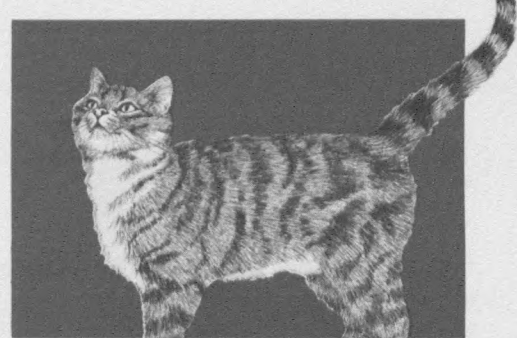


Perspectives On Cats

A Newsletter for Cat Fanciers
From The Cornell Feline Health Center

Summer 1987



N. Y. S. COLLEGE OF
VETERINARY MEDICINE

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Feline Breast Cancer?

Breast cancer in cats? Yes, it can occur in cats. In fact, several problems--including mastitis, mammary hyperplasia, and cysts--can affect the mammary glands of cats. Most problems are associated with intact female cats, however, some problems can also occur in spayed females and neutered males.

Tumors

Breast (mammary) cancer is the third most common cancer in cats, after skin cancer and lymphosarcoma. Cats at high risk include middle-aged cats (10 years and older), Siamese and domestic shorthair breeds, and intact female cats. There is no evidence that spaying female cats before one year of age lowers the incidence of mammary cancer.

Feline mammary tumors grow rapidly and spread quickly. Approximately two-thirds of afflicted cats have multiple tumors. Survival rate appears to be inversely related to the size of the tumor -- the smaller the tumor the longer the survival time.

The tumors may be hard and bumpy or soft and fluid-filled. The tumors usually are located under the skin near the nipple. Skin ulceration can occur at the tumor site.

Your veterinarian may perform a biopsy (removing a small tissue sample) and chest radiographs (x-rays) to assist in diagnosis and to determine the extent of involvement. The preferred method of treatment is surgical removal of the affected tissue (i.e. radical mastectomy). Frequent follow-up examinations should be arranged with your veterinarian to check for the possible return of cancer.

Mastitis

Mastitis is a bacterial infection of a lactating (milk producing) female cat. It usually develops after a queen has weaned her kittens, however, it can also occur during nursing. Mastitis may be acute or chronic.

Factors which can predispose a queen to mastitis include milk retention and injuries or trauma of the teat and surrounding skin during nursing.

A queen with acute mastitis will have mammary glands that are swollen and very painful. The glands may have a purplish color, depending on the severity of the infection. Other common symptoms include loss of appetite, fever, lethargy, and occasionally vomiting and diarrhea. A queen with chronic mastitis may not show any of the usual symptoms associated with mastitis, except for a low-grade infection.

The milk's pH (indicator of acidity) changes when there is an infection in the mammary gland. Normal feline milk has a pH of 6.0 to

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6.5, but when infected the milk's pH can reach a pH of 7.0. Litmus paper, usually available at drug stores, can be used to test the acidity of the queen's milk. During mastitis the milk may be tinged with blood. If the kittens are still nursing, they should be hand fed until the infection subsides.

Your veterinarian will prescribe broad-spectrum antibiotics to treat the infection. Applying hot and cold packs daily as well as a small amount of camphorated oil will improve blood circulation to the mammary tissue, thus aiding in the healing process.

Mammary Hyperplasia

Mammary hyperplasia occurs when there is a hormonal imbalance that causes an increase in the number of mammary gland cells. This increase has been directly associated with young female cats coming into their first heat (estrus) or with the administration of megestrol acetate (i.e. Ovaban^R, Megace^R) to treat behavioral or skin problems in both female and male cats. Hyperplastic mammary glands are firm and prominent. Multiple swellings can occur near each mammary gland. Application of hot packs to the affected area will provide relief by stimulating blood circulation to that area.

Mammary hyperplasia usually regresses after estrus ends or when hormonal treatment is withdrawn. If it continues to be a problem in an intact female, spaying will eliminate the return of hyperplasia. Recurring episodes of hyperplasia in spayed or neutered males can be resolved by a mastectomy.

Cysts

Mammary cysts are also associated with hormonal imbalances. Cysts are fluid filled sacs. Because cysts are considered precancerous, your veterinarian will probably recommend surgical removal of the cysts as a precautionary measure. Usually spaying intact females will help prevent the development of cysts.

