Adult heartworms clog the right ventricle and adjacent large blood vessels of a dog's heart.

**Deadly Heartworms Require Prevention**

Canine heartworm -- a disease that affects dogs in mosquito-laden areas of the warm South -- has spread to many parts of the northern U.S. and Canada. Although the illness can be fatal, it may also be cured. But, it is far safer, less expensive, and easier to prevent the disease from infecting dogs, and communities are encouraged to develop effective preventive programs.

Heartworm disease or dirofilariasis is caused by dirofilaria immitis -- long, slender adult male and female worms that lodge in the right ventricle and adjacent large blood vessels of a dog's heart. According to information from the American Veterinary Medical Association (AVMA), the spaghetti-like worms grow as long as six to 14 inches, and as many as several hundred may live in a dog's system at one time. Although dogs are its chief victim,
A simple blood test reveals whether a dog has heartworms.

the disease is occasionally found in foxes, skunks, horses, and cats. Sometimes people are infected by heartworms, too, according to HSUS's Dr. Michael Fox.

Dr. Gilbert Otto, consultant and lecturer at the University of Maryland's zoology department and a past president of the American Heartworm Society, said that although it is difficult to document the exact number of annual heartworm cases nationwide, the disease is "truly increasing." Otto estimated that in the Washington, D.C., area five to 40 percent of the dogs have had heartworms. He added that heartworm is present for the first time in Northern and Southern California, and there are confirmed native cases of heartworm in Canada.

Assistant Professor of Parasitology Dr. Robert Grieve of the University of Pennsylvania agrees. "My gut feeling is that there is no question this disease is spreading, although data is hard to obtain. People are traveling more and more, taking their dogs with them and carrying the disease around the country."

Approximately 70 species of mosquito -- the only natural transmitter -- give heartworm disease to dogs. A female mosquito that bites an infected dog ingests immature heartworms called "microfilariae" along with the dog's blood. The microfilariae incubate for 10 to 30 days in the mosquito's body before entering its saliva. At this point, called "infective larvae," they are passed on to another dog when the mosquito bites it.

Sadly, heartworm disease is often "silent" in its early stages -- a time when it could be most easily treated. Infective larvae migrate through a dog's tissue for nearly three months before entering the heart. Three months later, adult worms emerge from the larvae and proceed to shed new microfilariae into the bloodstream.

Before any outward signs of the disease are noticed there can be extensive damage to a dog's blood circulation, heart, lungs, liver and kidneys. Advanced symptoms include dry and frequent coughing, sluggishness, rapid tiring during exercise, labored breathing, and weight loss. An infected dog may be beyond help when it begins to faint or develop acites (fluid collection) in its abdomen. Death comes from congestive heart failure.

Circus Watch
Needs You

A coalition of humane societies is keeping an eye on circuses and other animal acts around the country this fall. Since follow-up on traveling shows is difficult, HSUS urges your organization to join this effort to stop cruel treatment of captive wildlife. We will send you a free list of steps to take when you suspect that circus conditions may be violating a federal, state or local law. The list includes a summary and the text of the Animal Welfare Act (AWA) regulations pertaining to animal acts. During a recent interview with HSUS Assistant Director of Captive Wildlife Jeanne LaRose, Shelter Sense Editor Debbie Reed learned why the coalition is so necessary:

D: Are all circuses bad?
J: No. But, we know that animals -- especially wild animals -- need a permanent habitat and not the constant stress of circus life. Even those circuses that try cannot adequately provide for animals' needs. The biggest and most well run circuses must invest a lot of money and effort to give their animals a minimum standard of living. Most small shows, which totally depend on ticket sales for money, don't have the resources to do this. The HSUS believes the public agrees that animals are demeaned when shown in an unnatural manner. A good example of this is a bear riding a bicycle or an elephant standing on its head. This does not teach people to respect animals.

