



Cornell University
Cornell Center for Animal Resources and Education

Potential Zoonoses Associated with Dogs

The intent of this Information Sheet is to describe the most common zoonotic agents seen in dogs and the safe work practices suggested to mitigate the exposure to these pathogens.

TABLE OF CONTENTS

1. Introduction
2. Zoonotic Pathogens
3. Safe Work Practices
4. References

1. Introduction: This document provides information about potential zoonotic exposure while working with dogs or their products (e.g. fecal sample). The infectious agents listed here are not all inclusive, but provide the most common zoonotic agents seen in dogs. The safe work practices are provided as suggestions for staff and researchers who work with animals, in animal facilities, or with animal products.

2. Zoonotic Pathogens

a. Gastrointestinal Infection

- i. Organisms: *Salmonella* spp., *Escherichia coli*, *Campylobacter* spp., *Cryptosporidium parvum*
- ii. Clinical Signs
 1. Animals – Diarrhea.
 2. Humans – Diarrhea, nausea, vomiting, abdominal pain.
- iii. Transmission: Fecal-oral.
- iv. Prevention: Good personal hygiene, wear gloves when working with animals with diarrhea and wash hands after removing gloves and before leaving the animal facility.

b. Bite or scratch wound

- i. Organism: *Staphylococcus* spp., *Streptococcus* spp., *Pasteurella* spp., other bacteria
- ii. Clinical signs:
 1. Animals: Abscess at site of wound
 2. Humans: Abscess or inflammation at site of wound, may rapidly become systemic and life-threatening
- iii. Transmission: dog bite or scratch; normal flora of dog nasal and oral cavities
- iv. Prevention: If bitten or scratched by a dog, immediately flush the wound with soap and water. If bitten, seek medical attention.

- c. Dermatophytosis (Ringworm)
 - i. Organisms: *Trichophyton* or *Microsporum* spp.
 - ii. Clinical Signs
 - 1. Animals - Dry, gray, hairless patches; common on the skin around the head and neck.
 - 2. Humans - Red round itchy lesion with a ring of scale around the edge.
 - iii. Transmission: Direct contact with skin lesions of infected animal. Can also be contracted via contaminated equipments and environmental objects
 - iv. Prevention: Wear gloves when handling animals with patchy hair loss and wash hands after removing gloves and before leaving the animal facility.

- d. Leptospirosis
 - i. Organisms: *Leptospira* spp.
 - ii. Clinical Signs
 - 1. Animals - Asymptomatic to decreased weight gain, anorexia, abortion, fever, diarrhea, and generalized neurological signs.
 - 2. Humans - Flu-like symptoms (fever, chills, headache, muscle ache, vomiting); liver and kidney failure.
 - iii. Transmission: Ingestion, direct abraded skin, or mucous membrane contact with contaminated water, urine, aborted fetus, or vaginal discharge from infected animals; aerosolization can occur.
 - iv. Prevention: Wear gloves when in contact with urine and wash hands after removing gloves and before leaving the animal facility..

- e. Rabies
 - i. Organisms: Rabies Virus
 - ii. Clinical Signs
 - 1. Animals - Depression or aggression; generalized neurological signs.
 - 2. Humans - Local pain at site of inoculation; headache, malaise, fever; anxiety, agitation, paralysis, coma, death.
 - iii. Transmission: Saliva (via bites or open wounds), direct contact with CNS tissue.
 - iv. Prevention: Wear gloves when in contact with saliva. If handling an animal with unknown rabies vaccine history, report any bites or scratches to facility manager and contact Gannett Occupational Medicine office (255-6960) for immediate medical evaluation.

3. Safe Work Practices

- a. Good Personal Hygiene
 - 1. Wash hands after working with animals or animal products and when leaving animal facilities. For further instruction refer to CARE SOP 713 Hygiene-Hand Washing.
 - ii. Do not eat, drink, or use tobacco products in animal facilities.
 - iii. Keep hands away from your mouth, nose, and eyes.
- b. Personal Protective Equipment (PPE)
 - 1. Use proper PPE for work setting as appropriate (e.g. coverall, facemask, boot covers). Maintain dedicated protective clothing

- and footwear while working with animals or in animal facilities. Do not wear protective clothing outside of animal facility.
- ii. Wear disposable gloves during procedures that increase the likelihood of exposure to zoonotic agents. Also wear disposable gloves for handling sick animals (i.e. animals showing clinical signs such as diarrhea or hair loss), or contaminated surfaces and/or equipment.
- c. Animal Care
 - i. Isolate sick or infected animals.
 - ii. Handle and care for sick or infected animals last.
 - d. Cleaning and Disinfection
 - i. Maintain clean, dry, and uncluttered animal areas and workspace.
 - ii. Disinfect laboratory work surfaces after each use and after any spills when working with animal products. Use only disinfectants approved by facility managers.
 - iii. Dispose of deceased animals, animal products, items contaminated by animal products, contaminated bedding, and laboratory waste in a facility approved manner.
 - e. Proper Sharps Handling
 - i. Work only with one uncapped needle at a time and immediately dispose of after use in sharps receptacle.
 - ii. Avoid recapping needles whenever possible.
 - iii. For further guidelines refer to CARE SOP 711.01-Sharps Precautions.
 - f. Medical Attention
 - i. Contact Gannett Occupational Medicine office (255-6960) for medical evaluation if you suspect any zoonotic exposure, or if you develop any symptoms associated with infection with zoonotic agents (e.g., fever, malaise, diarrhea, abdominal pain). Alternatively, see your own personal health care provider if any injury or potential exposure to a zoonotic agent occurs.
 - ii. Notify the principal investigator or supervisor and complete an accident and injury report, <http://prp.ehs.cornell.edu/Acc-Inj/>
 - g. Allergies
 - i. Handling of bedding, hair, and fur may aggravate allergies.
 - ii. Proper use of PPE reduces, but does not eliminate the risk of developing allergies. Refer to the Allergy Prevention web page (see References) for further information.

4. References

- a. CARE SOP 713 Hygiene-Hand Washing:
<http://www.research.cornell.edu/care/documents/SOPs/CARE713.pdf>
- b. CARE SOP 711.01-Sharps Precautions:
<http://www.research.cornell.edu/care/documents/SOPs/CARE711.pdf>
- c. Allergen Prevention
<http://www.research.cornell.edu/Care/documents/OHS/AllergyPreventionFactSheet.pdf>
- d. Gannett Health Services, (607) 255-5155 or www.gannett.cornell.edu/