

# PARASITES & OTHER STUFF

## 4-H Cats Unit 2: Chapter 6 - Part 2



### I. PARASITES

- ◆ A parasite is an organism that lives in/on another animal (that animal is the host).
- ◆ They range in size from one-celled protozoa to easily visible creatures such as worms or fleas.

#### A. Internal Parasites

- ◆ It is quite likely that a cat will have a problem with worms sometime during its life.
- ◆ Some internal parasites, such as roundworms, can pass from the queen to kittens during lactation.
- ◆ Some parasites, such as hookworms & whipworms, are rarely found in the Pacific Northwest, but you should be aware of them in case you travel with your cat.
- ◆ Sanitation is very important in controlling internal parasites.

#### 1. Roundworms

- ◆ Roundworms, or ascarids, are the most common of all intestinal parasites.
- ◆ Adult cats rarely show symptoms of roundworm infestation.
- ◆ Common symptoms in kittens include:
  - ✓ Failure to thrive,
  - ✓ A dull coat,
  - ✓ A potbellied appearance.
- ◆ Spaghetti-like worms may pass in the feces; or they may be vomited.
- ◆ The primary method of detection is by checking the feces for eggs.
- ◆ The eggs are passed in the stool & can be transmitted to other cats in the area or to cats that use the same litter pan.
- ◆ A cat may swallow an egg directly or by eating a rodent that has eaten the eggs.

#### 2. Tapeworms

- ◆ Tapeworms range in size from less than an inch to 30 feet
- ◆ The two most common species found in cats rarely grow to more than two feet.
- ◆ Intermediate hosts such as fleas & rodents are necessary for the tapeworm to complete its life cycle.
- ◆ Carriers, such as fleas, must be eliminated & the cat should not be allowed to hunt & eat rodents.
- ◆ You may notice rice-like segments of the tapeworm around the cat's anus, on carpets, or in the cat's bed.
- ◆ These segments contain tapeworm eggs which may be ingested by fleas & other intermediate hosts.

#### 3. Hookworms

- ◆ These small parasites with hook-shaped heads infect a cat either by being swallowed or by penetrating its skin.
- ◆ They attach to the intestinal wall with spines and suck blood from the cat.
- ◆ Hookworms are generally found only in the southern United States.

#### 4. Lungworms

- ◆ Lungworms cause chronic respiratory problems, although symptoms are generally mild.
- ◆ The adult worm lives in lung tissue where it produces eggs which hatch into larvae.
- ◆ The larvae are coughed up by the cat, then swallowed & passed out in feces. They are dormant until eaten by a snail or slug.
- ◆ The snail or slug must then be eaten by another animal such as a rodent or bird, which then is eaten by a cat.
- ◆ The larvae then are carried by blood to the lungs where they become adult lungworms.

#### 5. Heartworms

- ◆ Heartworms are slim round worms that primarily infect dogs, although they can also be found in cats.
- ◆ They are transmitted by mosquitoes, who suck the larvae from the blood of one animal, then inject them into the blood of another.
- ◆ The larvae travel to the right ventricle of the heart where they develop into adult heartworms, 5-10 inches long.
- ◆ Due to the small size of the cat's heart, one or two adult worms can cause serious problems.
- ◆ A preventive medication is approved for dogs & may also be used for cats in areas where there is a high occurrence, primarily in the southeastern U.S.

## 6. Whip & Threadworms

- ◆ These worms are quite rare in cats.
- ◆ They are 2-3 inches long & have a whitish-colored whip-like body.
- ◆ They are usually located in the lining of the large intestine of the cat.
- ◆ Symptoms are minimal, perhaps diarrhea.
- ◆ Fecal tests for eggs should be done in areas where they may occur.

## II. PROTOZOA

- ◆ There are several protozoa that can cause disease in both cats & humans.
- ◆ Two of the more well-known diseases are coccidiosis & toxoplasmosis.

### A. Coccidiosis

- ◆ This is a disease caused by the coccidian protozoa, *Isosporafilis*, a parasite in the small intestines.
- ◆ There is very little disease caused by this protozoa, except in kittens, where diarrhea may develop.

### B. Toxoplasmosis

- ◆ A cat infected by the protozoa, *Toxoplasma gondii*, may show very minor flu-like symptoms or none at all.
- ◆ The major concern of this infection is the transmission to humans, which occurs by coming in contact with the feces of an infected cat.
- ◆ Although most humans will suffer only minor symptoms, small children may become more ill, & a pregnant woman may miscarry, or the unborn child may develop deformities.
- ◆ To prevent infestation, children's sandboxes should be kept covered when not in use, & a pregnant woman should never clean litter boxes.
- ◆ Thorough hand washing after cleaning litter boxes should be practiced by everyone.