D: Besides lack of money, what other major problems do you find with circuses?
J: Lack of professionalism! Many do not provide proper food or veterinary care. Also, we always find that small traveling cages are used in all animal acts. The poor animals only leave the cages to practise for a show or to perform. They have little or no freedom to romp or be free of the daily regimen. Each does not teach people to respect animals.

D: What other problems do you have with circuses?
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Continued on next page
Now, I don't see many cases where circus animals are physically abused. I do know that their training can be stressful, with harsh techniques and little time to run, play or relax if the show needs quick results. Much of this activity is very hard to document because it goes on behind the scenes. circus animals are not intentionally abusive, are they receptive to your visits and suggestions for improved animal care?

If circus people are not intentionally abusive, are they receptive to your visits and suggestions for improved animal care? J: Sometimes, but they may not understand what we are emphasizing. When they do understand, they often do not take our humane concerns seriously, and they may not be complying with animal-welfare laws. They really believe the animals enjoy the work. While it is true that some species, like the elephant, need the mental stimulation of "doing" or training so they won't get bored, I am talking about a lifetime regimen of training, performing, sleeping in a small cage, traveling, receiving poor food and veterinary care, more training, more performing and on and on. This is not a quality life.

If one sees a violation of the AWA, call the local humane society in the town where the circus plans to stop next. Call the state capitol for assistance with locating the office. Be careful between what is illegal and what is unpleasant -- even love -- their animals. But they can be very ignorant about an animal's needs and cannot even conceive that their animal has the same requirements as a human being -- exercise, rest, proper food, clean water. These people have a real stake in keeping their animals alive, which are for the most part showpieces and not creatures with rights.

For Cat Lovers

For the list of guidelines and explanation of the Animal Welfare Act, write HSUS, Captive Wildlife, 2100 L St. N.W., Washington, D.C. 20037.

The Los Angeles City Department of Animal Regulation recently moved to new offices (Room 1650, City Hall East, 200 N. Main St., Los Angeles, CA 90012). The six district animal shelters remain at their present addresses, and all telephone numbers are the same.

And, you can now reach HSUS's South Central Area Office and Animal Control Academy at 2606 8th St., Suite 202, Tuscaloosa, AL 35401; telephone (205) 752-0058. The office and academy are both headed by Bill Hurt Smith.

The Washington County Humane Society (P.O. Box 66, Eighty Four, PA 15330) believes pet owners should carry a "pet alert" card in case of an emergency to alert hospitals, police and others that the owners' pets are home alone. Especially important for single pet owners, the card fits easily in a wallet. Space is provided to indicate the number and types of pets at home as well as the name of a neighbor or relative to call for help.

Electric garage doors can kill pets, according to Volunteer Services for Animals (VSA) (401 Broadway, Providence, RI 02909). In its spring newsletter, the group reported a case where a pet cat was killed as it darted under an electric garage door. Children should also be warned about the danger of playing with or around this type of door.

A Miami, Fla., garage owner -- on probation for two assaults -- was sentenced to a five-year prison term after luring a neighbor's dog into his yard and killing it. Steven Charles Sexton, 33, pleaded guilty to the April 30, 1982, shooting of the one-year-old leopard hound, Rebel, in his Miami, Fla., garage, according to Lisa Getter of the Miami Herald (Tuesday, June 22, 1982).

Lyle Benjamin, executive assistant for the Humane Society of Greater Miami (2101 N.W. 95th St., Miami, FL 33147), confirmed reports that when Dade Circuit Judge Ellen Morphonio Gable sentenced Sexton to the prison term she said, "As far as I am concerned, he is sentenced to the five years for the wanton killing of that little doggie that didn't do anything to anybody." According to several reports, Sexton lured Rebel into his yard and shot him twice. The dog crawled back into its owner's garage and died.

Sexton first denied the shooting and told police he hit the dog with a flashlight after it attacked him. He was arrested on May 10 and has since been held in the Dade County Jail without bond. Sexton was already on probation for assaulting a police officer with a gun in March 1981 and for fighting with another officer in October 1981.

