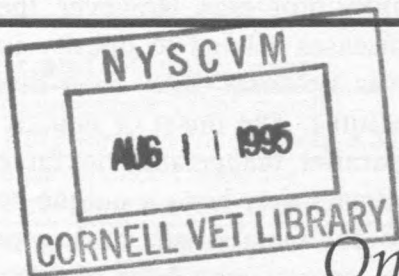


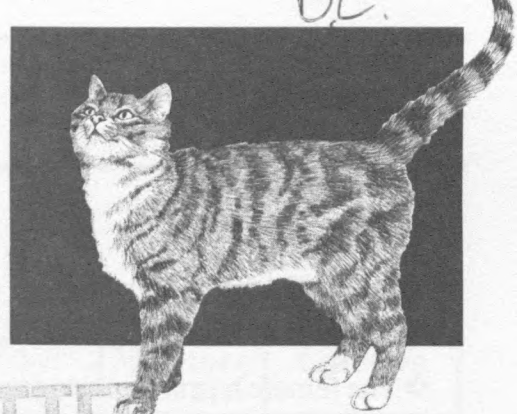
# Perspectives On Cats

A Newsletter for Cat Fanciers  
From The Cornell Feline Health Center

Fall 1994



## NEWSLETTER



## On the Lighter Side

Do you find yourself referring to your cat as *Thunder Thighs*, *Fatso*, *Butter Ball*, or *Chunkers*? If so, perhaps it's time you considered a more restricted diet for your rotund feline friend. Current studies indicate that one out of every four cats seen by veterinarians are overweight. Animals that are 15 percent over their ideal weight are classified as obese. The ideal weight for an adult cat can vary from 8 to 12 pounds, depending on body build (i.e. a larger framed cat would weigh more than a smaller framed cat).

In addition to weighing your cat, you can do a qualitative check by palpating its rib cage. You should barely feel the ribs. If the ribs are not detectable, your cat could probably shed some weight. However, before you begin a reduction diet for old *Butter Ball*, consult with your veteri-

narian. Your veterinarian can determine if a disease is affecting your cat's metabolic rate. Also, he/she can determine the best weight reduction program for your cat based on your cat's age, health, body build, and lifestyle.

### Contributing Factors to Obesity

Body weight is gained when the caloric intake exceeds the energy expended. The energy potential of food is calculated in the number of kilocalories it provides. (A kilocalorie represents the energy it takes to raise one kilogram of water one degree Celsius.)

Nutritionists refer to a food's energy content in terms of digestible and metabolizable energy. Digestible energy is the amount of energy consumed from food minus the amount of energy found in the feces. Metabolizable energy is the digestible energy minus the amount of energy eliminated in the urine. Most lists specify caloric requirements in terms of metabolizable energy. The average active adult cat requires about 30 kilocalories per pound of body weight per day to meet its energy needs and maintain its current weight. For a cat to lose one pound of fat requires a deficit of 3,500 kilocalories.

The following are factors that can contribute to weight gain:

- ❖ Certain diseases and aging decrease a cat's metabolic rate, resulting in a surplus of unused

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calories that become stored in the body as fat tissue.

❖ The female hormone estrogen acts as a natural appetite suppressant. Therefore, spayed female cats have a greater tendency to overindulge when eating.

❖ Flavor enhancers are used to make cat foods palatable. Since the foods are tastier to cats, there is a greater tendency for cats to overindulge, consuming an excess of calories.

❖ Boredom, competition from other cats in the household, or stressful environmental conditions can cause a cat to gorge itself with food. Eliminating or reducing these causative factors may provide sufficient reduction in food intake to result in weight reduction.

### Weighty Problems Associated with Fat

Based on health studies in other species (e.g., humans and canines), it is conjectured that cats probably have similar health problems resulting from obe-

sity such as hypertension, heart disease, arthritis, and respiratory problems. However, the only established diseases related to obesity in cats are feline hepatic lipidosis (fatty liver disease) and diabetes mellitus. The onset of hepatic lipidosis seems to parallel inappetence in fat cats. It is thought that cats may have a unique problem in adapting to fat metabolism during periods of inappetence, or cats may have abnormalities of fatty acid oxidation. In either case, fat cats are predisposed to hepatic lipidosis.

