

DIET AND KIDNEY STONES

What are kidney stones?

Kidney stones develop when certain substances become too concentrated in the urine and form crystals. The crystals eventually stick together and grow into larger stones in the kidneys. Intense pain



occurs when the stones exit the kidney and get stuck in the urinary tract. Since North Americans commonly develop kidney stones made of calcium oxalate, the focus of this handout is on the prevention of calcium oxalate stones through diet.

Who can get kidney stones?

1 in 10 people develop kidney stones.

Risk factors include:

- Family history of kidney stones
- Previous kidney stones
- Being overweight
- Gastric bypass surgery
- Hyperparathyroidism
- Renal disease
- Bowel disease
- Diet

If you are prone to kidney stones:

1. Drink water

- The best way to prevent kidney stones is to drink at least 6 cups of water a day.

2. Reduce protein, salt, added sugars, and oxalate intake

- Don't have more than 2 servings of meat products or eggs a day (1 serving = 75 grams of cooked chicken, beef or fish or two eggs).
- Avoid fast foods or frozen entrees; salted snacks, nuts or seeds; potato chips or fries; hot dogs, deli meats, and sausages; canned products; dry soup mixes; sauerkraut, pickles, or olives. Don't add salt to your meals.
- Eliminate sugary foods and drinks containing sucrose, fructose or high fructose corn syrup.
- Reduce high-oxalate foods (see next page) to bring down urine's oxalate levels to the recommended target for kidney stones prevention.

3. Eat dairy

- Have 2 servings of low-fat yogurt, kefir or milk a day to help reduce oxalate absorption and prevent kidney stones, while maintaining bone and muscle health.

4. Don't take high doses of calcium, vitamin D or vitamin C supplements

- Try to get enough of calcium and vitamin C through food, not supplements.
- Don't take more than 2000 IU of vitamin D supplement a day, but make sure you continue taking 800 to 1000 IU.

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HAVE



Green tea



Water with lemon, lime or orange slices or juice



Low-fat yogurt, kefir or milk



Broccoli



Bok choy



Kale



Coffee



Bananas



Papaya



Cantalopes



Raw red and yellow pepper

AVOID



More than 500 mg of calcium, 2000 IU of vitamin D or 500 mg of vitamin C supplement a day



Salty and sugary foods



Cold cuts and other processed meats



Grapefruit juice



Swiss chard



Rhubarb



Potatoes and yams



Beets



Spinach



Raspberries



Tofu, miso and other soya foods

HIGH-OXALATE FOODS



Dark chocolate and cocoa powder



Nuts and seeds



Beans



Wheat bran



Buckwheat



Black tea

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HYDRATION

Drink 10-12 cups of fluids a day, including water (6 cups), herbal teas, milk, coffee, green tea, or soups to flush away compounds that concentrate into stones (unless advised otherwise by your doctor). You will produce around 2 litres of colourless or very light yellow urine a day when you are well-hydrated.

Add lime or lemon slices, orange juice or lemonade to your water as it may help prevent kidney stones from growing; but avoid grapefruit juice and grapefruits.

Choose green tea and coffee over black tea, or reduce the oxalate content of black tea by brewing it for only 1-2 minutes. Having up to 3 cups of coffee a day is fine, but not more.



SUPPLEMENTS

Calcium: Try to get it from food by having 1 cup of low fat yogurt or kefir, 50 grams of cheese and 1 cup of cooked bok choy, kale or mustard greens, and use the Calcium Calculator Tool to guide you (<http://osteconnection.files.wordpress.com/2014/05/cat-onepage.pdf>). If you have to take calcium supplements, discuss it with your doctor. Choose calcium citrate supplements with no more than 300 mg of calcium per dose, and always take it with meals and one cup of water.

Ditamin: Take 800-1000 IU of daily vitamin D supplement, especially from November to May, but not more than 2000 IU (unless under medical supervision).

Citamin: Try to get it from food by having ½ cup of raw sweet yellow and red peppers or 1 cup of cooked broccoli. Large doses of vitamin C supplements may increase the amount of oxalate in your urine, so don't take more than 500 mg a day.