The Cat Lover

"Pet Alert"

"We're Moved!"

For Cat Lovers

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Continued on next page
The rate of returned lost cats has increased from four to seven percent since last February when the Marin Humane Society (171 Bel Marin Keys Blvd., Novato, CA 94947) began posting yellow signs that show the society's address and telephone number and a description of the lost animal.

In the past, the society found that generally five percent of lost cats were claimed by their owners as opposed to 75 percent of lost dogs. "We...sense...that the poster has been responsible for [the] growing margin," said Executive Director Diane Allevato, "and we plan to increase its use in the months to come."

Two men charged with cruelty to animals were placed on a two-year probation, fined $750 each, and told not to raise more livestock after an anonymous caller told an SPCA the men were housing dead pigs.

Howard Abbott and his business partner, Robert Thomas, were penalized (after plea bargaining) as a result of an anonymous tip last March to the Delaware Society for the Prevention of Cruelty to Animals (Route 7, Stanton, DE 19804). The caller said dead piglets and hogs could be found on a farm in Bridgeville, Del., where the society's agent subsequently discovered over 200 hogs -- in varying degrees of decomposition -- in a hog house run by Abbott.

The public is invited to a seminar, sponsored by the Knoxville, Tenn., police department and animal-control board and the University of Tennessee School of Veterinary Medicine.

Held at the university, discussions will center around building cases, exotic-animal handling and restraint, methods for using the media, stress management, pet and pet-owner psychology, record keeping, photography, livestock handling, and humane education.

For a brochure with further information, write John Rogers, Knoxville Police Department, 800 E. Church St., Knoxville, TN 37918. •

Materials
Christmas is Coming!

The HSUS's 1980 and 1981 Christmas cards are now available at a substantially reduced price for resale by Shelter Sense subscribers.

Approximately 740 boxes of the 1980 cards and 135 boxes of the 1981 cards are available for $2 each. There are 25 cards and envelopes to a box. The cards originally sold for $5 and $6 a box.

Both cards are decorated with an attractive pen and ink animal drawing, surrounded by a green and gold border. The 1980 message is "Season's Greetings," while the 1981 message is "Peace on Earth, Good Will to all Creatures."

To order, send check or money order for the full amount to HSUS/Shelter Sense Cards, 2100 L St. N.W., Washington, D.C. 20037. Please indicate the year desired, and allow three weeks for delivery.

A new flexible, extending leash could simplify animal training and control.

The FLEXI extending leash extends as a pet moves away and retracts automatically as the pet returns. A brake button allows for instant stop control.

The FLEXI extends to 16 feet and is available in sizes to fit small or large dogs, cats, horses and other animals. Small-sized leashes can be stored in a purse or pocket. Leashes come in red, yellow, brown or green. Not all models are available in all colors.

Although prices range from $17.95 to $39.95, including postage and packing, the two most popular leashes are available for resale to Shelter Sense subscribers for a reduced rate: The 30-pound size costs $8.95 each and the #3 size (30 pounds and above) costs $11.95 each. These special orders are limited to 24 or more.

For further information, write Flexi Enterprises Inc., 437 Rockaway Ave., Valley Stream, NY 11581; telephone (516) 825-1720. •

The city of Alexandria Animal Control Division (910 S. Payne St., Alexandria, VA 22314) surveyed 21 animal-control agencies last summer for information that could support a city-recommended cat ordinance.

Ninety percent of the respondents said that their ordinances definitely reduced the number of stray cats within their jurisdictions. Results showed that approximately one out of every 405 cats is licensed. (When only aggressive enforcers were considered, the ratio increased to one licensed cat out of every 4.3 cats.)

