

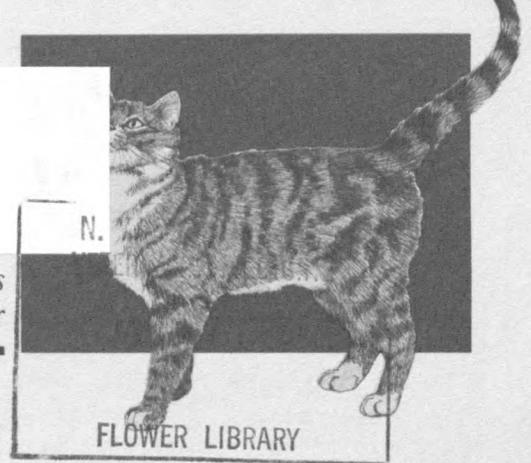
# Perspectives On Cats

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

Winter 1984

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## Is Your Cat a Pill about Pills?

June E. Tuttle

I own two American shorthair cats. Each one reacts entirely different when they receive medications. Nougat is very cooperative so she needs very little restraint. But Rosie is the Houdini of the cat world. She has learned some of the best evasion techniques ever devised to escape from medications. Treatment was impossible once Rosie began to twist her body and claw at me. I was convinced that the only way for both of us to survive the treatment regime was for me to learn proper restraint and medicating techniques.

### Basic Restraint

The method you choose should be the least stressful for both you and your cat. Most methods require two people -- one to restrain the cat, the other to give the medication.

If your cat is relatively cooperative you can gently but firmly press him/her against the table. This prevents your cat from scratching you with its back claws. You can further immobilize a cat by wrapping it snugly in a blanket or towel. Cat bags, which are based on the same principle, are available at some pet stores. Someone should assist to make sure the cat remains still for treatment.

A common technique is for an assistant to firmly hold one of the cat's front legs with one hand and then place the other hand on the scruff of the cat's neck. A variation of this method is to position the cat on its side with your assistant firmly holding the front legs in one hand and the back legs in the other hand.

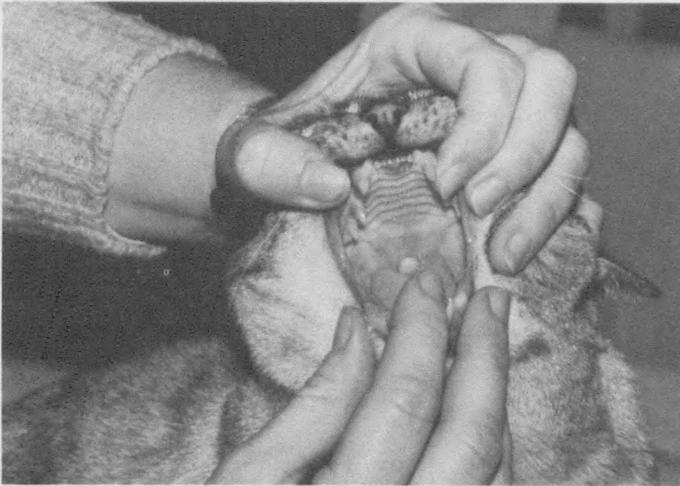
When no one is available to assist you during treatments try kneeling on the floor and placing your cat between your legs. Gently press your legs against your cat's sides to hold him/her in place. Your cat's head should be facing forward before you begin to give medications.

### Pills

I find that giving pills is the most risky because of the proximity to razor-sharp teeth. To open your cat's mouth, place the palm of your hand over the top of its head and press inward against the upper lip with your finger and thumb. Remember to tilt the head upwards at a 45° angle. When your cat begins to open its mouth, press down on the lower jaw with the index finger of your other hand. Now place the pill on the back of the tongue on the midline or drop the pill deep into the mouth. Close your cat's mouth quickly. While holding it shut, stroke the throat or tap briskly under the chin. This stimulates the swallowing reflex.

This issue is dedicated to Joyce Tumbelston, who was editor for the past three years. Thank you, Joyce, for your dedication, enthusiasm and professionalism which were reflected in the quality publications you produced for the Cornell Feline Health Center.

