HEALTH BASICS

Lab results

Lab results report measurements or observations from tests on blood, urine, tissue, or other body samples.

WHAT IT IS
Measurements or observations from testing a body sample

WHERE IT COMES UP
Blood, urine, stool, swab, or tissue testing

WHY IT MATTERS
Helps guide screening, diagnosis, monitoring, and treatment

WHAT IT IS NOT
Not a diagnosis by itself

WHO TO ASK
Ordering clinician, pharmacist, or laboratory service

HOW IT IS CHECKED
Laboratory analysis, sometimes repeated or compared over time

Overview

Lab results describe what a laboratory found after testing a sample from your body. Common samples include blood, urine, stool, saliva, mucus from a swab, and small pieces of tissue.

Some results are numbers, such as a glucose or cholesterol level. Others use words such as "positive," "negative," "detected," or "not detected." A pathology report may describe how cells or tissue look under a microscope.

A result is one piece of health information. It is not usually a diagnosis by itself. Its meaning may depend on why the test was ordered, your symptoms, medical history, medicines, previous results, and other tests.

A result outside the laboratory's reference range does not always mean something is wrong. A result inside the range does not rule out every health condition. The clinician who ordered the test can interpret it in the context of your health.

How it works

The testing process starts before the sample reaches the laboratory. Preparation, collection, transport, analysis, and reporting can all affect the final result.

Some tests require preparation, such as fasting or collecting urine over a set period. Exercise, hydration, menstrual bleeding, alcohol, supplements, and medicines can affect certain tests. Follow the instructions provided for that specific test. Do not stop a prescribed medicine unless the clinician responsible for it tells you to.

The laboratory analyzes the sample using a particular method. Results may be reported with:

A reference range is the set of values a laboratory expects for a defined group of people. It may differ by age, sex, pregnancy status, testing method, or laboratory. This is why results from different laboratories may not be directly comparable.

A flagged result means the value falls outside the listed range. It does not explain why. Small differences can occur because of normal biological changes or differences in collection and testing.

Trends are often more useful than one isolated number. When monitoring a condition or medicine, clinicians may compare results over time. Using the same laboratory can make comparison easier, although this is not always possible or necessary.

- The name of the test
- Your result and its measurement unit
- A reference range or expected finding
- A flag such as high, low, abnormal, or critical
- The collection date and time
- Comments about the sample or testing method

Why it matters for your health

Lab tests can support screening, diagnosis, treatment decisions, and monitoring. For example, they may help assess blood cell counts, kidney or liver function, blood sugar, cholesterol, thyroid function, infection, or how well blood clots.

The reason for testing matters. A screening test looks for a possible problem in someone who may feel well. An abnormal screening result often needs a more specific test before a diagnosis can be made.

A diagnostic test is used when a condition is already suspected. Even then, the result may need to be considered alongside an examination, symptoms, imaging, or another laboratory test.

Monitoring tests track changes. They may show whether a condition is stable, whether treatment is having the intended effect, or whether a medicine is affecting organs such as the kidneys or liver.

Your result may appear in a patient portal before the ordering clinician has reviewed it. Flags and technical comments can look concerning without context. Unless the report identifies a critical result or you have urgent symptoms, it is usually reasonable to wait for the planned review.

What can go wrong

A result can be misleading even when the laboratory process is careful.

A false-positive result suggests a condition is present when it is not. A false-negative result misses a condition that is present. These possibilities matter in screening for infections, genetic conditions, and some cancers. Follow-up or confirmatory testing may be needed.

Sample problems can also affect results. Examples include contamination, incorrect labeling, delayed transport, clotting in a blood tube, or damage to blood cells during collection. The report may say that the sample was unsuitable or that the test could not be completed.

Results may also be affected by testing at the wrong time. Blood sugar, hormone levels, medicine levels, and some infection tests can change based on meals, time of day, menstrual cycle, recent exposure, or time since a medicine was taken.

Abnormal results can relate to many named conditions. A low red blood cell measurement may be assessed for anemia. Raised glucose may lead to testing for diabetes. Kidney, liver, thyroid, bleeding, clotting, or infectious conditions may each change particular results. The pattern and clinical context matter; one abnormal number may have several possible explanations.

Occasionally, a laboratory identifies a result that may need prompt attention and labels it critical . The laboratory or clinical service may contact you directly. If you receive a critical-result message, follow its instructions promptly or contact the ordering service using the number on the report.

Seek emergency help for severe symptoms such as chest pain, major breathing difficulty, sudden one-sided weakness, new severe confusion, fainting, or uncontrolled bleeding. Do not wait for a portal message or routine appointment. These symptoms need assessment whether or not a laboratory result is available.

What you can do

Keep the complete report rather than recording only the flagged number. The test name, unit, reference range, date, and laboratory are needed for accurate comparison.

Before testing, ask whether you need to fast, change the timing of a medicine, avoid strenuous exercise, or collect the sample in a particular way. Mention prescription medicines, non-prescription medicines, vitamins, and supplements when asked. Do not make medication changes based only on a laboratory flag.

When reviewing a result, useful questions include:

For routine follow-up, use the contact method listed by the ordering clinic or service. Routine questions include unexplained flags, results that have not been reviewed within the stated timeframe, and uncertainty about the next planned test.

If a home test is positive, negative, or unclear, read the instructions for that specific product. Check that it was stored correctly, used before its expiry date, and read within the stated time window. Some home results need laboratory confirmation. A home result should not be used to start, stop, or change prescription treatment without appropriate clinical advice.

If nothing needs follow-up, there may be nothing else for you to do. Keep the result with your health records, especially if it provides a useful baseline for future comparison.

- Why was this test ordered?
- Is this result important for me, or only slightly outside the range?
- Does it fit with my previous results?
- Could preparation, timing, medicines, or sample quality have affected it?
- Do I need a repeat or confirmatory test?
- When and how will the whole set of results be reviewed?
- What changes should prompt earlier contact?

Common questions

Does "abnormal" mean I have a disease?

No. It means the result is outside the laboratory's listed range or expected finding. Normal variation, medicines, preparation, collection issues, and health conditions can all produce a flag.

Why is the reference range different from an older report?

Laboratories may use different equipment, methods, units, and reference groups. Compare the units and ranges as well as the result itself.

Can a normal result rule out a condition?

Not always. Some conditions do not affect the test early on, and no test detects every case. The reason for testing and the rest of your health information still matter.

Why might a test be repeated?

A repeat test can confirm an unexpected result, check whether a temporary change has resolved, replace an unsuitable sample, or monitor a trend. Repeating a test does not by itself mean a serious problem is suspected.

Who can explain the result?

The clinician or service that ordered the test is usually best placed to explain why it was done and what happens next. A pharmacist can help with questions about medicine effects. The laboratory may answer questions about collection, units, or testing methods but may not interpret the result in your full medical context.

Sources

- MedlinePlus: How to Understand Your Lab Results , U.S. National Library of Medicine
- MedlinePlus: Medical Tests , U.S. National Library of Medicine
- U.S. Food and Drug Administration: Home Use Tests , guidance on using and interpreting home tests
- Centers for Disease Control and Prevention: Clinical Laboratory Improvement Amendments , information on laboratory testing quality
- National Cancer Institute: Tumor Markers in Common Use , information on the limits and clinical use of tumor-marker tests