calcium and iodine that your body needs from non-milk containing foods and drinks and other sources of iodine. Please see the information on non-dairy sources of calcium and sources of iodine further on in this information.

Weaning

What do I need to know about weaning my baby?

Weaning means introducing your baby to solid foods alongside their usual breast milk or infant formula.

The first year of life is an important time for helping your baby to learn to enjoy a variety of tastes and textures of food.

The flavours babies try early on can shape what they like to eat and drink later in life.

- Do not start weaning earlier than 17 weeks.
- Your baby should have good head control before you start to wean them.
- Offer your baby a mix of puree and finger foods. This allows them to:
 - get enough of the nutrients that they need
 - practice the skills of eating and chewing.

Encourage your baby to explore, play with and enjoy their food. This is all part of them learning to eat well.

Family foods

What do I need to know about when my baby is ready to start joining in with family meals?

As your baby grows, they will start joining in with family meals.

Focus on giving them home cooked meals. This helps to get them used to real, natural, flavours. Include foods of varying tastes, colours, and textures. This means they will be more likely to accept foods of different sorts and have a healthy, varied diet later in later life.

Eating a diverse diet can help to support the immune system. Research shows babies who eat plenty of fruits and vegetables, home-cooked meals and foods that have not been processed too much may be less likely to have food allergies by the time they are 2 years old.

Other benefits from giving your baby a varied diet of minimally processed foods include:

- Your baby getting more vitamins and minerals (micronutrients). This is because micronutrients are lost when food is heavily processed.
- Your baby may get more energy from their food.
- It can be more cost effective.
- It is more friendly to the environment (less packaging).
- It is likely to have a lower sugar content.

Top tip: Try freezing portioned leftover home-made baby food to defrost easily for the next day or to take on the go.

For more general advice and trusted guidance on weaning, visit:

NHS Best Start in Life

www.nhs.uk/best-start-in-life/baby/weaning



QR code to the NHS website of Best Start in Life

What foods must my baby avoid if they can not have cow's milk or cow's milk products?

Avoid:

- all types of animal milk (cow, goat, sheep)
- yoghurt
- ice cream
- butter
- cheese
- cream
- lactose free milk. This still contains cow's milk protein.

Do check food labels and avoid foods containing ingredients such as:

casein, caseinates, hydrolysed casein, lactose, butter, milk, skimmed milk powder, cream, cheese, margarine, milk powder, milk solids, non-fat milk solids, whey, yoghurt, fromage frais, butter milk, cheese powder, crème fraîche, ghee, evaporated milk, condensed milk.

UK food labelling laws require all foods and drinks to clearly list ingredients. This applies to both packaged foods and foods sold loose. If you are not sure, ask.

If packaged food contains milk, it will be highlighted (in **bold** or **underlined**) in the ingredients list. For example:

Creamy porridge

Ingredients: Milled Cereals (46%) [Maize Flour (28%), Rice Flour (18%)], Skimmed **Milk Powder** (25%), Demineralised Whey Powder (from **milk**), Vegetable Oils [Sunflower Oil, Rapeseed Oil, High Oleic Sunflower Oil, Coconut Oil], Minerals (Calcium Carbonate, Iron pyro-phosphate, Potassium iodide), Vitamins (Vitamin C, Vitamin B, Vitamin A, Vitamin D3).

Allergy advice: For allergens, including cereal and gluten, see highlighted ingredients in **bold**.

What can my child eat or drink instead of cow's milk to get the nutrients they need?

Do:

- choose fortified and unsweetened (without free sugars or non-sugar sweeteners) almond, oat and soya drinks are an acceptable alternative to cows' milk for children 1-5 years of age. (SACN).
- look for plant-based drinks that are fortified with vitamin B12, calcium, iodine and vitamin D.
- use unsweetened (without free sugars or non-sugar sweeteners) plant-based milks in cooking during weaning.

Do not:

- offer rice-based milks. They contain levels of arsenic which are too high for children under 5 years old.
- offer plant milks as a main drink for babies under the age of 1 year. These do not contain all the nutrition that your baby needs.

Be aware

Organic drinks are not fortified. They may not contain key nutrients and calcium.

'Follow-on' and 'growing-up' milks are high in sugar and not recommended.

Vegan or vegetarian children aged 1 to 5 may be at greater risk of not getting enough protein in their diet. Soya or pea drinks would be the most suitable plant-based options for them, as almond, coconut and oat drinks are low in protein. Soya and pea-protein drinks can be a useful part of a dairy-free diet. However, wherever possible, encourage a varied diet that includes a range of protein foods, rather than depending primarily on soya products.

Unsweetened oat-based milk alternatives still have natural sugars. These are called 'free sugars'. They form when oats are processed and broken down. Look for labels that say 'no sugars'.

Weaning with allergen foods

Some babies have a higher chance of developing allergies to some foods. Your baby may be more likely to develop an allergy to foods such as peanuts or eggs if:

- they have had moderate or severe eczema which they developed early in their life.
- they have an existing food allergy.

