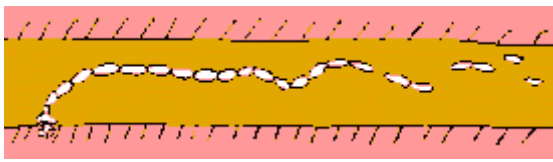




The Common Tapeworm

Biology of the Parasite (*Dipylidium caninum*)

The adult *Dipylidium caninum* lives in the small intestine of the dog or cat. The creature gets because its segments and body are very flat (like a piece of tape). It is hooked onto the intestinal wall by a structure called a rostellum, which is looks like a hat with hooks on it. The tapeworm also has six rows of teeth to grab on with. Most people are confused about the size of a tapeworm because they only see its segments, which are small; the entire tapeworm is usually 6 inches or more in length.



Tapeworm attached to the intestine in the host.

Once attached to the host intestinal wall, the tapeworm begins to grow a long tail. (The tapeworm's body is basically a head segment (to hold on with), a neck, and many tail segments). Each segment making up the tail is like a separate independent body, with an independent digestive system and reproductive tract. The tapeworm absorbs nutrients through its skin as the food being digested by the host flows past it. Older segments are pushed toward the tip of the tail as new segments are produced by the neckpiece. By the time a segment has reached the end of the tail, only the reproductive tract is left. When the segment drops off, it is basically just a sac of tapeworm eggs.



As Rover sleeps, tapeworm segments are passed

The sac is passed from the host's rectum and out into the world, either on the host's stool or on the host's rear end. The segment is the size of a grain of rice and is able to move. Eventually the segment will dry and look more like a sesame seed. The sac breaks and tapeworm eggs are released.



Tapeworm segments and flea dirt are found together in Rover's dog bed.

Larval fleas are generally hatching in this vicinity and these larvae are busy grazing on organic debris and flea dirt (the black specks of digested blood shed by adult fleas to nourish their larvae). The flea larvae do not pay close attention to what they eat and innocently consume the tapeworm eggs.



Tapeworm segment breaks, releasing eggs. Eggs are eaten by grazing flea larva. Flea larva pupate to become adults.

As the larval flea progresses in its development, the tapeworm inside it is also growing. By the time the flea is an adult, the tapeworm is ready to infect a dog or cat. The flea goes about its usual business, namely sucking its host's blood, when to its horror, it is licked away by the host and swallowed.

Inside the cat or dog's stomach, the flea's body is digested away and the young tapeworm is released. It finds a nice spot to attach and the life cycle begins again. It takes 3 weeks from the time the flea is swallowed to the time tapeworm segments appear on the pet's rear end or stool. Proper flea control can help eliminate tapeworm infection.



Rover licks himself and swallows fleas

CAN PEOPLE GET THEM?

Theoretically, yes. People can get them, but they must be infected the same way dogs and cats are: by swallowing an infected flea.

WHERE DO THEY COME FROM?

There is no other way for a pet to get tapeworms except from fleas. Many people who had thought their pet could not possibly have fleas find out about the infestation this way. The tapeworm segment breaks open releasing its eggs. A larval flea consumes the egg along with the flea dirt that it normally eats. As the larval flea matures, so does the baby tapeworm. When a grooming dog or cat licks the flea and swallows it, the dead flea is digested in the dog's stomach releasing the baby tapeworm. The tapeworm is passed to its new home in the dog or cat's small intestine where it attaches and lives its life. This parasite does little to harm the pet in any way as there are plenty of nutrients passing by to serve both the host and its tapeworm (tapeworms require very little nutrients.) Still, high performance dogs, who need every Calorie working for them, may show a decrease in performance because of a tapeworm

infection. Since tapeworm infections may be passed on to humans and they are locally irritating to the pet, we recommend treatment.

going flea population in the pet's environment. The key to eradicating tapeworms from the home is flea control.

Adapted from "The Common Tapeworm" by Wendy C. Brooks, DVM, DAVP

HOW DO YOU KNOW IF YOUR PET HAS THEM?

WHY DO THEY SOMETIMES FAIL TO SHOW UP IN A FECAL TEST?

Because the eggs are passed by the pet in packets (segments), they often do not show up on the fecal exam. (The packet must break open for the eggs to be seen.) Consider that the pet has tapeworms if segments are seen under its tail, around its anus, or on its feces. Segments can be passed in small groups connected to each other leading the owner to describe a worm that sounds larger than a grain of rice. Tapeworm segments are also quite flat.

Some people will mistake maggots in the stool for tapeworms. Maggots are not seen in freshly passed stool and are not flat.

HOW DO WE GET RID OF THEM?

Tapeworms are killed by different medications, one of which is called "Praziquantel" which is administered by injection or tablet. The tapeworm is killed and digested with the pet's food. It is not passed in the stool later. There are no effective over-the-counter medications ("wormers") that will eliminate a tapeworm infection.

Only one treatment is needed to kill tapeworms present; however, many clinics recommend a second injection in three weeks. The reason for the second injection is this: If the owner finds out at the time of their office visit that they need to control fleas to control tapeworms, they will need at least a month or so to control the fleas. After the first treatment is given, there is no reason why the pet cannot immediately reinfect itself. It probably *will* reinfect itself at some point. By seeing the animal in three weeks and giving another treatment after the fleas are controlled, there is a good chance that the tapeworms will not just be back three weeks later. It takes three weeks from the time tapeworms are swallowed by the pet to the time segments can be seen by the owner.

On the other hand, who knows when the pet will swallow another infected flea? Our recommendation is that a single treatment be administered whenever segments are seen.

IF ONE PET HAS TAPEWORM SEGMENTS, CAN IT BE ASSUMED THAT THEY ALL DO?

No, just because one pet in the household has swallowed an infected flea does not mean they all have. Our recommendation is to deworm only the pets who have obvious tapeworms.

WHY MIGHT A PET CONTINUE TO GET TAPEWORM INFECTIONS?

While many people would like to blame the medication as having been ineffective, the truth is that there must be an on-