Skin problems occur more frequently because the cat is unable to properly groom itself. Dry, flaky skin particles may be noticeable in the areas that are inaccessible to the cat when self-grooming.

### Cut the Fat?

Fat provides the highest energy content for cats with about 8.5 kilocalories per gram, as compared to about 3.5 kilocalories per gram for protein. A simple solution may be to cut the fat, however fats are a necessary part of a complete nutritional diet for cats. Essential fatty acids required by cats are linoleic and arachidonic acids. Linoleic acid is produced by plants; arachidonic acid is only present in animal tissues. (Cats are considered true carnivores because, unlike many other animals, they are incapable of producing their own arachidonic acid, preformed vitamin A and taurine. Therefore, cats need to eat animal tissues to supply those necessary nutrients in their diet.)

Many pet food manufacturers have responded to the pet owner's concern of overweight cats by developing a "light" product line. The light products have fewer kilocalories per pound than the regular maintenance diets of the same company. However, the light product of one manufacturer may contain more calories than a regular maintenance cat food of another manufacturer. Table 1 provides a comparison of several light cat foods currently available. *(continued on page 4)*

## Perspectives On Cats

*A Newsletter for Cat Fanciers  
From The Cornell Feline Health Center*

The ultimate purpose of the Cornell Feline Health Center is to improve the health of cats everywhere, by developing methods to prevent or cure feline diseases, and by providing continuing education to veterinarians and cat owners. All contributions are tax-deductible.

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Table 1. Comparison of "Light" Cat Foods

Product and Manufacturer	Protein (min.)	Fat (min.)	Fiber (max.)	Moisture (max.)	Calories
Feline Maintenance Light, canned (Hill's Pet Nutrition Inc., Topeka KS)	11.2%	4.5%	1.6%	74.6%	153 (6 oz.)
Feline Maintenance Light, dry (Hill's Pet Nutrition Inc., Topeka KS)	37.3%	8.4%	6.5	8%	224 (1 cup.)
Iams Less Active, dry (The Iams Co., Dayton OH)	29.9%	15.3%	1.8%	7.6%	347 (1 cup)
KenVet R225, dry (KenVetProducts, Ashland OH)	32%	18%	2%	8.5%	472 (1 cup)
KenVet R225, canned (KenVet Products, Ashland OH)	9.1%	5.1%	0.6%	74%	187 (6 oz.)
KenVet R231, dry (KenVet Products, Ashland OH)	33%	9%	15%	8.5%	310 (1 cup)
KenVet R231, canned (KenVetProducts, Ashland OH)	8.6%	2.4%	4%	76%	139 (6 oz.)
Nature's Recipe Lite/Senior Feline (Nature's Recipe Pet Foods, Corona CA)	29.4%	8.6%	6.1%	8.4%	411 (1 cup)
Nutro Max Cat Lite, dry (Nutro Products, City of Industry CA)	33.5%	10.8%	4%	10%	359 (1 cup)
Precise Feline Light, dry (Precise Pet Products, Nacodoches TX)	28%	10%	4%	10%	441 (1 cup)
Pro-Plan Lite Formula, dry (Pro-Visions Pet Specialty Enterprises, St. Louis MO)	32.2%	8.7%	3%	7.5%	332 (1 cup)
Purebred Low Calorie, dry (Purebred Co. Inc., Denver CO)	28%	9%	3.5%	10%	719 (1 cup) <sup>a</sup>
Tami Premier Lite Formula, dry (Pet Specialties Inc., Nashville TN)	29.6%	10%	3%	8%	482 (1 cup)
Wysong GeriatRx, dry <sup>b</sup> (Wysong Corp., Midland MI)	35.2%	20.5%	20.3%	12%	994 (1 cup)
Wysong GeriatRx, canned <sup>b</sup> (Wysong Corp., Midland MI)	40.5%	23%	23%	73%	460 per can

Notes: Data is on an "as-is" basis. Therefore, the percentages for protein, fat and fiber are considerably lower for canned foods due to higher moisture content than for dry foods that have a lower moisture content.

<sup>a</sup> Calories were calculated on the guaranteed analysis of the product.

<sup>b</sup> Data on protein, fat and fiber provided by company is on a "dry matter" basis. Therefore, those percentages are considerably higher than other manufacturers' products.