Summary

Early detection and diagnosis of any abnormal lump located near the mammary gland(s) provides an extra edge to providing fast and effective treatment of the condition, whether it is cancer, mastitis, hyperplasia, or cysts.

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Kay WJ, Randolph E: The Complete Book of Cat Health. MacMillan Publishing Co. New York, NY. 1985.

Perper RJ, Kepner ES: The Complete Medical guide to Cats. New American Library, New York, NY. 1985.

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.

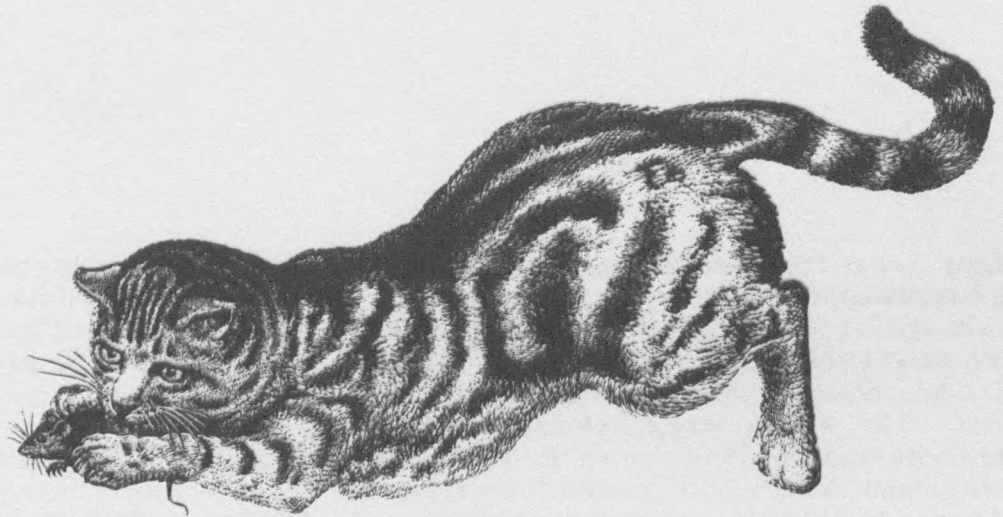
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Oh Rats!



The Inside Story on Rodenticides

Chemical warfare against rodents is a common practice by many homeowners trying to rid their premises of mice, rats, or other rodents. Although rodenticides (rodent poisons) are effective eliminators of pests, they can also be hazardous to pets.

Most of the rodenticides marketed today use anticoagulant (blood clotting inhibitor) chemicals, rather than the more hazardous compounds of strychnine or fluoroacetate. Rodenticides are formulated for use as toxic baits or tracking powders. When well designed, the baits are highly attractive to rodents with a low potential for direct ingestion by cats. However, secondary poisoning can occur when the cat catches and consumes a poisoned rodent. Fortunately, secondary poisoning is not as hazardous because the poison is at a reduced level of toxicity. However, if the cat consumes several poisoned rodents within a short amount of time, the potential for poisoning increases.

Tracking powders are more commonly used by professional exterminators. The tracking powders are more of a direct threat to cats, especially if the powders are placed in an area which is frequented by cats. The powders adhere to the feet and fur of both rodents and cats, and the poisons are then voluntarily ingested when the animal grooms itself. If you observe your cat ingesting rodenticide tracking powders, induce vomiting immediately with 1/2

teaspoon of ipecac syrup or 1 to 2 teaspoons of hydrogen peroxide. The cat should be bathed to remove any residual poison on its body.

The signs associated with anticoagulant poisoning include weakness, easy bruising of the skin, pale mucous membranes, difficulty in breathing, nose bleeds, and blood in vomitus and stools. However, it can take as long as five days before these signs are apparent. If you observe any of the aforementioned signs, schedule an appointment with your veterinarian. If possible, take samples of any bloody stools or vomit to your veterinarian for analysis. Your veterinarian may perform certain blood tests (i.e. prothrombin time, clotting time, packed cell volume) to determine the extent of the anticoagulant poisoning.

Treatment of anticoagulant poisoning usually consists of vitamin K therapy, and in severe cases a whole blood transfusion. Obviously, prompt treatment will reduce the chance of your pet having complications related to internal hemorrhaging from excessive amounts of anticoagulants within the bloodstream.