Avoid breaking up pills or separating capsules unless your veterinarian okays this procedure. Ingredients of pills can have an unpleasant taste when transformed into a powder. Also many pills are designed with a protective coating to prevent indigestion or are designed for delayed release.



## Injections

Treatment for certain diseases such as diabetes may require that you give injections to your cat. Usually your veterin-

arian will carefully demonstrate and review the technique with you before you take your pet home.

The most common technique for home treatment is subcutaneous injection. There are four basic, but very important principles to remember when giving subcutaneous injections:

1. Carefully wipe the rubber diaphragm of the medicine vial with an antiseptic before removing fluid from the vial.
2. After withdrawing the proper dosage, point the needle toward the ceiling and slowly press the syringe plunger to expel any air bubbles.
3. Swab the injection site with alcohol before inserting the needle.
4. After inserting the needle pull back on the plunger and check for any sign of blood in the syringe. If blood appears, withdraw the needle and try again. This is crucial because some medications can cause death if injected into a blood vessel.

## Liquids

Some medications come in a liquid form. Adult cats can take up to two teaspoonsful of liquid in a single dose.

The cat's head should be relatively level to prevent the medication from entering the larynx. Insert the applicator tip into the cheek pouch (area between the cheek and molar teeth); close the cat's lips around it with your fingers then inject the liquid. The cat will automatically swallow when the liquid reaches the back of its mouth.

## Ear Medications

Your cat needs to remain very still to prevent movement which could result in accidentally puncturing the ear canal with the

## Perspectives On Cats

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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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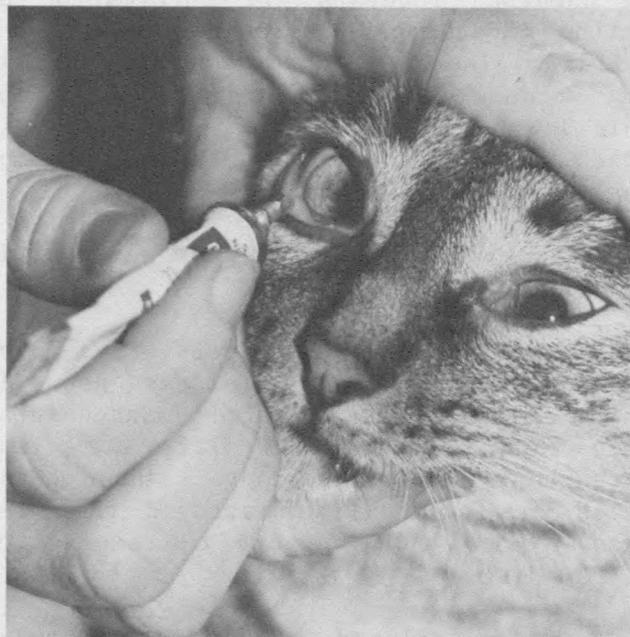


medicine dispenser. Fold the ear flap back then insert the applicator tip carefully into the ear canal, but only as far as you can see. Squeeze a small amount of ointment into the ear canal and gently massage the ear or follow the instructions on the label.

### Eye Medications

Steady your cat's head with one hand and draw his lower lid down to expose the in-

ner surface of the eyelid. Apply the ointment to the inside of the lower lid. Never directly apply it to the eyeball. Because it is irritating serious eye damage can result if your cat jerks its head while being medicated.



Eye drops are applied directly to the eyeball. Steady the heel of the hand in which you are holding the dropper against the side of your cat's head. Tilt his nose upward, then drop the medication into the inner corner of his eye. Gently rub the eyelids to evenly disperse the medication.

## Staff News

Regretfully, we said our "goodbyes" to Joyce Tumbelston when she accepted a position as editor at Syracuse University. Her new job responsibilities include publicity for three of the colleges at the university.

Joyce began as assistant editor in 1981 for Cornell Feline Health Center and was promoted to editor in 1983.

June Tuttle joined the Cornell Feline Health Center staff in August as editor. Previously, she worked as communications specialist for Cooperative Extension of Broome County. She has an associate's degree in animal science and a bachelor's degree in agricultural journalism.

