

## Lab Tests

Today with Blood and Urine testing almost universal, it is very important that the life underwriter be aware of the significance of abnormal results in many of the most common tests.

### Normal Ranges

**GLUCOSE****65-115**

Elevated Glucose levels indicate diabetes. Usually, the case will be declined if levels are too high until the diabetic can show a history of keeping the condition under control

**ALBUMIN****3.8- 5.1**

May indicate diabetes, pyuria, hematuria. Ominous in combination with elevated blood pressure

**PROTEIN****6.0- 8.0**

Significant Proteinuria rarely occurs without kidney disease

**CHOLESTEROL****163-200**

Elevated Cholesterol is associated with increased risk for coronary and cardiovascular disease

**HDL RATIO****2.69- 6.11**

A high HDL ratio is considered worse than high overall cholesterol

**TRIGLYCERIDES****50-200**

Triglycerides, another blood fat, is considered to be as significant as Cholesterol as a predictor of future heart disease

Elevated cholesterol, a high HDL ratio, elevated triglycerides are all negatively impacted by smoking, obesity, elevated blood pressure, diabetes, cardiovascular disease, family history of cardiovascular disease

**LIVER ENZYMES****ALT (SGPT)****10-53****AST (SGOT)****12-35**

These are liver enzymes that are indicators of liver cell damage. These enzymes are located in liver cells and leak out and make their way into circulation when liver cells are injured. In the case of acute liver damage such as viral hepatitis, the ALT and AST may be highly elevated. In chronic hepatitis or cirrhosis, the elevation of these enzymes may be minimal.

**GGTP** **10- 95**

The GGTP is elevated in a large number of disorders that affect the drainage of bile, such as gallstones or tumor blocking the common bile duct, or alcoholic liver disease, or drug induced hepatitis, blocking the flow of bile in the smaller bile channels in the liver

**BUN/CREAT RATIO** **2- 30**

This test indicates if the kidneys are functioning normally

**URIC ACID** **3.9- 8.8**

Elevated levels are commonly associated with Gout. Underlying causes may frequently be obesity, alcohol consumption, high blood pressure, kidney disease, diabetes and atherosclerosis

**PSA**

Prostate Cancer usually not present	<b>Less than 4.0</b>
Prostate Cancer may be present	<b>10.0</b>
Prostate Cancer is highly likely	<b>More than 10.0</b>

**NICOTINE**

Serum Cotinine is an extremely accurate measure of Nicotine levels

Lifetimme tobacco abstainers	<b>11.5</b>
Smokers Amnesia	<b>196</b>
Active Smokers	<b>350</b>

**COCAINE**

Any measurable level will alarm the underwriter into decline

**DWI**

While strictly speaking, a DWI conviction is not a lab test, it is increasingly becoming apparent that it is an indicated of an undesirable applicant. Multiple DWI convictions will almost certainly be declined

This list covers many of the tests that your clients are likely to encounter with some degree of frequency. It is by no means a complete list. It is our hope that it will assist you in better understanding what measures the underwriter will use to assess your client.

# LIVER FUNCTION TESTS

The term “liver function tests, abbreviated LFTs, applies to a variety of blood tests that assess the general state of the liver and biliary system.

There are two general categories of “liver enzymes”. The first group includes the ALT and the AST, also frequently referred to as SGPT and SGOT. These are enzymes that are indicators of liver cell damage. The second group of frequently used liver enzymes are the GGT and GGTP that indicate obstruction to the biliary system, either within the liver or in the larger bile channels outside the liver.

The ALT and AST are enzymes that are located in liver cells and leak out and make their way into circulation when liver cells are injured. In the case of acute liver disease such as acute viral hepatitis, the ALT and AST may be highly elevated. In chronic hepatitis or cirrhosis, the elevation of these enzymes may be minimal. Moderate elevations of ALT or AST are nonspecific and may be caused by a wide range of liver diseases.

The GGT and GGTP are elevated in a large number of disorders that affect the drainage of bile, such as gallstones or tumor blocking the common bile duct, or alcoholic liver disease, or drug induced hepatitis, blocking the flow of bile in smaller bile channels within the liver.

Bilirubin is the main bile pigment in humans which, when elevated, causes the yellow discoloration of the skin and eyes called jaundice. Normal individuals have only a small amount of bilirubin circulating in the blood. Destruction of red blood cells, or a decrease in its removal from the blood stream caused by liver disease may result in an increase in the level of serum bilirubin.

Serum bilirubin is generally considered a true test of liver function (LFT) since it reflects the liver’s ability to take up, process, and secrete bilirubin into the bile.

Another common indicator of liver function is serum albumin. Albumin is a major protein which is formed by the liver, and chronic liver disease causes a decrease in the amount of albumin produced. In liver disease, particularly more advanced liver disease, the level of serum albumin is reduced.

Elevations in serum iron, the percentage of iron saturated in the blood, or the storage protein ferritin may indicate the presence of hemochromatosis, a liver disease associated with excess iron storage.

Blood tests are used to diagnose or monitor liver disease. They may be simply markers of disease (ALT, AST, alkaline phosphatase, and GGT), or more true indicators of overall liver function, or specific tests that allow the diagnosis of an underlying cause of liver disease.

**Perhaps a few facts are in order:**

26,000 Americans die each year from chronic liver diseases and cirrhosis

Total deaths each year from liver and gall bladder diseases exceed 50,000. This is the seventh leading disease related cause of death

75 to 80% of cirrhosis could be prevented by eliminating alcohol abuse

An estimated 35,000 are infected with hepatitis C each year and there are an estimated 3.9 million people chronically infected with hepatitis C

Deaths from hepatitis C are on the increase. The Center for Disease Control estimates 38,000 deaths each year by the year 2010

Hepatitis B is responsible for 5,000 deaths annually, including over 3,000 from cirrhosis.

**Underwriting Comments:**

**“Elevated Liver Enzymes”** are one of the most common reasons that we see for Insurance Declinations.

Unfortunately, when confronted with this condition, the underwriter knows that there is probably a serious problem present. He or she does not know how serious it is, nor does he or she know the exact nature of the liver problem. He or she does, however, know that he cannot afford to accept this risk.

What should you do in this situation?

1. Impress upon the client that he may be seriously ill.
2. Strongly recommend that he write to the company and have them send their findings to his or her doctor.
3. Urge him or her to consult a qualified specialist. Most primary care physicians are simply not good enough.

Appreciate that although this client may be uninsurable, you may have just saved his or her life. It is also possible that following a course of proper treatment he or she may once again become an acceptable risk on some basis.