HEALTH Advisory for Veterinarians in Western Washington, August 2005

Seven human cases of tularemia in Cowlitz (2), Clark (2) and Thurston (2), and King(1) County residents have been reported between May 28, 2005 and August 15, 2005. This compares to a statewide average of 1-4 cases annually. Also, seven dogs and cats (1.9%) showed serological evidence of exposure to tularemia in a recent veterinary serosurvey involving 370 cats and dogs in 18 counties statewide. In the subset of samples from Pierce, Lewis, Clark and Cowlitz counties, 4.4% of 90 pet dogs and cats showed evidence of exposure to tularemia. In Washington, there are natural foci of tularemia cycling in wild rodents. Veterinarians should be aware of the potential for an infected pet to be seen at your clinic.

Tularemia causes die-offs or illness in rabbits, squirrels, voles, muskrats, beaver and rodents. Infected small mammals may be obviously ill (depressed, anorexic, ataxic, inactive, have a roughened coat) or may be found dead. **Sick rabbits and rodents are easily caught and eaten by outdoor pets; ticks and deer flies also transmit the infection**. Cats and dogs that are infected with tularemia can transmit infection to people.

Tularemia, also known as "rabbit fever" is a bacterial zoonosis caused by the Gram negative pathogen *Francisella tularensis.* Humans and animals can become infected by 1) inoculation (e.g. animal bite, arthropod bite, handling infected animals, etc.) 2) inhalation (e.g. aerosolization of bacteria occurs during landscaping activities such as lawnmowing and disturbing dust or hay in barns), or 3) ingestion of contaminated food or water (e.g. eating uncooked or undercooked rabbit, small mammals, drinking contaminated water). Tularemia is not spread directly from person to person.

Clinical forms of Tularemia: The incubation period for tularemia is usually 3-5 days (range1-14 days). Some species are more susceptible to disease after infection than others; the spectrum of clinical signs in each species varies. Signs of septicemia can be seen in sheep and other mammals; common symptoms may include fever, lethargy, anorexia, stiff gait, increased pulse and respiration, coughing, vomiting, diarrhea and pollakiuria.

Pet dogs and cats are also susceptible. If you see a pet with a fever of unknown origin that has not responded to routine antibiotics, ask if it has recently been exposed to rabbits, squirrels, or other rodents. Tularemia can be transmitted to pets when they sniff, lick or eat infected rabbits or rodents, or by tick and deer fly bites.

There are various clinical forms of infection that manifest according to the route of exposure. Humans most often present with **ulceroglandular tularemia** (an ulcerative skin lesion with lymphadenopathy of the regional lymph nodes). Humans and pets also can manifest tularemia as one of these syndromes: fever, inappetance, muscle aches and lethargy combined with:

- **Pharyngeal (via ingestion) infection**: cervical, submandibular, mediastinal lymphadenitis; exudative pharyngitis, oral ulcers
- **Septicemia (typhoidal)**: hepatomegaly, splenomegaly
- **Pneumonic (via inhalation**): radiographic and clinical evidence of pneumonia, plueritis.

Humans can contract ulceroglandular tularemia from animals by direct inoculation (animal bites, ungloved veterinary procedures, insect bites, direct contact with exudates or infected tissues, skinning or preparing meat for cooking).

Prevention: If tularemia is suspected in a cat or dog it is important to prevent zoonotic infection. Veterinarians, pet owners and veterinary clinic staff can be exposed when handling infected animals. Use barrier protection including disposable gloves; wear a mask if you suspect a pneumonic infection. Wash hands thoroughly after handling the animal. Disinfect surfaces that have had contact with the animal or its tissues. Should a wound occur, clean it well and monitor for fever for 14 days or see a health care provider.

Laboratory Diagnosis: Confirm the diagnosis by PCR, serology, time resolved fluorescence, direct fluorescent antibody (DFA), PCR, and/or culture. Specimen collection includes:

1) The most rapid preliminary diagnosis is made by PCR, TRF, or DFA testing on lymph node aspirate/biopsy; throat swab; whole blood; exudate from an abscess; pleural fluid, or carcass for necropsy. Culture is also done to confirm.
2) Serology: If tissues are not available, an acute serum sample followed if possible by convalescent sample > 10 days later. [A very high single titer strongly indicates acute infection; a rise in titer confirms acute infection.]

To submit a sample, contact your local health department or Dr. Margaret Davis at WADDL (509) 335-5119; or Dr. Mira Leslie or Rebecca Baer at the Washington Department of Health (206) 418-5500. If tularemia is suspected, the Washington Animal Disease Diagnostic Lab (WADDL) will perform necropsy or test tissues or serology at no cost to the submitter under the Zoonotic Disease Surveillance Project.

Treatment: Aminoglycosides or doxycyline