

Department of Nutrition and Dietetics

Dietary Advice for prevention of Renal Stones



Patient name:

Date:

This leaflet is designed for those who have previously had, or are at risk of developing renal stones

It provides some simple advice on how to reduce the risk of forming more renal stones in the future.

A renal stone is a hard mass that forms from crystals in the urine. In most people, natural chemicals in the urine stop stones from forming.

Not all stones are the same and often treatment is individual to the type of stone you have.

If you have renal stones, certain changes to your diet may help reduce the risk of forming stones in the future.

The following are simple guidelines which may help with all types of stones. Depending on your type of stone, you may need specific dietary advice. Your dietitian will advise you if this is necessary.

Fluid

The best way to stop renal stones forming is by drinking plenty of fluid. Aim to drink at least two and a half to three litres (four to six pints) of fluid spread throughout the day.

Tips for achieving a good fluid intake:

- Drink with and between meals
- Carry drinks with you at all times, especially at work
- Drink at least a pint of water before bed. This is to prevent concentrated urine sitting in your bladder overnight.
- Drink extra fluid in hot weather, or if doing any activity where you may sweat more, for example during exercise, hot yoga, saunas etc.

Avoid full sugar carbonated (fizzy) drinks, as they may increase the risk of stones forming.

Caffeinated drinks or alcoholic drinks (within recommended limits) will count towards your fluid intake. However tea, beer, and some spirits may increase the risk of certain types of stones forming.

If you follow a fluid restriction please check with your dietitian who will advise you what is most appropriate.
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Salt

Eating too much salt can increase the risk of renal stones forming. It is recommended that adults should have less than 6g salt / day.

You can reduce the amount of salt you eat by not adding any at the table and using less in cooking. Herbs, spices and vinegar are all good ways to add flavour to your food without adding salt.

As much as 75% of the salt we eat comes from processed foods. Most foods will have the amount of salt printed on the label, so check the labels of the foods you buy with the guide below.

A LOT of salt would be >1.5g salt or more per 100g
A MEDIUM amount of salt is 0.3-1.5g salt or less per 100g
A LITTLE salt would be <0.3g salt or less per 100g

This information is often displayed on the front of packages using the traffic light system. Aim for foods that are mostly low (green) in salt and to reduce the amount of medium and red options used.

Calcium

In the past people who suffered from renal stones were recommended to reduce their calcium intake. We now know this does not prevent stone formation and may in fact, increase the risk of stones recurring.

It is therefore important to ensure a good calcium intake.

Adults are recommended to have 700-1200mg of Calcium a day. Try to have three to four portions of calcium containing food each day.

Each of the following is a portion of calcium:

200ml cow's milk or enriched soya, oat or almond milk
150ml pot yoghurt
30g cheese
100g muesli or Ready Brek
2-3 dried figs
50g tofu

Lower fat alternatives contain the same amount of calcium as the higher fat versions.

If your doctor prescribes calcium tablets as a supplement these should not increase the risk of developing stones as long as they are taken with a meal other than breakfast.

Protein

Eating very large amounts of animal protein can increase the risk of stones. If you eat animal protein such as meat, poultry, fish or dairy products, it is important to keep to a moderate amount each day.

Aim for two small-medium portions of meat, fish or poultry each day (each portion approximately 75-80 g). In total limit to 150-160g/day or about the size of a deck of cards. Other sources of protein such as bread, pasta, beans, peas and lentils can all be eaten freely.

Citrate

There is some evidence to suggest that increasing citrate in your diet can reduce the risk of developing certain types of stones. Citrate is found in citrus fruits such as lemons, limes and oranges.

Orange and lemon juice can help prevent renal stones forming by increasing the levels of citrate in your urine and making it less acidic*.

It is recommended that you have approximately 85ml of lemon juice per day. This could be added to your meal, into salad dressings or fruit salads etc. Alternatively you can add lemon juice into your drink. This will dilute it and avoid it being too acidic for your teeth.

*This is not suitable if you have phosphate stones as they are formed in alkaline (non-acidic) urine.

Fruit and Vegetables

Potassium is a mineral found in fruit and vegetables. It can make the urine less acidic and therefore reduce the risk of certain stones developing.

Aim for at least five portions of fruit and vegetables a day (not including potatoes). A portion can be one piece of medium sized fruit, two small fruits i.e. satsumas or plums, a handful of berries or grapes, a bowl of salad or two heaped tablespoons of vegetables.

Fruit and vegetables contain both soluble and insoluble fibre. A good fibre intake has been shown to help prevent renal stones. Wholegrain bread, cereals, pasta and rice are excellent sources of fibre.

Vitamins and Minerals

Some vitamin or mineral supplements may contribute to stone formation. Avoid taking supplements with more than 1000mg of Vitamin C. Please inform your doctor or dietitian if you are taking any other vitamin or mineral supplements.

Weight and Body Mass Index

People who are overweight have a higher risk of forming certain types of stones such as uric acid stones, and those who are obese ($\text{BMI} > 30 \text{ kg/m}^2$) have a 30-50% greater risk of stones recurring.

If your BMI is over 25 kg/m^2 you can help reduce your risk (and improve your overall health) by losing some weight. Your dietitian can advise you on the safest way to do this.

Diabetes

If you have diabetes you are at greater risk of developing renal stones, particularly calcium oxalate stones and uric acid stones. Aim to keep blood sugars as well controlled as possible. Please speak to your GP or Diabetes doctor if you are struggling with this.

A cautionary note:

Websites

A lot of information is available to you about renal stones and diet over the internet. Whilst many websites provide accurate information, it may not be right for you to follow the advice given. Your dietary recommendations are based around your own individual test results.

Herbal Remedies

There is also a lot of information about herbal or natural remedies that can 'dissolve' stones or reduce your risk of further stones. Herbal supplements have not been studied thoroughly enough to be able to recommend their use, and they may in fact be unsafe. This is because they are not regulated or tested by the Medicines and Healthcare Products Regulatory Agency (MHRA), and may contain high levels of other minerals which can be harmful.

We would advise all patients to discuss any herbal supplements they are taking or would like to take with their doctor, pharmacist or dietitian first.

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