

Minerals for CF Children

Salt

Children with CF lose large amounts of sodium (salt) in their sweat, which needs to be replaced through diet and supplemental. Not getting enough salt can interfere with growth, reduce appetite, and cause stomach pain and dehydration. It is important to take into account environmental factors such as heat and humidity as salt losses are even higher in hot weather. If children are more active or sick with a fever, they may also have increased sweating and therefore salt losses.

Signs your child may need more salt include muscle cramps, poor growth and fatigue. If your child experiences nausea or vomiting when taking salt, discuss this with your CF team.

Salt Dosages

Each child will have individual salt requirements based on factors including depletion symptoms, weight, and climate. Additional salt to regular supplementation may be required when unwell, eating less or having tube feeds, engaging in excessive exercise or are living/holidaying in a hot/humid climate.

The PCH dietitian will calculate your child's salt requirements and adjust the dose over time based on those factors. In WA, salt supplementation is usually required all year round.

Salt needs can be highly individual. You will receive a daily salt target from the PCH dietitian.



Salt in the Diet

Children with CF will also need to consume extra salt through their diet. Food labels will tell you how much salt is in foods.

Here are some ways to include salt in your child's diet:

- Add table salt to food and during cooking
- Offer salty foods like pretzels, popcorn, chips and salted nuts
- Use plenty of sauces, gravies and condiments with meals i.e. vegemite, soy sauce
- Sports drinks such as Hydralyte or rehydration solutions
- Crush salt tablets or use table salt in electrolyte drinks- freezing this will make an icy slushy

Administering Salt

In WA, a salt solution is recommended for young children who cannot yet swallow tablets. The solution can be added to milk, water, cordial, pureed fruit or other solids. Salt also comes in tablet form which may be an option once your child learns to swallow capsules. Some parents have found that the salt tablets can make their child feel nauseous or vomit. It is recommended to spread the required dosage out over the day.

Signs of Dehydration

If your child becomes dehydrated, give them plenty of water and rehydration solution drinks like Hydrolyte. You should also contact your child's CF clinic for further assessment and advice.

Signs of dehydration include:

- Dark urine colour
- Salt crystals on the skin
- Dry skin or lips
- Dark sunken eyes
- Lethargy and drowsiness
- Headache
- Poor concentration
- Loss of appetite

Iron

Iron is an important mineral found in a range of food. It helps transport oxygen around the body, making it essential for life. It is also important for brain development, growth and immune function. Iron deficiency is common in CF. Risk factors include malabsorption, not eating enough iron-rich foods, chronic inflammation, use of certain medications and increased losses.

Symptoms of low iron include:

- Feeling tired or faint
- Getting sick often and not able to fight off infections changes in behaviour, such as disinterest in play
- Decreased appetite.

The best sources of iron include:

- Lean red meat such as beef, lamb and veal
- Chicken, pork and turkey
- Fish, tuna, salmon and shellfish
- Offal meat such as liver and kidney
- Eggs
- Iron fortified breakfast cereals
- Wholemeal or wholegrain bread and iron-fortified white bread
- Legumes for example lentils, chick peas, kidney beans, four bean mix, baked beans

Your dietitian may discuss the need for an iron supplement if your child is unable to meet their iron needs with food sources.

Calcium

Calcium is essential for strong bones and teeth. As the body cannot make calcium it must be supplied through diet and/or supplements. If your child doesn't get enough calcium, the body will start taking calcium from bones, impacting bone health and increasing risk of weakness and breakages.

Calcium Dosages

The recommended daily intake for people with CF is the same as that for the general population. Children aged 1-3 years require 500mg/day, with requirements increasing up to 1000mg/day into teenage years. Some children with CF may have calcium malabsorption so may need extra calcium in their diet or supplementation, particularly those with low bone mineral density. You should be guided by your child's CF care team on their specific requirements.

Calcium Sources

The main source of dietary calcium is dairy foods such as yoghurt, milk and cheese. Dark green vegetables, calcium fortified orange juice and some cereals. A way to ensure your child is getting enough calcium is to eat the recommended number of serves of dairy per day. If your child chooses not to or is unable to consume dairy, it is important to ensure they include other sources of calcium-rich foods such as canned bony fish including salmon, dark leafy green vegetables, nuts and seeds, fortified dairy-free milks such as certain soy milks and cereals / breads with added calcium.

Check the nutrition information panel for the calcium content of food. If you are using dairy free alternatives ensure the products contain > 120mg / 100ml if calcium. If you have concerns regarding your child's calcium intake, discuss with your CF care team.

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