

## Diet and Kidney Stones

### What is a kidney stone?

A kidney stone is a solid mass that forms in the kidney when certain substances in the urine form crystals that stick together. There are 4 main types of kidney stones:

- Calcium oxalate or calcium phosphate stones (~80% of cases)
- Uric acid stones (~10% of cases)
- Struvite stones (~8% of cases)
- Cysteine stones (1-2% of cases)

### Dietary strategies for preventing kidney stones



#### Drink more fluids

Drinking more fluids may be the most important action you can take towards preventing kidney stones. Drinking ample amounts of fluids throughout the day helps to keep your urine more dilute thus decreasing the amount of stone forming material. Try to drink at least 2-3 litres of fluid throughout the day, and at least half of that should be water. It is also important to drink extra amounts of fluids when the weather is very hot or during times of excessive sweating. Drinking more fluids is the only dietary recommendation that applies to all types of kidney stones.

#### Decrease sodium intake

Excessive sodium intake can increase the amount of calcium in the urine. Too much calcium in the urine can increase the risk of calcium stones. To help cut back on sodium, avoid the use of added salt and reduce your intake of high sodium, processed foods.



## Avoid high oxalate food/drink



Eating foods high in oxalates can contribute to stone formation. If you are prone to calcium oxalate stones, try to avoid foods containing high amounts of oxalates. Below is a list of common foods that are high in oxalates.

<b>Fruits:</b>	Strawberries, blackberries, raspberries, gooseberries, blueberries, currants, kiwis, concord (purple) grapes, figs, and tangerines
<b>Vegetables:</b>	Spinach, swiss chard, beets (top, roots, and greens), okra, parsley, rhubarb, celery, kale, sweet potatoes, rutabagas and leeks
<b>Nuts:</b>	Almonds, pecans, walnuts and cashews
<b>Legumes:</b>	Peanuts, soybeans, tofu and beans (green, wax, and dried)
<b>Grains:</b>	Wheat germ, white corn grits, fruitcake and soybean crackers
<b>Other:</b>	Cocoa, chocolate, ovaltine, black tea and instant coffee



## Eat calcium rich foods

Another approach to preventing kidney stones is to eat foods higher in calcium. When calcium is present in the diet with oxalate, then calcium and oxalate can bind in the gut. This way, less oxalate is available to be absorbed by the body.

## Avoid eating excessive meat protein

Eating too much meat protein can increase the amount of calcium as well as uric acids in the urine. If you have calcium or uric acid stones, avoid excessive meat protein in your diet.



## Avoid vitamin C supplements



There may be an association with high doses of vitamin C and kidney stones. If you are prone to kidney stones it may be wise to meet your vitamin C needs through a balanced diet and avoid supplements unless advised by your doctor or dietitian.