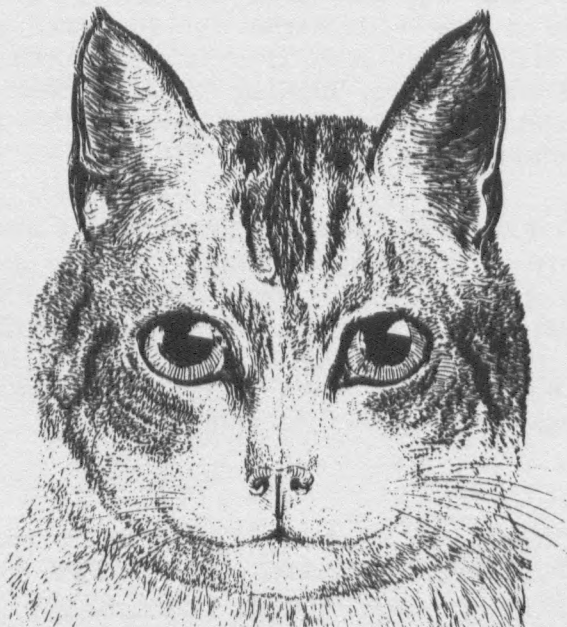
This article was adapted from an article written by Dr. Johnny D. Hoskins and published in our newsletter for practitioners, Feline Health Topics, volume 1, number 3, 1986.

Fat Cats Hat

Perhaps it was the popular comic strip *Garfield* that stimulated the editor of a local newspaper to run a "Fat Cat" contest. The number of heavy weight contenders for the prized title of FAT CAT indicated that it was a very popular contest. The winner was a rotound 23-pound tabby, with runner-ups weighing in just below the 20 pound mark. These plump felines averaged twice the normal weight for an adult cat. (The normal weight for an adult cat is 8 to 12 pounds.)

Obesity is the most common nutritional disease in cats, dogs and humans in the United States. It exceeds all nutrition deficiency diseases combined. When an animal's weight is 10 to 15 percent above the optimum weight for its age and sex, it is considered obese. Statistics indicate that approximately 30 percent of cats and dogs treated by veterinarians are 15 percent overweight. Generally, older animals tend

"Obesity is the most common nutritional disease..."



to be overweight because body fat increases with age. Therefore, to maintain the optimum weight of an aged cat, it's caloric intake should be reduced to 32 calories per pound of body weight.

Signs of Obesity

Obesity is easy to recognize. The amount of fleshiness over the ribs is a good indicator of an animal's condition. The ribs are easily visible if an animal is too thin. At normal weight you can easily feel the ribs. However, when grossly overweight the ribs are difficult, if not impossible, to feel. A more quantitative method to determine the extent of obesity is to weigh your cat.

Physical features characteristic of obese cats include:

1. The stomach protrudes on either side or it appears pendulous.
2. Noticeable bulges are on either side of the tail base.
3. The cat appears to waddle when walking.
4. Lethargy and respiratory problems are common in grossly obese cats.

Ten Weighty Problems

Fat is more than skin deep. It negatively affects your cat's health, thereby reducing the longevity of your cat's life. There are ten weighty reasons to prevent obesity, or to begin a weight reduction plan for a cat already obese:

1. The added weight puts excessive stress on joints, ligaments, and tendons. It may even aggravate arthritis.

2. Fat accumulates around the heart, thereby increasing stress on the heart as it tries to circulate blood to the additional fat tissue associated with obesity. Common related circulation problems include enlarged heart, congestive heart failure, and accumulation of

Weighty Problems

fluid (i.e. edema) in the lungs, abdomen and legs.

3. Fatty deposits in the liver decreases the ability of the liver to function.

4. Respiration problems, such as shortness of breath, occur with exercise because there is more body tissue which requires oxygen. Obviously, this strains the capacity of the lungs.

5. Excessive weight increases blood pressure. There is a greater risk of heart disease and kidney disease associated with high blood pressure.

6. Obese animals appear to have less resistance to infectious diseases.

7. Animals that have been grossly obese over a long period of time are at greater risk of developing diabetes mellitus.

8. Fat accumulations provide body heat insulation which causes intolerance to warmer outside temperatures. This is especially detrimental to cats since they already have a problem of dissipating body heat during warm weather.

