

Did You Know? Update on Infectious Disease in Washington State - 2016

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This time of year is a good time to think about infectious disease in Washington State. Tick borne disease is rare here, but we do have the *Ixodes* tick that carries *Anaplasma phagocytophilum*. We are starting to see a number of cases of dogs with varying degrees of thrombocytopenia and morulae of the agent *Anaplasma phagocytophilum* in neutrophils. *Anaplasma phagocytophilum* is usually diagnosed on CBC slide review, but Phoenix Lab also offers the 4DX Plus Test. This test detects antigens to *Dirofilaria immitis* and antibodies to *Borrelia burgdorferia*, *Anaplasma phagocytophilum*/*Anaplasma platys* and *Ehrlichia canis*/*Ehrlichia ewingii*. Test code is #387, cost \$39.95. Antibody titers rise 2-5 days after morulae are seen in the neutrophils and the 4DX Plus Test for *Anaplasma sp.* may be negative early in the course of the disease. Please see below for more information on *Anaplasma phagocytophilum* including treatment. Tick control will be important this year.

The Washington State Department of Health's Zoonotic Disease Program is continuing to collect live ticks for their tick identification and infectious disease study. Instructions on tick collection and submission to the study is available under the tab *Tick Identification* at www.doh.wa.gov. Phoenix Lab clients can send ticks via courier to the lab for pick up by the Department of Health. Via Phoenix Lab couriers, live ticks should be placed in a clear top tube without any liquid and a test request form filled out with the following information: date tick was collected and where, dog or cat, and description of any recent out-of-state travel. There is no charge for this submission. Study results are released annually, generally in the fall. Please see www.pclv.net, under Education, Flyers/Bulletins, October 2015 which summarizes current results.

With the warmer temperatures last summer, veterinarians and pet owners may be wondering about an increased risk of heartworm transmission in our state. To date we have no data to support an increased incidence. However veterinarians should remain vigilant. As we approach the summer season of vacations, veterinarians should inquire regarding out-of-state travel plans for clients and their pets. There may be an increased need for heartworm prevention and tick control measures in some of these pets. Confirmed cases of heartworm disease are reportable to the Washington State Department of Agriculture, www.agr.wa.gov.

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***Anaplasma phagocytophilum* Infection (Canine Granulocytic Anaplasmosis)**

This tick borne disease has been confirmed in Washington State in dogs, horses and rarely in cats. The causative agent is *Anaplasma phagocytophilum*, formerly called *Ehrlichia equi*. It is principally carried by *Ixodes pacificus*, the Western black-legged tick.

This is an acute disease with clinical findings usually reported during the acute rickettsemic phase. Clinical signs include fever, and nonspecific signs of lethargy, depression and anorexia. Musculoskeletal pain manifested as reluctance to move, stiffness, weakness and lameness may be seen. Joint pain is uncommon. Petechia due to thrombocytopenia, the most common laboratory abnormality with *A. phagocytophilum*, may be present. In addition to mild to severe thrombocytopenia, mild hypoalbuminemia, increased alkaline phosphatase, lymphopenia, eosinopenia, neutropenia and neutrophilia, and a mild nonregenerative anemia can be seen with *A. phagocytophilum* infection.



Diagnosis is most commonly made from the identification of *A. phagocytophilum* morulae within neutrophils on a blood smear evaluation during the acute clinical phase of infection. Antibody titers become positive roughly 2-5 days after morulae are first seen in the blood and thus may be negative when morulae are identified. PCR testing may detect *A. phagocytophilum* before morulae are seen. The disease is rare in cats, but appears similar to that seen in dogs. Patients with *A. phagocytophilum* infection should be treated with doxycycline for 3-4 weeks. Clinical improvement is usually rapid.

Coccidiomycosis (Valley Fever)

From mid 2010 through the end of 2015 there have been nine reported human cases of coccidiomycosis acquired from the counties of Walla Walla, Benton, Franklin and Yakima in southeast Washington. Soil samples from these areas were positive for *Coccidioides sp.* This fungal organism is typically found in the Southwestern United States, as well as parts of Central and South America.

No animal cases of coccidiomycosis acquired from Washington State have been identified since the disease was listed as reportable to the Washington State Department of Agriculture (www.agr.wa.gov) in January, 2015. Pets with travel history have been diagnosed in our state. The diagnosis of coccidiomycosis is based on serology.

Tick Borne Disease and Travel

Remember to inquire as to travel history in the exam room. At Phoenix Lab we have seen dogs with chronic *Ehrlichia canis* infections living in Washington State that were acquired from or had travel out of the state (Arizona, Mexico, South America, Puerto Rico) up to nine years previously. Clinical pathological findings in these cases with *E. canis* infections have included mild to severe nonregenerative anemia, thrombocytopenia, mature lymphocytosis (resembling chronic lymphocytic leukemia), hyperglobulinemia (both polyclonal and monoclonal) and proteinuria. The gold standard for diagnosis of *E. canis* infection is serology. The organism circulates for only a short period of time in the blood and PCR tests can be negative particularly in chronic ehrlichiosis.