

## Canine leptospirosis in King County - 2010

A total of 27 cases (19 confirmed, 8 probable) of canine leptospirosis were reported in King County (KC) in 2010. This is almost 3 times the number reported in 2009. It is difficult to say whether this represents a trend towards increasing cases in KC or if it is due to increased awareness or improved diagnosis and reporting. However, several veterinarians report that they are seeing a recent increase in the number of cases in their practices.

Leptospirosis cases initially surged five years ago when, between December 2005 and April 2006, 32 dogs from Vashon Island and 10 elsewhere in KC were reported to Public Health. At the same time, an outbreak occurred on Bainbridge Island (Kitsap Co.). Cases have continued at lower levels since then and have been reported from throughout KC and elsewhere in the state. Leptospirosis is rare in cats, but one confirmed feline case has been reported in KC, as well as an equine case.

In 2010, the most common serovars reported were Bratislava (n=12), Autumnalis (N=10), and Icterohaemorrhagiae (N=8). Leptospire are maintained in nature by chronically infected reservoir hosts. While our knowledge of the local epidemiology is incomplete, the literature suggests that rodents, pigs and horses are reservoirs for Bratislava; rats for Icterohaemorrhagiae; and raccoons for Autumnalis. In a 2006 serosurvey of healthy dogs from 15 local health jurisdictions in Washington State, 17% had serological evidence of exposure to one or more leptospira serovars. The most frequently detected serovars were Autumnalis, Icterohaemorrhagiae, and Canicola. Raccoons (n=113) were also tested with positive titers to Autumnalis found in 13%, Pomona in 13%, and Icterohaemorrhagiae in 5%.<sup>1</sup>

Of the 24 cases in 2010 with information about outcome, 13 (54%) died or were euthanized. Cases were from all areas of the county and were reported throughout the year, with most (59%) occurring from October through December. Cases ranged in age from 1 to 13 years and a variety of breeds were affected, including toy breeds. None of the dogs for which we obtained vaccination status information were known to have been vaccinated for leptospirosis.

Leptospirosis is a re-emerging zoonotic infection. It occurs worldwide but is more common in temperate and tropical areas of the world. Infection is transmitted primarily through contact with water contaminated with the urine of infected animals, either through ingestion of water or by direct contact with mucosal membranes or abraded skin. Control of infection in livestock and pets reduces the risk of human disease, but the existence of wildlife reservoirs complicates prevention. Rodent and raccoon control is particularly important around the home and in recreational areas with human presence. People should avoid contact with water, soil and vegetation contaminated with urine from animals or wear protective clothing and footwear in areas that are possibly contaminated. Veterinary staff should take precautions to avoid exposure to animal urine.

A canine vaccine containing the serovars Icterohaemorrhagiae, Canicola, Grippityphosa, and Pomona is now available. The vaccine may provide cross-protection to other serovars -- there is evidence that the Pomona component may protect against Autumnalis -- but this is an area

needing more research. Our impression at Public Health is that an increasing number of veterinary practices in KC are recommending vaccination for their canine patients. WSU's Community Practice Vaccination Protocol recommends the 4-way vaccination for dogs at risk of infection, with a booster given a month before high risk activities such as hunting or outdoor recreation involving water exposure. The 2010 ACVIM Consensus Statement on Leptospirosis notes that while naturally occurring canine Leptospirosis has been documented in dogs vaccinated with the bivalent vaccine (containing *Icterohaemorrhagiae* and *Canicola*), the panel was unaware of leptospirosis in dogs fully vaccinated with the 4-serovar vaccine, but published data are lacking.<sup>2</sup>

Please report canine leptospirosis cases in King County to the Zoonotic Disease Program at Public Health – Seattle & King County. FAX completed case report forms and lab results (including Lepto serovars) to the Public Health Veterinarian at 206-296-0189. The case report form can be downloaded from [www.kingcounty.gov/health/zoonotics](http://www.kingcounty.gov/health/zoonotics) (see Resources for Veterinarians on the sidebar).

Public Health staff are available to advise owners of animals diagnosed with leptospirosis on zoonotic transmission risks and prevention. **Call 206-263-8454 with questions or to request consultation with a pet owner.**

#### □ **References**

<sup>1</sup> MA Davis et al. Serological Survey for Antibodies to *Leptospira* in Dogs and Raccoons in Washington State. **Zoonoses Public Health**. 2008;55: 436–442.

<sup>2</sup> JE Sykes, et al. 2010 ACVIM Small Animal Consensus Statement on Leptospirosis: Diagnosis, Epidemiology, Treatment, and Prevention. **J Vet Intern Med**. 2011 January; 25(1): 1–13. Accessible at <http://www.ncbi.nlm.nih.gov/pmc/articles/PMC3040842/?tool=pubmed>

#### □ **Additional information about leptospirosis is available at the following web sites:**

Public Health- Seattle & King County: [www.kingcounty.gov/health/zoonotics](http://www.kingcounty.gov/health/zoonotics)

Report on a local veterinarian with severe Leptospirosis contracted after examining a pet rat: [www.doh.wa.gov/ehsphl/epitrends/08-epitrends/08-02-epitrends.pdf](http://www.doh.wa.gov/ehsphl/epitrends/08-epitrends/08-02-epitrends.pdf)

ACCES-Animal Critical Care & Emergency Services, 2011 winter newsletter: -- Dr Beth Davidow describes recent local cases and discusses zoonotic risks, diagnosis, treatment, and vaccination: [www.criticalcarevets.com/winter%20newsletter%202010-2011.pdf](http://www.criticalcarevets.com/winter%20newsletter%202010-2011.pdf)

Center for Food Security & Public Health, Iowa State University: [www.cfsph.iastate.edu/Factsheets/pdfs/leptospirosis.pdf](http://www.cfsph.iastate.edu/Factsheets/pdfs/leptospirosis.pdf)

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***Zoonotic Disease information:*** [www.kingcounty.gov/health/zoonotics](http://www.kingcounty.gov/health/zoonotics)  
***General Environmental Health site:*** [www.kingcounty.gov/health/ehs](http://www.kingcounty.gov/health/ehs)