9. Skin problems occur more frequently because the cat is unable to properly groom itself due to the excess weight.

10. Constipation more commonly occurs in overweight animals.

Causes of Obesity

Obesity results when the caloric intake far exceeds the energy expended to use the calories. There are several factors that can produce weight gain. Metabolic disorders such as hypothyroidism can cause a reduced metabolism rate. However, it is thought that probably less than 5 percent of overweight problems in cats can be attributed to metabolic disorders.

Certain chemicals released in the gastrointestinal tract help to regulate food intake. Some inhibit food intake while others stimulate appetite. The effect of these chemicals on cats is not fully understood at the present time.

Sex hormones (i.e. estrogen and testosterone) appear to influence weight. For example, studies show that neutering doubles the incidence of obesity in cats. This is related to reduced activity because the neutered cat has less tendency to roam and be restless. Also, studies seem to indicate that there is an increased efficiency in energy utilization of calories after neutering.

The type of foods fed also have a direct relationship to obesity. Nutritionists have discovered that high fat diets can induce obesity without an increase in caloric intake. Also, an animal is more likely to become obese on a high sugar diet than on a high starch diet. The reason is that glucose in a high sugar diet is utilized less efficiently.

Weight Control

To lose one pound of fat it requires an energy deficit of 3500 calories. Therefore, the basic principles of weight control include increasing activity and decreasing calories.

Increase Activity:

Cat aerobics is not unrealistic. In fact, scheduling a time to play with your cat can be very beneficial. Vary your cat's exercise activities to include stretching exercises (i.e. dangling a toy for your cat to reach for) and vigorous activities (i.e. dragging a toy across the floor for your cat to chase and pounce upon). If the cat has limited space to roam, provide a carpeted climbing post with stepped

platforms. If your cat is trained to a harness, consider taking him on your next walking excursion. These are just a few ideas to increase your cat's physical activity to burn up calories.

Decrease Caloric Intake:

Starvation diets may provide rapid weight loss, but other physiological problems can occur which may further jeopardize your pet's health. Judiciously reducing caloric intake is a wiser approach. For example, older cats should be on a regular diet of 32 calories per pound of body weight to compensate for the physiological changes that occur with maturity. However, counting calories for your cat can be very difficult because nutrition labels on cat food usually do not disclose information on caloric content. Table I shows a method to calculate approximate calories based on the nutrient analysis which does appear on the label under the title of "guaranteed analysis". If the procedure outlined in Table I is too complex and

time consuming, you can simply reduce your cat's daily food intake. However, it is recommended not to decrease it more than two-thirds of the usual amount fed. During a restricted intake diet, it may be advisable to give your cat a daily vitamin/mineral supplement. Another alternative is to feed a commercial diet food, such as Hill's Feline r/d. Be sure to follow the feeding instructions on the package.

Do not feed high-caloric treats to your cat. Also, avoid feeding table scraps that tend to have a high fat content.

Before You Begin a Diet Program

Before initiating a diet for your overweight cat consult with your veterinarian regarding the best approach to weight loss for your cat. Each animal is an individual and there may be additional problems associated with longterm obesity which require your veterinarian's expert attention.

Table 1. Method to Calculate Calories in Cat Food

<u>Amount of calories per gram of nutrient</u>			
Protein	3.5	Moisture	0
Fat	8.7	Ash	0
Fiber	0	Carbohydrate	3.5

Procedure:

1. Multiply the percent of each nutrient on the cat food label by the amounts listed above.
2. Total the amounts calculated in step 1.
3. Divide the total in step 2 by 1000.
4. Multiply the result in step 3 by 454.

Example:

"Guaranteed Analysis" label on dry cat food:

Crude Protein	30%
Crude Fat	8%
Crude Fiber	4.5%
Ash	6%
Moisture	10%
Carbohydrate	41.5% (usually is not listed, but is calculated by adding up the other nutrients and subtracting from 100)

Step 1: Protein: $30 \times 3.5 = 105$

Fat: $8 \times 8.7 = 69.6$

Fiber: $4.5 \times 0 = 0$

Moisture: $12 \times 0 = 0$

Ash: $6 \times 0 = 0$

Carbohydrate: $41.5 \times 3.5 = 145.25$

Step 2: $105 + 69.6 + 0 + 0 + 0 + 145.25 = 319.85$

Step 3: $319.85 \div 1000 = 3.2$ calories per gram of food

Step 4: $3.2 \times 454 = 1452$ calories per pound of food



Honor Roll

The following individuals have contributed \$100 or more to support the Cornell Feline Health Center's work on feline diseases. We are most grateful for their support and the support of many others who are not listed on the honor roll.

