TEST

Fibrinogen blood test

A fibrinogen blood test measures a protein that helps your blood form stable clots.

WHAT IT MEASURES
Fibrinogen activity, a protein needed for stable blood clots

SAMPLE
Blood from a vein

FASTING NEEDED?
No, unless another ordered test requires it

HOW LONG IT TAKES
Usually under 10 minutes

RESULTS IN
Same day to several days, varying by laboratory

USED FOR
Diagnosing and monitoring bleeding or clotting problems

MAIN LIMITATION
Inflammation can raise fibrinogen and hide a low baseline

Overview

Fibrinogen is a protein made mainly by your liver. When you bleed, your body changes it into fibrin strands, which form a mesh that strengthens the blood clot.

A fibrinogen blood test usually measures how well fibrinogen works. This is called a functional fibrinogen or fibrinogen activity test. The common Clauss assay measures how quickly fibrin forms after thrombin, a clot-forming protein, is added to plasma.

Less often, a fibrinogen antigen test measures the amount of fibrinogen protein. Comparing activity with antigen can help identify protein that is present but does not work normally.

Results are interpreted with your symptoms, medical history and other tests, such as platelet count, prothrombin time and activated partial thromboplastin time.

Why the test is ordered

A fibrinogen test may be ordered for:

DIC is a serious condition in which widespread clotting uses up platelets and clotting proteins. A fibrinogen result cannot confirm or exclude DIC by itself.

Fibrinogen may also be measured during major bleeding, trauma or complicated surgery. It is not generally used alone to screen healthy people for blood clots or heart disease.

- Unexplained or heavy bleeding
- Frequent or unusually large bruises
- Bleeding after surgery, childbirth or injury
- Abnormal clotting-test results
- Suspected disseminated intravascular coagulation, or DIC
- Possible severe liver disease
- A personal or family history of an inherited fibrinogen disorder
- Monitoring after fibrinogen replacement treatment

Who should have the test

You may need this test if your symptoms, history or other results suggest that your blood is not clotting normally. It may also be used if you have a known fibrinogen disorder or receive fibrinogen replacement.

Testing is not routinely needed for minor bruising or a small cut that stops bleeding normally. The decision depends on the pattern and severity of bleeding, medicines, liver health, pregnancy and family history.

Babies and children can be tested when clinically needed. Results should be interpreted for their age and clinical situation.

How to prepare

Fasting is not usually required, so you can normally eat and drink as usual. Other tests collected at the same appointment may have different instructions.

Tell the healthcare professional about prescription medicines, over-the-counter products and supplements, especially blood thinners like warfarin or apixaban , clot-dissolving medicines, hormone treatments and recent fibrinogen replacement.

Do not stop prescribed medicine unless the responsible clinician tells you to. Mention any

recent transfusion, operation, major injury, pregnancy, infection or inflammatory illness because these can affect the result.

What happens during the test

A healthcare professional cleans your skin, usually inside the elbow, and inserts a needle into a vein. Blood is collected into a tube containing citrate, which prevents clotting before analysis.

You may feel a brief scratch or sting. The needle is removed and pressure applied. Collection usually takes only a few minutes.

The laboratory separates plasma from blood cells, then tests how quickly fibrin forms or measures the amount of fibrinogen protein.

Understanding your results

Results may be reported in grams per litre or milligrams per decilitre. Use the reference interval on your report because ranges vary by laboratory, method and clinical context.

Low fibrinogen activity can occur when fibrinogen is consumed faster than it is made, liver production is reduced, or an inherited condition affects its amount or function. Major bleeding, DIC and some treatments can also lower it. Very low or unmeasurable results require confirmation and specialist assessment.

High fibrinogen commonly reflects inflammation because fibrinogen is an acute-phase protein. Infection, injury, surgery, pregnancy, oestrogen exposure and smoking may increase it.

A high result does not prove that you have a blood clot, and a low result does not identify the cause of bleeding. Interpretation depends on symptoms, other clotting tests and changes over time.

What affects the results

Inflammation or infection can raise fibrinogen, potentially hiding a mild inherited deficiency or partly offsetting a fall caused by consumption during illness.

Pregnancy normally increases fibrinogen. Age, smoking, body weight, oestrogen-containing medicines, recent surgery, trauma and some cancers may also affect it. Liver disease can reduce production, although levels may remain normal until dysfunction is advanced.

Transfusions, cryoprecipitate, fibrinogen concentrate and plasma may increase fibrinogen.

Large amounts of intravenous fluid may dilute it.

Some anticoagulants interfere with functional testing. Direct thrombin inhibitors, including dabigatran, may cause falsely low activity with certain methods. High heparin concentrations and fibrin breakdown products can also interfere.

Collection problems can make results unreliable. Examples include an underfilled citrate tube, a clotted sample or blood drawn from a line contaminated with heparin.

Accuracy and limitations

Functional testing is useful for identifying a shortage of working fibrinogen, but its performance varies with the method, fibrinogen level, medicines and condition being investigated.

The test may show that fibrinogen is low without explaining why. An acquired problem during major illness can resemble an inherited deficiency, while inflammation may hide a low baseline.

Unexpected results may require a repeat, properly collected sample or a method less affected by medicines. Comparing activity and antigen can help identify dysfunctional fibrinogen. Thrombin time, reptilase time, family testing or genetic testing may provide more information.

Fibrinogen testing alone cannot diagnose DIC, liver disease, an inherited bleeding disorder or a blood clot.

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

If your result is within the laboratory range and other findings are reassuring, no specific follow-up may be needed. During illness or treatment, testing may be repeated to track changes.

An unexpected low, high or unclear result may lead to repeat testing, a medicine review and additional clotting tests. Activity and antigen tests may be compared if an inherited or functional disorder is suspected.

Arrange routine follow-up for ongoing easy bruising, heavy menstrual bleeding, repeated

nosebleeds or prolonged bleeding from minor injuries.

Seek urgent medical help for bleeding that will not stop, vomiting blood, black or bloody stools, sudden severe headache, new weakness or difficulty speaking. Chest pain, sudden shortness of breath or a painful swollen leg also need urgent assessment. These symptoms have many possible causes and should not be interpreted from a fibrinogen result alone.

Common questions

Can I drink coffee before a fibrinogen blood test?

Usually, yes. Fasting is not normally required, but coffee, milk or sugar may not be allowed if you are also having fasting tests. Follow the instructions for all ordered tests.

Does the time of day matter?

There is usually no required time. When comparing results, testing under similar conditions may make small changes easier to interpret.

Can I exercise beforehand?

Normal activity is generally acceptable. Mention recent intense exercise if your result is unexpected because it can temporarily affect inflammation and some clotting measurements.

Can medicines change the result?

Yes. Blood thinners, clot-dissolving medicines, oestrogen treatments and fibrinogen replacement may affect the value or assay. Do not stop prescribed treatment yourself.

Does pregnancy affect fibrinogen?

Yes. Fibrinogen normally rises during pregnancy, particularly later in pregnancy. Interpretation should account for pregnancy status and the reason for testing.

Why might the test be repeated?

Fibrinogen can change quickly during bleeding, major illness or treatment. Repeating the test can also check an unexpected result or possible collection or testing interference.

Sources

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