## III. CONTROL OF INTERNAL PARASITES & PROTOZOA

- ◆ There are only a few products available for controlling internal parasites in cats.
- ◆ They may be packaged under several brand names, so it is important to know drug names & read the label.
- ◆ NEVER use a dog product unless directed by your veterinarian.
- ◆ You also need to know what parasite you are trying to eliminate.
- ◆ Yearly fecal exams are very important to identify internal parasites.
- ◆ Tapeworms require different chemicals than all other parasites.
- ◆ Praziquantel is the only approved dewormer that is effective against tapeworm species. It is currently a prescription only medication.
- ◆ Round, hook, lung, whip & threadworms are susceptible to pyrantelpamoate & fenbendazole.
- ◆ Another substance, Piperazine, is widely available over the counter, but is not very effective.
- ◆ Heartworms are susceptible to several medications, but only ivermectin has been approved for use in cats.
- ◆ Coccidiosis is normally treated with sulfa drugs.
- ◆ Toxoplasmosis has no effective treatment.

## IV. EXTERNAL PARASITES

### A. General Information

- ◆ External parasites include fleas, lice, ticks, & mites.
- ◆ Severe infestations can make a cat ill & can even cause death, particularly in very young or very old cats.
- ◆ Before using any product, make sure the label clearly states that the product is safe for cats & then follow the label instructions exactly.
- ◆ Do not mix different types of treatments unless the veterinarian has approved them.

## **B. Ear Mites**

- ◆ *Otodectes cynotis*, the cat ear mite, irritates the ears causing them to produce a dark brown wax.
- ◆ Scratching results in scabs & sores in & around the ears.
- ◆ If left untreated, the irritation will get worse, resulting in a blocked ear canal, bacterial infection, or even spread to the inner ear, causing loss of hearing or loss of balance.

## **C. Fleas**

- ◆ Fleas are a cat's most common parasite.
- ◆ Fleas, *Ctenocephalides felis*, are small, hard-shelled insects that feed on the blood of animals.
- ◆ The life cycle of a flea can last from a few weeks to over two years.
- ◆ An adult female flea can lay several hundred eggs during her lifetime of one year. An egg will hatch into a larva in two to twelve days.
- ◆ The larva eats adult flea feces & goes through three molts. This period can last from 1½ weeks to 30 weeks.
- ◆ After the third molt, the larva spins a cocoon & remains in that cocoon from a week to up to a year.
- ◆ When conditions are right, an adult flea will emerge from the cocoon.
- ◆ Ideal conditions for fleas include warm temperatures (65°–80°F) & some moisture.
- ◆ The stages of the life cycle are delayed by temperature extremes (below 50°F or above 80°F) or by lack of moisture.
- ◆ The bite of the flea causes a small red irritated spot which the cat scratches & bites to relieve the itching.
- ◆ A cat may develop an allergy to the flea saliva & a skin disorder known as miliary dermatitis may occur.
- ◆ Another health problem caused by fleas is tapeworm infestation.
- ◆ Flea larvae eat tapeworm eggs which develop into tapeworm larvae inside the flea larvae.
- ◆ When a cat swallows the flea during the self-grooming process, it becomes infected with tapeworms.

## **D. Lice**

- ◆ External Parasites
- ◆ A cat louse, *Felicolasubrostratus*, is a small, wingless insect.
- ◆ Healthy, well-fed cats most likely will not be bothered by lice, but a neglected cat, especially one suffering from malnutrition, may have them.
- ◆ Infestation is through direct contact with an infected cat or from bedding or grooming equipment recently used by an infected cat.
- ◆ There are various powders, dips, & shampoos that can be used to treat an infected cat.
- ◆ The cat should also be fed a high-protein diet.
- ◆ A thorough vacuuming & scrubbing of the house & destroying the cat's bedding should also help.

## **E. Ticks**

- ◆ Cats rarely have ticks, but an outdoor cat may pick them up.
- ◆ Usually they are found around the ears, neck, or between the toes.
- ◆ The best way to remove a tick is to use tweezers.
- ◆ Grasp the head of the tick as close to the cat's skin as possible & gently pull it straight out.
- ◆ Don't use heat, flammable liquids, or caustic substances to remove ticks, as they could cause injury.
- ◆ Cats that roam in tick-infested areas should be dusted weekly with a cat-safe insecticide.
- ◆ Control of External Parasites

## **F. Controlling External Parasites**

### **1. Topicals**

- ◆ The once-a-month topical products are the best way to control external parasites on your cat.

