



*"We Speak Cat"*

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## Not Eating Can Be Deadly

**With hepatic lipidosis, loss of appetite must be treated quickly and aggressively**

**By Michael Stone, DVM, Diplomatic ACVIM (internal medicine)**

Your cat, Whiskers, hasn't eaten all day. You wonder "Should I call the veterinarian, or just wait a day or two?" The answer is simple. Always call! Felines have the unfortunate ability to develop a disease called hepatic lipidosis, also called "fatty liver syndrome."

Fatty liver syndrome is most commonly seen in overweight female cats. In fact, it occurs twice as frequently in females as it does in males. Loss of appetite is always a factor in the onset of this disease. Once established, the loss of appetite causes more loss of appetite. This is, in other words, a self-perpetuating disease that, without intervention, continually worsens and sends the patient into a downward spiral, a vicious cycle of weight loss, ill health and eventually death.

With medical intervention, the prognosis is relatively optimistic. About 90 percent of cats with hepatic lipidosis, but without an underlying medical cause for it, can be expected to recover fully. When a medical condition is causing it, however, the recovery rate (even with treatment) drops to only 30 to 50 percent.

Anxiety may be the cause of the initial loss of appetite. A move to a new house, the addition of a new pet to the household, a change in the owner's schedule or a dietary change to a food not liked by the cat, any of these events may be responsible. In other cases, the initial loss of appetite is the result of a medical disorder. In such cases, treatment to resolve the hepatic lipidosis will be in vain unless the underlying problem is also resolved. Any appetite loss, regardless of its cause, can trigger hepatic lipidosis, and so the veterinarian always looks for a disease that may have triggered the problem.

In approximately half of hepatic lipidosis cases, a medical condition can be identified as the initial cause of the cat's appetite loss. Conditions that may potentially be at the root of the problem

include liver disease, cancer, inflammation of the pancreas, diabetes mellitus, intestinal disease, kidney disease, severe anemia, infection, heart disease and brain disease. In these cases, treatment must be provided for the underlying disease as well as for the hepatic lipidosis.

In the other half of hepatic lipidosis cases, however, when no such underlying cause can be identified in a cat, the veterinarian will provide treatment directed strictly toward hepatic lipidosis. This treatment will often be successful, but if the cat does not respond favorably, then it must be suspected that an underlying disease is present that was not diagnosed.

## The Overtaxed Liver

Why does fat build up in the liver with hepatic lipidosis? The answer isn't completely understood, but there are currently two theories. The delivery of fat *to* and the release of fat *from* the liver are normal processes that play a major role in the conversion of food to energy. When a cat (or a person) is not eating, the raw materials for energy that the body is able to derive from food are not being delivered. At these times, during a fast for example, the body is able to convert stored fat into energy. Fat is present in the normal liver, but the amount of fat is markedly increased with fatty liver syndrome. When there exists an excessive amount of fat in the liver, there are only two possible explanations, excessive delivery of fat to the liver or decreased release of fat to the liver.

According to the excessive delivery theory, starvation or long standing under nutrition may lead to an over accumulation of fat in the liver due to an increase in the delivery process. After some degree of fat accumulation has occurred, the liver's ability to process and release fat may be overwhelmed, the fatty buildup then damages the liver. In support of this theory is the observation that overweight cats are predisposed to the development of fatty liver syndrome. When an overweight cat is given insufficient food in an effort to reduce her weight, there is more fat available to overwhelm her liver than when a thin cat is "fasted."

Some experts argue against this theory, observing that with some diseases (such as diabetes mellitus) a cat's liver can become filled with fat and yet function normally. Even so, when putting an overweight cat on a weight loss diet is what sets this disease in motion, it's generally because a change to a new food is rejected by the cat, and he stops eating entirely. The rule of thumb is to not cut back a cat's intake by more than 30 percent per week.

According to a second theory, the over accumulation of fat in the liver may be caused by a failure of the liver to release it into the bloodstream. If fat delivered to the liver is not processed and released, it accumulates inside the liver, again the result is an over accumulation of fat.

Currently, this second theory, that a deficiency in the processing or release of fat from the liver causes the onset of hepatic lipidosis, is thought to be more likely accurate. It's also hypothesized that an injury to the liver or a nutrient deficiency can prevent the liver from being able to release fat into the bloodstream, leading to the accumulation of fat in the liver.

## Not Eating is a Red Flag for Cats

The most consistent sign of fatty liver syndrome, and the one that you will most likely notice first at home, is loss of appetite. If your cat is consuming significantly less food than she normally does, make an appointment to see your veterinarian. Other signs of this disease that cat owners frequently report to veterinarians as an early cause for concern include substantial weight loss, vomiting, weakness and lack of energy.

If you report findings that lead your veterinarian to suspect fatty liver syndrome, he will want to examine your cat. Remember that the earlier treatment begins for this disease, the better the prognosis, so don't delay making that appointment. Upon examination of a cat suffering from hepatic lipidosis, veterinarians often detect jaundice (yellow discoloration of the eyes and gums), dehydration and enlargement of the liver.

