

ACTH (Blood)



Does this test have other names?

Adrenocorticotrophic hormone blood test, corticotropin

What is this test?

This is a blood test that measures the amount of adrenocorticotrophic hormone (ACTH) the pituitary gland produces. This gland is a tiny organ that sits just below your brain. It secretes adrenocorticotrophic hormone, which controls the production of another hormone called cortisol.

Cortisol is made by your adrenal glands, which are located at the top of your kidneys. Cortisol helps break down protein, sugar, and fat in your food. It also helps to regulate your blood pressure and your body's ability to fight infection. Cortisol is also one of the hormones that helps you deal with stress. Cortisol levels should peak in the morning and be at their lowest in the evening.

Why do I need this test?

You might have this test if your healthcare provider suspects you have hormone problems. This test is used along with other tests to diagnose conditions, including:

- **Cushing disease**, in which the pituitary gland makes too much ACTH
- **Cushing syndrome**, in which the adrenal glands make too much cortisol
- **Addison disease**, in which the adrenal glands don't make enough cortisol
- **Hypopituitarism**, a disorder of the pituitary gland that keeps it from producing enough vital hormones

What other tests might I have along with this test?

Your healthcare provider also might order tests to measure your cortisol levels, including:

- **Adrenocorticotrophic hormone stimulation test** to determine why your adrenal glands aren't working correctly
- **Dexamethasone suppression test** to find an underlying reason for Cushing
- **Adrenocorticotrophic hormone stimulation with metyrapone test** also to find an underlying reason for Cushing

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.

ACTH is measured in picograms per milliliter (pg/mL). Test results are influenced by the time of day the test was done. Normal results are:

- Adults: 10-60 pg/ml (1.3-16.7 pmol/L) for an early morning sample (8 a.m.); less than 20 pg/ml (4.5 pmol/L) for a late afternoon sample (4 p.m.)

If your ACTH level is low or high you may have Cushing syndrome. If your ACTH level is high you may have Addison disease. A low ACTH level can also indicate hypopituitarism.

How is this test done?

The test requires a blood sample, which is drawn through a needle from a vein in your arm.

You may have blood drawn in the morning and in the afternoon or evening. This is to check for variations in your levels of ACTH hormone.

Does this test pose any risks?

Taking a blood sample with a needle carries risks that include bleeding, infection, bruising, or feeling dizzy. When the needle pricks your arm, you may feel a slight stinging sensation or pain. Afterward, the site may be slightly sore.

What might affect my test results?

Your test results might be affected if you:

- Are under a great deal of stress
- Recently had a trauma
- Are menstruating or pregnant
- Are taking certain medicines, including steroids, hormones, or insulin
- Did not sleep well the night before the test

How do I get ready for this test?

Don't eat after midnight on the day of your test. Get a good night's sleep. Follow any other directions from your healthcare provider. 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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