



## The British Association of Urological Surgeons

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## DIETARY ADVICE FOR STONE FORMERS

### FREQUENTLY-ASKED QUESTIONS

#### How much do I need to drink?

Drinking enough fluid is the most important means of preventing stone formation which will reduce your risk of stone formation by almost one third. Not drinking enough fluid causes your urine to become concentrated and makes stones more likely to form.



Aim to drink two to three litres (four to six pints) of fluid each day (water, squash, or fizzy drinks). You should aim to keep your urine colourless throughout the day. This equates to a urine output of at least two litres (four pints) per day. In patients with cystine stones, however, an output of 3.5 litres per day is required.

Tea, coffee & alcohol can be consumed in moderation but the majority of your fluid intake should be as above. In addition, it is helpful to try and drink one or two glasses of water before going to bed and on rising in the morning.

#### Should I restrict my protein intake?

Yes. A high intake of animal protein appears to increase the risk of stone formation. Avoid large portions of meat, fish, eggs, cheese and milk. Aim for four of the following exchanges each day:

- 50 - 75g red meat, fish or chicken
- two eggs
- ½ pint of milk
- 50g cheese
- 120g yogurt (one small pot)

Two of the four exchanges should be milk, cheese or yogurt to ensure an adequate intake of calcium.

You can replace protein with starchy foods (bread, potatoes, pasta, fruit & vegetables) to fill you up. Reducing your protein intake also increases the amount of citrate you excrete in your urine; citrate is a known inhibitor of stone formation.

Example daily menu plan:

**Breakfast:** Two eggs scrambled on toast  
**Lunch:** Sandwich with 50g cheddar cheese & salad  
One apple  
**Dinner:** One small chicken breast (approx 75g)  
New potatoes  
Vegetables  
Fruit salad

## **Should I restrict the amount of salt I take?**

Yes. A high salt intake can contribute to calcium stone formation. Do not add salt to your food at the table but use pepper, herbs, spices or vinegar as alternative flavourings. You can add a small amount of salt during cooking.

Foods which contain less than 0.4g (40mg) of sodium per serving are low-salt choices and you should aim to keep your salt intake down to these levels. Avoid high-salt, tinned, packet and processed foods (soups, salted crisps, nuts, tinned meats, meat paste, smoked fish and fish paste).

## **Do oxalates play a part in stone formation?**

You need to avoid oxalate-rich foods to reduce the amount of oxalate in your urine. The following foods are high in oxalate:

- tea (more than two to three cups per day);
- chocolate;
- nuts & peanut butter;
- cocoa & carob;
- strawberries;
- rhubarb;
- celery, spinach & beetroot; and
- parsley.

It is not necessary to exclude oxalate-rich foods completely but simply to eat them in small amounts.

## **Does calcium restriction help?**

No. Severe calcium restriction can actually increase the risk of stone formation because it will result in high levels of oxalate in your urine. If you follow the recommendations above for milk, cheese and eggs, no further action is needed.

The calcium you drink in the water **cannot** cause kidneys stones and there is no need to restrict your intake of tap water, drink mineral water or purchase a water softener

## Should I take vitamin supplements?

Most vitamins are harmless but do not take Vitamin D preparations, including fish oils and multivitamin preparations, because they increase calcium absorption. Avoid Vitamin C supplements because they increase the excretion of oxalate in your urine.

### Summary

A normal calcium, low-salt, low-protein, diet can reduce your risk of stone formation by a half. Keeping your urine colourless may reduce the risk by a further one third.

## Are there any other important points?

This booklet includes advice from specialists, the British Association of Urological Surgeons, the Department of Health and other sources. You should read this booklet with any advice your GP or other healthcare professional may already have given you. Alternative treatments can be discussed in more detail with your urologist or specialist nurse.



## Disclaimer

While we have made every effort to be sure the information in this booklet is accurate, we cannot guarantee there are no errors or omissions. We cannot accept responsibility for any loss resulting from something that anyone has, or has not, done as a result of the information in this booklet.

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