

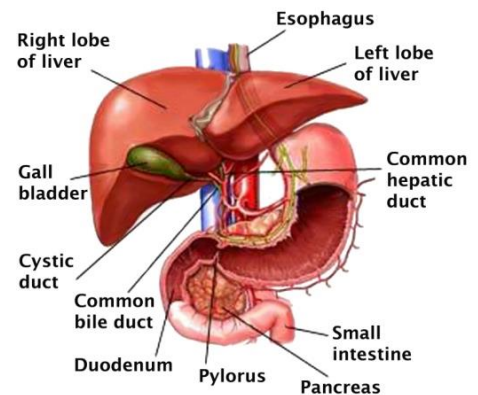
LIVER FUNCTION TEST (LFT)

What is the liver?

A large lobed glandular organ in the right side of the upper abdomen that is involved in many metabolic processes.

What does the liver do?

- Store glycogen (fuel for the body) which is made from sugar.
- Help to process fats and proteins from digested food.
- Make proteins for blood to clot.
- Process medicines which we take.
- Help remove toxins from the body.



Liver Function Test (LFT)

It is a group of blood tests that is used to help diagnose and monitor liver disease or damage. It is also used to assess how well the liver works. LFT measures the level of certain enzymes and proteins in your blood and therefore, assess the health of your liver.

Sample type:

- Blood.

- Fasting is not required.

LFT includes the following tests:

- **Aspartate Amino transferase (AST):** is an enzyme that is not only found in the liver, but also in muscles and many other tissues. An increase in AST levels may indicate liver damage or disease; it can also be released if the heart and skeletal muscle is damaged.
- **Alanine transaminase (ALT):** is an enzyme found exclusively in the liver and helps your body metabolize protein. When the liver is injured or inflamed (as found in hepatitis), the blood level of ALT rises.
- **Alkaline Phosphatase (ALP):** is an enzyme in the liver, bile ducts and bone. High levels of ALP may indicate liver damage or disease. A blocked bile duct may indicate certain bone disease.
- **Albumin (ALB):** is the main protein made by the liver. Low albumin level occurs in some liver disorders. This can also occur in kidney disease and poor nutrition.
- **Total Protein (TP):** Measures albumin and all other protein in the blood. Elevated TP may indicate mild dehydration, chronic inflammation, or infection to the liver. This can also occur in some types of blood disorders and cancers.
- **Bilirubin:** is a protein produced during the normal breakdown of red blood cells. Elevated levels of bilirubin (jaundice) may indicate liver damage or disorder, or excessive breakdown of red cells in some blood disorders.

Types of Bilirubin:

Conjugated Bilirubin/Direct Bilirubin: a raise blood level of conjugated bilirubin occurs in the following conditions:

- Gallstone

- Hepatitis
- Liver injury
- Long term alcohol abuse
- Tumor in the pancreas

Unconjugated Bilirubin/Total Bilirubin: occurs when there is excessive breakdown of red blood cell which can be seen in hemolytic anemia.

- **Gamma-glutamyltransferase (GGT):** high level of this enzyme is associated with heavy alcohol drinking and diseases of the liver, biliary system, pancreas, or due to injuries from certain medications.

DDI Liver Function test Reference range:		
AST	15-37 U/L	
ALT	Female: 14-59 U/L	Male: 16-63 U/L
ALP	Adult: 46-116 U/L	
Albumin	34-50 g/L	
T. Protein	Adult: 64-82 g/L	Pediatric: 60-80 g/L
T. Bil	3.0-17 umol/L	
D. Bil	0-3 umol/L	
GGT	Female: 5-55 U/L	Male: 15-85 U/L

(Normal range of liver tests can vary between different laboratories.)

Other test to confirm the diagnosis of Liver Disorders:

- Blood Clotting Tests: (PT/APTT).
- Lactate dehydrogenase (LDH).
- Virus infection Test.

- Auto antibodies Screening Test.

Why is the LFT Test is done?

- Examine the development of a disease, such as viral or alcoholic hepatitis and find out how well a treatment works.
- Monitor possible side effects of medication (like Statin or antibiotics).
- Screening for any Liver infections.
- Routine checkup once a year for normal cases.
- Assess the activity and severity of a liver disorder such as fatty liver disease.

Risk Factors for Liver Disease

A. High Risk Behavior

- Alcohol abuse
- IV drug use
- High risk sexual activity

B. Systemic illness

- Diabetes
- Obesity
- Inflammatory bowel disease
- Autoimmune disease

References:

- *WebMD*
- *Medline Plus*
- *Lab test online*