**Table 2. Calculating the Approximate Calories in Commercial Cat Food**

1. From the "guaranteed analysis" on the cat food label fill in the blanks with the appropriate percentages listed on the label.

Minimum protein: \_\_\_\_\_%

Minimum fat: \_\_\_\_\_%

Maximum moisture: \_\_\_\_\_%

Maximum fiber: \_\_\_\_\_%

Maximum ash: \_\_\_\_\_% (If not listed on the label, assume 8% for dry food, 7% for semi-moist food and 4% for canned food.)

2. Add all the percentages together (\_\_\_\_\_%) and subtract 100= \_\_\_\_\_

3. Multiply the answer from step 2 by 3.5 = \_\_\_\_\_.

4. Multiply minimum protein (from step 1) by 3.5= \_\_\_\_\_%; Multiply minimum fat by 8.5= \_\_\_\_\_% Now add these two calculated percentages (\_\_\_\_\_) and the answer from step 3= \_\_\_\_\_

5. Take the answer from step 4 (\_\_\_\_\_) and multiply it by 4.5 = \_\_\_\_\_ kilocalories per pound of food on an "as-is" basis.

## Diet Tips

A basic recommendation for a calorie-reducing diet is to decrease the kilocalorie intake to approximately 25 kilocalories per pound per day. For example, a 15 pound adult cat should not be fed less than 375 kilocalories per day. Although manufacturers are not required to list the caloric content on the label, you can calculate approximate calories from the information provided on the label (refer to Table 2).

If you feed a light food on a free-choice basis it may not provide the results you want, especially with cats that have gluttonous appetites. In those cases you will need to monitor your cat's intake of food. The simplest method is to divide daily food allotments into several smaller portions that can be fed during the day and night, thereby satisfying your cat's appetite. Automatic 24-hour feeders provide a convenient way to monitor your cat's

eating urges. They can be purchased at pet stores or through pet mail-order catalogs.

When selecting a cat food choose one that meets the AAFCO recommendations, preferably by animal feeding trials. Cat foods containing high fiber content provide bulk, thus satisfying the cat's appetite faster than low-fiber foods.

Remember that a good diet control program provides for a slow progressive weight loss until the optimum weight is reached. ■

### Correction Notice:

In table 1 on page 2 of the summer issue of *Perspectives on Cats* change "excessive pancreatic insufficiency" to "exocrine pancreatic insufficiency".



*Q. My white Persian cat's eyes tear constantly, but there is no yellow matter. The veterinarian said my cat's tear ducts are clogged and he could not open them when the cat was anesthetized. Is there something I could put into the eyes to lessen the amount of tears without harming his eyes?—E.T., New Jersey*

A. There are several possible reasons for either excessive tearing or tear overflow in Persian cats. It is a common problem in Persians because of the facial shape and it is even more noticeable on white cats because of the facial staining that occurs.

Excessive tear production could be a result of eye irritation caused by abnormal lid closure and a folding in of the lid, abnormal location of hair under the lid, or eye irritation from any number of causes. Tear overflow results from abnormalities in tear drainage. Tears drain similar to the way rain flows from the roof down to the gutters and then out the downspout. If the gutter is crushed or if the downspout is plugged or crushed then rain will overflow. A similar thing can happen with some Persian cats. Severe facial shortening and prominent eyes of some individuals have essentially made the "gutter" and "downspout" not function properly. If the drainage is abnormal because of the facial shape, there is little that can be done to correct the problem. If on the other hand the "downspout" is plugged or sealed over, it may be correctable. The best way to determine if the problem is correctable is to have your veterinarian perform a thorough eye examination. In some difficult cases, he/she may suggest referral to a veterinary ophthalmologist to make sure that all options have been explored. Although controversial, some veterinarians suggest giving an antibacterial medication daily for the life of the cat to help decrease

the staining caused by the tears. You should discuss with your veterinarian the risks versus the benefits of this type of therapy.