- ◆ Imidacloprid(Advantage) is highly effective against fleas but nothing else.
- ◆ Fluralaner(Frontline) is very effective against fleas & ticks.
- ◆ Ivermectin(Revolution) is effective against most internal parasites (except tapeworms) & external parasites. Requires a prescription.
- ◆ Lufenuron(Program) will slowly control flea numbers by preventing reproduction of fleas but does not kill the fleas already on your cat.

## 2. Other Flea Products

- ◆ Older products are still widely available, especially through catalogs & the internet stores.
- ◆ Dips should be avoided as their benefit is minimal & their potential for toxicity is high in cats.
- ◆ Shampoos are effective for only a day or two.
- ◆ Read labels carefully & use products with only the chemical pyrethrin.
- ◆ Powders are not designed for cat fur & have a very short time of effectiveness.
- ◆ Collars must be used cautiously as some cats get sick from them & others may develop a rash under the collar.

## 3. Flea Bombs

- ◆ When using flea bombs, make sure the label claims 16 weeks of control.
- ◆ This means it contains an insect growth regulator, which kills the larval & egg stages.
- ◆ Nothing will kill the pupa or cocoon stage.
- ◆ Severe infestations may require a second bombing 10 days later in order to kill the pupae which have recently hatched.
- ◆ Indoor treatment should begin with a thorough vacuuming of floors & furnishings.
- ◆ The cat's bedding should be changed frequently.
- ◆ There are many sprays & dusts that can be used outdoors, & areas of flea infestations can be minimized by mowing, raking, & removing debris.

# V. OTHER COMMON DISORDERS

## A. Hairballs

- ◆ Other Common Problems
- ◆ **Hairballs**
- ◆ Cats groom themselves by licking their coats, swallowing loose hairs in the process.
- ◆ Sometimes quantities of hair can lodge in the stomach or intestine & form hairballs.
- ◆ Symptoms of hairballs include loss of appetite, vomiting, & constipation.
- ◆ They can be treated with a mild lubricant, such as mineral oil, which will help clear the hairball out.
- ◆ Rarely, hairballs must be removed by surgery.
- ◆ Prevention includes:
  - ✓ Frequent brushing
  - ✓ An occasional dose of lubricant, especially during the spring and fall when cats are shedding more heavily.
- ◆ Another preventive measure that most cats really enjoy is the oil from a can of tuna.

## B. Abscesses

- ◆ Abscesses most often occur following cat fights.
- ◆ They are caused by puncture wounds from teeth & claws & are found primarily on the face, head, legs, or back.
- ◆ Bacteria are injected into the skin, but the skin quickly heals over, sealing the infection under the skin.
- ◆ The infection creates a hot, red, painful, swollen area under the skin which is filled with pus.
- ◆ A veterinarian will open up the abscess so it can drain. Some abscesses may burst on their own.
- ◆ Treatment with antibiotics will help healing. The wound should be kept clean to prevent further infection.

## C. Constipation

- ◆ Constipation can result from a variety of causes, including hairballs.

- ◆ If the cat strains, but is unable to pass the hairball, foreign object, or fecal matter, your vet will take appropriate measures.

#### **D. Vomiting**

- ◆ It is quite common for cats to empty the stomach by vomiting or regurgitation.
- ◆ However, persistent, involuntary vomiting can be a sign of something serious.
- ◆ If vomiting has not subsided within 24 hours, your vet should be consulted, as more serious complications such as dehydration can occur.

#### **E. Diarrhea**

- ◆ Diarrhea is the frequent passage of excessively watery feces.
- ◆ It can be a symptom of many different problems including worms, viral infection, eating spoiled food & drinking contaminated water.
- ◆ Diarrhea will often cease within 24 hours. Stopping food intake during that time can help.
- ◆ If it doesn't stop, your vet should examine the cat to determine the exact cause.
- ◆ Dehydration can occur if the diarrhea continues, &, especially in young kittens & very old cats, can be serious or even fatal.

#### **F. Tail Gland Hyperplasia (Stud Tail)**

- ◆ This skin disease is fairly uncommon.
- ◆ It is most often seen in whole male cats, although it can occur any cat.
- ◆ Stud tail is caused by overactive sebaceous glands along the top of the tail.
- ◆ Symptoms are blackheads and a yellow waxy substance on the skin & hairs of the tail base.
- ◆ It is controlled by bathing with a de-greasing shampoo, as needed.

