



**University
Hospitals Sussex**
NHS Foundation Trust

Helping to prevent renal stones

Patient information

Introduction

Your kidneys help remove waste products from your body, which are then passed out of your body in your urine. Large amounts of waste products in a small volume of urine can bind together to form crystals.

The following 5 dietary change can help prevent the formation of kidney stones:

1. Increase your fluid intake

Renal stones are more likely to develop if you are dehydrated. Drinking plenty of fluid will keep you hydrated and your urine a pale colour. Pale urine is less concentrated in waste products such as calcium, oxalate and uric acid.

You need to drink at least 5 pints/3 litres/12 mugs per day. The following drinks are suitable:

- Water, squash, fizzy drinks, herbal teas, instant coffee (in moderation).
- If choosing a fizzy drink there is some evidence that suggests diet 7-up, diet Sunkist and diet sprite are a better choice to prevent uric acid or calcium oxalate stones forming, compared to cola-based drinks.

You may need to drink more if you work in a particularly hot place or if you do a lot of exercise.

Alcohol can dehydrate you and so can increase the risk of developing stones. Alcohol intake should therefore be spread throughout the week, with alcohol free days, and should be within the weekly advised limit of 14 units per week for both men and women.

2. Reduce your intake of foods with a high oxalate level

High intakes of oxalate can increase oxalate in the urine but you don't have to completely avoid foods containing oxalate however you should aim for a moderate intake:

Aim to limit your daily intake to just one item from the following list:

- Some fruits - blackberries, blueberries, raspberries, strawberries, currants, kiwi fruits, concord (purple) grapes, figs, tangerines, plums and rhubarb
- Some vegetables - okra, parsley, leeks, beetroot, spinach
- Nuts and seeds
- Cocoa and chocolate
- Soy products including soy milk, soy cheese, tofu and soy ice creams
- All-bran.

3. Reduce your protein intake

Large intakes of protein will increase the calcium and oxalate concentration of your urine and reduce the amount of citrate excreted; citrate is a known inhibitor of stone formation.

However, it is still important to have adequate amounts of protein containing foods.

Aim to have 2 portions each day, from the following:

- 50 –75g Meat, fish or chicken, 50g hard cheese or 2 x eggs

Increase the vegetable based sources of protein in your diet e.g. beans, pulses and lentils as an alternative to animal based protein sources.

4. Maintain your calcium intake

Calcium binds to oxalate in the gut, which prevents it from being absorbed and reducing the risk of stone formation.

Although some kidney stones contain calcium, a very low-calcium diet is not necessary. Low calcium diets can actually result in increased oxalate absorption, higher levels in the urine and an increased risk of kidney stones.

Aim to have 2-3 portions of the following calcium rich foods:

- 200mls milk, 150g pot yogurt, 30g cheddar cheese, 50g tinned sardines.

5. Reduce your intake of salt

High intakes of salt will increase the amount of calcium in the urine. Limit salt to 6g a day.

Aim to reduce salt intake as follows:

- Do not add salt in cooking or at the table
- Avoid foods which are high in salt, e.g. crisps, nuts, meat extracts, packet soups, bacon and processed meats, smoked fish and processed meals
- Use alternative flavourings, such as garlic, herbs, spices, vinegar etc.
- Check the food labels per 100g. A food item that has 1.5g or more of salt per 100g is high in salt.

Contact us

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