PARASITES

All animals have parasites (internal and external) and in general are able to live with them without any problems. Clinical signs of parasitism are seen either when the animal becomes stressed, takes on an acutely increased parasite load or a load of virulent/pathogenic parasites.

PARASITIC EFFECTS

1. Compete for nutrients
2. Cause anemia
3. Physical obstruction
4. Tissue destruction
5. Release toxins
6. Spread disease

INTERNAL PARASITES

Dogs and cats can become hosts to many intestinal parasites and a few general statements apply to all parasitic infections:

- All deworming medicines are poisonous to some extent and should only be Used as needed and under proper conditions.
- At this time there is not one dewormer that can eliminate all species of Parasites.
- Diagnosis is usually made from a fresh stool sample (passed within 12 hours), or by seeing worms or segments (tapeworms) in stool.
- Most puppies and kittens are infected before birth and for this reason they will Need deworming starting at six weeks of age. If hookworms are suspected, stools should be checked starting as early as two to three weeks of age.
- Sometimes for a heavy parasitic infection, three or even four treatments may be necessary to eliminate the parasite.

The following is a description of common intestinal parasites that affect dogs and cats, their symptoms, diagnosis, treatment, prevention and human transmission.

ROUNDWORMS:

This is a common worm of puppies and kittens but can be seen in any age dog or cat. Diagnosis is made from a microscopic exam of the feces or from a description of the worm if it is seen in the stool or in vomit. Treatment is an oral medication, usually Strongid, given at two-

week intervals. Symptoms can vary from none to vomiting and diarrhea as well as abdominal swelling. Transmission to adult dogs and to cats is fecal-oral, usually by infected feces contaminating the yard. Prevention is accomplished by isolating your pet from infected feces of other animals, keeping the yard clean and for dogs using heartworm preventatives that also prevent roundworm infection. Transmission to humans is rare; young children can develop "visceral larval migrans" by eating dirt contaminated with feces (cover sandboxes!).

HOOKWORMS:

This is another common worm of puppies and kittens but is seen with equal frequency in adults. The adults live in the small intestine and suck blood from their host, which can cause a severe anemia. Diagnosis is made from a microscopic exam of your pet's stool. Treatment is an oral medication, an injection or both. This is repeated two weeks later. Symptoms may be absent or can include blood in the stool (dark, tar-colored stool) and diarrhea. Severe cases may need a transfusion and hospitalization. Transmission to adults occurs by larvae-infected feces contaminating the grass or soil. These larvae can be ingested or may even penetrate the skin and attempt to migrate to the small intestine, possibly ending up in the lungs. Prevention requires that the pet be kept away from contaminated areas and that dogs be kept on heartworm meds that include intestinal parasite protection. Hookworms can also be passed to unborn pups from their mother. Transmission to humans is uncommon but when it occurs it's usually in the form of skin lesions.

WHIPWORMS:

This worm only affects dogs. Diagnosis is made from a microscopic exam of the feces. Eggs from this parasite pass intermittently, however, so it may be necessary to check multiple fecals before a diagnosis is made. Treatment is an oral or injectable medication given at three-week intervals for several treatments, depending on the severity of the infection. Symptoms vary from none to a severe diarrhea, vomiting and marked weight loss. Some dogs require hospitalization for treatment of dehydration, malnutrition and infection. Dogs should be kept on a heartworm preventative that also protects them from intestinal parasites (Sentinel). There is no human transmission.

TAPEWORMS:

This common worm affects both dogs and cats. Transmission occurs when your dog or cat ingests a flea. The intermediate form of the tapeworm is inside the flea's body and it then attaches to the intestine and begins to grow "segments". In about three weeks, these segments begin to pass in the stool. They are approximately ¼ to ½ an inch long, flat and white. After a short time exposed to the air, they dry up and look like a small, flat yellow seed or a piece of rice. Diagnosis is made from seeing these segments on the stool or on the pet's back end rather than a microscopic fecal exam. Treatment is either by oral tablets or by an injection. The tapeworm medication kills existing tapeworms but it does not prevent future infection. The only prevention is strict flea control. There is no direct transmission from dog or cat to a human.

GIARDIA:

This is not a worm but a very tiny single-celled parasite called a protozoan that can live in the intestines of dogs, cats and humans. The organism lives in moist to wet areas and is most commonly seen in dogs coming out of kennel-type situations (shelters). Not all animals exhibit symptoms but they may include intermittent or continuous diarrhea, weight loss, depression and loss of appetite. Diagnosis is made from a very fresh fecal specimen collected at the clinic

for the best results. A surprising number of animals are “occult”, meaning that they are infected but are negative on these tests, even with multiple examinations. As a result, this parasite is often treated without a confirming diagnosis. Treatment is an oral medication administered at home, usually Flagyl. Prevention involves careful disposal of all fecal material and disinfecting contaminated areas with dilute chlorine bleach. Humans can become infected with Giardia so special care must be taken to wash hands and utensils.

COCCIDIA:

This is also a protozoan parasite, most often seen in puppies, kittens and debilitated adults. Transmission occurs by ingesting the infective stage of the parasite, usually in contaminated soil. It then reproduces in the intestinal tract, causing no symptoms in mild cases and bloody diarrhea in severely affected pets. Diagnosis is made from a microscopic exam of a fresh stool sample and sometimes several samples need to be examined to visualize the oocysts and confirm infection. Treatment varies greatly. Animals showing no signs of illness are often not treated because a mild case is often self-limiting. Pets with diarrhea are treated at home with an oral medication. Severely affected animals may need hospitalization. Prevention involves disposal of all stools and cleaning the pet’s living area. Human transmission is uncommon but possible.

Another common internal parasite of dogs (and sometimes cats) is Heartworm, a blood parasite. To learn more look under “Heartworm disease”.

