

Parathyroid Hormone



Does this test have other names?

Parathyroid hormone assay, parathyrin, parathormone, PTH-C-Terminal

What is this test?

This test measures a substance called parathyroid hormone (PTH) in your blood. PTH is made by 4 tiny parathyroid glands in your neck. PTH circulates in your blood and is needed to control the level of calcium in your blood. Your heart, bones, nervous system, and kidneys need a normal calcium level in the blood to work the way they should.

If your calcium level is too low, your parathyroid glands release PTH to get more calcium into your blood. If your calcium level is too high, your parathyroid glands stop making PTH. Measuring the amount of PTH in your blood helps your healthcare provider find out the cause of an abnormal calcium level.

This test is usually done early in the morning, which is the best time best to measure PTH.

Why do I need this test?

You may need this test if an earlier blood test found that your calcium level was too high or too low. You may also need this test if you have signs or symptoms of an abnormal calcium level. PTH levels help your healthcare provider find out whether an abnormal calcium level is from a problem with your parathyroid glands or has another cause.

Symptoms of high calcium (hypercalcemia) include:

- Weak bones
- Kidney stones
- Fatigue
- Aches and pains
- Nausea
- Urinating often
- Thirst

Symptoms of low calcium (hypocalcemia) include:

- Tingling and numbness
- Depression or other mood changes
- Muscle spasms or seizures
- Irregular heartbeat

What other tests might I have along with this test?

Your healthcare provider may order other blood tests along with a PTH test. It's common to have your blood calcium and possibly a blood protein called albumin checked along with the PTH level. Other blood mineral

levels may also be checked. You may also have tests to measure your kidney function.

What do my test results mean?

Test results may vary depending on your age, gender, health history, and other things. Your test results may be different depending on the lab used. They may not mean you have a problem. Ask your healthcare provider what your test results mean for you.

Results are given in picograms per milliliter (pg/mL). This test measures 3 forms of PTH: intact molecule, N-terminal fragments, and C-terminal fragments. Normal levels are as follows:

- Intact molecule: 10 to 65 pg/mL
- N-terminal fragments: 8 to 24 pg/mL
- C-terminal fragments: 50 to 330 pg/mL

Some of the more common causes of high PTH levels are:

- Overactive parathyroid glands, a condition called hyperparathyroidism. This can have different causes, some of which could be genetic (you were born with them).
- Failure of the kidneys to respond normally to PTH
- Inherited vitamin D deficiency
- Spinal cord injury
- Low calcium not related to the parathyroid glands

Some of the more common causes of low PTH levels are:

- Underactive parathyroid glands, a condition called hypoparathyroidism. This can have different causes, some of which could be genetic.
- Overactive thyroid gland, or hyperthyroidism
- Magnesium deficiency
- Elevated calcium not related to the parathyroid glands

Your healthcare provider will look at the PTH results along with the blood calcium level and possibly other tests to better understand what the results mean.

How is this test done?

The test is done with a blood sample. A needle is used to draw blood from a vein in your arm or hand.

Does this test pose any risks?

Having a blood test with a needle carries some risks. These include bleeding, infection, bruising, and feeling lightheaded. When the needle pricks your arm or hand, you may feel a slight sting or pain. Afterward, the site may be sore.

What might affect my test results?

Conditions, such as higher than normal levels of blood lipids (fats), vitamin D deficiency, and milk-alkali syndrome (Burnett's syndrome), can interfere with your test results. Many types of medicines can also alter the results. These include medicines with phosphates and vitamin A or D overdoses.

How do I get ready for this test?

Talk with your healthcare provider about whether you should not eat or drink anything except water (called fasting) before the test. Be sure your healthcare provider knows about all medicines, herbs, vitamins, and supplements you are taking. This includes medicines that don't need a prescription and any illegal drugs you may use.

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