

# Hepatitis in Dogs, Chronic

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## BASIC INFORMATION

### Description

Hepatitis is inflammation of the liver, a very large organ found in the front part of the abdomen. Hepatitis comes in two forms, acute and chronic. Inflammation leads to a loss of function and, over time, loss of liver tissue from necrosis (death of liver cells) and fibrosis/cirrhosis (scarring and shrinkage). Several potential causes of chronic hepatitis exist in the dog, but often no specific cause is found. Some dog breeds, particularly the Doberman pinscher, Labrador retriever, American and English cocker spaniels, and German shepherd dog, are at higher risk, but this disease can be diagnosed in any breed. It is most common in middle-aged to older dogs.

### Causes

Canine adenovirus infection, some bacterial diseases (such as leptospirosis), and long-term treatment with certain drugs (such as anticonvulsants or antifungal medications) can lead to chronic hepatitis. Some forms of chronic hepatitis are immune mediated; that is, the dog's immune system attacks liver tissue for reasons that are unclear. In most cases, the disease has been present for so long and so much damage has been done to the liver that it is no longer possible to identify a cause.

### Clinical Signs

Lethargy, loss of appetite, and vomiting are common. With marked reduction in liver function, jaundice (yellowing of the skin, gums, and whites of the eyes), ascites (fluid in the abdomen), and behavioral changes can occur. Many of the clinical signs are vague, and the disease may not be suspected until routine blood tests are done.

### Diagnostic Tests

Initial diagnostic tests include laboratory tests specific for the liver (abbreviated as ALT, AST, and GGT) and the bile duct system (abbreviated as ALP). Blood albumin (a protein), cholesterol, and glucose are often abnormal; blood urea may also be low. X-rays and an abdominal ultrasound often show a small liver. Bile acid tests may be recommended to assess liver function. Further testing may be needed to look for an underlying cause or to rule out other diseases that cause similar clinical signs.

Ultrasound examination is particularly useful, because it allows biopsy samples of the liver to be obtained. In some cases, surgery may be needed to biopsy the liver. Before liver biopsy is done, blood clotting tests are usually performed. Although other tests can suggest the presence of chronic hepatitis, the only definitive

test is a biopsy. Results of biopsies can also be extremely valuable in guiding the type of therapy used.

## TREATMENT AND FOLLOW-UP

### Treatment Options

If a cause of the hepatitis is identified, treatment is directed toward the cause. If no specific cause is identified, the goals of therapy are to reduce inflammation, decrease fibrosis in the remaining liver, and reduce clinical signs such as nausea, vomiting, decreased appetite, behavioral changes, and ascites.

If significant active inflammation is present in the biopsy sample, it is common for anti-inflammatory steroid drugs to be used. In some dogs, the use of steroids is associated with side effects such as increased water consumption, increased appetite, panting, and anxiety. If these side effects are severe, additional anti-inflammatory drugs, such as azathioprine, may be used so that the steroids can be decreased.

A large number of nutraceutical and vitamin supplements are available for dogs with liver disease, any of which may potentially be beneficial in certain cases. Antinausea and antacid medications are commonly prescribed. Dogs with very severe hepatitis may be started on a special low-protein diet; however, in most cases it is more important that the dog eats sufficient calories and protein to maintain weight and to help potentially regenerate liver tissue.

### Follow-up Care

Periodic laboratory tests are needed initially to assess response to treatment and to watch for side effects of the medications. Retesting is usually needed long term, both at set intervals and any time an apparent change in the dog's condition is noted. Notify your veterinarian if any signs worsen or recur.

### Prognosis

Canine chronic hepatitis is typically irreversible and worsens over time. Some dogs with this condition eventually die or are euthanized because of loss of liver function, complications arising during treatment, or severe behavioral changes (potentially seizures or coma) associated with liver failure. Some dogs live out their lives and die of other unrelated conditions, particularly if the rate of deterioration of chronic hepatitis can be slowed with drug therapy. The development of ascites (fluid in the abdomen) is a poor prognostic sign; most dogs with chronic hepatitis and ascites die within 1 year of diagnosis.