#### **G. Feline Acne**

- ◆ Feline acne is a fairly common skin disease, apparently caused by a cat's failure to properly clean its chin.
- ◆ Blackheads form on the chin & lower lip.
- ◆ Changing a cat's bed frequently helps, as this condition seems to occur more frequently when a cat's chin rests on a hard surface or on dirt.
- ◆ If the problem keeps recurring, or if an infection occurs, the cat should probably be seen by a veterinarian.

#### **H. Deafness**

- ◆ Older cats may suffer a reduction in hearing, & cats that have had a serious head injury or disease of the ear may be deaf afterwards.
- ◆ Cats with permanent hearing impairment should be kept indoors to protect them from dangers such as traffic & predators.
- ◆ Congenital deafness (particularly with blue-eyed white cats) is present at birth and there is no cure.

#### **I. Oral Diseases**

- ◆ Dental health is becoming a major issue for cats.
- ◆ Most older cats will suffer from dental disease if they do not have proper dental care.
- ◆ Plaque is a soft material, formed by food particles & bacteria that build up on teeth. A minute amount forms every day.
- ◆ If not removed, plaque becomes calcified (hard) & eventually causes gingivitis, an inflammation of the gums.
- ◆ Symptoms include a reddening of the gums along with bad breath.
- ◆ If untreated, gingivitis causes a constant low-level infection of the cat's body that will lead to kidney & heart disease.
- ◆ Eventually the tooth roots become infected causing enough pain that the cat will no longer eat dry food & some of its teeth will fall out.
- ◆ In many older cats, dental disease is a major contributor to their death.

#### **J. Heart Disease**

- ◆ The most common form of heart disease in cats is hypertrophic cardiomyopathy (HCM).

- ◆ HCM is a genetic disorder where the muscle of the heart grows too big, resulting in a heart that cannot pump blood effectively.
- ◆ HCM is usually detected in the early stages by your veterinarian as a heart murmur.
- ◆ In advanced stages your cat will be lethargic and may be coughing.

#### **K. Kidney Disease**

- ◆ Kidney disease is common in cats.
- ◆ It is a leading cause of death in older cats.
- ◆ You might first suspect it because your cat drinks & urinates excessive amounts.
- ◆ It usually occurs because of accumulated damage to the kidneys.
- ◆ The damage can come from toxins like antifreeze, or it can be caused by diseases like gingivitis.
- ◆ Once the kidneys are identified as damaged, great care must be taken with your cat.
- ◆ Your veterinarian will help you manage the disease but expect your cat will eventually die from it.

#### **L. Diabetes**

- ◆ Diabetes is a disease marked by excessive drinking & urination.
- ◆ It is a disease of too much sugar in the blood.
- ◆ Overweight cats have the highest risk, but all older cats are susceptible.
- ◆ You will need the help of your vet to manage this disease, but many cats can live for years after the condition is found.
- ◆ Treatment will consist of medication (usually injections), special diet, & close monitoring.

#### **M. Hyperthyroidism**

- ◆ Hyperthyroidism is a disease caused by a tumor of the thyroid gland.
- ◆ You will suspect it when your old cat begins to lose weight.
- ◆ Often, these cats have big appetites and will eat all the food you offer.
- ◆ You will need to have your veterinarian help you with this treatable disease.

#### **N. Cheat Grass and Foxtails**

- ◆ Cheat grass is a common wild grass in dry areas like eastern Washington.
- ◆ It becomes dry with many seeds, or awns.
- ◆ Foxtails are the awns of a wild grass that grows in western Washington.
- ◆ Foxtails are very common and can even be found growing in cracks in the pavement in cities.
- ◆ The awns of both grasses have a barb at the point & bristles sticking out the back. When they penetrate flesh, they are difficult to pull out.
- ◆ Some pressure is necessary to make awns penetrate healthy flesh, but they can easily enter an open wound.
- ◆ Sometimes, an awn will get caught in the corner of the eye. This requires immediate attention.
- ◆ Daily brushing should prevent problems.

#### **O. Ringworm**

- ◆ Ringworm is a highly contagious skin disease which is caused by a fungus, not a worm. It can be transmitted to humans.
- ◆ Symptoms include circular patches of hair loss, with scaling & crusting on the skin, located mostly on the head, ears, forepaws, & back.
- ◆ This disease must be diagnosed by a veterinarian.
- ◆ Treatment should begin at once & will last for several weeks.
- ◆ In addition to treating the infected cat, any other animals should be treated as well to prevent further spread.
- ◆ Any surfaces or objects that have been in contact with the diseased cat should be sanitized, disinfected, or destroyed.
- ◆ Disinfectants such as alcohol or diluted household bleach may be used.