Your veterinarian will thoroughly review your cat's history and give him a physical examination, and may also perform blood and urine tests, radiographs (X-rays) and ultrasonography. But the most accurate method of diagnosing fatty liver syndrome is through a biopsy. If a biopsy is needed, your cat will be anesthetized and a sample of her liver tissue will be removed for evaluation under a microscope. If an excessive number of fat cells are found in the sample, then positive diagnosis of hepatic lipidosis will be made.

After diagnosis, further tests will be conducted to determine whether or not a medical condition is the cause, and then treatment will begin accordingly, either to treat hepatic lipidosis alone (as the primary disease), or to treat the underlying medical condition as the primary disease and hepatic lipidosis as the secondary disease. If an underlying condition exists and can be controlled about 75 percent of cats recover fully. One determining factor in the success of treatment is the stage at which treatment begins. The earlier fatty liver syndrome is detected, the better the chance for full recovery.

## **Help Is Available**

If your cat is diagnosed with hepatic lipidosis she will typically be hospitalized for further diagnostic testing. Your veterinarian will want to rule out the presence of other underlying medical conditions that may be the cause, and might prevent treatment from being effective. Your cat may be given intravenous fluids, these will correct dehydration and provide electrolytes. Antibiotics, vitamins and insulin may also be administered. If other conditions are found, they will be treated concurrently with the therapy being used to correct hepatic lipidosis.

When a cat diagnosed with hepatic lipidosis is found to be free of any other (underlying) medical conditions, she is often released from the hospital, and her owner is given detailed instructions on how to implement therapy at home. The objective of the basic therapy for fatty liver syndrome is to provide the cat with food and water and to break (interrupt) the vicious cycle of non-eating, that the cat has become caught up in. In cases that are diagnosed and treated early, an appetite stimulant may be sufficient to break the cycle. Unfortunately, many cases do not respond, and the cat then must be force fed.

When force feeding is necessary, there are methods of accomplishing the task relatively simply. Some owners force-feed by squeezing food into their cat's mouth through a syringe. This method may be met with resistance by the cat, and can be stressful for the owner as well. When cat and owner are unable to employ this method, a feeding tube can be placed into the esophagus or stomach.

Most cats tolerate the placement of a feeding tube well. Through the tube, a cat typically receives three to four meals per day of about 2 ounces of food per meal. Water is sometimes provided through the tube to prevent dehydration.

Once a cat is rehydrated and out of danger, she is released and can be managed at home. The owner can feed the cat and administer medications via the tube. Some commercial veterinary diets will pass through a feeding tube without clogging due to their consistency. The site where the tube enters the skin should be monitored for redness or swelling, but this type of reaction occurs only infrequently. Most cats become comfortable with the tube in place, and improve quickly from this point on.

It's quite easy to tell when recovery from hepatic lipidosis has occurred, the cat will begin to eat. A cat is perfectly capable of eating on her own with a feeding tube in place, and her doing so is cause for celebration. Cats may return to eating after as little as 5 days of force feeding, or may take as long as 10 weeks. After the cat has been eating well for one or two weeks, your veterinarian will remove the feeding tube. He'll simply remove the sutures that hold it in place, and pull the tube out. A small hole remains that will heal without stitches in three to five days. Sedation is not necessary for the removal of the tube, the healthy cat is released from treatment and can return home.

Early detection of fatty liver syndrome is important. Treatment may take weeks and does require a commitment from the owner. With effective treatment however, most cats affected by this previously fatal syndrome can now be expected to survive.

## AT HOME TREATMENT TIPS FROM A SEASONED FOSTER MOM

My foster cat, Sunny, was once a majestic Maine Coon mix. He now looks like a skeleton tightly wrapped in skin. When he was diagnosed with hepatic lipidosis, I opted to force feed eight times daily and provide subcutaneous fluids at home, rather than having a feeding tube surgically implanted.

### Syringe Feeding Tips

Hill's a/d prescription diet, because of its baby food like consistency, is a good choice when feeding a cat through a feeding syringe. When force feeding a cat, always wear something washable. I guarantee you'll be wearing cat food when you're done. Also, bath towels make great bibs.

Hold the cat in your arms with his rump against your stomach, so that he can't back out of your grasp. Insert the syringe tip in the side of his mouth, in the gap between the canines and the molars. I find it easiest to manage the plunger with my thumb. Press slowly – only give him a few cc's at a time.

I prefer syringes with long wide tips to the narrow tipped ones. The rubber tip on the plunger dries out quickly and becomes difficult to press. Be careful when this happens, if you're pressing on the plunger and the tip finally gives, a large quantity of food can shoot into the cat's mouth and choke him. You can lengthen the life of a rubber tip by keeping it lubricated, just dip it in vegetable oil after using and cleaning it.

If you get discouraged, remember that when kitty takes that first bite of food on her own, it will all have been worthwhile.

*Provided by Dusty Rainbolt, foster mom for orphan kittens and product reviewer for Catnip.*

*Article taken from Catnip.*