None of the surveyed jurisdictions indicated the need for additional personnel to enforce their ordinances. While enforcement methods and techniques varied greatly among respondents, Albuquerque, N.M., which has the highest ratio of licensed-to-total cats, used a combination of enforcement measures: live cat traps, citizen-rented cat traps, a graduated impound fee and a door-to-door licensing campaign. "They have an excellent ordinance," said Alexandria Animal Control Superintendent Gail M. Snider.

Results indicated the top three advantages to an ordinance are that it brings in additional revenue, aids identification of cat owners, and it is easy to enforce. Disadvantages include expansion of public responsibility into an area that is not easily enforceable, stolen cat traps, and difficulty in defining "owner premises."

"The survey is a good example that laws only work well when they are enforced fairly and effectively," said Snider. "Cooperation [between] the agency, legal counsel, the courts and local animal-welfare enthusiasts seems to be the determining factor on how effective such an ordinance can be." •
Some local communities have established heartworm prevention programs. Preventive efforts have included the use of screens or insecticides where dogs are housed. Spraying or draining mosquito breeding grounds has been advocated as a way to eliminate mosquitoes. But, Dr. Fox warns against these measures. "Do not interfere with the earth's ecology," he said. "Draining swamps is like removing a vital organ from your own body. Use of pesticides can have serious ecological results."

Before protective measures are taken, a dog must be checked for heartworms. There is no vaccine for heartworm. To really protect dogs, their owners should give them daily prescribed doses of diethylcarbamazine (DEC) -- an inexpensive Piperazine derivative that comes in liquid, powder or pill form -- during mosquito season and the following two months (April through November). The medicine destroys the larvae before they develop into adult worms. Year-round treatment is necessary in mosquito-laden areas like Louisiana. Do not, however, give preventive medicine to a dog that is infected with heartworms. The dead worms may clog the animal's arteries and kill it.

According to the AVMA, most veterinarians recommend a medical checkup when a dog is a year old and at least every six months after that. In its early stages, heartworm has commonly been detected by a simple blood test that shows whether microfilariae are present. However, some parasites may be old, infertile, of the same sex, or a dog's immune response may kill the microfilariae without killing the adult worms. In these suspected cases, other tests such as X-rays have been used.

But last March, Dr. Grieve of the University of Pennsylvania announced that a new test -- the Enzyme-Linked Immunosorbent Assay (ELISA) -- is "extremely sensitive and accurate in detecting heartworm." Head of the team that developed the test, Grieve said that ELISA is based on detection of heartworm antibody, not microfilariae. A selected and chemically purified heartworm antigen (a substance recognized as foreign by the body, thus producing antibodies) is combined with a sample of a dog's blood serum. If the dog has heartworms, the final analysis will change color, indicating the amount of heartworm antibody present. A healthy dog that once had heartworms will not show the antibody because it disappears from the body after a "finite" period.

The new test is adapted for use by veterinarians, but it is presently only available in Grieve's lab. He and his staff perform about 75-100 ELISAs per week. (Contact Dr. Robert Grieve, Department of Pathobiology, School of Veterinary Medicine, the University of Pennsylvania, Philadelphia, PA 19104; telephone (215) 898-5646.)

A dog that has heartworms may be cured by an organic arsenical drug given through carefully administered injections for three to five days. It is an expensive procedure, costing $75-$100, and the drug is toxic to a dog's major organs. Therefore, each animal should be evaluated before, during, and after treatment.

The worms die after treatment and are carried by the bloodstream to the lungs, where they lodge in small blood vessels, decompose and are absorbed by the body over several months. Complete rest for the dog is imperative at this time.

Data for 1980 reveals that canine heartworm disease is on the rise.
The black cat -- symbol of Halloween witchcraft, magic and devilish delights -- is often used or abused by people because of its historical association with evil. Shelters and humane societies should think carefully before releasing any black cats for adoption during the Halloween season.

