TEST

Lipase test

A lipase test measures a digestive enzyme in blood to help investigate pancreatic inflammation

WHAT IT MEASURES
Lipase, an enzyme mainly released by the pancreas

SAMPLE
Blood

FASTING NEEDED?
Usually no; follow instructions if other tests are ordered

HOW LONG IT TAKES
About 5 to 10 minutes

RESULTS IN
Often same day; timing varies by laboratory

USED FOR
Diagnosing acute pancreatitis and investigating abdominal pain

MAIN LIMITATION
Non-pancreatic illnesses can also raise lipase

Overview

A lipase test measures the amount of lipase in your blood. Lipase is an enzyme that helps digest fats. Most blood lipase comes from the pancreas, an organ behind the stomach that makes digestive enzymes and hormones.

The test is mainly used when a healthcare professional suspects acute pancreatitis, meaning sudden inflammation of the pancreas. It may also help investigate other pancreatic conditions or unexplained upper abdominal pain.

A lipase result cannot diagnose a condition by itself. It must be considered alongside your symptoms, examination, medical history, and sometimes imaging tests.

Why the test is ordered

A lipase test is commonly ordered to help assess symptoms that could come from the pancreas. These may include severe or persistent upper abdominal pain, pain spreading to the

back, nausea, vomiting, fever, or abdominal tenderness.

The test may also be used when:

Lipase is not generally used to screen people without symptoms. Repeating it regularly is also not usually helpful once acute pancreatitis has been established. Recovery is assessed more reliably through symptoms, examination, and other signs of organ function.

- Imaging suggests inflammation or damage involving the pancreas
- A procedure, injury, or medicine may have affected the pancreas
- A healthcare professional is investigating complications of gallstones
- Symptoms suggest a pancreatic condition but the cause is unclear

Who should have the test

You may need this test if your symptoms or medical history raise concern about inflammation of the pancreas. It is often requested in an emergency department or urgent clinic because sudden pancreatic inflammation can require prompt assessment.

Seek urgent medical care for severe or worsening upper abdominal pain, especially when it is persistent or accompanied by repeated vomiting, fever, or yellowing of the skin or eyes. Call emergency services if abdominal pain occurs with fainting, confusion, severe weakness, or difficulty breathing.

A mildly abnormal result found when you otherwise feel well is usually handled through routine follow-up. Your healthcare professional may review medicines, kidney function, earlier results, and whether another test is needed.

How to prepare

Most lipase blood tests do not require fasting. However, you may be asked not to eat for several hours if other blood tests or an abdominal scan are planned at the same time.

Follow the instructions from the laboratory or clinic. If you have been told to fast, ask whether plain water is allowed. It usually is, but coffee, tea, juice, and other drinks may not be.

Tell the healthcare professional arranging the test about prescription medicines, non-prescription medicines, and supplements. Some medicines can affect the pancreas or the lipase result. Do not stop a prescribed medicine unless the clinician responsible for it tells you to.

No special restriction on routine physical activity is usually needed before a lipase test.

What happens during the test

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

The blood draw normally takes only a few minutes. You can usually leave immediately and return to your usual activities.

Results may be available within hours when the test is performed urgently. Outpatient results can take longer, depending on the laboratory and how they are reported.

Understanding your results

Your report will show your lipase level, the unit used, and the laboratory's reference range. A reference range describes the results expected in most people in a comparison group.

Ranges and interpretation vary by laboratory, age, sex, pregnancy status, medicines, and clinical context. Use the range printed on your own report rather than comparing your number with a range found online.

A lipase level several times above the laboratory's upper limit can support a diagnosis of acute pancreatitis when you also have typical symptoms or imaging findings. Clinical guidelines generally diagnose acute pancreatitis using at least two of three features: typical abdominal pain, a substantial rise in pancreatic enzymes, or characteristic imaging findings.

A smaller rise is less specific. It can occur with kidney problems, gallbladder or bowel disease, some medicines, and other illnesses. It does not show how severe a pancreatic problem is.

A result within range makes acute pancreatitis less likely, but does not rule it out in every situation. Timing, very high blood triglycerides, and substantial existing pancreatic damage can affect the result.

A low lipase level is rarely useful on its own. It can occur when the pancreas has lost considerable enzyme-making ability, but different tests are usually needed to assess long-term pancreatic function.

