

Abnormal Liver Function Tests (LFTs): Causes & Investigation

Liver Function Tests (LFTs) are a group of blood tests used to measure specific enzymes and proteins in your blood. These are released, when liver cells are damaged or when the flow of bile through the liver is blocked. The pattern of abnormalities in the liver tests can provide a clue towards the cause of the problem.

It is very common to have some liver blood test results that are not normal. This, however, does not always mean that you have a long term or serious problem with your liver.

What do different levels in the 'LFT' panel mean?

Liver function test is typically comprised of several different tests.

- **ALT** (Alanine aminotransferase) and **AST** (Aspartate aminotransferase): These are enzymes found inside liver cells. If liver cells are inflamed or damaged, these enzymes can "leak" into the bloodstream. AST is also found in heart, muscles and other tissues in the body. Elevation of these enzymes can be a sign of inflammation or damage to the liver cells.
- **ALP** (Alkaline Phosphatase): ALP is mostly found in your liver and bones. A raised ALP blood test can suggest a problem with the liver or bile ducts. However, ALP can also be elevated for other reasons that aren't related to the liver.
- **GGT** (gamma-glutamyl transferase): GGT is an enzyme found mainly in the liver. If the liver or bile ducts are irritated or damaged, GGT can leak into the bloodstream, causing the blood level to rise.
- **Bilirubin**: Bilirubin is a yellow pigment produced during the natural breakdown of old or damaged red blood cells. Under normal conditions, the liver efficiently filters bilirubin from the blood and excretes it into the bile. However, if the liver is inflamed, the bile ducts are obstructed, or the liver's processing capacity is impaired, bilirubin levels can rise in the bloodstream.

An elevated level of bilirubin can lead to jaundice—a condition characterised by a visible yellowing of the skin and the whites of the eyes.

- **Albumin**: Albumin is an important protein made by the liver. It helps keep fluid in your bloodstream and has several other roles in the body. Albumin can be low if the liver is not making enough, but it can also drop during illness - levels often fall when the body is fighting inflammation or infection.
- **INR** (International Normalised Ratio): This test measures how long it takes for your blood to clot. Because the liver produces the proteins (clotting factors) necessary for blood coagulation, an elevated INR can be a sensitive indicator of how well the liver is actually functioning. INR can also rise (without underlying liver problem) if patients are on blood-thinning medications, like warfarin.

What are common causes of altered LFTs?

Assessment of Liver tests can be complex. Several factors are taken in to account, including pattern of elevation, how high the levels are, and how they compare to your previous liver function tests.

Many factors can cause temporary or persistent changes in liver markers. Some of the causes are:

- Metabolic-Associated Fatty Liver Disease (MAFLD)
- Medications & Supplements
- Alcohol Consumption
- Gallstones
- Viral Hepatitis
- Autoimmune Conditions

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