## **VI. SPAYING & NEUTERING**

- ◆ The 4-H program strongly encourages the spaying or neutering of all cats except purebreds used in a breeding program.
- ◆ This will help prevent unwanted, homeless cats. Additionally, these cats generally make more gentle, affectionate pets.

#### **A. Spaying**

- ◆ Spaying is the surgical removal of the ovaries, oviducts, & uterus of a female cat.
- ◆ Spaying should be done at six months of age.
- ◆ If not spayed or mated, a female will come into heat as often as every one to two weeks for several cycles, & this may be repeated 3-4 times a year.
- ◆ Spaying eliminates the restlessness, nervousness, & rolling, as well as the noisy crying.
- ◆ Spaying will also lessen the possibility of mammary tumors & thus add to her longevity.
- ◆ Any tendency to become overweight as a result of the decreased activity & contentment which follows spaying can be corrected by proper diet & exercise.

#### **B. Neutering**

- ◆ Neutering is the surgical removal of the testes, epididymis, & vas deferens of the male cat.
- ◆ This prevents the impregnation of females.
- ◆ Male cats that are not neutered mark their territory by spraying a urine that has a strong odor.
- ◆ The mature male cat also has the desire to prowl & fight other tomcats in the neighborhood.
- ◆ If kept indoors, the male cat may spray urine throughout the house from the time he reaches about 10 months of age.
- ◆ Neutering may be done any time after the cat reaches six months of age.
- ◆ If the cat is neutered before he begins to spray, he will usually not acquire the habit.

### **VII. Declawing**

- ◆ Declawing is an operation which removes the claws surgically.
- ◆ The claw is not pulled out; the end bone of the toe holding the claw & nail bed is clipped off at the joint.
- ◆ It is a very painful procedure & the feet are bandaged for a few days.
- ◆ Usually, only the front claws are removed, so a cat will be able to use the hind claws for climbing, holding onto surfaces, or defending itself.
- ◆ Declawing can be done at any age, but is generally easier on a younger cat.
- ◆ Declawed cats must be kept indoors.
- ◆ Declawed cats are not eligible to compete at open shows; however, they are acceptable in 4-H cat shows.

### **VIII. ZOONOSES**

- ◆ Zoonoses are diseases you can get from your cat.
- ◆ Some, like Rabies, also make your cat sick.
- ◆ Others, like Cat Scratch Fever, only make you sick.
- ◆ Cats have only a few zoonoses. They are:
  - ✓ Toxoplasmosis
  - ✓ Ringworm
  - ✓ Rabies
  - ✓ Cat Scratch Fever

#### **A. Cat Scratch Fever**

##### **1. What is it?**

- ◆ A bacterial infection of humans.
- ◆ Comes from cats infected with Bartonella henselae bacteria, one of the most common bacteria in the world.

##### **2. What Causes it?**

- ◆ A bite or scratch from an infected cat.
- ◆ Getting cat saliva into an open wound or into your eyes.

### **3. How Does it Affect Cats?**

- ◆ Up to 40% of cats carry the bacteria at some time.
- ◆ More common in kittens.
- ◆ May come to cats from fleas
- ◆ Does not negatively affect cats.

### **4. Human Symptoms**

- ◆ Common symptoms:
  - ✓ Bump or blister at the bite/scratch site
  - ✓ Swollen lymph nodes near bite/scratch site
  - ✓ Fatigue
  - ✓ Headaches
  - ✓ Low-grade fever
- ◆ Less common symptoms:
  - ✓ Loss of appetite
  - ✓ Weight loss
  - ✓ Sore throat

### **5. Complications**

- ◆ Encephalopathy – a brain disease
- ◆ Neuroretinitis – an eye condition
- ◆ Osteomyelitis – an infection of the bones
- ◆ Parinaud's Syndrome – an eye infection similar to pink eye.

### **6. Treatment**

- ◆ Generally doesn't require treatment
- ◆ Serious cases treated with antibiotics

### **7. Prevention**

- ◆ Avoid contact with cats (not happening!)
- ◆ Avoid rough play that could lead to bites/scratches
- ◆ Wash hands after playing with cat
- ◆ Keep cat indoors & treat for fleas