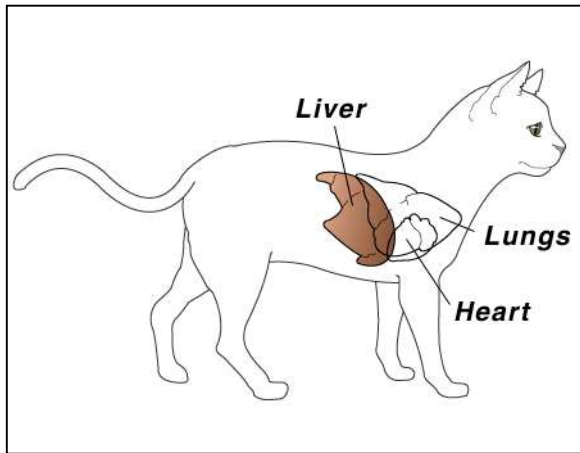


# FELINE FATTY LIVER SYNDROME

## ***What is Fatty Liver Syndrome, and how does a cat get it?***

Feline Fatty Liver Syndrome (FLS) is also known as feline hepatic lipidosis. This disease is uniquely dangerous to cats and is one of the most common liver diseases seen in cats. Middle aged, female cats are more often affected. Fatty liver can develop in dogs, but is less likely to cause serious problems, if the underlying cause is corrected.

The typical cat with FLS has recently gone through a period of not eating for three to four consecutive days or more. The chances of FLS occurring are greater if the cat was obese before the cat stopped eating. As fat is broken down to supply nutrients for the anorectic cat, the fat is deposited so rapidly in the liver that it cannot be processed. It becomes stored in and around the liver cells, resulting in liver failure. The cat usually becomes icteric or jaundiced, as evidenced by a yellow color in the whites of the eyes or in the skin. At this point, the disease will be fatal if not treated rapidly and aggressively. Without dietary protein, the fat cannot be removed from the liver.



There are many reasons why cats stop eating. Often, stress will make an animal lose its appetite. Moving into a new home, having a new animal introduced into the household, or suffering an illness can cause a cat to lose interest in food. One cat can even bully another cat from eating when they do not have separate bowls. Because it is not always easy to predict what will make a cat feel stress, the best way to prevent hepatic lipidosis is to make sure the animal does not become obese in the first place. Unexplained weight loss in a cat is never good, and should be evaluated by your vet as soon as you notice it. Examples of diseases that may

lead to hepatic lipidosis include diabetes, hyperthyroidism (over-active thyroid), pancreatitis, cancer, and kidney disease.

## ***What are the symptoms of Fatty Liver Syndrome?***

Cats usually are taken to the veterinarian because they have not eaten for at least a week or more and they may be vomiting, depressed, and listless. Other symptoms include weight loss, decreased muscle mass, and a yellow color in the eyes, ears or mouth. This yellow color is called jaundice or icterus and it usually indicates liver disease, or less commonly destruction of the red blood cells. Obese cats often lose 25% or more of their original weight at the time the liver problems are discovered.

One of the most important functions of the liver is its role as a "filter," which removes toxins and metabolizes drugs. If fatty liver syndrome goes on too long, cats can develop severe neurological problems due to the buildup of toxins in the blood. Neurologic symptoms caused by fatty liver might include lethargy, poor coordination, disorientation, profuse salivation, pressing the head against the wall or in corners, seizures, blindness and even coma.

The normal liver also manufactures most of the clotting factors and carrier proteins in the body. With liver failure, bleeding disorders and edema can occur.

If not reversed, liver failure is fatal. Early aggressive treatment is critical to reverse the mobilization of fat into the liver and to allow normal liver function to be restored.

### ***How is it diagnosed?***

Diagnosis of FLS is made from blood tests for liver function and from a liver biopsy or aspirate. The latter may be performed during surgery or with a needle inserted through the skin. The tissue sample may be sent to a veterinary pathologist for interpretation. The FLS cat will have a large amount of fat in and among the liver cells. Generally, other tests are then performed to determine why the cat originally stopped eating. If the cause for anorexia is treatable or resolved, the prognosis is reasonably good.

### ***Is this a treatable disease?***

This disease is very treatable, but treatment of FLS requires that the cat receive aggressive nutritional support until the appetite returns. A consistently high quality diet will allow the liver to resume functioning so it may remove the fat. This does not occur quickly; it takes up to six to seven weeks, or more. Therefore, a method of feeding must be used to allow you to feed your cat at home. Many times, a feeding tube must be placed in the cat's esophagus in order to save the cat's life and prevent further damage to the liver. The tube bandage is worn like a collar and seldom causes any discomfort to the cat.

Other medications to prevent nausea, increase the appetite and treat any other concurrent problems might also be used. Medications and supplements can often be easily added to the liquid food given to the cat by tube, so you don't have to give medications by mouth or injection. As long as vomiting is controlled, this will work well. The cat should not need to drink additional water if he/she is taking in enough calories in the form of a liquid diet, so don't worry if your cat with FLS does not drink. During the first week when working up to full feed, your cat may need to be given additional fluids under the skin or by tube to maintain adequate hydration.

### ***How do I provide the necessary nutritional support?***

A feeding tube is surgically implanted into your cat so you can syringe feed a special diet through the feeding tube into the stomach. There are several types of feeding tubes available. The best one for your cat will be determined based on several factors.

A special food mixture is syringed through the tube three to five times per day. This food is formulated to meet the cat's nutritional needs. To feed your cat, follow instructions provided on a separate handout.

### ***When is the tube removed?***

Persistence is essential. As soon as your vet tells you it is safe, at least once weekly do not feed your cat by tube for one day each week, and offer your cat a small amount of its favorite food, so that you will know when its appetite returns. Appetite stimulants might be prescribed by your vet to use on these days, or at other times. Hand feeding at first can be very helpful to encourage your cat to begin eating again. The feeding tube will not hinder normal eating in any

way. After your cat has been eating well for three to four days, it should be returned to the hospital for tube removal. Removal of the tube is simple and does not require anesthesia; however, you should not attempt to remove the tube yourself.

### ***What is the prognosis for FHL?***

Cats receiving early aggressive treatment have a fair prognosis for recovery, with survival rates of approximately 60 percent. If a cat develops neurologic problems (hepatic encephalopathy) when feeding begins, the prognosis is especially poor, as this is a difficult condition to manage. On one hand, the cat desperately needs food to prevent the liver from failing, and on the other hand, the brain is intoxicated by feeding the cat \*because\* the liver is failing. It's like walking a tight rope to get them eating again without causing life threatening toxicity. Following recovery, surviving cats usually do not have residual problems, and recurrence is rare. Cats that do not receive adequate nutritional support have a very poor prognosis for survival.

Vomiting is an important sign in determining the prognosis. Although many cats with the FLS will vomit occasionally, those that vomit repeatedly have a lesser chance of recovery. When the underlying cause of the FLS is untreatable, the prognosis is not good. Cats that have underlying diseases such as cancer, pancreatitis, or inflammation of the pancreas have a much weaker chance of survival. Cats that show a 50% drop in total bilirubin level within 7 to 10 days are statistically likely to survive. Keep in mind that hepatic lipidosis rarely happens for no apparent reason. If there is an underlying cause, it must also be addressed.

It is possible for idiopathic FLS to occur again in some cats that are predisposed. It is helpful for owners to be observant of the cat's food intake and guard against stressors that might precipitate anorexia. Maintaining an ideal body weight and avoiding obesity in affected cats is advisable.

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