It is unclear just why black cats are despised. According to "The Life, History and Magic of the Cat," by Fernand Mery, the Christian church began ignoring cats centuries ago simply because many pagan religions had adored it. Black cats have always been feared and hated as Lucifer's (the devil's) messenger. In the 16th and 17th centuries, black cats and witches were believed inseparable. Old women, who were most likely tagged as witches, usually kept cats. Even before Christiandom, cats were sacrificed to ward off evil because it was simpler than sacrificing humans.

Even today, some residents of the Ozark Mountain region of the U.S. think a black cat that stays in the house brings bad luck. Most people have heard the old proverb, "It is bad luck to let a black cat cross your path!"

Over the centuries, black cats have been subjected to incredible tortures because of the fear they provoke. To most people today, the "black cat" myths are simply spoken superstitions. But, these superstitions are a perfect excuse for those people who generally disregard animals and would abuse them.

This Halloween, do the black cat a favor by keeping it safe inside! •

Tiptoe through the graveyard, flounder through the maze and wander through howls, screams and frightening delights at the second annual "howling," the haunted house of the Indianapolis Humane Society (7929 N. Michigan Rd., Indianapolis, IN 46268).

The howling will take place Oct. 28-31 in an historic house on the society's property that is "just perfect," according to Editor Cindy Porteous. The group hopes to triple last year's $500 income, and they will use volunteers to help with the carpentry, artwork, costumes, makeup and electrical and audio skills that can help make this event even better than last year's. •

SHELTER SENSE Reproducible
A continuing feature to provide animal-control agencies and humane societies with material that will help educate the public on community animal control and responsible pet ownership.

Does Your Dog Have Heartworm?

Many dogs do, but their owners don't know it until it is too late. Heartworm is a deadly canine parasite that comes from a mosquito bite. The disease can be treated in some cases, but treatment can also be very risky for a dog. Prevention is the best remedy for this crippler.

Do you know the symptoms of canine heartworm?

- Dry and frequent coughing
- Rapid tiring during exercise
- Sluggishness
- Weight loss
- Labored breathing
- Fainting
- Swollen stomach
- Fainting
- Dizziness

If your dog has these symptoms, see a veterinarian at once for treatment. Most important, contact a veterinarian now to start your dog on a regular schedule of preventive medicine. Never give your dog preventive medicine if he already has heartworms; he may die if you do.

Stamp out heartworm NOW!

(Place your organization's name, address and telephone here.)

PROVIDED BY THE HUMANE SOCIETY OF THE U.S.

This message can be clipped out and reproduced in quantity by your local printer for distribution at schools, shopping centers, libraries and other community locations. Credit must be given to The Humane Society of the U.S. Remember to add your organization's name, address, and telephone number in the space by typing, typesetting or affixing your group's letterhead. You can also purchase advertising space for it in your local newspaper or use it in your organization's newsletter. •
The characteristics, prevention and cure of the deadly parasite, heartworm, are examined in this issue to better acquaint you with this canine crupper. But, there is another aspect to this problem: Are humane societies and shelters -- in good conscience -- doing all that is necessary to prevent and control canine parasites, including not adopting out sick pets?

It is next to immoral to place an animal that is sick or harboring a parasite like heartworm in a new home where it may not receive the medical care it deserves. Anyone who has watched a pet owner hold in its arms a dying pet cannot in good faith pass on to a new owner responsibility for detecting and treating an existing disease. If your organization cannot guarantee that its animals are healthy and free of parasites, it should not be in the business of dumping those animals on an unsuspecting owner.

The adoption of animals is one-tenth of the work that needs to be done for the protection of animals in any community. Fifty percent of the population in most communities already owns an animal while 20 percent includes people who don't want to own an animal. That leaves a few who can provide responsible homes for the animals you take into your shelter.

By all means, public-information efforts should include the symptoms, causes and treatment of heartworm (see reproducible) so that pet owners can help wipe out the disease. But, don't make them surprise victims of your need to find immediate homes for your animals.