Allergies to peanuts and eggs may be prevented if introduced into their diet early on in their weaning.

Do:

aim to introduce the allergens shown in the table on the next page to your child by 12 months of age. Continue to give them to your baby often. This advice comes from the British Society for Allergy & Clinical Immunology (BSACI) Early Feeding Guidance, 2018.

Egg (both egg white and yolk)	Offer your baby hard-boiled egg. You can mash this into other foods such as pureed fruit or vegetables, yoghurt or baby cereals. Aim for at least 1 egg per week.
Peanut and tree nuts	Never give whole nuts, coarsely-chopped nuts or chunks of peanut butter to children under 5 years of age. These are a choking risk. You can use a smooth nut butter (such as peanut butter, almond butter or cashew butter) or finely ground nuts. Serve these mixed in with pureed fruits or vegetables, yoghurt or porridge. Try mixing smooth nut butter with your child's milk as a dip. Aim for at least 2 teaspoons of peanut butter per week.
Wheat	Bread, Weetabix or similar breakfast cereals, well cooked pasta, or couscous.
Sesame	Hummus which contains tahini (sesame) paste; crushed seeds added to yoghurt, porridge or mixed with pureed or mashed fruit or vegetables.
Fish and shellfish	Pureed, flaked or mashed cooked fish (such as cod, haddock, salmon, trout) or shellfish (such as prawns).
Soya	Soya yoghurt (with no added sugar). Or add soya milk to meals such as porridge or mashed potato.

Is it OK to have Soya?

Most babies with cow's milk protein allergy (CMPA) can tolerate soya. However, some babies with delayed-type CMPA may also react to soya. Introduce soya-containing foods gradually as part of weaning and monitor for any symptoms. If your baby develops symptoms similar to those experienced with cow's milk, you may need to avoid soya. If no symptoms occur, soya can be a useful alternative to dairy products.

What are free sugars?

Free sugars include all sugar added to food. This includes honey and syrups. It includes sugars in concentrates, smoothies, purees, pastes, and powders.

Too much 'free sugar' can cause health problems in young children including tooth decay, a preference for sweet foods, and unhealthy weight gain.

For example, if a child aged 1 to 2 years drank 400ml a day of standard oat drink they would get more free sugar than the recommended daily amount.

What are Ultra Processed Foods (UPFs)?

These are foods which contain ingredients that you might not find in your kitchen cupboard. For example additives such as colourings, flavourings, sweeteners, antioxidants, preservatives, emulsifiers or stabilisers.

It is difficult to avoid UPFs completely when you are following a milk-free (dairy-free) diet. This is because many milk-free alternatives contain additives to make them look or taste better or improve their texture.

This makes them seem more like dairy foods. Some additives also provide nutrients such as calcium.

Dairy-free yoghurts and products like them can be important in giving your baby the nutrition they need. They also help your baby get used to different textures of food.

Aim to keep the rest of your baby's diet based on minimally processed 'wholefoods'. Use the tips below to help you with this.

How can I reduce free sugars ultra-processed foods?

- Opt for dairy free alternatives without artificial colours, flavours or preservatives where possible.
- Reduce the amount of other sorts of foods and drinks that you have that contain these 'artificial' ingredients so that you have less in the diet overall.
- Do not include too many milk or dairy replacement foods and drinks. If you have too much of these, you are less likely to eat other less processed foods which are better for health, growth and development.
- Avoid highly processed (refined) 'baby snacks'. These are often foods which are marketed and advertised as being for children.
- Choose unsweetened, unflavoured, 'no sugars' dairy-free milks and yoghurts. Try, for example, adding fresh fruit to plain yoghurt instead.
- Avoid processed dried fruit snacks made with fruit juice and puree.
- Avoid baby pouches marketed to children if they contain more than 5g of free sugar per pouch. You can check this in the part of the food label which says 'of which sugars'.
- Try putting pouch puree onto a spoon. This is less likely to cause tooth decay (dental caries). It will also get your baby more used to the smell, texture and colour of what they are eating.
- For younger children, recommendation is not giving young children drinks sweetened with sugar or non-sugar sweeteners.

Calcium

How much calcium does my child need?

It is important to make sure that your child has enough calcium if they are avoiding cow's milk.

Most babies under 1 year old need to take 600ml (20floz or one pint) of their hypoallergenic formula each day to get the calcium and other nutrition that they need.

Children over one year will need about 300ml (10floz) of milk substitute each day to get enough calcium.

1 unit is around 60mg of calcium.