Name

Joyce Compson, New York
 Marjorie D. Cornell, Florida
 Helena Fish & Alice Mullen, Massachusetts
 Fowler-Milburn Foundation, New York
 Phill and Kathleen Gill, Virginia
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 Dr. Robert Jochen, New Jersey
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 Gregory and Veronica Maier, New York
 Annette Muir, New York
 Doris Parr, Connecticut
 Elsie Pease, Ohio
 Jim G. Reder, Virginia
 Helen E. Shepard, New York
 Stephen Wuori, New York

This year we have offered several new membership categories. The **Patron** and **Contributing** membership categories provide additional support for our work. We heartily thank the following individuals who chose memberships in these categories.

Patron:

Sally Faille, Nevada
 Preston Country Club for Pets, Maryland

Contributing:

Elizabeth E. Albon, Texas
 Cindy Alldredge, Texas
 Andrea Zaun Balcerski, Michigan
 Jonathan Cohen, New York
 Linda Delia, New York
 Eileen DeLucia, New Jersey
 Dorothy Greenauer, New York
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In memory of Missy
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 In memory of Snooper and Scamper
 In memory of Ming
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 In memory of Tammy
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We also wish to express our thanks to the following cat clubs for supporting the work of the Cornell Feline Health Center.

Brooklyn Cat Fanciers, New York
 Executive Class Cat Fanciers, New Jersey
 Feline Alliance of Tidewater, Virginia
 Hawkeye State Cat Club, Iowa
 Hi-Desert Cat Club, California
 Hidden Peak Cat Club, Maryland
 Illini Cat Club, Illinois
 International Division Cat Club, Florida
 Maine Coon Breeders and Fanciers Assoc., Virginia
 Manasota Cat Fanciers, Florida
 Massachusetts Colony Cat Club, Massachusetts
 Northern Lights Cat Club, Wisconsin
 Renegades Cat Fanciers, New Jersey
 Triangle Cat Club, New Jersey
 Windy City Cat Fanciers, Illinois
 Wisconsin/Illinois Cat Club, Wisconsin

In the News . . .

STREP CANIS CAN CAUSE KITTEN MORTALITY

Scientists at the University of California, Davis, have identified *Strep canis* bacteria as a cause of kitten deaths in their catteries. This bacterial infection differs from Kitten Mortality Complex (KMC). Kittens with *Strep canis* usually expire within 7 to 10 days after birth and show no apparent signs of illness before death.

Strep canis was recognized as the cause of kitten deaths after it was identified during the autopsy of the dead kittens. Each of the dead kittens had an internal abscess at the end of the umbilical cord, which cultured positive for *Strep canis*. Further investigation showed the bacteria existed in the vaginas of numerous queens in the cat colony at the University of California.

Scientists believe that the kittens are contaminated at birth. However, carrier queens cannot be identified because the birthing process removes the bacteria, leaving the vagina clean. Afterwards, it takes up to two weeks for the bacteria to recolonize. Therefore, carrier queens cannot be detected at the time the kittens are dying. Queens carrying the bacteria seldom show symptoms, but will sometimes develop uterine infections.

Breeders can prevent losing kittens to *Strep canis* infections by dipping the kitten's umbilical cord in iodine immediately following birth. Other precautions taken by cat center employees include transferring a kitten that fails to nurse to a more settled queen that gave birth one or two days earlier. If a kitten fails to nurse, placing it on a hot water bottle may stimulate it to eat after its body temperature reaches the normal range.

CORNELL TO STUDY AIDS-like VIRUS IN CATS

The Cornell Feline Health Center is embarking on a project to study the recently identified feline lentivirus (FTLV). The virus was first discovered by Dr. Niels C. Pedersen at the University of California at Davis. FTLV is similar to the human AIDS virus, producing similar symptoms in cats (e.g. swollen lymph nodes, severe weight loss, diarrhea, respiratory infections, and anemia). However, FTLV is genetically different. According to Dr. Pedersen, there is no evidence for cat-to-human or human-to-cat infection.



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