### In Summary

Remember, the least amount of restraint is the best. Perhaps giving medications will never be fun, but you can make it more pleasant for you and your cat by using proper restraint and medicating techniques. ■

*(Photographs by David W. Tuttle)*

**Special thanks to Drs. William Hornbuckle, Sydney Moise and Fredric Scott who reviewed this article.**

### RESOURCES:

Carlson DG, Giffin JM: *Cat Owner's Veterinary Handbook*, Howell Book House, 1983.

Kirk RW, Bistner SI: *Handbook of Veterinary Procedures and Emergency Treatment*, WB Saunders Co., 1975.

## *Answers to Your Questions on*

Joel D. Baines, B.S., V.M.D.; Charles A. Baldwin

During the past few months we have received numerous requests for information on feline infectious peritonitis. It is a baffling disease which we are still seeking methods of treatment and prevention. This is the first of a two part series in which we will be answering the most common questions on this disease.

### **1. What is feline infectious peritonitis (FIP)?**

FIP is a viral disease of cats. The coronavirus that produces the disease grows in white blood cells called macrophages. They then serve to circulate the virus throughout the cat's body. When these cells are eventually destroyed they release toxins that support the expression of the disease.

### **2. Is it related to feline leukemia?**

FIP and feline leukemia are caused by different viruses. Many cats that have FIP may also have feline leukemia virus but the diseases are two separate entities.

### **3. What are the signs of the disease?**

Initial exposure to FIP virus may result in a mild upper respiratory disease that is characterized by sneezing, watery eyes, and watery nasal discharge. Some cats may experience a mild intestinal disease. Most cats undergoing this primary infection completely recover although some of them may become virus carriers. Only a very small percentage of exposed cats develop the lethal disease -- weeks, months, or perhaps years after primary infection.

The onset of clinical signs of lethal FIP may be sudden (especially in kittens) or slow with the severity gradually increasing over a period of weeks. Many cats have nonspecific symptoms such as intermittent inappetence, depression, weight loss, and fever.

There are three major forms of lethal FIP: effusive (wet) FIP; noneffusive (dry) FIP; and combinations of both.

The most characteristic sign of effusive FIP is the acculumentation of fluid within the abdomen and/or chest. When fluid accumulation becomes excessive it may become difficult for the cat to breathe normally.

The onset of noneffusive FIP is usually slower and the disease course more chronic than in effusive FIP. Fluid accumulation is minimal, although weight loss, depression, anemia, and fever are almost always present. Clinical signs of kidney failure (increased water consumption and urination), liver failure (jaundice), pancreatic disease (vomiting, diarrhea, diabetes), neurologic disease (loss of balance, behavioral changes, paralysis, seizures), or ocular disease (inflammation, blindness) may be seen in various combinations.

FIP is a difficult disease to diagnose because each cat can display different symptoms and the symptoms are similar to many other diseases.

The most consistent finding is fever (103°-106°) which may fluctuate and usually persists until the last few hours of life.

### **4. Is there any cure?**

Unfortunately, no cure yet exists. There are no effective antiviral drugs or vaccines for FIP. The basic aim of therapy is to alleviate the self-destroying inflammatory response of the disease. Some treatments may induce short-term remissions in a small percentage of patients. A combination of corticosteroids, cytotoxic drugs, and antibiotics with maintenance of nutrient and fluid intake may be helpful in some cases. Immune-modulating

# *Feline Infectious Peritonitis*

B.S., D.V.M., M.S.; and Cheryl Stoddart, B.S., M.S.

drugs may in time prove to be beneficial for treatment of FIP.

## **5. How do cats get the disease?**

It is not known how and when the FIP virus gets from one cat to another. In addition, little is known concerning the duration of contact necessary between two cats for the virus to infect the second cat. Since the virus is sensitive to environmental conditions, close contact is probably required. Inhalation via the respiratory tract or ingestion and infection via the intestinal tract are probably the major routes of infection. Other possible ways of transmitting the virus (besides oral and respiratory discharges) could include contact with the urine and feces of infected cats. A slight possibility does exist that the virus may be transmitted indirectly by such artifacts as clothing, bedding, feeding bowls, etc.

