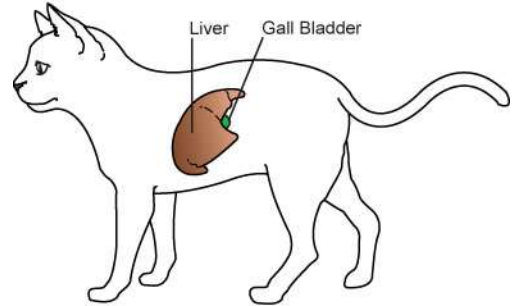


# CHOLANGIOHEPATITIS

## ***What is cholangiohepatitis?***

The word cholangiohepatitis breaks down into “chol” (bile), “angio” (vessel), “hepat” (liver) and “itis” (inflammation). Putting this all together means inflammation of the liver and bile ducts. Cholangitis is a term referring to inflammation of the bile duct. Cholangiohepatitis means inflammation of the bile ducts, gall bladder and surrounding liver tissue. The gall bladder stores and secretes bile which is a green to golden substance involved in digestion of fats. If bile production is reduced or if bile cannot enter the digestive tract through the bile ducts due to obstruction or swelling, illness occurs. Cholangitis and Cholangiohepatitis (CCHS) usually occur together in cats. CCHS is further classified as suppurative or nonsuppurative, granulomatous or lymphoproliferative, based on microscopic evaluation of the affected tissues.



## ***What causes CCHS?***

There are numerous causes and contributory factors involved with CCHS. CCHS often has a preceding or coexisting condition such as inflammation of the bile ducts, gallstones, pancreatitis, inflammatory bowel disease (IBD), or chronic interstitial nephritis (CIN – a form of kidney disease). Many cases of CCHS are suppurative, caused by a bacterial infection of the gall bladder that is sometimes accompanied by obstruction of the bile duct from mineralized deposits or swelling. The gallbladder is connected to the upper part of the small intestine (duodenum) by the bile duct. This duct is designed to have one-way flow of bile. However, occasionally normal duodenal bacteria leave the duodenum and ascend the bile duct to the gall bladder and liver. This creates the infection we call suppurative cholangiohepatitis.

Nonsuppurative CCHS may be caused by immune-mediated disease (a condition where the body attacks itself; in this case, the tissues of the gall bladder or bile ducts are attacked), by the formation of tissues that partially or completely block the bile ducts or by tumors. Your veterinarian will discuss the specifics of your pet's problem based on the results of diagnostic testing.

## ***What are the symptoms of cholangiohepatitis?***

The clinical signs associated with CCHS are based on the type of CCHS present. In suppurative CCHS the clinical signs are more severe and sudden. Suppurative CCHS cases often have painful abdomens, a high fever, anorexia (lack of appetite), collapse and vomiting. Pets may be jaundiced (yellowish discoloration of the skin, eyes, gums and mucous membranes).

Nonsuppurative CCHS cases have more ambiguous, chronic symptoms. These pets often experience periods of vague clinical illness such as lethargy, vomiting, anorexia, increased water drinking, fluid accumulation in the belly, strange neurologic symptoms and weight loss. Most cases of nonsuppurative CCHS will have a normal physical examination. If the bile ducts become small as a result of CCHS, the pet may have an increased appetite since it is unable to properly digest foods.

## ***How is CCHS diagnosed?***

It is important to rule out other diseases that may be contributing to the clinical signs or causing CCHS. A thorough medical history and physical examination are the first step in diagnosing CCHS. If

CCHS is suspected, blood and urine tests are performed. Thyroid hormone levels (thyroxin) are normally measured to rule out hyperthyroidism as a cause of elevated liver enzymes in the cat. Pancreatic function tests (trypsin-like immunoreactivity or TLI test, and pancreatic lipase immunoreactivity or PLI test), cobalamin (vitamin B12) and folate (vitamin B9) levels are often evaluated to search for underlying intestinal and pancreatic problems that may be causing CCHS. Bile acid tests might be run to assess overall liver function.



Abdominal radiographs are often performed but may appear normal even in cats with CCHS. Abdominal ultrasound is often recommended and is considered the best way to diagnose CCHS. Additionally, ultrasound-guided fine needle aspiration of the liver and sometimes also the gall bladder is often done to evaluate the liver and bile, and to look for abnormal cells or signs of infection. Other diagnostic tests include ultrasound-guided biopsy and exploratory surgery (laparotomy). Laparotomy is especially recommended in cases where bile duct obstruction or necrotic gall bladder is suspected.

### ***What is the treatment of CCHS?***

Treatment is based on clinical signs and the underlying cause. The initial treatment involves stabilizing the pet and providing supportive care such as intravenous fluids, feeding through a feeding tube, and antibiotics. Other medications that might be used include Actigall® which thins the bile secretions, anti-inflammatories and antioxidants (SAMe, milk thistle extract silymarin, etc). Sometimes medications to stimulate appetite are needed. Surgery may be required in cats with biliary duct obstruction or necrotic gall bladder. Additional drugs and therapies such as immunosuppressants may be recommended based on your cat's specific condition.

### ***What is the prognosis for a pet diagnosed with CCHS?***

With suppurative CCHS, the prognosis is good that the condition may be cured. In nonsuppurative CCHS, chronic, long-term remission is the therapeutic goal. The liver has the capability of regenerating itself, if given enough time, and many but not all pets with liver disease recover. Pets with nonsuppurative CCHS which becomes chronic may need to stay on long term medications to prevent further damage of the liver which can end in cirrhosis and liver failure in some cases. Prognosis is based on the severity and specific underlying cause or causes.

Please note that "triaditis" is the term used for the combination of cholangiohepatitis, pancreatitis, and inflammatory bowel disease (IBD) in the cat. Eighty-three percent of cats with cholangiohepatitis also have inflammation of the duodenum and/or jejunum. Fifty percent of cats with cholangiohepatitis have pancreatic lesions. Inflammatory bowel disease may cause bacterial invasion of the common bile duct, resulting in pancreatitis and cholangiohepatitis. Despite the high incidence of inflammation in the small intestine, diarrhea is not a frequent finding in cats with cholangiohepatitis.

Chronic cholangiohepatitis can be a life-long disease, especially in dogs with gallbladder disease. Removal of the gallbladder can resolve the problem in some cases. Because cholangiohepatitis is caused by the normal intestinal bacteria most often in the cat, the disease can occur again. However, in reality, very few cats have this disease a second time.

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