

POSSIBLE ZOOSES OF DOGS AND CATS

Use of animals from approved vendors and proper use of personal protective equipment makes the risk of transmission of these diseases unlikely.

PATHOGEN	TRANSMISSION	ANIMAL DISEASE	HUMAN DISEASE
Rabies	<ul style="list-style-type: none"> ▪ animal bites 	<ul style="list-style-type: none"> ▪ progressive neurologic dysfunction, death 	<ul style="list-style-type: none"> ▪ progressive neurologic dysfunction, death
Pasteurella, Captoctyphaga, Staphylococcus spp.	<ul style="list-style-type: none"> ▪ bacterial contamination following bite wounds 	<ul style="list-style-type: none"> ▪ asymptomatic 	<ul style="list-style-type: none"> ▪ swelling, cellulitis, local inflammation, abscess at the site of the wound; may require systemic antibiotic treatment in severe cases
Dermatophytosis “Ringworm”	<ul style="list-style-type: none"> ▪ direct contact with infected animals 	<ul style="list-style-type: none"> ▪ asymptomatic or skin lesions with alopecia, hyperkeratosis, erythema and crusts 	<ul style="list-style-type: none"> ▪ raised circular lesions, with erythema and hyperkeratosis
Toxoplasma gondii -cats only	<ul style="list-style-type: none"> ▪ fecal-oral or ingestion of contaminated tissues 	<ul style="list-style-type: none"> ▪ abortions, still births, encephalitis, myositis, birth defects, death 	<ul style="list-style-type: none"> ▪ abortions, still births, encephalitis, myositis, birth defects, death
Bartonella henselae “Cat Scratch Fever”	<ul style="list-style-type: none"> ▪ animal bite or scratch 	<ul style="list-style-type: none"> ▪ subclinical 	<ul style="list-style-type: none"> ▪ lymphadenopathy, fever, malaise, encephalitis, local inflammation, abscess
Campylobacter spp.	<ul style="list-style-type: none"> ▪ fecal-oral 	<ul style="list-style-type: none"> ▪ asymptomatic or diarrhea 	<ul style="list-style-type: none"> ▪ gastroenteritis, diarrhea
Salmonella spp.	<ul style="list-style-type: none"> ▪ fecal-oral or ingestion of contaminated food 	<ul style="list-style-type: none"> ▪ asymptomatic or diarrhea 	<ul style="list-style-type: none"> ▪ gastroenteritis, diarrhea
Giardia spp. (only assemblages A and B are zoonotic)	<ul style="list-style-type: none"> ▪ fecal-oral, contaminated food or water sources 	<ul style="list-style-type: none"> ▪ diarrhea 	<ul style="list-style-type: none"> ▪ diarrhea, fever, vomiting
Toxocara spp.	<ul style="list-style-type: none"> ▪ accidental ingestion of embryonated eggs from environment 	<ul style="list-style-type: none"> ▪ diarrhea 	<ul style="list-style-type: none"> ▪ usually asymptomatic ▪ visceral or ocular larva migrans
Brucellosis	<ul style="list-style-type: none"> ▪ exposure to aborted fetuses, placental material, urine, or vaginal discharges 	<ul style="list-style-type: none"> ▪ orchitis, scrotal dermatitis, generalized lymphadenopathy, abortion 	<ul style="list-style-type: none"> ▪ intermittent fever, malaise
Leptospirosis	<ul style="list-style-type: none"> ▪ direct contact with infected urine 	<ul style="list-style-type: none"> ▪ malaise, icterus, nephritis 	<ul style="list-style-type: none"> ▪ malaise, acute nephritis, icterus, hepatitis, uveitis
Ancylostoma spp.	<ul style="list-style-type: none"> ▪ direct contact with infected material 	<ul style="list-style-type: none"> ▪ diarrhea 	<ul style="list-style-type: none"> ▪ cutaneous larva migrans ▪ eosinophilic enteritis (<i>A. caninum</i>)

EXTERNAL PARASITES

External parasites of dogs and cats are capable of transmitting several diseases to humans. Dog sources, environmental conditions, and geographic location influence the incidence and risk associated with ectoparasites. Preventive measures should be designed to limit exposure and careful examination during quarantine is recommended to detect and eliminate external parasites. Below is a list of the most common ectoparasites and the zoonotic diseases they can transmit.

PARASITE	DISEASE	HUMAN DISEASE
Ticks	<ul style="list-style-type: none">▪ Ehrlichia▪ Lyme borreliosis▪ Tularemia▪ Rocky mountain spotted fever	<ul style="list-style-type: none">▪ fever, headache, fatigue, and muscle aches▪ fatigue, chills, fever, headache, rash, arthritis, neurologic signs▪ fever, skin lesions, lymphadenopathy▪ fever, headache, abdominal pain, vomiting, rash, muscle pain
Fleas	<ul style="list-style-type: none">▪ Bartonella▪ Plague	<ul style="list-style-type: none">▪ fever, lymphadenopathy, papules or pustules▪ fever, chills, extreme weakness, abdominal pain, bleeding, shock
Mites	<ul style="list-style-type: none">▪ Scabies▪ Cheyletiella	<ul style="list-style-type: none">▪ pruritus, dermatitis▪ erythematous macules or papules on the limbs and body

ALLERGENS OF DOGS AND CATS

Cats: Many people keep cats as pets. Therefore, sensitization can and does occur outside the laboratory environment. Furthermore, cat allergies may further predispose those affected to developing allergies to other lab animals. There is a close link between immunological sensitization and the development of asthma in people sensitive to these animals. The major cat allergen is the protein *Fel d 1*. It is produced by the sebaceous glands of the skin and coats the hair shafts. It is also produced in the saliva.

Dogs: Like cats, sensitization to dogs may develop outside of the laboratory. The major dog allergen is *Can f 1*. Dog albumin has also been identified as another important allergen. Sources of exposure to dog allergens include saliva hair and skin.

References

1. Greene, CE. 1998. Infectious diseases of the dogs and cats. WB Saunders, Philadelphia, PA.
2. Kirk, RW and JD Bonagura. 1992. Kirk's Current Veterinary Therapy XI. W. B. Saunders, Philadelphia, PA.
3. Committee on Occupational Health and Safety in Research Animals Facilities, Institute of Laboratory Animal Resources, Commission of Life Sciences, National Research Council. 1997. Occupational Health and Safety in the Care and Use of Research Animals. National Academic Press, Washington, DC.
4. Ettinger, Feldman. 2010. Textbook of Veterinary Internal Medicine, Seventh Ed. Saunders Elsevier, St. Louis, MO.