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Calcium - urine

This test measures the amount of calcium in the urine. All cells need calcium in order to work. Calcium helps build strong bones and teeth. It is important for heart function, and helps with muscle contraction, nerve signaling, and blood clotting.

See also: Calcium - blood

How the Test is Performed

A 24-hour urine sample is most often needed:

- On day 1, urinate into the toilet when you wake up in the morning.
- Collect all urine (in a special container) for the next 24 hours.
- On day 2, urinate into the container in the morning when you wake up.
- Cap the container. Keep it in the refrigerator or a cool place during the collection period. Label the container with your name, the date, and the time you finish it, and return it as instructed.

For an infant, thoroughly wash the area where urine exits the body.

- Open a urine collection bag (a plastic bag with an adhesive paper on one end).
- For males, place the entire penis in the bag and attach the adhesive to the skin.
- For females, place the bag over the labia.
- Diaper as usual over the secured bag.

This procedure may take a few tries. An active baby can move the bag, causing urine to go into the diaper. You may need extra collection bags.

Check the infant often and change the bag after the infant has urinated into it. Drain the urine from the bag into the container provided by your health care provider.

Deliver the sample to the laboratory or to your provider as soon as possible.

How to Prepare for the Test

Many medicines can interfere with urine test results.

- Your provider will tell you if you need to stop taking any medicines before you have this test.
- Do not stop or change your medicines without first talking to your provider.

How the Test will Feel

The test involves only normal urination, and there is no discomfort.

Why the Test is Performed

Urine calcium level can help your provider:

- Decide on the best treatment for the most common type of kidney stone, which is made of calcium. This type of stone may occur when there is too much calcium in the urine.
- Monitor someone who has an overactive parathyroid gland, which helps control calcium level in the blood and urine.
- Diagnose the cause of problems with your blood calcium level or bones.

Normal Results

If you are eating a normal diet, the expected amount of calcium in the urine is 100 to 300 milligrams per day (mg/day) or 2.50 to 7.50 millimoles per 24 hours (mmol/24 hours). If you are eating a diet low in calcium, the amount of calcium in the urine will be 50 to 150 mg/day or 1.25 to 3.75 mmol/24 hours.

Normal value ranges may vary slightly among different laboratories. Talk to your provider about the meaning of your specific test results.

The examples above show the common measurements for results for these tests. Some laboratories use different measurements or may test different specimens.

What Abnormal Results Mean

A high level of urine calcium (above 300 mg/day) may be due to:

- Chronic kidney disease
- High vitamin D level
- Leaking of calcium from the kidneys into the urine, which may cause calcium kidney stones
- Sarcoidosis
- Taking too much calcium (usually antacid pills)
- Too much production of parathyroid hormone (PTH) by the parathyroid glands in the neck (hyperparathyroidism)
- Use of loop diuretics (most commonly furosemide, torsemide, or bumetanide)

A low level of urine calcium may be due to:

- Disorders in which the body does not absorb nutrients from food well
- Disorders in which the kidney handles calcium abnormally
- Parathyroid glands in the neck do not produce enough PTH (hypoparathyroidism)

- Use of a thiazide diuretic
- Very low level of vitamin D

Alternative Names

Urinary Ca+2; Kidney stones - calcium in urine; Renal calculi - calcium in your urine; Parathyroid - calcium in urine

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