*Q. We recently lost our 12-year-old, part-Persian cat to feline infectious peritonitis (FIP) despite having been vaccinated with the Primucell-FIP vaccine since 1991. We are now concerned about our four remaining kittens since the FIP vaccine failed to protect one of our cats. What are the implications for our other cats?—B.W., Hawaii*

A. Many questions remain regarding FIP. Although Primucell-FIP (SmithKline Beecham) is designed to protect cats from developing the disease, its true efficacy in a "real world" situation is not known with certainty. Even in the controlled laboratory studies performed to date, the percentage of cats protected by the vaccine ranged from 0 percent to 69 percent. So, how concerned should you be about your other cats? It is impossible to predict whether or not any of them will develop FIP, but the odds are in favor of them not getting the disease. In catteries where cats have died from FIP and in which many, if not all, of the other cats have been exposed, only a relatively small percentage of the remaining cats will die from FIP. The best means of prevention is to keep your cats as healthy as possible—feed a balanced diet; keep them current on vaccines; don't overcrowd them; and keep their environment clean. This will help keep their immune systems strong so when they encounter an infectious agent, they will be better equipped to eliminate it. ■



Please send your cat health questions to POC Mail Bag, Cornell Feline Health Center, College of Veterinary Medicine, Ithaca, NY 14853-6401.

## Honor Roll

We gratefully acknowledge the following people, businesses, and cat clubs who have contributed \$100 or more to support the Center's feline health studies and educational outreach programs.

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Feline Infectious Peritonitis Virus

#### **Special Fund Raising Event for FIP**

The first annual **Friends of Charlie and BJ/FIP Fund Walkathon** was held on October 2 in Yorktown Heights, New York. The proceeds from this special event have been donated to the Cornell Feline Health Center to help fund studies on feline infectious peritonitis virus. The fund was established in memory of two young cats that succumbed to the FIP virus.

## *Book Bits—The Lymphatic System*

The lymphatic system is composed of a highly specialized interconnecting network of vessels that transport a fluid called lymph from body tissues back into the circulatory system. Lymph is a clear admixture of excess tissue fluid, proteins, solutes (substances dissolved in a solvent), and other components. Within the lymph circulate certain lymphocytes, moving regularly from the lymphatic system to the circulatory system and back again. Lymph nodes are specialized organs within the lymphatic system that act as filters for removing foreign particles, which are then subjected to destruction by the immune system. The lymph nodes' immunologic filtering of lymph can be considered analogous to the spleen's immunologic filtering of the old blood.

The end result of all this incessant filtering and circulating is the creation of a highly desirable system of surveillance, wherein the cells and molecules of the immune system are continually "scanning" the blood and lymph for signs of foreign invaders, abnormal cellular material such as cancer cells, and host cellular debris, all of which are targets for immunologic removal.—*From The Cornell Book of Cats by Mordecai Siegal and Cornell University. Copyright © 1989 by Mordecai Siegal and Cornell University. Reprinted by permission of Villard Books, a division of Random House, Inc. Copies of the book can be ordered from the Cornell Feline Health Center.* ■

## In the news...

### Worldwide Cat Population

In Europe, the cat population continues its healthy rate of growth, according to Pet Business and is now estimated at over 40 million. The Dutch, Belgians, English, and French all have more than 115 cats per thousand people (in the United States, the figure is 220 per thousand), whereas Germany only has 70 cats per thousand. England has the largest total population with over 7 million owned cats in 35 percent of households (by comparison only 18 percent of households own dogs).—(*Resource: Anthrozoos, VI (1): 48, 1993*)

### Big Cats and Canine Distemper

Outbreaks of fatal canine distemper virus (CDV) infections in large exotic cats are being studied by several researchers. Dr. Max Appel, a virologist at the Cornell University College of Veterinary Medicine, has been investigating an outbreak of CDV during 1991 and 1992 that killed a number of captive leopards, tigers, lions, leopards, and a jaguar.

Recently the disease has caused the death of 85 lions in the Serengeti, Tanzania. The reason for these recent outbreaks is not clear to scientists. However, there could be a higher risk of exposure to infected raccoons or domestic dogs, or a virus mutation has allowed infection of animals normally immune to disease caused by CDV. Experimental canine distemper virus infections of domestic cats have failed to produce disease, and currently there is no evidence that CDV presents a health risk to domestic cats.

### Important Notice

**Our offices will be closed for the Thanksgiving Holiday from November 24 through November 27.**



Cornell Feline Health Center  
Cornell University  
College of Veterinary Medicine  
Ithaca, New York 14853

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