TEST

Prolactin blood test

A prolactin blood test measures a hormone involved in breast milk production and reproductive health.

WHAT IT MEASURES
Prolactin, a hormone involved in breast milk production

SAMPLE
Blood from a vein

FASTING NEEDED?
Sometimes, when your laboratory requests a fasting morning sample

HOW LONG IT TAKES
Usually less than 10 minutes

RESULTS IN
Usually one to two days; varies by laboratory

USED FOR
Diagnosing causes of symptoms and monitoring pituitary conditions

MAIN LIMITATION
Stress and recent activity can temporarily raise prolactin

Overview

A prolactin blood test measures the amount of prolactin in your blood. Prolactin is a hormone made mainly by the pituitary gland, a small gland at the base of the brain.

Prolactin helps the breasts make milk after childbirth. It also interacts with hormones involved in menstrual periods, fertility, sexual function, and testosterone production.

Prolactin naturally rises during pregnancy and breastfeeding. Outside these situations, an abnormal result can have several explanations. The test cannot identify the cause by itself.

Why the test is ordered

The test may be used to investigate symptoms that could be related to high or low prolactin. These include unexpected breast milk production, irregular or absent periods, infertility, reduced sexual interest, or erectile problems.

It may also be ordered if other findings suggest a problem affecting the pituitary gland.

Examples include persistent headaches, changes in side vision, or abnormal results from other hormone tests.

If you have a known prolactin-producing pituitary tumour, called a prolactinoma, testing can help show whether treatment is working. It may also be used during follow-up after treatment changes.

Who should have the test

A healthcare professional may recommend the test when your symptoms, medical history, medicines, or other test results suggest that prolactin could be involved.

It is not usually used as a general screening test for people without symptoms or relevant medical findings. A raised result is common enough from temporary causes that testing without a clear reason can lead to unnecessary repeat tests.

Children and teenagers may sometimes be tested for concerns involving puberty, growth, menstrual development, or pituitary function.

How to prepare

Follow the instructions from your laboratory or healthcare professional. Some laboratories request a fasting morning sample, while others allow normal food and drink.

Prolactin rises during sleep and shortly after waking. Your appointment may therefore be arranged a few hours after you wake up. Timing instructions differ between laboratories.

Stress, strenuous exercise, sex, and nipple or breast stimulation can temporarily increase prolactin. You may be asked to avoid these before testing. Sitting quietly before the blood draw can be useful, especially when a previous result was only slightly high.

Tell the person who ordered the test about all prescription medicines, non-prescription medicines, vitamins, and supplements you take. Do not stop a medicine unless the prescriber tells you to do so.

What happens during the test

A healthcare professional places a small needle into a vein, usually inside your elbow or on the back of your hand. Blood is collected into a tube and sent to a laboratory.

You may feel a brief scratch or sting. The blood draw usually takes less than 10 minutes,

although waiting and registration may make the appointment longer.

Occasionally, more than one sample is collected after you have rested. This can help show whether stress from arriving at the clinic or having blood taken affected the first result.

Understanding your results

Your report will show your prolactin level and the laboratory's reference range. Laboratories may use different testing methods and units.

There is no single range that is appropriate for everyone. Ranges and interpretation vary by laboratory, age, sex, pregnancy status, medicines, and clinical context.

A high prolactin result does not automatically mean that you have a pituitary tumour. Possible explanations include pregnancy, breastfeeding, medicines, an underactive thyroid, reduced kidney function, and temporary physical or emotional stress. Pituitary and other medical conditions are also possible.

The degree of elevation can help guide further investigation, but the number alone cannot confirm its cause. A mildly high result is often repeated under calmer, more controlled conditions.

Low prolactin is less commonly important. It may be related to medicines that increase dopamine activity or, less often, reduced pituitary function. It is interpreted alongside symptoms and other pituitary hormone tests.

