

Disease Overview

Heartworm disease is caused by a mosquito-borne parasite called *Dirofilaria immitis*. This parasite infects dogs, ferrets, wolves, coyotes, seals, sea lions and, occasionally, cats. Heartworms live inside in the large blood vessels leading from the heart to the lungs. Animals may become infected when bitten by mosquitoes that are carrying the parasite. Mosquitoes pick up the parasite when they bite an animal that has an active infection. Infection can be present for awhile before symptoms appear. Symptoms may include tiredness, problems breathing, coughing, and heart failure. Infected dogs and coyotes are a reservoir for the disease.

Local Data, 2005-2009

Since 2005, forty-six cases of heartworm infection have been reported in Los Angeles County pets, with two cases in cats and forty-four in dogs. Seventeen infections (37%) were considered locally-acquired because these pets had no recent travel outside of Southern California. Twenty-one cases (46%) were considered imported, with the animal likely being infected outside of Southern California. In eight cases (17%) the pet was a stray and the location where the infection was contracted was unknown.

The majority of the cases (65%) had no symptoms on presentation. In the other cases, symptoms included cough (24%), fatigue (20%), and heart failure (9%).

Trends in 2009

So far in 2009, sixteen reports of heartworm disease have been received, with ten suspected of being locally acquired. This makes 2009 the year with the most reported local cases. A geographic cluster of six infected dogs was found in the western part of the San Gabriel Valley. This was especially suggestive of local disease transmission (see map next page). Therefore *Dirofilaria immitis* likely exists in mosquitoes in that area.

Untreated animals

Of special concern is that in 7 out of 16 cases in dogs this year, the owner declined treatment. Untreated animals may act as reservoirs for the disease, infecting more mosquitoes. A 2004 study found that 5-20% of Southern California coyotes are infected with heartworms¹ Coyotes can also act as a reservoir for the disease.

Human Health Risk

Human infections with *Dirofilaria immitis* are rare, and most commonly have involved for the formation of nodules in the lungs or under the skin.

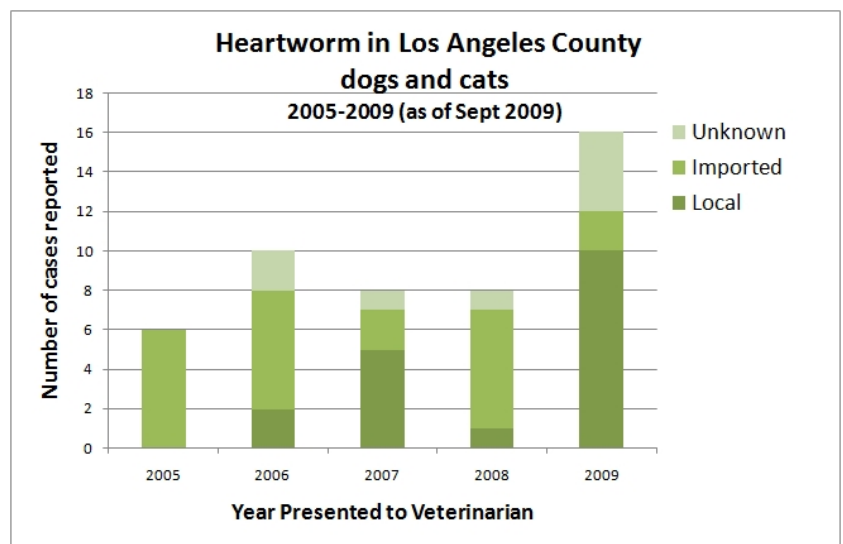
Recommendations

Mosquito Control. Help reduce mosquito breeding by dumping any standing water on your property every 48 hours. Mosquitoes feed the most at dawn, dusk and at night, so it is best to keep your pet indoors at night.