Group	Age	Calcium per day	Number of Calcium Units
Infants	Under 1 year	525 mg	9 units
Children	1 to 3 years	350 mg	6 units
Breastfeeding mums	1250mg	20 units	

Calcium in non-dairy foods

Food	Amount	Calcium Units
Bread, white	2 large slices	1 unit
Bread, wholemeal	2 large slices	1 unit
Bread, calcium enriched	1 slice (40g)	1 to 3 units
Pitta bread or chapatti	1 portion (65g)	1 unit
Ovaltine (made with water)	4 teaspoons	3 units
Calcium enriched juice	1 glass (200ml)	3 units
Genius brand gluten-free loaf	2 slices	2 units

Food	Amount	Calcium Units
Enriched dairy free drink	1/3 pint (200ml)	4 units
Soya bean curd, tofu	1 serving (60g)	3 units
Soya or other milk alternative, yoghurt, enriched	1 pot (125g)	2 units
Sardines	1/2 tin (60g)	4 units
Pilchards	1 serving (60g)	2 units
Whitebait	1 small portion (50g)	7 units
Prawns	3 tablespoons (80g)	2 units
Salmon, tinned	1/2 tin	2 units
Egg	1 medium size	1 unit
Baked beans	Small tin (220g)	2 units
Sesame seeds	1 tablespoon (15g)	1 unit
Almonds	50g	2 units
Spinach, boiled	1 serving (120g)	3 units
Broccoli, boiled	2 small sprigs (85g)	1 unit
Spring greens	1 serving (75g)	1 unit
Orange	1	1 unit
Figs, dried	8 (50g)	3 units
Apricots, dried	8 (50g)	1 unit
Kale	(100g) boiled	2 units
Muesli	6 tablespoons (95g)	2 units
Calcium enriched cereal	2 tablespoons (30g)	2 units
Calcium enriched infant cereal	1 serving	1 to 2 units
Calcium enriched instant hot oat cereal	1 tbsp dry cereal	3 units

Iodine

Why do I need iodine?

Iodine is a mineral that is important to make thyroid hormones for body processes. This includes growth and brain development in infants. Cow’s milk and white fish are good sources of iodine. When cow’s milk is avoided, it is important to get iodine from other foods or drinks. Infant formula contains iodine.

Recommended daily intakes of iodine are:

Group	Age	Iodine per day (micrograms)
Infants	0 to 3 months	50
	4 to 12 months	60
Children	1 to 3 years	70
Breastfeeding		200

White fish is higher in iodine than oily fish. If you are avoiding cow’s milk products dairy **do** try to eat white fish 2 or 3 times a week.

Food	Average Iodine content per portion (µg)
Fortified milk alternative (200ml)	11 to 48
Specialised infant formula (200ml)	24 to 31
Fortified milk alternative yogurt (50g)	11.5
Haddock 50g	160
Cod 50g	95
Salmon 50g	46
Canned Tuna 40g (1/3 tin)	5
Fish fingers 100g	117
Egg (1)	25
Bread 1 slice	5
Fruit and vegetables 80g	3

When should I introduce cow's milk into my child's diet?

Children will take different amounts of time to move up the stages of the milk ladder. Children will usually outgrow their allergy in the first few years of life. Most grow out of it sooner than this, but this is more usual if they have a delayed allergy to milk.

If your child has confirmed delayed milk allergy (diagnosed by a healthcare professional) they should avoid dairy for 6 months after milk was first excluded.

After this, it is important to start re-introduction of milk as it is likely that your child will have started to grow out of their allergy. The Milk Ladder (see below) is a way to slowly introduce milk proteins back into the diet. This starts with highly baked milk products (like biscuits) and moves on to uncooked milk products (like yoghurt).

iMap Milk ladder

https://gpifn.org.uk/wp-content/uploads/2019/10/imap_final_ladder-may_2017_original.pdf



QR code to the Milk ladder

Be aware

babies with immediate reactions may need:

- to exclude dairy longer
- to be referred (sent) to the allergy clinic.

This depends on how severe their allergy is.

You may:

- need special advice from a dietitian about what is right for your child when reintroducing dairy
- be asked to follow a different version of the 'milk ladder'.

What happens next?

At 12 months old, most children with a delayed reaction will have started the milk ladder. They are likely to have moved on to a dairy-free plant milk, until they can tolerate dairy. Your GP is likely to stop your formula prescription at this time.

Where can I find further information and support?

For more detailed practical tips on re-introducing dairy, please scan the QR code below or visit: <https://www.allergyuk.org/wp-content/uploads/2025/11/Milk-Ladder-Booklet.pdf>



For homemade recipes for the milk ladder, scan the QR code below or visit: https://gpifn.org.uk/wp-content/uploads/2019/10/imap-recipes_final_original.pdf



If you need further information and support after you have read this information please contact:

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The iMAP ladder is included with the kind permission of Dr. Adam Fox. Dr. Rosan Meyer and Dr. Carina Venter. Further information about the 2018 update of the iMAP guidelines and supporting information are available in **An update to the Milk Allergy in Primary Care guideline | Clinical and Translational Allergy | Springer Nature** Link

<https://link.springer.com/article/10.1186/s13601-019-0281-8>

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