



## RUNNING ON EMPTY Feline Hepatic Lipidosis

by Doreen Stocks

We've seen it happen time and time again with cats who have been surrendered by their humans and end up in our shelter. Usually they are obese adult cats with a low tolerance for change in their environment. They have known only the safety and security of a home and their own humans and "food for finicky eaters".

They react with shock and horror at life in a shelter and are fearful, annoyed and angry at the other felines with whom they are forced to share the space. Their stress levels skyrocket and they don't like the new kibble and they especially don't like the idea of eating from a communal kibble bowl so they don't eat.

The cats' nature is such that you can not starve a cat into eating something it doesn't like or just a new food, especially when stressed and grieving for its human companion. Within a few days to a week the lack of dietary protein triggers the release of stored tissue fat into the blood stream. As the fat is transported to the liver and begins to accumulate the cat feels even worse and is far less inclined to eat at all. Within as little as ten days to two weeks the deposits of fat in the liver cells can cause severe liver failure with jaundice of the mucus membranes and skin. This is the dreaded condition known as feline hepatic lipidosis - fatty liver disease - which if not diagnosed at the onset can result in the death of the cat.



Sassy lost her will to live when she came to the shelter, she just wanted to go home. Eventually Feline Hepatic Lipidosis took her life.

The earlier a diagnosis is made and treatment initiated the better the prognosis. It is imperative that a cat with hepatic lipidosis begin to receive adequate nutrition to arrest the progress of the liver failure and allow the healing process to begin. This means either force feeding a calorie dense special formula by syringe or having a veterinarian surgically insert a feeding tube into the esophagus or stomach through

which the special diet food can be administered. This second option is costly and not without risk.

The problem we encounter with shelter cats who become anorexic and develop hepatic lipidosis is that medical intervention alone will not necessarily lead to a positive outcome. A cat needs a reason to want to get better and desperately needs someone it can relate to for the healing process to begin. As humans we can always hope a situation will improve tomorrow or next week but although cats have exceptionally good memories of the past, they tend to exist in the present and

all the cat knows is that she is somewhere she doesn't want to be with humans she doesn't know or trust and surrounded by other cats she doesn't like and she feels terribly sick. The fact that some stranger forces food that she doesn't want into her mouth every few hours does nothing to improve her state of abject misery. Add to this pill and liver supplements and you've got a totally dejected, despondent and very ill cat who really has lost the will to live.

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## RUNNING ON EMPTY - Feline Hepatic Lipidosis...continued

The only chance to turn the tide is if you can provide a foster situation with one on one care with someone who has the capability and perseverance to get adequate nutrition syringed into a reluctant feline. At least 120 - 160 grams of the special calorie dense food is required daily to maintain the cats condition until such time as the cat resumes eating on her own. This can often take at least six to eight weeks. Even then vigilance is required to ensure that adequate amounts of nutritional food are consumed and continue to be consumed because at this stage a relapse could prove fatal.

At his point there is the dilemma of what to do with the cat because a return to the shelter could cause a relapse. Caging the cat is one option in order that food intake may be monitored but the lack of stimulation and life quality could prove detrimental. Each situation is unique and we strive to do the best we can with limited human and financial resources.

As long as there are far more homeless cats than homes for cats we will continue to encounter this most insidious illness and sadly throughout the years too many cases of feline hepatic lipidosis have had tragic outcomes.

Our most recent case is a beautiful big calico named "Harra". She was under two years of age but already a hefty eighteen pounder and she arrived at the shelter with a big hostile attitude so in view of her youth and extroverted nature it wasn't considered necessary to confine her to a cage

in order that her food consumption be observed. She appeared to adjust to life in our shelter and enjoyed attention and lap time with volunteers so it came as a shock when about a month after her arrival she became completely lethargic and appeared jaundiced. A consultation with Dr. Singh at Alpine Animal Hospital and blood chemistry tests confirmed a diagnosis of liver failure from hepatic lipidosis. She underwent re hydration with intravenous fluid followed by a move to a foster home where a regimen of forced feeding by syringe commenced. It required five weeks of syringing food before she resumed eating on her own but several months later she remains very fussy about what she will eat so her future depends on whether she can find a home and humans who are willing to cater to her dietary whims. Her youth and good health at onset tipped the balance in her favor because many other older cats have not responded despite several months of syringe feeding and attempts to raise their spirits with attention and TLC.



Harra survived but it took five weeks of syringe feeding before she resumed eating on her own.

In our experience the majority of cases of hepatic lipidosis are a result of environmental changes but other causes can be illnesses such as cancer, diabetes mellitus and hyperthyroidism; ingestion of a foreign object that results in an intestinal blockage; injury or trauma; or feeding dog food to a cat. Most cats who develop hepatic lipidosis are obese so this is one more good reason to maintain a normal healthy weight in all cats.



### VOLUNTEER PROFILE

by Lynn Keller

## RICK & GAIL BEAU

There were other cats...some young, some old, some sick, that came, stayed for a short period and were gone. Each loved, cared for and mourned in it's own way. Then came Al.

If you have met Al you already know that Ric and Gail are wonderful people because Al would try the patience of a saint. He has a schedule and you had better adhere to it. He wants his treats and if you don't give them up on demand he steals them. He bullies Button until she "hangs a beating" on him. He's such a cat!! But send him on his way? Absolutely not! He is as much a part of the family as all it's other parts and what a delightful family it is.