Fortunately, the FIP virus is very unstable outside its host. Usually the virus loses its potency within 24-48 hours. It is rapidly inactivated by most household detergents and disinfectants. An inexpensive and effective solution is household bleach diluted 1:32 in water (4 ounces per gallon of water).

## **6. What are the chances my cat will get FIP in his lifetime?**

FIP is a relatively uncommon disease. It is probably safe to say (although no exhaustive epidemiologic studies have been done) that less than 1% of cats brought to a veterinarian's office for treatment have FIP. Young cats (2-3 years old), older cats (over 10 years old), cats in poor physical condition and cats undergoing concurrent infections or stress are more susceptible to the disease. FIP seems to be more common in some catteries - whether these catteries provide conditions condu-

cive for viral exposure or the cats are genetically susceptible is unknown.

## **7. Is there anything I can do to keep my cat from getting FIP?**

There is no known preventative method for keeping a cat free from FIP. If you have only one cat and restrict the cat indoors with no exposure to other cats, there is little else that can be done preventatively. At this time, little is known about the carrier status of infected cats or how the virus is transmitted between cats. Consequently, it is very difficult to suggest specific preventative procedures to follow.

## **8. How is a positive diagnosis made?**

Some clinical cases of FIP can be diagnosed with reasonable assurance by the veterinarian based on clinical signs and examination of abdominal or chest fluid. Many cases, however, present a diagnostic challenge since the signs of illness are not distinct for FIP. In these cases, the only way a positive laboratory confirmation of FIP can be made is by performing a biopsy and examining the tissues.

All of the other tests, including the FIP antibody test, aid in the diagnosis, just as taking the cat's temperature or drawing a blood sample for blood profiles can help in diagnosing a disease.

In the near future, there may be antigen tests which will enable one to diagnose clinical cases of FIP by identifying the FIP virus in the blood at the time of the sampling. This may allow the correlation of clinical signs with the presence of the virus and, thereby, lead to a positive diagnosis.

*(continued on page 7)*

## 1984 Christmas Wish List

Suppose cats could speak our language, what would they ask for this holiday season? Would it be for kitty snacks? or catnip toys? or would it be for a better world for all their feline friends and relatives -- a world free from such fatal diseases as feline infectious peritonitis, feline leukemia, and other serious diseases that afflict cats.

You can help us make progress on these and other diseases. How? Consider adding one of the following items on your holiday shopping list. Give the gift of life by supporting our work on feline health.

### **Column for the HPLC Chromatography Unit (\$585)**

This item is needed to continue our work on feline infectious peritonitis. The column will perform two very important functions: to purify antibodies against FIP virus, which may help produce a vaccine and possibly provide a new FIP test; and purify RNA from the virus which will allow large scale production of vaccine proteins at a relatively low cost.

### **Accumet 800 pH/mV Meter (\$495)**

Accurate pH readings are important as we continue our research on FIP. The pH tolerances (or amount of acidity) of the solutions we use are within a very narrow range. Also, our equipment is very sensitive to fluctuations in pH. This instrument would protect our research equipment from damage, thereby making laboratory models more feasible.

### **Aqua-matic Heating Pad K-20F (\$270)**

Hospitalized cats are kept warm on these specialized heating pads during surgery and afterwards in intensive care. Maintaining the proper body temperature prevents the patient from going into shock.

### **Datascope 871 Cardiac Monitor (\$3,900)**

Missed heart beats or irregular contractions can ultimately cause death. This cardiac monitor will assist the clinical staff of the intensive care unit to keep a watchful eye on their feline patients.

### **Mobile Cart Stretcher Pads (\$200)**

The hard surface of a stretcher can be uncomfortable and unsafe for patient transportation. This item would be a welcome addition to the small animal clinic when moving anesthetized patients.

### **Blow Dryer (\$150)**

The blow dryer will rapidly dry bathed cats and kittens and decrease the possibility of stress-related illnesses.

### **Glucochek II (\$250)**

This automatic, digital glucose monitor is very portable and will make reading of chemstrips more reliable.

### **Strip Splitter (\$30)**

The small animal clinic uses many glucose strips per week. This device will accurately cut the standard test strip in half thereby cutting the clinic's costs.