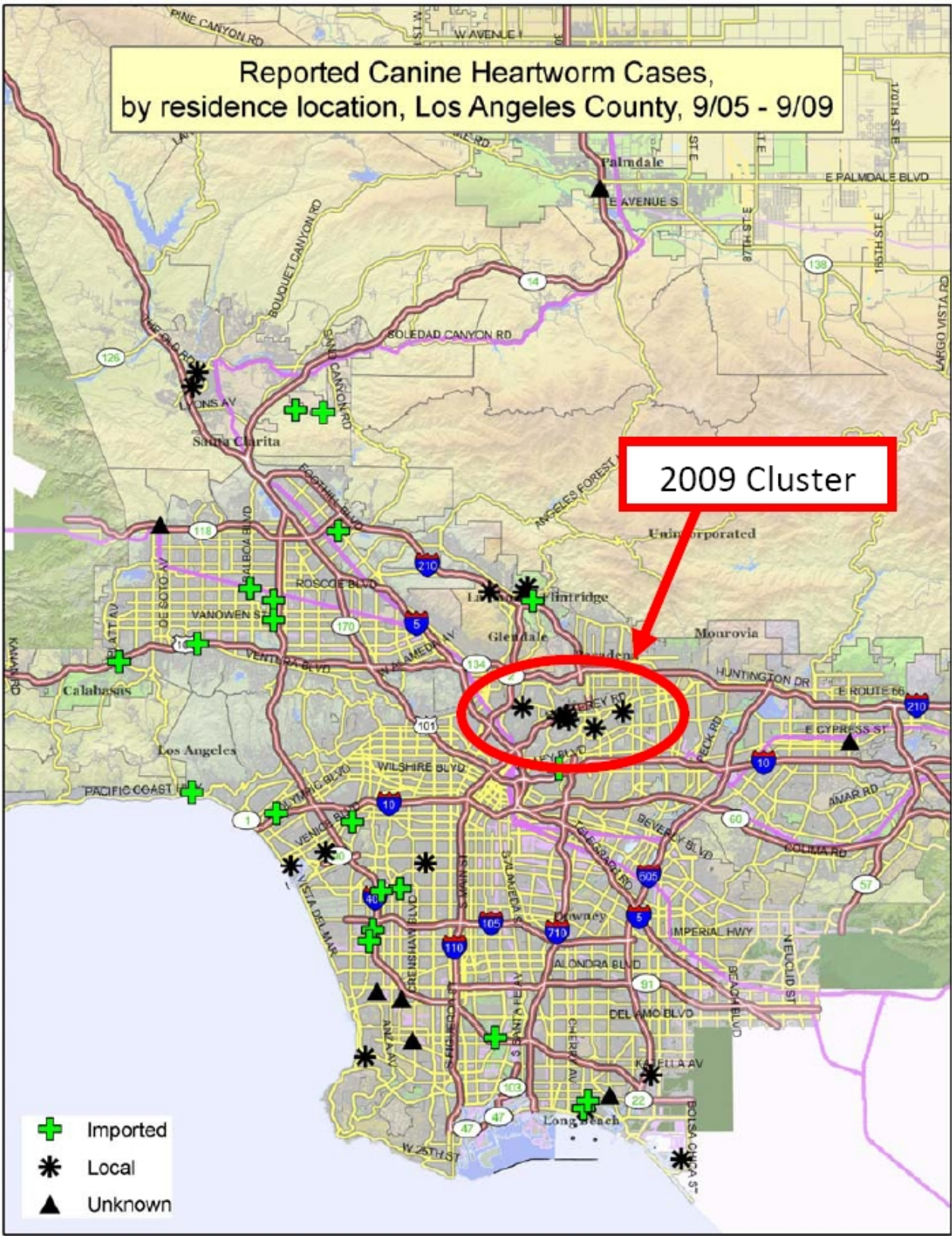
Consider Heartworm Preventative Medication. Heartworm preventative medications are generally regarded as safe and some help prevent infection with additional parasites. Discuss the issue with your pet's veterinarian.

Reference

¹Sacks BN, Chomel BB, and Kasten RW (2004) Modeling the distribution and abundance of the non-native parasite, canine heartworm in California coyotes. *Oikos* 105(2):415-425.



Reported Canine Heartworm Cases,
by residence location, Los Angeles County, 9/05 - 9/09



2009 Cluster