



Information about pathology tests to help Australians take control of their health and make the right decisions about their care.

## WHAT YOU SHOULD KNOW ABOUT YOUR LIVER FUNCTION TESTS (LFTs)

This is a group of tests performed on the same blood sample. They give information about how your liver is working.

Your doctor may order Liver Function Tests

- As part of a routine health check
- To help make a diagnosis if you have symptoms that could mean you have liver damage
- To monitor your health if you are taking medication or have an ongoing condition.



### What happens in the lab?

Liver Function Tests look for damage or disease by measuring the levels of several different substances in the blood.

These are either produced by liver cells as part of their normal function or released into the blood when liver cells are damaged.

Each substance gives different information. Looked at together, along with your symptoms and medical history, they help build a picture of your liver's health.

The liver is one of the most important organs in the body. It controls most chemical levels in the blood, makes bile to help digest fats and carry away waste, filters harmful chemicals from the blood, helps blood to clot, makes cholesterol, stores glucose, and much more.

Many diseases and infections, drugs or toxins can cause liver problems. The liver can become inflamed, scarred, or the flow of bile can become blocked. It can be quite damaged before symptoms appear.



### What can your results tell you?

Your results report will include some or all of these

- **ALT** (Alanine aminotransferase) is the best test for detecting hepatitis. People with acute (sudden, severe) hepatitis often have very high levels of ALT, while those with chronic (prolonged, low level) hepatitis have moderately raised levels.
- **ALP** (Alkaline phosphatase) is found in the liver and bones. If ALP levels are increased and levels of some of the other LFT substances are high it can be assumed that higher ALP is coming from the liver.
- **AST** (Aspartate aminotransferase) is found in the liver and a few other places, particularly the heart and other muscles in the body. When liver, heart or muscles are damaged they release AST into the blood.
- **Bilirubin** is an orange pigment formed when red blood cells break down as a natural part of the body's ongoing renewal. It is processed by the liver to be got rid of. Raised levels show the liver isn't functioning too well.
- **Albumin** is the main protein made by the liver and low levels may mean the liver is damaged or that albumin is being lost through damaged kidneys.
- **GGT** (Gamma-glutamyl transferase) is found mainly in the liver and can be used to confirm results if you have high ALP levels. We use ALP and GGT to work out whether a problem is with the liver /bile ducts or if it is due to bone disease. Both ALP and GGT are higher when there is liver or bile duct disease but only ALP is increased in bone disease. GGT is often higher in heavy drinkers.
- **Total protein** measures albumin and all other proteins in blood, including antibodies made to help fight off infections.

## What if you have abnormal results?



A great many conditions can affect the liver and interpreting the many variations in test results is complex.

Also, some of the substances being tested can be raised due to problems in other parts of the body. Sometimes levels can be higher than normal when there is no problem. Levels can be higher temporarily because of short-term liver damage from things like burns, infections, and muscle damage or if you are taking medications, drugs, dietary supplements or herbs.

It's important to talk with your doctor about what the results mean for your personal situation.

## What happens next?



Sometimes, some tests need to be repeated to see if the results change over time. This can indicate whether your condition is getting better or worse and whether any treatment you are having is working.

You may need further, different tests to see what's causing your symptoms. This could be a blood test for an infection, an autoimmune test, or a biopsy or scans to look for liver damage.

## Having a medical test



The choice of tests your doctor makes will be based on your medical history and symptoms. Make sure you tell them everything you think might help.

You play a central role in making sure your test results are accurate. Do everything you can to make sure the information you provide is correct and follow instructions closely.

Talk to your doctor about any medication you are taking. Find out if you need to fast or stop any particular foods or supplements. These may affect your results.

## What are reference intervals (reference ranges)?



Some of your results are shown in your report as a comparison against a set of numbers called reference intervals or reference ranges. This is the range of test results considered 'normal' for the general population.

If a result in your report is outside this range it can be flagged as high (H) or low (L). This does not necessarily mean that anything is wrong. It depends on your personal situation. Your results need to be interpreted by your doctor.

## 5 questions to ask your doctor

Why does this test need to be done?

Do I need to prepare (such as fast or avoid medications) for the sample collection?

Will an abnormal result mean I need further tests?

How could it change the course of my care?

What will happen next, after the test?

For more detailed information on these and many other tests go to [labtestsonline.org.au](http://labtestsonline.org.au)  
You'll also find a short video on Liver Function Tests as well as an animation on reference intervals.

Reviewed by Dr Bruce Campbell MBBS FRCPA; 3 March 2020

Please use this QR code to access more information



[www.labtestsonline.org.au](http://www.labtestsonline.org.au)

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- Funded by the **Australian Government**, we are not-for-profit and independent of any commercial interests.
- We are managed by the Australasian Association for **Clinical Biochemistry and Laboratory Medicine (AACB)**, the principal professional association dedicated to the advancement of clinical biochemistry and laboratory medicine in Australasia.
- We are supported by the **Royal College of Pathologists of Australasia**.
- As the consumer pathology testing support resource for **My Health Record**, there is a direct link to the LTO<sup>AU</sup> website embedded in the pathology results pages of every registered person's online record.