What affects the results

Several factors can change the number even when the laboratory has measured the sample correctly:

Age and hormonal stage also matter. Prolactin interpretation may differ before puberty, after menopause, and during pregnancy.

- Sleep and timing: Prolactin rises during sleep and is often higher soon after waking.
- Stress: Anxiety, pain, travel to the appointment, and the blood draw itself may cause a temporary rise.
- Recent activity: Strenuous exercise, sex, nipple stimulation, or a breast examination can increase prolactin.

- Pregnancy and breastfeeding: Both can raise prolactin substantially as part of normal body function.
- Medicines: Some antipsychotics like olanzapine or risperidone , antidepressants like sertraline or fluoxetine , anti-sickness medicines, opioid pain medicines, and other drugs can raise prolactin. Dopamine-related medicines can lower it.
- Kidney or liver function: Reduced clearance of prolactin from the blood can contribute to a high result.
- Underactive thyroid: Low thyroid hormone levels can stimulate prolactin production.
- Biotin supplements: High-dose biotin can interfere with some laboratory methods. The direction and size of the error depend on the assay.
- Macroprolactin: This is a larger, usually less active form of prolactin. Some tests count it, producing a high total result despite few or no typical symptoms.

Accuracy and limitations

Modern laboratory methods usually measure prolactin reliably. However, a single high result is not always evidence of a lasting problem. Temporary stress, sleep, activity, and medicines can make the test say prolactin is high when your usual level is not.

The chance of a misleading result depends on the testing method and why you were tested, so there is no single useful percentage for how often this happens. Repeating a mildly raised result can reduce false alarms.

Testing for macroprolactin may be helpful when the result is high but symptoms are absent or do not fit. This distinguishes active prolactin from a less active form detected by some assays.

Very high prolactin can sometimes overwhelm an immunoassay and produce a falsely low or only mildly raised result. This is called the "hook effect." It is uncommon, but the laboratory can test a diluted sample if imaging or symptoms strongly suggest a large pituitary tumour.

A blood test cannot show the size or structure of the pituitary gland. Magnetic resonance imaging, or MRI, is the better test when a structural pituitary problem needs to be assessed.

Risks and complications

The main risks are a small bruise, brief soreness, or feeling faint during the blood draw. Serious complications from routine blood collection are uncommon.

What happens next

A result within the laboratory's expected range may need no further testing, depending on why the test was ordered.

A mildly high result is often checked again. Further routine tests may include thyroid and kidney function, a pregnancy test when relevant, a review of medicines, or a check for macroprolactin. Persistently abnormal results may lead to other hormone tests or pituitary imaging.

Do not stop a prescribed medicine because it may affect prolactin. The prescriber can weigh the reason for the medicine against the result and discuss safer alternatives if needed.

Seek emergency care for a sudden, severe headache with new vision loss, double vision, repeated vomiting, fainting, or confusion. These symptoms are not a routine consequence of having a prolactin test, but they can rarely signal an urgent pituitary problem.

Common questions

Can I drink coffee before a prolactin test?

If you were told to fast, have only water unless instructed otherwise. If fasting is not required, coffee may be allowed, but follow your laboratory's instructions.

Does the time of day matter?

Yes. Prolactin changes with sleep and is often higher soon after waking. Testing is commonly arranged later in the morning, but local protocols differ.

Can I exercise beforehand?

Avoid strenuous exercise shortly before the test if practical. Exercise can temporarily raise prolactin and make a mild elevation harder to interpret.

Do I need to stop my medicines?

No, unless the prescriber specifically tells you to. Bring an up-to-date list because many medicines can affect prolactin.

What if I am nervous about blood tests?

Tell the person taking your blood. Resting quietly before the sample and lying down during the draw may help with stress or faintness.

Will one high result mean I need an MRI?

Not necessarily. A mildly high result is often repeated first, and medicines, pregnancy, thyroid

function, kidney function, and macroprolactin may be considered before imaging.

Sources

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