TEST

Serum progesterone

A serum progesterone test measures the amount of progesterone hormone in your blood.

WHAT IT MEASURES
Progesterone, a hormone involved in ovulation and pregnancy

SAMPLE
Blood from a vein

FASTING NEEDED?
No

HOW LONG IT TAKES
Usually under 10 minutes

RESULTS IN
Usually 1 to 3 days; laboratory turnaround differs

USED FOR
Assessing ovulation and pregnancy; monitoring some fertility treatments

MAIN LIMITATION
Levels fluctuate greatly with cycle timing and hormone treatment

Overview

A serum progesterone test measures progesterone in the liquid part of your blood. Progesterone is a hormone involved in the menstrual cycle and pregnancy.

After ovulation, the ovary forms a temporary structure called the corpus luteum. This produces progesterone to prepare the lining of the uterus for pregnancy. During pregnancy, the placenta later becomes an important source of progesterone. Smaller amounts are also produced by the adrenal glands and testes.

The test gives a snapshot of your progesterone level at the time your blood was taken. Levels can change considerably during the menstrual cycle and even over several hours. For this reason, timing and clinical context are essential when interpreting the result.

Why the test is ordered

A serum progesterone test may be used as part of an assessment for:

The test is not usually used alone. Depending on the reason for testing, it may be considered

alongside your menstrual history, pregnancy tests, ultrasound findings, or other hormone measurements.

A progesterone result cannot by itself confirm that a pregnancy is healthy or show whether it is inside the uterus. It also cannot fully assess the quality of the second half of the menstrual cycle, known as the luteal phase.

- Whether ovulation has probably occurred
- Irregular or absent menstrual periods
- Difficulty becoming pregnant
- Bleeding or pain during early pregnancy
- A pregnancy whose location or development is uncertain
- Monitoring during some fertility treatments

Who should have the test

You may be offered this test if knowing your progesterone level could answer a specific question about ovulation, pregnancy, or fertility treatment.

For an ovulation assessment, the blood sample is usually timed for the expected middle of the luteal phase. This is roughly one week before your next period, rather than automatically on day 21. Day 21 only fits a cycle that is close to 28 days.

If your cycles are irregular, predicting the right day can be difficult. You may need a later test, repeated testing, or another way of tracking ovulation.

Routine progesterone testing is not needed for everyone who is pregnant or trying to become pregnant. It is also not a general screening test for people without a relevant clinical reason.

How to prepare

You can usually eat and drink normally before the test. Fasting is not required unless other blood tests being collected at the same appointment require it.

Tell the healthcare professional arranging the test about prescription medicines, over-the-counter products, vitamins, fertility medicines, hormonal contraception, and progesterone treatment. Do not stop prescribed hormones unless you have been specifically advised to do so.

If the test is checking for ovulation, make sure the person arranging it knows:

Biotin, sometimes sold in high-dose hair and nail supplements, can interfere with some laboratory methods. Ask whether you should pause it before testing. The answer depends on the dose and the laboratory's equipment.

- The first day of your last menstrual period
- Your usual cycle length
- Whether your cycles are regular
- Any ovulation test results
- Whether you are using fertility or hormonal treatment

What happens during the test

A healthcare professional places a small needle into a vein, usually in your arm. Blood is collected into a tube and sent to a laboratory.

The blood draw usually takes less than 10 minutes. You can normally leave straight afterward and continue your usual activities.

Understanding your results

Your report will show a progesterone value, the unit used, and often a laboratory reference interval. Progesterone may be reported in nanograms per millilitre or nanomoles per litre. These units are not interchangeable without conversion.

There is no single normal result for every person. Ranges and interpretation vary by laboratory, age, sex, pregnancy status, medicines, menstrual timing, and clinical context.

In a menstrual cycle, progesterone is usually lower before ovulation and rises afterward. A properly timed rise supports that ovulation has recently occurred. A low result may mean ovulation did not occur, but it can also mean the sample was taken too early, too late, or between natural hormone pulses.

During pregnancy, progesterone levels generally change with gestational age. However, results from healthy pregnancies, miscarriages, and ectopic pregnancies can overlap. A single number cannot reliably distinguish among them.

A higher result may reflect pregnancy, recent ovulation, progesterone treatment, or fertility medicines. A lower result may be expected before ovulation, after menopause, or in someone whose medicines suppress ovulation. Your result needs to be interpreted for the reason the

test was ordered.

What affects the results

Cycle timing is the most important influence outside pregnancy. Testing on a fixed calendar day can be misleading if your cycle is shorter, longer, or irregular.