Ric and Gail freely give of their time whenever called upon, helping out at the shelter, fund raising and helping with adoptions. Loving each critter for it's potential to become an adored pet. If all volunteers were this open and giving the world would be a better place.

A hearty "Thank You" to the Beaus for making our little Kitty Kingdom a happy place.

# CAN MY CAT BE A VEGETARIAN?

by Anna Shestakova



Although it is possible to feed a dog a vegetarian diet, it is far more complicated when dealing with cats. Cats evolved as true carnivores and need to consume animal tissues in order to survive. Unlike humans or

dogs, cats require nutrients not found in plant sources. No research is available on the long term effects of supplemented vegetarian diet on wellbeing of domestic cats and it may appear

that they do well on a vegetarian diet, but over time nutritional deficiencies may occur.

Unlike omnivorous animals, cats cannot synthesize some of the essential nutrients. These include: taurine, vitamin A, arachidonic acid and B vitamins.

## TAURINE

Taurine is an essential amino acid for cats. If a cat is deficient in this nutrient it can develop serious medical conditions such as: retinal degeneration, that can lead to blindness; dilated cardiomyopathy, and subsequent heart failure; and fertility problems. Plant sources contain only trace amounts of this amino acid, which are not sufficient to fulfill the requirement. Heart and hide of other animals usually contain sufficient amounts of Taurine.

## VITAMIN A

Vitamin A is present in plants in the form of carotene that humans and many other animals can convert to the active form -retinol. Cats do not have this ability, and depend on other animals to convert plant carotene into the useful form. The richest source of vitamin A is liver. The deficiency of this vitamin can lead to night blindness, retinal ulcers and urinary tract problems (shedding of mucosal cells can be a cause of kidney stones).

## ARACHIDONIC ACID

This is an essential fatty acid, that most other species of mammals, for example humans, can synthesize from linoleic acid found in plants. Cats lack the enzymes responsible for this transformation and therefore need a dietary source of this acid. Meat is the only source sufficiently rich in this fatty acid. Deficiency is characterized by hair loss, liver degeneration, anemia and reduced fertility.

## B VITAMINS

Cats are true carnivores and do not need a long digestive tract to break down animal tissues, therefore cats do not have a cecum, department in the large intestine where microbial flora reside in some omnivores and herbivores. Microbes are responsible for the production of B vitamins, as cats lack this department and the microbial population, the only source of these vitamins for cats is meat, as it is not found in sufficient amounts in plants. The deficiencies of B vitamins can be lethal for cats.

## ENERGY REQUIREMENTS

Cats derive energy from protein and fat, and simply cannot derive energy from carbohydrates like sugars and starches as we can. This is due to the fact that they lack the enzymes to degrade starch and sugars. High fat content is not healthy for a cat as for any other animal, this means that energy requirements should be met using protein. Although extremely high protein concentrations can be harmful too.

## PROTEIN REQUIREMENTS

Metabolism of a cat is based on protein, and they have one of the highest requirements for protein among mammals (20% protein on dry matter basis for maintenance, as opposed to 10% maintenance requirement for dogs). As well cats require a specific balance of amino acids not found in plant protein. For example a high level of glutamine - an amino acid, is toxic to cats. Animal protein contains 1/2 the amount of this amino acid found in the plant protein. It is very challenging to fulfill this requirement using plant based ingredients.

## OPTIONS AND ALTERNATIVES

If you do decide to feed your pet a vegetarian diet, commercial vegetarian cat food is available, as well as synthetic supplements. Do not try to formulate vegetarian diet for your cat yourself, as if not properly formulated it can lead to nutritional deficiencies and imbalances. Contact your veterinarian or nutritionist and consult with him/her if vegetarian diet would be suitable for your pet, as it is strongly recommended not to feed this diet to cats with renal problems. These cats need highly digestible animal source of protein to maintain renal function. Cats, fed vegetarian diet, that do not experience health problems should be checked by a veterinarian more often as individual problems may still occur.

When it comes to cats, it is still recommended to provide a diet that contains meat. Even the Vegetarian society rejects these diets for cats, since feeding these might be a risky thing to do. Vegetarians and Vegans developed ways to deal with living with a carnivore. If you feel it is wrong to feed your cat a vegetarian diet, then you might find using dry cat food that does not contain cage raised animals more appropriate. Dry kibble is also a good alternative to canned cat food, as it might be easier to handle for vegetarian/vegan owners.

## References.

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Ellery, Poster Girl for the cats!

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Stuart, donated his birthday loot for the cats!

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Liesel Hayman for Rango

### IN MEMORIAM

Karen Brack in memory of Julie Sims  
Doreen Stocks in memory of Angelina, Moxie & Autumn  
Marie Louise & Inky in memory of Sum-Sum and Bob  
Linda Fox in memory of Angelina  
Pearl in memory of Bella & Blacky

We the animals who have been rescued from the streets, now and in the past, would like to thank all of the wonderful donors who so generously give us money, food and supplies throughout the year.

Some of us have found new and loving homes. As for the rest of us we now have full bellies, warm dry beds, safety and love. Thank you, you have helped to make a world of difference in our lives. Purrs From The RCHS Cats

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