EXTERNAL PARASITES

EAR MITES:

These parasites are highly contagious and are not species-specific, which means that cats and dogs can pass them to each other through direct contact. The clinical signs include intense pruritis (itchiness) around the ears, head shaking, trauma to the back of the ears and head from scratching and a dry, dark, waxy exudates in the ear canals. Sometimes the adult mites are visible in the ear canal with an otoscope or in the exudates when viewed under the microscope. Ear mites are diagnosed based on clinical signs, the characteristic exudates and when possible a visual confirmation that mites are present. Treatment of ear mites can vary, but Tresaderm and Ivermectin are common approaches to the problem. Prevention involves routine ear cleaning and separation from animals with ear mites.

DEMODECTIC MANGE (Demodex canis mite):

This mite is a normal inhabitant of canine skin in small numbers. Disease occurs only when large numbers of mites colonize the hair follicles and skin. There are two types of Demodectic mange, the localized form and the generalized form.

LOCALIZED DEMODECOSIS:

This form seems to be more common in young dogs less than a year old and is usually a self-limiting condition. It is generally not itchy and is characterized by areas of mild redness and/or hair loss around the face.

GENERALIZED DEMODECOSIS:

The generalized form often starts out as the localized

form. Instead of getting better on its own the way it should, it actually gets worse and spreads to the head, legs and trunk. The generalized form is a severe canine skin disease that can even be fatal. Immunodeficiency accompanies this infection and is probably why some animals can clear the localized infection themselves and others cannot. The chronic lesions of the generalized form are bothersome and often become crusted, infected, thickened and hemorrhagic from scratching. This provides an opportunity for secondary bacterial infections to develop as well. Generalized Demodectic mange is diagnosed based on clinical signs, history of exposure to infested dogs and/or skin scrapings. A skin scraping is when a scalpel blade is scraped against the skin and the scraping is viewed in a drop of oil under the microscope to attempt to visualize large numbers of mites. Several scrapings may be necessary or mange may be diagnosed based on symptoms and history alone. Treatment varies with symptoms, secondary infections and breed.
Canine Scabies (Sarcoptic Mange):

This is a highly contagious, pruritic parasitic skin disease caused by the mite Sarcoptes scabiei that is considered canine-specific. However, this mite has been known to temporarily affect humans. When it does infect people the mite dies quickly but lesions can last a few weeks and are often seen along the belt-line area. Among dogs it is very contagious and intensely itchy condition spread through direct contact since these mites only live for several hours off their host. The female mite burrows into the dog's epidermis at a rate of about two to three millimeters per day, laying two to three eggs per day. The female dies within two to four weeks of burrowing. The most prominent symptom of Sarcoptic mange is the severe scratching, usually the ears and elbows are first but it can start anywhere. Ear scratching and head shaking are characteristic, as is a general dermatitis including re, hairless, hemorrhagic crusts or papules. Diagnosis is based on clinical signs, history of exposure and skin scrapings when possible. Visualizing the mites with skin scrapings can be difficult because the mites burrow when you touch the area of skin about to be scraped. Sometimes several skin scrapings are necessary for diagnosis or it is made based on clinical signs and exposure history alone. Treatment with Ivermectin is common, with or without steroids to treat the pruritis.

FELINE SCABIES:

This is a very itchy, contagious condition caused by a dermodectic mite. It usually spreads first from the pinna of the ear to the face, eyelids and neck, then to the feet and perineum. The skin becomes thick, wrinkled and folded with patches of hair loss.

FLEAS AND TICKS:

Fleas are small, brown, wingless insects that suck blood and feed sporadically on birds and mammals. Fleas also serve as intermediate host to tapeworms and cause flea allergy dermatitis, one of the most common diseases in dogs. There are many different species of fleas that affect dogs and cats, and distribution varies depending on where you live (fleas don't live above 5,000 feet).
The female flea lays eggs (3-18/female) off her host or the eggs quickly fall off. Eggs can take anywhere from 9-200 days to hatch. The larval stage can last from one week to one year before the adult flea breaks out of its cocoon and looks for a host to feed on. Check out the life cycles of the flea and the tick below:

FLEA LIFE CYCLE

Tick life cycle

Diagnosing fleas is usually easy. We use a comb to check for the fleas themselves or for small black flecks of "flea dirt", which is just another way of saying "flea waste". Preventing flea infestations is much easier than treating the infestation because of the crazy flea life cycle that makes it difficult to get ahead of the infestation. At WHVC we recommend starting dogs on Sentinel before spring comes because it inhibits the hatching of flea eggs and also provides protection from Heartworm and intestinal parasites. If your dog is already infested we recommend starting them on Sentinel for the long-term and using an adulticide in the meantime (Sentinel doesn't affect adult fleas). For cats we recommend Capstar tablets and/ or use of topicals like Advantage or Frontline. Remember that all animals in the house need to be treated for fleas or else they may still become infested!!

There are also numerous species of ticks that feed on the blood of cats and dogs and spread disease. In dogs ticks can attach anywhere, usually they are found around the neck and ears but thorough, whole-body tick checks are important after leaving an infested area. In cats they are generally only found still attached around the face and eyes, where cats can't get them (obsessive groomers). Please see information supplied under "Lyme disease" and "Ehrlichia" for more about disease transmission. Preventing the spread of tick-borne disease comes down to preventing attachment to your pet and removing attached ticks before they can transmit disease. We recommend topicals such as K9 Advantix and Frontline or Preventic collars for dogs at risk for contact with ticks.

Tick Identification Card

Please refer to the following chart of flea and tick products sold at WHVC to better understand how these products work and when to use them. It can be very confusing, so don't hesitate to call us and ask questions.

Flea and Tick Product Chart