

Kidney Stones

<http://pascalleane.net>



What are stones and hypercalciuria?

Nephrolithiasis is the medical term for kidney stones. Stones are small collections of material within the tube-like structures of the urinary tract.

Ureterolithiasis is the medical term for stones in the ureter, the tube between the kidney and the bladder.

Nephrocalcinosis refers to deposits of calcium within the tissue of the kidney.

Hypercalciuria is the medical term for elevated levels of calcium in the urine. This is the most common cause of stones and nephrocalcinosis. It

How do you diagnose these problems?

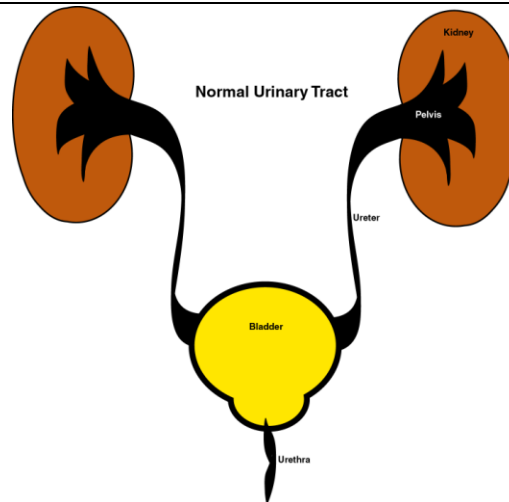
Stones may be detected during a number of imaging studies including x-rays, ultrasound, and CT scans. Nephrocalcinosis can be seen on ultrasound.

How do you treat these problems?

Stones may require treatment by a Urologist, a special urinary tract surgeon. Some stones can be broken up using ultrasound waves and allowed to pass in the urine (lithotripsy). Other stones may require an operation for removal. Most stones will pass on their own. When stones travel from the kidney to the bladder they usually cause pain and may produce bloody urine. If this happens, drink lots of water and call the doctor for further instructions.

Stones and nephrocalcinosis that develop during the first year of life may resolve over a few years with adequate treatment of the stone-forming condition.

Hypercalciuria is managed with several treatments. First is dietary modification. Restriction of sodium (salt) is most important. Excess calcium intake is not a typical problem; in adult patients, increased calcium in the diet actually reduces the occurrence of stones.



is also a common cause of microscopic hematuria (blood in the urine invisible to the naked eye) with or without other urinary symptoms.

Other conditions may predispose someone to stones including high oxalate, high uric acid, and low citrate levels in the urine.

Stones and stone-forming conditions tend to run in families. They are unrelated to gall stones.

Hypercalciuria and other stone-forming conditions can be diagnosed by analysis of a stone or by blood and urine tests.

If diet does not control this condition, then drug treatment may be used. Thiazide diuretics (water pills), either hydrochlorothiazide or Diuril, are the first-choice drugs. They increase the amount of calcium the kidney retains when it makes urine. These drugs may cause excess potassium loss which can be treated with diet, supplements, or other drugs.

If thiazides do not control this condition, then citrate agents (Polycitra or Urocit) may be given. Citrate prevents calcium in the urine from becoming a solid stone. It also changes the amount of acid in the urine.

For other stone-forming conditions, other drugs or diet changes may be necessary. All of these disorders benefit from drinking lots of water to keep the urine dilute. The more water is in the urine, the less likely it is that stones will form.