



Combat kidney stones with water

It's a dubious distinction, but Hawaii has been referred to as the kidney stone capital of the world. True or not, there are many reasons why living in Hawaii might increase your risk of developing this excruciating condition.

Question: Why do kidney stones form?

Answer: There are several kinds of kidney stones, and a variety of factors can cause each type. If you tend to suffer from stones, you should know what type you form.

In general, kidney stones form when various substances in the urine become too concentrated and form crystals. Small crystals can pass out of the body unnoticed, but larger stones can cause great pain as the body attempts to pass them through urinary tubes that are smaller in diameter than the stone.

Q: What reduces the risk of developing kidney stones?

A: Drinking more liquids helps dilute the urine. The National Institute of Diabetes and Digestive and Kidney Diseases recommends that people with a tendency to form stones drink enough liquids to

produce at least 2 quarts of urine every 24 hours. Those who form a specific type of stone called cystine stones might need to drink more than a gallon of fluids each day.

In the warm, humid and often windy climate of Hawaii, more water is lost in sweat than people realize. Producing more than 2 quarts of urine requires drinking significantly more than 2 quarts of fluid. Ideally, at least half the fluids consumed will be pure water, with consumption spread throughout the day -- a cup here, a cup there.

Urine could also be judged by appearance. A stone-prevention rule of thumb: Most of the time, your urine should look more like lemonade than apple juice.

Q: What else can help?

A: According to the American Foundation for Urologic Disease, 70 percent to 80 percent of all kidney stones are composed of calcium oxalate and phosphate. Consuming three to four servings of milk each day is estimated to cut the risk of developing kidney stones in half. This might be because calcium in milk reduces the amount of oxalate absorbed. For unknown

reasons, calcium supplements don't appear to provide this same benefit, possibly because they are not usually consumed with meals or don't dissolve rapidly.

You could also cut back on high-oxalate foods -- these include spinach, Swiss chard, beets and beet greens, amaranth, cassava and taro leaves. But because many of these foods have other beneficial properties and because many other foods also contain oxalate, a more important preventive practice is to consume a cup of milk or yogurt with most meals.

Some research indicates that being overweight can increase the risk of developing kidney stones, and weight loss could help. It is important to remember that overweight individuals might have greater daily water requirements.

It can also help to eat adequate amounts of fruit and vegetables, plus an adequate (but not excessive) protein intake to keep the urine crystal-free.

Alan Titchenal, Ph.D, CNS and Joannie Dobbs, Ph.D, CNS
are nutritionists in the Department of Human Nutrition, Food and Animal Sciences,
College of Tropical Agriculture and Human Resources, UH-Manoa.
Dr. Dobbs also works with the University Health Service.