### **Ten-SV Care Unit (\$880)**

This unit provides controlled atmospheric conditions for kittens in intensive care, thereby increasing their chance for survival.

**Did you know that many businesses and corporations provide matching funds for donations that their employees make? Ask your employer for more details on this special donation program.**

## *Feline Infectious Peritonitis*

(continued from page 5)

### 9. What is the FIP-antibody test?

There are several tests which measure coronavirus antibodies in the cat: KELA, ELISA, immunofluorescence and virus neutralization. These tests react the cat's serum with a specific coronavirus, either FIP or a related coronavirus. If a reaction occurs, the test is read as positive. Positive only means the cat has had a prior exposure to a coronavirus - not necessarily FIP virus-- and has developed antibodies against this virus. If the test is negative, it means the cat has not been exposed to a coronavirus. The number or titer that is reported is the highest serum dilution that still produced a positive reaction. Low titers indicate a small amount of coronavirus antibody in the serum, while high titers indicate greater amounts of antibody.

### 10. Should I have an FIP-test done on my cat?

There are two primary situations where the determination of coronavirus antibody titers can be useful to the cat owner/breeder and their veterinarian:

- 1) As a screening test, to determine the presence or absence of antibody in previously untested household, and to detect potential virus carriers or shedders when introducing new cats into coronavirus antibody-negative households or catteries.
- 2) As an aid (and nothing more than an aid) in the clinical diagnosis of a diseased cat with signs suggestive of FIP. A coronavirus antibody titer determination should be given no more weight than any of the other routine procedures used in arriving at a clinical diagnosis.■



## *Special Gift Offer—*

## *"Felis Domesticus"*



Can't find the right gift for the cat lovers on your Christmas list? Here's a gift that is sure to please the most finicky cat fancier, a personal copy of "Felis Domesticus: A Manual of Feline Health (1982-83)". From genetics to nutrition; raising kittens to infectious diseases, you'll find it all in "Felis Domesticus".

We are offering this 200-page comprehensive book at a special seasonal discount of \$11.50 (includes postage and handling costs).

Use the form below to order your copy/copies. To assure delivery before Christmas send your order in by December 7.

------(clip and return)-----

### ORDER FORM FOR "FELIS DOMESTICUS: A MANUAL OF FELINE HEALTH (1982-83)"

Please send me \_\_\_\_\_ copy (copies) of "Felis Domesticus".

I have enclosed \$11.50 (US funds) per copy ordered.

Total amount Enclosed: \$ \_\_\_\_\_

Please rush. This is a Christmas order.

Send the order to:

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Please make checks or money orders payable to Cornell Feline Health Center.

## *A Time for Thanks*

This has been a very special year for the Cornell Feline Health Center. It marks our 10<sup>th</sup> anniversary as the first feline health center in the United States. We have made progress on many diseases that afflict cats such as establishing vaccine recommendations for panleukopenia and respiratory diseases, isolating and identifying several feline viruses (reovirus, rotavirus and enteric coronavirus) and identifying several feline skin diseases. We are thankful to you for making these studies and medical advances possible because of the support you have given us over the past 10 years.

During the past decade we have had many firsts in feline health, but the future holds the promise of discovering more treatments and cures for fatal and serious diseases that afflict cats. Additional research needs to be done on feline infectious peritonitis, feline leukemia virus and cardiomyopathies in cats. But the cost of research has dramatically increased over the past 10 years and today's technology has made research much more sophisticated. We need your continued sup-

port. Please consider making a tax-deductible contribution to the Cornell Feline Health Center. If you want your gift to be used for a special project or item please see our Christmas Wish List on page 6.

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We extend a special thank you to the cat clubs who have shown their support by making contributions to the Cornell Feline Health Center during the past three months:

**All Breed Cat Club of the Northeast  
Central Massachusetts Feline Fanciers  
Circle City Cat Club  
Genesee Cat Fanciers' Club, Inc.  
Hidden Peak Cat Club  
Jonesville All-Breed Cat Club, Inc.  
Somali Cat Club**

Your contributions help us continue to provide up-to-date information to cat fanciers and veterinarians and to make progress on finding cures or treatments for diseases that afflict all cats. ■



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