FACT SHEET TULAREMIA

For Health Professionals (rabbit fever, deer fly fever)

What is tularemia?
Tularemia is a zoonotic disease caused by the bacterium *Francisella tularensis*.

What are the symptoms of tularemia?
Ulceroglandular tularemia (75-85% of cases) presents with a local ulcer, painful regional lymphadenopathy, fever, chills, headache and malaise. Glandular tularemia (5-10% of cases) results in fever and tender lymphadenopathy but no skin ulcer. Typhoidal tularemia (5-15 % of cases) presents with fever, headache, malaise, substernal discomfort, prostration, weight loss and a non-productive cough. Pneumonia is very common. Oculoglandular tularemia (1-2% of cases) presents with unilateral, painful, purulent conjunctivitis with preauricular or cervical lymphadenopathy. Oropharyngeal tularemia refers to primary ulceroglandular disease confined to the throat with acute exudative or membranous pharyngotonsillitis and cervical lymphadenopathy. The case fatality rate without treatment is 5% for the ulceroglandular form and 35% for the typhoidal form. All ages are susceptible, and recovery is followed by permanent immunity.

How soon do symptoms appear?
Symptoms usually appear within 1-14 days after infection with the bacteria. Average is within 3-5 days.

How is tularemia transmitted?
Contact with small animals such as rabbits, hares, rodents, birds, and their ticks transmit tularemia. Transmission can occur when handling carcasses of infected animals (hunters while skinning), ingesting undercooked infected meat, drinking contaminated water and inhalation of dust from contaminated soil, grain or hay. It is also transmitted by tick bites and rarely through the bite of an infected animal.

Who gets tularemia infection?
Anyone can get tularemia if they spend much time outdoors in areas where ticks, deerflies and mosquitoes can be found.

How is the diagnosis made?
A high index of suspicion is associated with a compatible history of persistent skin ulcers present from handling diseased carcasses. Routine culture is possible but difficult. The diagnosis can be established retrospectively by serology. Serum antibodies usually appear in the second week of the disease. Examination of skin ulcer exudate, lymph node aspirates and other clinical specimens by Florescent Antibody (FA) test may provide rapid diagnoses. Diagnostic biopsy of actual infected lymph nodes should be done only under specific treatment since it will often induce a bacteremia.

What is the treatment for tularemia?
Streptomycin or gentamicin for 7 - 14 days is the treatment of choice.

What are the isolation precautions used for tularemia infections?
Standard Precautions are recommended for healthcare workers. Laboratory related infections with this organism do occur. Persons working in laboratories with this bacterium must take protective measures, including the use of facemasks, gowns, and impervious gloves, and negative pressure microbiological cabinets.

Is there a vaccine or post-exposure prophylaxis for tularemia?
Yes, a live attenuated tularemia vaccine is available as an investigational new drug. It is of proven effectiveness in preventing laboratory-acquired tularemia a well as in experimentally exposed human volunteers. Post-exposure prophylaxis for tularemia may include treatment with streptomycin,

gentamicin, doxycycline, or ciprofloxacin in the incubation period of tularemia and continuing treatment daily for 14 days. This might protect against symptomatic infection.

Do infected people need to be excluded from school, work, or child care?
No.

Reference:

Inglesby, TV, Henderson DA, et al. Abstract: "Consensus Statement: Tularemia as a Biological Weapon: Medical and Public Health Management" Abstracted from Journal of the American Medical Association, June 6, 2001; vol. 285, no. 21: 2763-2773. www.bt.cdc.gov/agent/tularemia/tularemia-biological-weapon-abstract.pdf