

1. Water is the most important factor in kidney stone prevention. It is known that producing at least 2 to 2 ½ litres of urine output per 24 hours significantly reduces stone formation. The average adult loses about 1 litre of water through skin, breath and bowel movements. Therefore one that should drink at least 3 litres of water per day. Measure don't guess. Also spread out the water consumption throughout the 24 hour day. Drink a glass of water before bed and another if you get up at night. Your kidneys don't care what time it is and urine is most concentrated in the morning before fluid consumption starts. Drink enough to make the urine colour clear.
Water is the best liquid to drink. Diet soft drinks contain a lot of salt which should be avoided (see below). Fruit juices contain a lot of calories (fruit juice has more calories and coke) and Vitamin C it's converted to oxalate in the body.
2. Most stones are calcium oxalate. Dietary calcium is not to be restricted unless there is an excessive level of calcium in the urine on testing. Take calcium containing foods and at meals. The calcium will bind to oxalate in the food and oxalate I'm not be absorbed. Calcium supplements increase urinary calcium temporarily during the first three months of use but there is no good evidence that calcium supplements increased stone formation rates. Calcium citrate is the preferable supplement because citrate prevents stone formation.
3. Reduce meat consumption. Eat meat only once per day. Try to avoid red meat. The serving size should be smaller than the palm of your hand. (1 gram per kilo of lean body weight) Protein metabolism increases the acid load. This increases urinary calcium excretion and decreases urinary citrate. High protein diets are not advised. Vegetarian diets are also not recommended as plant proteins are no better and these diets also contain a lot of soy which is a rich source of oxalate.
4. Excess of salt consumption is a major risk factor for stone production. Avoid salty foods. Prepared foods containing a lot of salt. This includes everything from ketchup to salad dressing. Please choose low salt alternatives or try to make most things yourself. Salt promotes urinary calcium excretion.
5. Avoid foods with high oxalate content.

Oxalate Rich Foods to Avoid:

- a. **Fruits:** blackberries, blueberries, raspberries, strawberries, currants, kiwi, concord grapes, figs and tangerines.
- b. **Vegetables:** spinach, swish chard, beet greens, collards, okra, parsley, and leeks are high oxalate vegetables. Celery, green beans, rutabegas, and summer squash, are moderate oxalate vegetables.
- c. **Nuts:** Almonds, cashews, and peanuts.
- d. **Legumes:** soybeans, tofu, and other soy products.
- e. **Grains:** wheat germ and bran.
- f. **Others:** Cocoa, chocolate, black tea and vitamin C.

Vitamin C is converted to oxalate and should be avoided.

6. Orange juice has a high concentration of potassium citrate which prevents stone formation. Drink a large glass once or twice per day. This can help prevent osteoporosis. Eat lots of citrus fruits.
7. A high fiber – low fat diet is associated with a reduced stone formation rate.
8. I'm treated stone formers having at least a 75% chance of creating another stone within 10 years. Please have your family Dr. arrange a renal ultrasound every two years to look for new stones. If you are clear for several years this could be advanced to every three years.