

WHY DO I GET KIDNEY STONES?

Kidney stones form when your urine has more crystals, (i.e., calcium and oxalate), than it can handle at one time. There are inhibitory substances in the urine that prevent these crystals from “sticking” together and forming a stone, but some people lack these substances and are therefore at a greater risk of forming a kidney stone.

The decrease in the level or number of inhibitors are not the only reason you may have formed a kidney stone. Alterations in your metabolism, dehydration and diets high in calcium and oxalate can contribute to the formation of stones.

WHAT ARE MY CHANCES OF GETTING ANOTHER KIDNEY STONE?

At least 5% of females and 12% of males will have had an episode of kidney stone pain by the age of 70. If you have had a kidney stone, the recurrence rate is 50-75%

WHAT CAN DO TO HELP PREVENT ANOTHER KIDNEY STONE?

- Increase your fluid intake:
- Drink 10-12 cups per day. Half of the fluid intake should be water. (Drinking plenty of fluids will flush out any excess crystals from the kidneys before they are able to form a stone).
- Your urine should be clear. Get the yellow color out!
- Diet low in Oxalate.
- Decrease your sodium / salt intake.
- Excessive amounts of Vitamin C can cause an increase in oxalate production. You may continue to take a standard once a day multi-vitamin, but do not add any additional Vitamin C supplements to your diet.
- Decrease your intake of animal protein (meat, fish, and poultry) Limit your intake to 4-6 ounces per day. Excessive intake of animal protein will increase the uric acid, calcium and oxalate in your urine.

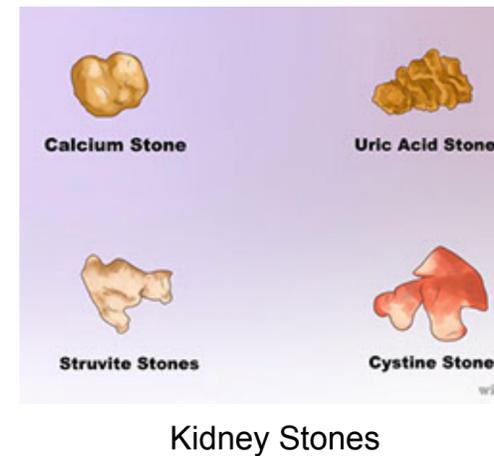
FLUID INTAKE & KIDNEY STONES

Most experts recommend that a person with kidney stones 24-hour will need to produce at least 2 liters or 2 quarts. Some patients such as those with cystine stones will need to produce between 3 to 4 liters per day to prevent stone formation.

Some important points to remember are:

1. In addition to general you will need to consume 8 to 10 eight-ounce glasses of water per day. Some patients find it helpful to drink their first glass while dressing in the morning, one glass with every meal and between every meal, one glass at bedtime and one during the night if they arise to urinate.
2. Since your activity level, fluid metabolism, environmental temperature, and humidity will vary from day to day, your fluid requirements will also vary. It is important for you to make sure that you are drinking enough to produce a sufficient amount of urine to dilute stone-forming chemicals you produce. You can do this by:

- Measuring your urine specific gravity dipstick. You want to consume enough



fluids to keep your specific gravity between 1.005 and 1.010.

- Another way if use the color of your urine as a guide to adequate hydration. With sufficient fluid intake your urine should remain almost colorless.
- You may want to occasionally measure the actual volume of your urine output by collection your urine for 24 hours. If you use a one gallon container, the amount of urine you collect should fill at least half the container.

3. If you purchase bottled water please check the label to ensure it is low in calcium and sodium. Drinking hard water will not predispose you to additional kidney stones.

4. With regard to other types of fluids, it is best to avoid large amounts of the following:

- Dairy products
- Brewed tea and coffee
- Cola Drinks
- Cocoa
- Fruit juices that contain high oxalate such as tomato, cranberry, grape, and pineapple juices.
- Apple juice, orange juice, or lemonade maybe be consumed desired.



5. If you choose to drink large quantities of alcohol, it is important for you to increase your water intake as alcohol consumption can lead to dehydration and low urine volume.

6. It is important to hydrate well in the evening prior to bedtime. You should always try to consume 2 eight-ounce glasses of water between dinner and bedtime and one glass at night if you arise to urinate.

Low Oxalate Meal Plan (40-50mg)

Food	Little or No Oxalate < 2mg oxalate/serving Eat as desired	Moderate Oxalate Content 2-10 mg oxalate/serving Limit: two (1/2 C) servings/day from each of the 8 food groups	High Oxalate Foods 10 mg oxalate/serving Avoid Completely
Beverage/Juices	Apple juice Beer, bottled Carbonated cola (12oz limit/day) Distilled alcohol Grapefruit juice Lemonade or limeade, no peel Wine (red, white, and rose) Pineapple juice Tap water (preferred for extra calcium)	Coffee, any kind (8 oz serving) Cranbeny juice Grape juice Nescafe powder (1 tsp) Orange juice Tomato juice	Cocoa Draft beer: Stout, Guinness Draft, Lager, Tuborg, Pilsner Juices containing berries not allowed Ovaltine and other beverage mixes Tea
Milk (2 or more cups)	Buttermilk Lowfat or skim milk Lowfat yogurt with fruit, allowed Whole milk		
Meat Group (Protein)	Beef Cheese, cheddar Eggs Fish and shellfish Lamb Pork	Sardines Beef liver Beef kidneys	Baked beans; canned in tomato sauce Peanut butter Soybean curd (tofu)

Fruits	Avocado Banana Cherries, bing Grapefruit, fruit and juice Mangoes Melons: Cantaloupe Casaba Honeydew Watermelon Nectarines Peaches Plums, green or golden gage	Apple. Apricots, Black Currants Cherries, red sour Oranges Peaches, Alberta, canned., .Stokes Pears Pineapple Plums, Damson Prunes, Italian	Blackberries, Blueberries, Concord grapes, Currants, red Dewberries, Fruit Cocktail, Gooseberries, Grapes, Lemons Lime, or Orange Peel, Raspberries, Rhubarb, Strawberries, Tangerine
Vegetables	Avocado Brussels sprouts Cauliflower, cooked Cabbage, white Mushrooms Onions Peas, green, fresh , or frozen Potatoes (Irish) Radishes Pumpkin	Asparagus Broccoli Carrots Com, sweet white, yellow Cumcumber - Peeled Endive Fennel Grean peas, canned Lettuce, iceberg Lima beans Parsnips Tomato, I small Turnips	Beans: Green washed, dried Beets: tops, root, greens Celery, Collards, Escarole, Kale, Leeks, Okra, Parsley, Peppers, green Sweet Potatoes, Rutabagas, Spinach, Summer squash, Watercress
Bread/Starches	Cornflakes Oatmeal Pasta: macaroni, noodles, spaghetti Rice Whitebread	Combread- Spaghetti, canned in tomato sauce	Grits, white corn, Soybean crackers, wheat germ, whole wheat.
Fats & Oils	Bacon, Butter, Margarine, Mayonnaise, Salad Dressing, Vegatable Oil		Nuts: Almonds, Cashews, Peanuts and Peanut oil, Peacans, Walnuts, and Walnu oil.
Miscellaneous	Coconut Fruit ices, Sorbets Ice Cream, ice milk, frozen yogurt Gelatins Jelly or preserves (with allowed fruits) Lemon, Lime juice, salt/pepper 1tsp/day, sugar	Spongecake	Chocolate Fruitcake Manna lade Pepper (in excess of I tsp/day) Vegetable soup Tomato soup

