

# Hypercalciuria

## “My doctor gave me a medication to decrease my urine calcium. How does it work?”

Common, generic diuretics called thiazide (i.e. hydrochlorothiazide, chlorthalidone) which were originally designed to remove sodium and water from the body and lower blood pressure have a special value to stone formers with hypercalciuria. This type of drug lowers urine calcium, and prevents stones from forming.

Remember that diets high in sodium and protein raise the amount of calcium in your urine. The thiazide is trying to reduce the calcium in your urine. This drug will be much more effective if you are NOT eating a diet that is high in salt and protein.

## “What else should I know about this medication?”

Eating a diet that is high in salt on a thiazide causes potassium loss in the urine. Potassium is an essential element in all of the cells of the body. If high sodium causes potassium loss due to thiazide, you will need to take supplemental potassium, which may be expensive, not always pleasant in taste, and can cause stomach upset. Other side effects of thiazide use may include a rash. If this occurs, alert your doctor.

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# Your Guide to Hypercalciuria

In this brochure you will find common questions asked about hypercalciuria and kidney stone prevention, and the answers to each of them.

## “My doctor said that I have Hypercalciuria. What is this?”

This literally means “high calcium in urine”. Your urine contains more calcium than considered normal. Having hypercalciuria will increase your risk of kidney stones.

## “How did I get hypercalciuria?”

Hypercalciuria is usually caused by genetics and runs in families. About half of your blood relatives (parents, siblings, and children) will also have high urine calcium. Some of these relatives will form kidney stones, while others will not.

## “Should I stop eating products that contain calcium?”

Even though it seems like a good idea, a low calcium diet is generally not the best way to achieve calcium stone prevention. There are other ways of altering your diet to lower calcium excretion, such as lowering your salt intake. You want to eat a normal calcium diet (800 to 1,200 mg daily) unless told otherwise by your physician.

There are two reasons you don’t want to go on a low calcium diet. One is that your bones need calcium to remain healthy and strong. Two, is that calcium is necessary to remove oxalate, which is another common component of kidney stones. Calcium and oxalate join together in the intestine. Once joined, calcium and oxalate leave the body by way of the stool. If calcium is not present in your intestines, then oxalate has no partner to join with. Our body

is unable to break down oxalate any further which means that it must be filtered by the kidney. When calcium and oxalate are together in the kidney, they can bind together to form crystals. These crystals can join together to form calcium oxalate kidney stones.

## “How much calcium should I be eating every day?”

You should eat normal amounts of calcium, 800 to 1,200 mg daily. The calcium should come from food so it is absorbed more slowly than it would be if it came from supplements and calcium antacid (if you use calcium supplements or calcium antacids such as TUMS, the extra calcium is very rapidly absorbed and can promote stones).

## “My doctor said to lower my salt intake. Why?”

As the kidneys are forced to remove more and more sodium from the body, they simultaneously remove calcium. In other words, the more salt you eat, the more calcium you will excrete in your urine.

The worst possible combination is low calcium and high sodium intakes, because high sodium intake increases the loss of bone mineral calcium which can lead to osteoporosis.

The best combination is normal calcium and low sodium intake, this will keep the calcium in your bone where it belongs. This combination not only lowers your stone risk, but it keeps your bones healthy and strong as well.

All the sodium you eat throughout the day must be removed in the urine. Your 24-hour urine sodium will tell you what you ate during the day of your collection, and is a good way to monitor your sodium intake.

## “How much sodium is too much?”

The recommended intake of sodium is 2,300-3,300 mg per day; the average stone former eats nearly double that amount or about 5,000 mg daily.

All packaged goods are labeled with their sodium amounts in mg. Read the label on all packaged foods to see how much sodium the food contains. Remember that everything on the label is listed by serving (if you are eating two servings of the product then multiply the sodium content by two). This will help you stick to your 2,300-3,300 mg goal. The less sodium you eat, the lower your urine calcium level. Do not be too extreme; you should not go lower than 1,500 mg of sodium daily.

## “I eat a lot of protein and my doctor said that this may increase my urine calcium. Why?”

When we eat more than 8 oz of protein a day, urine calcium rises. Therefore it is especially important for those of you who have too much calcium in your urine to pay attention to how much protein you are eating per day. Just as in the case of sodium, the goal is to keep your protein intake at a good midpoint, not too high but not so low as to cause nutritional problems.

In practical terms this means cutting back on portion sizes: a smaller steak, one less chicken leg, etc. It is not realistic to be too exact in this area. There is no need to know the protein composition of every food. High protein foods include all meat, poultry, pork, fish, and eggs.