

## ZOOBOTIC AGENTS OF CONCERN IN WILD ANIMALS

Zoonotic Disease and Agent	Host	Transmission	Incubation Period (Time from exposure to onset of symptoms).	Signs/Symptoms
<b>Campylobacteriosis (Vibriosis)</b> <i>Campylobacter jejuni</i> <i>Campylobacter fetus</i>	Many animal species	Fecal - oral route.	<i>C. jejuni</i> 1 – 10 days <i>C. fetus</i> unknown	<i>C. jejuni</i> – Watery diarrhea, may be with mucus and blood, abdominal pain, fever and nausea and vomiting, usually brief and self-limiting. <i>C. fetus</i> – Chills, sweats, fever, cough, headache, weight loss and abortion in the latter half of pregnancy.
<b>Cat Scratch Fever</b> <i>Bartonella henselae</i>	Cats, others implicated, including the dog and porcupine	Usually associated with a bite or scratch from a young animal. Fleas can serve as a vector.	3 – 14 days	Several days following exposure a small, reddened, raised area appears at the site of inoculation. This is followed by vesicle and scab formation. Within a few days to a week, the lesion resolves. Weeks later regional lymph nodes can enlarge and stay enlarged for months. Fever, anorexia and headaches can be present. Severe disease can occur in immunocompromised hosts.
<b>Cryptosporidiosis</b> <i>Cryptosporidium</i> spp.	Many animal species	Fecal–oral route. May involve contaminated air.	3 – 7 days	Characterized by cramping, abdominal pain, profuse watery diarrhea, anorexia, and weight loss. Immunosuppressed people may develop severe disease.
<b>Dermatomycosis</b> Ringworm <i>Microsporum canis</i> , <i>Trichophyton</i> spp.	Many animal species	Direct skin -to-skin contact with infected animals or indirect contact with contaminated equipment or materials.	4 – 14 days	Dermatophytes grow in keratinized tissue (skin, hair, nails, horns and feathers), characterized by focal, flat, spreading circular lesions that are clear in the center and crusted, scaly and reddened at the periphery. Invasive, systemic infections have been reported in immunocompromised people.
<b>Erysipeloidiosis</b> <i>Erysipelothrix rhusiopathiae</i>	Rodents	Direct contact with pharyngeal or intestinal lymphoid tissue, feces of carrier animals, lesions (especially skin), or contaminated fomites including soil.	1 – 7 days	If localized, usually on the hands, a slightly raised, nonpitting dark reddened cutaneous zone slowly progressing peripherally, severe burning pain, sometimes intense itching, occasionally forming vesicles. If generalized, fever, generalized weakness, muscle aches and headache.
<b>Giardiasis</b> <i>Giardia</i> spp.	Many animal species	Fecal – oral route.	1 – 4 weeks	Anorexia, nausea, abdominal cramps, bloating and chronic, intermittent diarrhea are often seen.
<b>Hantavirus</b> Bunyaviridae family	Wild rodents, cats may serve as a reservoir	Inhalation of infectious aerosols, animal bite, non-intact skin or conjunctival contamination, or ingestion.	12 – 16 days, but varies from 5 – 42 days	In the U.S., infection is characterized by a severe pulmonary syndrome with fever, generalized weakness and cough. The form of the disease that has been noted with lab animal exposure is characterized by fever, headache, generalized weakness and bleeding manifestations.
<b>Histoplasmosis</b> <i>Histoplasma capsulatum</i>	Bats, birds	<i>H. capsulatum</i> grows in soil and material contaminated with bat or bird droppings. Spores become airborne when contaminated soil is disturbed. Breathing the spores causes infection. The disease is not transmitted from an infected person to someone else.	3-17 days, average 10 days	Most infected persons have no apparent ill effects. The acute respiratory disease is characterized by respiratory symptoms, a general ill feeling, fever, chest pains, and a dry or nonproductive cough. Distinct patterns may be seen on a chest x-ray. Chronic lung disease resembles tuberculosis and can worsen over months or years. The disseminated form is fatal unless treated.
<b>Leptospirosis</b> <i>Leptospira interrogans</i>	Many animal species	Through non-intact skin and mucous membranes. Often related to direct contact with urine or tissues of infected animals. Inhalation and ingestion may be possible routes.	2 – 30 days, usually 7 – 12 days	Fever with sudden onset, headache, chills, generalized weakness, and conjunctival suffusion (reddened, watery eyes).
<b>Lyme Disease</b> <i>Borrelia burgdorferi</i>	Many animal species	Through infected tick bites.	1-2 weeks	After infection, people may or may not have a "bull's-eye" rash with fever, headache, and muscle or joint pain; others may be asymptomatic or have "flu-like" symptoms.

