Fluid intake
Kidney stones are formed in the urine when substances usually present in our body such as calcium and oxalate become highly concentrated in the urine and begin to form crystals.

If you have formed one stone you are highly likely to do so again.

There are a few simple changes you can make to your diet and lifestyle to help reduce the risk of this happening.

The simplest and most effective thing to do if you are at risk of forming stones is to increase your fluid intake to around two to three litres per day.

This should be spread evenly throughout the day and you are aiming to keep your urine clear and colourless with an output of at least two litres per day.

Fluids can include water (tap or mineral), squash, and herb or fruit tea. Fruit juices such as fresh squeezed lemon/ lime added to water can help reduce the acidity of urine.

Alcohol should be consumed in small amounts and you should be aware of the dehydrating effects that alcohol can have.

Tea and coffee should also be moderated to a few cups a day.

Animal protein
A high intake of animal protein appears to increase the risk of stone formation so protein in the form of animal meat should be restricted to approximately 150g per day.

It is worth noting that 100g of meat contains approximately 21g of protein.

Salt intake
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, however, add a small amount of salt during cooking. Try to avoid snacks, processed and tinned foods as these have a high salt content.

You should aim to keep your salt intake to 2,300 to 3000 mg/day. Bear in mind that one teaspoon of salt contains approximately 2,500 mg.

Calcium
Calcium restriction can actually be harmful and increase the risk of stone formation because it will result in high levels of oxalate in your urine. A daily intake of up to 1000mg per day is recommended for calcium stone formers.
It might be important to reduce the calcium in your diet, however, if you have excessive calcium in the urine. Also if you take calcium supplements or if you are concerned you should discuss this with your doctor.

Calcium is found in dairy products such as milk, yoghurt, cream and cheese. A normal, varied diet will give the average person about 500mg of calcium before adding in any dairy products.

Below are approximate amounts to give you some idea of daily intake.

- One glass of semi skimmed milk = 355mg
- 50g cheddar cheese = 360g
- 150g yoghurt = 240mg
- 100g soft cheese = 400 mg
- 100g hard cheeses up to 1000 mg

**Oxalate**

If your stone is made from oxalate you need to try to avoid certain fruit and vegetables such as:

Chocolate, rhubarb, black tea, spinach, beetroot, celery, leeks, blackberries, raspberries, strawberries, blueberries, kiwifruit, peanuts and sesame seeds.

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

**Other information**

This patient information leaflet provides input from specialists, the British Association of Urological Surgeons, the Department of Health and evidence based sources as a supplement to any advice you may already have been given by your GP. Alternative treatments can be discussed in more detail with your urologist or specialist nurse.

**Who can I contact for more help or information?**

**Oncology nurses**

**Uro-oncology nurse specialist**
01223 586748

**Bladder cancer nurse practitioner (haematuria, chemotherapy and BCG)**
01223 274608

**Prostate cancer nurse practitioner**
01223 274608 or 216897 or bleep 154-548

**Surgical care practitioner**
01223 348590 or 256157 or bleep 154-351

**Non-oncology nurses**

**Urology nurse practitioner (incontinence, urodynamics, catheter patients)**
01223 274608 or 586748 or bleep 157-237
Urology nurse practitioner (stoma care)
01223 349800

Urology nurse practitioner (stone disease)
01223 349800 or bleep 152-879

Patient Advice and Liaison Centre (PALS)
Telephone:
+44 (0)1223 216756 or 257257
+44 (0)1223 274432 or 274431
PatientLine: *801 (from patient bedside telephones only)
E mail: pals@addenbrookes.nhs.uk
Mail: PALS, Box No 53
Addenbrooke's Hospital
Hills Road, Cambridge, CB2 2QQ

Chaplaincy and multi faith community
Telephone: +44 (0)1223 217769
E mail: chaplaincy@addenbrookes.nhs.uk
Mail: The Chaplaincy, Box No 105
Addenbrooke's Hospital
Hills Road, Cambridge, CB2 2QQ

MINICOM System ("type" system for the hard of hearing)
Telephone: +44 (0)1223 217589

Access office (travel, parking and security information)
Telephone: +44 (0)1223 596060
We are now a smoke-free site: smoking will not be allowed anywhere on the hospital site. For advice and support in quitting, contact your GP or the free NHS stop smoking helpline on 0800 169 0 169.

Other formats:

If you would like this information in another language, large print or audio, please ask the department where you are being treated, to contact the patient information team: patient.information@addenbrookes.nhs.uk.

Please note: We do not currently hold many leaflets in other languages; written translation requests are funded and agreed by the department who has authored the leaflet.

Document history

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