

## Salt

Salt is a chemical compound (electrolyte) made up of sodium and chloride. It is commonly used to preserve and flavour foods, and is the main source of sodium in our diet. A small amount of salt is important for good health – it helps to maintain the correct volume of circulating blood and tissue fluids in the body. However, most people consume much more sodium than they need for good health.

The kidneys are the main regulators of sodium levels in the body. Too much sodium can cause high blood pressure and many other health conditions. On the other hand, if sodium levels drop too low, the hormone aldosterone is released and this increases the amount of sodium held in the body by reducing the amount lost in urine. Excessive sodium loss is very rare, but low sodium levels in the body can be dangerous if not treated.

### **Australians eat much more salt than they need**

The average Australian consumes around eight or nine times more sodium than they need for good health. The National Health and Medical Research Centre's (NHMRC) suggested dietary target advises that Australian adults should aim to consume no more than 4g of salt a day (or 1,600mg of sodium) in order to prevent chronic disease. Generally, infants and children need less than adults.

Around 75 per cent of the salt in our diet comes from processed foods. Nutritionists recognise it may be difficult for many people to reduce their salt intake to the ideal level, given our current food supply. National Heart Foundation advice is that all Australians should at least reduce their salt intake to less than 6g of salt a day (approximately 2,300mg of sodium a day) as a first step towards reaching the recommended levels. This is approximately 1½ teaspoons of salt.

### **High sodium intake and blood pressure**

The scientific literature linking sodium intake to blood pressure is extensive and dates back more than 100 years. Populations with a high average salt intake have a higher average blood pressure and higher levels of hypertension (high blood pressure). Australians consume more than double the amount of sodium that is recommended to prevent cardiovascular disease.

Reducing the amount of salt you have will lower high blood pressure – the extent depends on your age and blood pressure. People with high blood pressure, diabetes or chronic kidney disease, and those who are older or overweight, are particularly susceptible to the effect of too much sodium on blood pressure. However, sodium reduction may not lower blood pressure in younger people with low or normal blood pressure.

### **High sodium intake and other health conditions**

Excessive sodium intake has also been linked to other conditions, such as:

- Heart failure
- Kidney problems and kidney stones
- Oedema
- Stroke
- Gastric cancer
- Left ventricular hypertrophy
- Osteoporosis.

A high level of salt intake increases the amount of calcium excreted in the urine, which may also contribute to osteoporosis and increased risk of fracture.

The balance of sodium and water in the body can also be disrupted if there is not enough water. This may be caused by a damaged thirst mechanism or by limited access to water.

**Hypernatremia** is a very serious condition that occurs when your sodium levels rise above 145mEq/L. It can lead to death. A major symptom is thirst and treatment usually involves controlled water replacement.

### **Salt loss is rare but can be dangerous**

The body loses salt through urine, perspiration, vomiting and diarrhoea. If too much salt is lost, the level of fluid in the blood will drop. **Hyponatremia** is a condition that occurs when the sodium in your blood falls below the normal range of 135–145 milliequivalents per litre (mEq/L). In severe cases, low sodium levels in the body can lead to muscle cramps, nausea, vomiting and dizziness. Eventually lack of salt can lead to shock, coma and death.

Severe salt loss is very unlikely to happen because our diets contain more than enough salt. The only time this is likely to occur is when someone has acute gastroenteritis (causing vomiting and diarrhoea), severe sweating or water intoxication (from drinking too much water).

### **Muscle cramps need water not salt**

Some people believe that salt has to be replaced during hot weather or strenuous exercise to avoid muscle cramps. This is not correct. What you need to replace is water. The human body can happily survive on just one gram of salt a day, as hormones keep a check on sodium levels and make adjustments for hot weather. A genuine sodium shortage brought on by hot weather or exercise is extremely rare, even among hard-working athletes.

The muscle cramps that sometimes follow a bout of sweating are due to dehydration, not lack of salt. To prevent cramps, drink plenty of water on hot days and before, during and after exercise. This will also help to even out the water–sodium ratio in the body.

### **Sodium and potassium in the body**

Potassium is important for the nerves, muscles and heart to work properly. It also helps to lower blood pressure. However, some people with kidney disease, or who are taking some medications, need to be careful not to get too much potassium in their diet.

Our bodies are designed for a high potassium diet, not a high salt diet. Food processing tends to lower the potassium levels in many foods while increasing the sodium content. So it is better to eat unprocessed foods such as fruit, vegetables, wholegrain breads and cereals. Foods high in potassium include bananas, apricots, mushrooms and spinach.

### **Sodium in food**

Many foods – whole grains, meat and dairy products – naturally contain traces of sodium, while processed foods tend to contain a lot of salt. Some foods contain higher amounts of salt than you may expect. For example:

- A jam sandwich has only 30 per cent less salt than a vegemite sandwich because most of the salt comes from the bread.
- Sea salt, onion, celery or garlic salts are not low sodium substitutes.
- A bowl of cornflakes has about the same amount of salt as a small packet of plain chips.
- Some sweet biscuits contain as much or more salt than savoury biscuits.
- Ricotta, cottage, mozzarella and Swiss cheeses are lower in salt than most other cheeses.

### **Reducing salt in our diet**

Some suggestions for reducing the amount of salt in our diet include:

- Avoid adding salt to cooking and at the table.
- Choose reduced salt bread and breakfast cereals – bread is a major source of sodium in the diet.
- Avoid high salt foods.
- Cut back on processed foods.
- Cut back on takeaway and fast foods.
- Buy fresh vegetables rather than canned.
- Buy 'low salt' (contains less than 120mg/100g) or 'salt free' versions of commonly used foods, such as commercial sauces.
- Use herbs and spices such as garlic, oregano and lemon juice to add flavour to meals.

Some people believe that sea salt is a healthier alternative to normal table salt, but both are composed of sodium chloride.

### **Avoid processed foods**

High salt foods that should be eaten sparingly include:

- Most 'fast' foods, such as pizza
- Most snack foods, such as potato chips
- Processed meats, such as sausages, salami, hot dogs and luncheon meats
- Canned vegetables
- Dehydrated or packet foods, such as instant pasta or soups
- Pre-packaged sauces and condiments, such as tomato sauce and soy sauce, and processed tomato products in general
- White bread and bread rolls.

### **Iodine**

Our bodies need iodine to make sure our thyroid gland and the hormones that regulate our metabolism work normally. Iodised salt is probably the most common source of iodine for Australians and can provide enough iodine to avoid low thyroid activity. Another good way to make sure you get enough iodine is to eat seafood at least once a week.

This is especially important for pregnant women, who may need a dietary supplement, as low iodine may cause intellectual disability for the child. However, some types of fish contain high levels of mercury, which is dangerous to a developing foetus. Take care when choosing the types of fish you eat during pregnancy to reduce this risk.

Vegetarians or people who do not eat seafood can get iodine from multivitamin supplements.

### **Where to get help**

- Your doctor
- An accredited practising dietitian, contact the Dietitians Association of Australia

### **Things to remember**

- Salt is needed by the body to help regulate fluid levels.
- The average Australian eats around eight or nine times more sodium than is required for good health.
- A diet high in salt has been linked to high blood pressure.

### **Want to know more?**

Go to More information for support groups, related links and references.

### **This page has been produced in consultation with, and approved by:**

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