

**campus**

# Dog owners can help stop heartworms

By **BETSY HESS**  
Battalion Reporter

If dog owners will take preventative measures, they can help veterinarians control a disease that has become extremely common in the past 30 years, said Dr. Thomas M. Craig, associate professor of veterinary parasitology at Texas A&M University.

Dirofilaria immitis, commonly known as heartworms, used to be prevalent only along the Gulf Coast and the Atlantic Seaboard up the Chesapeake Bay area, Craig said. Now it occurs throughout the country.

In Texas, the greatest concentration of the disease is in the eastern two-thirds of the state.

The adult worm, which can range from 3 to 11 centimeters in length, lives in the pulmonary artery in the right side of the dog's heart, Craig said. This is where the blood travels directly to the lungs.

"Living here, the worm has everything it needs — a warm, moist place to stay, food and other worms," Craig said. "In this comfortable environment they begin to reproduce."

After they enter the dog's bloodstream through a mosquito bite, it takes the heartworm larvae about six months to reach adulthood and start reproduction, he explained.

The larva is called a microfilaria. It travels in the bloodstream and circulates through the body.

The average size of a microfilaria is about three-tenths of a millimeter. It is at this stage that the disease is diagnosed by veterinarians through blood samples.

Adult worms living within the dog produce excretory substances that can eventually plug the pulmonary arterial system, Craig said. Less blood travels to the lungs and oxygen is harder to obtain. This results in heart failure.

Since the worms can live several years, symptoms can occur over a long period of time and may go unnoticed by the dog owner. Craig said the symptoms include loss of appetite, difficulty in breathing and a chronic cough.

The effect of the disease depends on the condition of the individual dog, he said. Age, size and stamina are important factors.

Some cases lead to progressive deterioration of the dog's general health. Others may have a moderate infection of the parasite and can lead normal life with the worm living in them. "The problem with these dogs is that they are carriers of the disease," Craig said.

When a mosquito bites a diseased dog, it draws out some of the larvae which are circulating in the bloodstream.

When the mosquito bites another dog, the larvae are injected into the animal. The larvae then travel through the blood to the heart, where they become adult worms.

The larvae in the dog's bloodstream cannot become into an adult worm without first passing through the mosquito's body.

There are some cases in which a dog with heartworms passes the larvae to her puppies inside the womb, he said. But in these cases adult worms will not be present in the puppy.

One difficulty the disease causes veterinarians comes in diagnosis. "There is another parasite that

can be found within dogs called di-petalonema reconditum. This parasite has a similar life cycle to that of the heartworm. However it does not cause any damage to the dog," Craig said. "It is difficult to distinguish between the two parasites."

The next problem occurs in treatment. "Veterinarians don't have enough knowledge at this point to predict the outcome of therapy for one particular dog," Craig said.

The number of larvae within the blood has nothing to do with determining the number of adult worms in the heart, he said. After treatment, the dead worms become large foreign objects within the lungs.

If all the larvae circulating in the bloodstream were killed at once Craig said, they would accumulate in the filtering organs, the liver and kidneys, causing them to stop functioning.

"We are in a position that no matter what we do, it could be wrong," Craig said. Treatment needs to

come in small doses over a long period of time so the dog's system can cope with it.

The only drugs found to be effective against heartworms so far contain arsenic, Craig said. A different drug, an iodine preparation, is used to kill the larvae in the bloodstream.

"We treat the dogs with the arsenical first to kill the adults," Craig said. "Then we wait about six weeks and start treatment against the larvae in the bloodstream."

Puppies that get the disease from the mother may start treatment against the larvae at three to four months of age.

After the infected dog has been cleared of the adults and larvae, he should be put on a preventative treatment Craig said.

Two weeks after the dog is bitten by the mosquito, he explained, the larvae will molt, or shed its outer layer of skin within the dog. This happens within 24 to 48 hours and it is the only time in which the worm is susceptible to preventative treatment.

During the preventative treat-


ment the dog is given small doses of the drug every day in order to catch the larvae in its molting stage, Craig said.

Giving a large quantity of the drug at one time to make up for missing a day will not affect the parasite and it could harm the dog, he warned. If the drug is not given for more than a 48-hour period, the molting stage can be missed and the worm will already be on its way to adulthood.

Craig suggested the preventative treatment should be started at least one or two months before mosquito season and should be continued until at least a couple of months after the season.

It is important for the owner to have his dog examined to determine if he already has heartworms before starting him on a preventative treatment.

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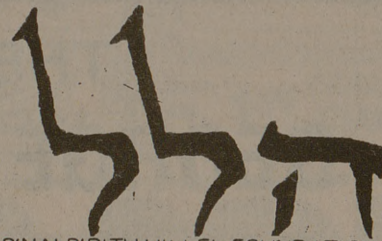
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Interviewing on Campus October 19, 1979. Contact Davis W. Simpson or send resume to: Tommy Griggs, Cafeterias, Inc., Century Bldg., Suite 200E, 84 Northeast Loop 410, San Antonio, Texas 78286 512-349-2461



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