

# Liver Disease Testing

- Liver disease is a very general term used to describe several conditions that can damage liver cells.
- Diagnosis of liver disease may require a combination of several tests.
- If liver disease progresses, it can eventually lead to decreased liver function, liver failure, and death.

### What Is Liver Disease?

“Liver disease” is a very general term used to describe several conditions that can damage liver cells. If the problem progresses, it can eventually lead to decreased liver function, liver failure, and death. Here are just a few medical conditions that can be associated with liver disease:

- **Hepatitis:** infection or inflammation of the liver; viruses, bacteria, parasites, or fungal organisms can be involved
- **Liver toxicity:** damage to liver cells associated with a drug or poison
- **Liver shunt:** a change in the flow of blood through the liver
- **Cancer:** cancer can spread to the liver from other places in the body; some cancers can also start in the liver
- **Gallbladder disease:** problems with production and release of bile can affect the liver

The liver is involved in hundreds of processes in the body, so liver disease can disrupt or change many normal body functions, including the following:

- Elimination of waste products from the body
- Metabolism of fats, proteins, and carbohydrates
- Release of red blood cells
- Production of proteins involved in blood clotting (known as “clotting factors”)
- Metabolism and elimination of many types of drugs
- Metabolism of vitamins and minerals

### What Are the Clinical Signs of Liver Disease?

Because the liver performs so many functions, the clinical signs tend to be variable and nonspecific:

- Vomiting
- Appetite loss
- Diarrhea
- Weight loss
- Lethargy (tiredness)

Some other signs of liver disease can be more alarming, including fluid accumulation in the abdomen, spontaneous bleeding or bruising, yellow skin or gums (a condition known as “jaundice”), and seizures.

### How Is Liver Disease Diagnosed?

As with many other medical conditions, diagnosis of liver disease frequently begins with your veterinarian obtaining a medical history from you. Information about any medications or supplements your pet

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has received, anything your pet may have eaten or chewed, previous illnesses, or any current signs of illness can help your veterinarian determine if your pet may have a liver problem.

Diagnosis of liver disease may require a combination of several tests. The following tests are commonly performed, but your veterinarian may not recommend all of them.

- **CBC and chemistry profile:** These tests are often performed together as part of a wellness screen or as initial blood tests when a pet is ill. They provide an overview of the health of many

## Tests and Procedures

organ systems, including the liver. The CBC (complete blood cell count) shows the number of red blood cells (needed to carry oxygen to all the body's tissues), white blood cells (needed to help fight off infection), and platelets. Some of these values may be abnormal in a pet with liver disease. The chemistry profile includes several "liver enzymes" or proteins that are associated with the liver. The levels of these proteins can change if there is a problem with the liver.

- **X-rays:** X-rays of your pet's abdomen may show an abnormal liver size (liver enlargement, for example). They can also show free fluid in the abdomen, which can occur sometimes with liver disease.
- **Ultrasound:** Evaluation of the abdomen by ultrasonography is a very useful test for examining the liver. The ultrasound machine is connected to a small probe that is held against your pet's abdomen. The probe sends out painless sound waves that bounce off of structures in the abdomen (such as the liver) and return to a sensor inside the ultrasound machine. This creates an image on a screen that can give your veterinarian a great deal of information about your pet's internal organs. The ultrasound can also "look inside" organs to detect masses, abscesses, cysts, or other problems.

- **Bile acids testing:** Bile acids testing is a special diagnostic test intended to measure liver function. Bile acids are chemicals made by the liver. They are released during and after meals and help with digestion of fat. Afterward, they are reabsorbed into the liver and later eliminated from the body. Under normal circumstances, very small amounts of bile acids are present in the blood. However, in a pet with significant liver disease, liver function begins to decrease, leading to higher levels of bile acids. This test generally requires a few hours in the hospital, but it can help your veterinarian determine if your pet's liver is functioning adequately.

### Treatment for Liver Disease

Treatment for liver disease depends on the cause. For example, if a pet has a liver shunt, surgery may be recommended as the best treatment. For a pet with cancer, surgery or chemotherapy may be discussed as treatment options.

Pets that are severely ill from liver disease may need hospitalization and intensive care to recover. In other cases, antibiotics and other medications given on an outpatient basis are effective. There are even special diets and herbal supplements that can help some pets with liver disease. Your veterinarian will evaluate your pet and discuss the best method of treatment with you.