Progesterone is released in pulses. The level can rise and fall over a short period without indicating a meaningful change in ovarian function. This limits what one sample can show.

Other important influences include:

Some synthetic progestins-medicines that act like progesterone-may not be measured as progesterone by the test. A blood result may therefore appear low even though a progestin medicine is having an effect.

Meals, coffee, and ordinary daily exercise usually have little direct effect. Timing within the menstrual cycle and the use of hormones matter much more.

- Pregnancy: Levels change as pregnancy progresses
- Progesterone treatment: Tablets, injections, gels, and vaginal products affect blood levels differently
- Timing of a dose: A sample taken soon after treatment may differ from one taken later
- Fertility medicines: Ovulation induction and luteal support can alter results
- Hormonal contraception: Some methods prevent ovulation or change natural hormone patterns
- Age and menopause: Expected levels differ when ovulation becomes less frequent or stops
- Laboratory method: Different assays can produce somewhat different results
- Biotin and assay interference: Certain supplements or substances may cause a falsely high or low result

Accuracy and limitations

When collected at an appropriate point in the cycle, an increased progesterone level can provide good evidence that ovulation recently occurred. A low level may miss ovulation if the sample was mistimed or collected during a natural dip. Repeating the test or using ultrasound or ovulation tracking may sometimes give a clearer answer.

A single measurement cannot show whether progesterone stayed high enough throughout the luteal phase. It should not be used alone to label that phase as normal or abnormal.

In early pregnancy, progesterone cannot reliably confirm viability or locate the pregnancy. A result may appear reassuring when further assessment is still needed, or appear concerning when timing or treatment explains it. Repeat human chorionic gonadotropin, or hCG, blood tests and transvaginal ultrasound are usually more informative for these questions.

Many laboratories use immunoassays, which identify progesterone through antibody reactions. At low concentrations, similar substances or medicines may occasionally interfere. A more specific laboratory method, such as liquid chromatography with mass spectrometry, may be useful when a result is unexpected or does not fit the wider clinical picture.

Risks and complications

The risks are those of a routine blood draw. You may have brief discomfort, a small bruise, or feel light-headed; serious complications are uncommon.

What happens next

An expected result may need no further action beyond the follow-up already planned. If ovulation was being assessed and the timing was uncertain, another sample may be arranged at a more suitable point in your cycle.

During fertility treatment, the result may be reviewed alongside ultrasound findings, treatment dates, and the type and timing of progesterone medicine. Do not change hormone treatment based only on the laboratory number.

If you are pregnant and have an unexpected result but feel well, contact the service that arranged the test for routine interpretation and follow-up.

Seek urgent medical assessment if pregnancy is possible and you develop worsening one-sided lower abdominal pain, shoulder-tip pain, significant vaginal bleeding, dizziness, or fainting. Severe pain, collapse, marked weakness, or heavy bleeding requires emergency care. These symptoms matter regardless of the progesterone result.

Common questions

Can I drink coffee before a progesterone test?

Yes. Coffee does not usually affect serum progesterone enough to require fasting. Follow different instructions if other fasting blood tests are being collected.

Does the time of day matter?

There is usually no required clock time, but progesterone naturally fluctuates. Menstrual-cycle timing and the timing of hormone medicines are more important.

Can I exercise beforehand?

Ordinary exercise is unlikely to meaningfully alter the result. If possible, follow your normal routine so the result reflects your usual circumstances.

Does the test always have to be done on day 21?

No. Day 21 is only suitable for some people with cycles close to 28 days. Testing is generally timed for about one week before the next expected period.

Should I take my progesterone medicine before the blood test?

Follow the instructions from the service arranging your test. The route and timing of your dose can substantially affect the blood level, so record when you last took it.

Can this test tell me whether my pregnancy is healthy?

Not by itself. Progesterone results overlap between different pregnancy outcomes. Symptoms, repeat hCG measurements, ultrasound, and the stage of pregnancy provide more useful information.

Sources

- MedlinePlus Medical Test: Progesterone Test , US National Library of Medicine
- Fertility problems: assessment and treatment, CG156 , National Institute for Health and Care Excellence
- Ectopic pregnancy and miscarriage: diagnosis and initial management, NG126 , National Institute for Health and Care Excellence
- American Society for Reproductive Medicine. "Fertility evaluation of infertile women: a committee opinion." Fertility and Sterility . 2021;116(5):1255-1265. doi:10.1016/j.fertnstert.2021.08.038
- Progesterone, Serum: Clinical and Interpretive Information , Mayo Clinic Laboratories
- The FDA Warns that Biotin May Interfere with Lab Tests , US Food and Drug Administration