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<b>Lymphocytic Choriomeningitis Virus (LCMV)</b> , Arenaviridae family	Rodents	Parenteral inoculation, inhalation, contamination of mucous membranes or broken skin, and aerosol transmission. Transmission can occur <i>in utero</i> and potentially by bite of an infected ectoparasite.	1 – 3 weeks.	Influenza – like illness characterized by fever, generalized weakness and, headache. In severe cases, a discolored skin rash and enlarged lymph nodes can develop.
<b>Orf</b> Poxvirus	Wild ungulates	Direct contact with virus – laden lesion exudates. Transmission by fomites or contaminated animals is possible.	3 – 6 days	Characterized by the development of a solitary lesion on the hand, arm or face. Lesion is initially discolored or pustular and progresses to a weeping proliferative nodule with central indentation.
<b>Pastuerellosis</b> <i>Pasteurella</i> spp.	Many animal species	Animal bite or scratch, inhalation, non-intact skin contamination from infected materials, and ingestion.	For a wound infection – more than 24 hours. Unknown for other routes.	Wound infection – local redness, swelling, severe pain, occasionally mild fever and regional lymph node swelling. Upper and lower respiratory tract infections and abdominal/pelvic infection are possible with signs related to the area that is affected. Septicemia – infrequent form of infection with fever and generalized signs.
<b>Plague</b> <i>Yersinia pestis</i>	Rodents	Bite from an infected flea or bites, scratches from infected animals, or ingestion of infected tissues.	2 – 6 days	Bubonic (localized) form – fever and large, swollen, inflamed and tender lymph nodes. Can progress to septicemic form with dissemination of the agent to other parts of the body. Vaccines are available for personnel in high – risk categories
<b>Psittacosis</b> <i>Chlamydia psittaci</i>	Many animal species	Direct contact or inhalation of infectious materials from exudates, secretions or dessicated feces.	4 – 15 days, usually 10 days	Fever, headache, generalized weakness, chills and upper or lower respiratory tract disease. May see extensive pneumonia and inflammation of the liver in serious infections.
<b>Q Fever</b> <i>Coxiella burnetii</i>	Sheep, goats, cattle	Inhalation, ingestion.	2 – 4 weeks	Sudden onset with fever, chills, retrobulbar headache, weakness muscle aches and profuse sweating. Some cases – nonproductive cough and chest pain.
<b>Rabies</b>	<i>Please refer to the Rabies Facts Sheet</i>			
<b>Salmonellosis</b> , <i>Salmonella</i> spp.	Many animal species	Fecal – oral route.	6 – 72 hours, usually 12 – 36 hours	Infection causes a sudden onset of headache, abdominal pain, diarrhea and sometimes vomiting. Focal infections can be localized in any tissue of the body with signs related to the area of infection. Immunosuppressed people are at extra risk.
<b>Tetanus</b>	<i>Please refer to the Tetanus Facts Sheet</i>			
<b>Toxoplasmosis</b>	<i>Please refer to the Toxoplasmosis Facts Sheet</i>			
<b>Tularemia</b> <i>Francisella tularensis</i>	Many animal species	Direct contact of intact skin with blood or tissues of infected animals, bite from an infected ectoparasite or animal, ingestion of contaminated meat or water, inhalation.	1 – 10 days, usually 3 – 5 days	Symptoms are associated with portal of entry. Skin exposure most common – sudden onset of fever, chills, headache and generalized weakness with decaying ulcer at the site. Ingestion – vomiting and diarrhea. Inhalation-pneumonia. Eye – ulcerated area on the lower eyelid.
<b>Tuberculosis</b> <i>Mycobacterium tuberculosis</i> , <i>M. bovis</i> , <i>M. africanum</i> , <i>M. leprae</i> .	Many animal species.	Aerosols from infected animals or tissues, ingestion or wound contamination.	4 – 12 weeks.	Most common form reflects involvement of the pulmonary system and is characterized by cough, sputum production and eventually coughing up blood. Extrapulmonary forms of the disease can involve any tissue or organ system. General symptoms as the disease progresses include weight loss, fatigue, fever, chills and wasting.

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