What affects the results

The timing of the blood draw matters. Lipase usually rises within hours after pancreatic

inflammation begins and can remain raised for several days. Testing very early or well after symptoms began may produce a less clear result.

Kidney function is important because the kidneys help remove lipase from the blood. Reduced kidney function can cause a raised level without acute pancreatitis.

Other influences include:

Pregnancy does not usually cause a major lipase rise by itself, but pregnancy status affects how symptoms and results are assessed. Age, sex, medicines, and other health conditions may also influence laboratory interpretation.

Food, coffee, recent exercise, and a previous blood transfusion are not usually major direct causes of an abnormal lipase result. They may still matter when other tests are being done at the same time.

- Gallbladder, stomach, bowel, liver, or severe systemic illness
- Recent pancreatic or bile-duct procedures, abdominal surgery, or injury
- Medicines associated with pancreatic injury or altered enzyme levels
- Macrolipase, an uncommon form attached to antibodies that stays in the blood
- Very high triglycerides, which can interfere with some laboratory methods
- Differences between laboratory testing methods

Accuracy and limitations

Lipase is generally better than amylase, another digestive enzyme, for detecting acute pancreatitis because it stays raised longer. However, no blood test identifies every case.

The test can miss pancreatic inflammation if blood is collected too early, after the level has returned toward normal, or when very high triglycerides interfere with the assay. People with extensive chronic pancreatic damage may also have little enzyme available to release.

The test can say "pancreatic inflammation is possible" when the pancreas is not the cause. Kidney impairment, bowel disease, gallbladder disease, critical illness, certain cancers, medicines, and macrolipase can all raise the result.

A lipase level cannot show the cause, location, or severity of inflammation. Ultrasound may be more useful for finding gallstones. CT or MRI may be appropriate when the diagnosis is uncertain, symptoms are not improving, or complications are suspected. Tests such as stool elastase are better suited to assessing long-term loss of pancreatic digestive function.

Risks and complications

A blood draw may cause brief discomfort, a small bruise, or light bleeding where the needle entered. Some people feel faint, but serious complications are uncommon.

What happens next

If your result is raised, the next step depends on how high it is, your symptoms, examination findings, and other test results. Further assessment may include liver and kidney blood tests, triglyceride measurement, or abdominal imaging.

If the result is normal but significant symptoms continue, your healthcare professional may repeat the examination or use another test. A normal lipase result should not delay urgent assessment of severe or worsening symptoms.

Once acute pancreatitis has been diagnosed, repeatedly checking lipase usually does not show whether it is improving. Monitoring generally focuses on symptoms, hydration, breathing, circulation, kidney function, and whether complications are developing.

For an unexpected mild elevation without urgent symptoms, routine follow-up may involve repeating the test or looking for non-pancreatic explanations.

Common questions

Can I drink coffee before a lipase test?

Usually, if no fasting is required. If you were told to fast for other tests, avoid coffee unless the laboratory specifically permits it. Plain water is generally acceptable.

Does the time of day matter?

Lipase does not have a major daily pattern requiring a morning test. The time since your symptoms began is more important than the time on the clock.

Can I exercise beforehand?

Ordinary activity does not usually affect lipase enough to require restrictions. Tell the healthcare professional about any recent abdominal injury or unusually strenuous activity if it is relevant to your symptoms.

Do I need to stop my medicines?

Do not stop prescribed medicines on your own. Give the clinic a complete medicine and

supplement list so it can identify anything that may affect the pancreas or interpretation.

Does a high lipase result always mean pancreatitis?

No. A substantial rise with typical symptoms strongly supports pancreatitis, but kidney disease, digestive conditions, medicines, and other illnesses can also raise lipase.

Will I need another lipase test?

Possibly, if the first result and your symptoms do not fit together. Routine repeated testing is usually not useful after acute pancreatitis has already been diagnosed.

Sources

- MedlinePlus Medical Test: Lipase Tests , US National Library of Medicine
- Diagnosis of Pancreatitis , National Institute of Diabetes and Digestive and Kidney Diseases
- American College of Gastroenterology Guidelines: Management of Acute Pancreatitis , The American Journal of Gastroenterology , 2024
- ACR Appropriateness Criteria: Acute Pancreatitis , American College of Radiology
- Significant elevations of serum lipase not caused by pancreatitis: a systematic review , HPB , 2015
- Blood tests for acute pancreatitis , Australian Prescriber , 2015