

ZOONOTIC DISEASE AWARENESS AND PREVENTION

A zoonotic disease is a disease that can be spread between animals and humans. Zoonotic diseases can be caused by viruses, bacteria, parasites, and fungi. Zoonotic diseases can be prevalent in domestic animals and thus pose a risk to members of the veterinary practice team. Understanding basic information about zoonotic diseases, including their signs and symptoms, and instituting effective prevention measures are key to protecting the health and well-being of every employee.

There are more than 50 zoonotic diseases prevalent in the United States that can affect veterinary personnel. Examples of zoonotic diseases include ascariasis (scabies), anthrax, brucellosis, campylobacteriosis, chlamydiosis, Cryptococcus, cryptosporidiosis, dermatophytosis (ringworm), E. coli, giardiasis, larval migrans, leptospirosis, Lyme disease, Plague, Q-Fever, Rabies, salmonellosis, toxoplasmosis and Valley Fever. The National Association of State Public Health Veterinarians (NASPHV) publishes a compendium titled, "Veterinary Standard Precautions for Zoonotic Disease Prevention in Veterinary Personnel" which includes a detailed appendix with a list of the diseases most likely to be encountered by veterinary personnel. The compendium is available for free online.

Zoonotic pathogens are transmitted via contact, aerosol, or vector-borne routes, or any combination thereof.

- Contact transmission includes gaining access to the body through the skin or mucous membranes. Contact transmission includes ingestion.
- Aerosol transmission occurs when droplets created by coughing, sneezing, and vocalization are deposited on the mucous membranes. These droplets are typically large, can generally travel only approximately 1 to 2 m (3 to 6 feet), and do not remain suspended in the air. Therefore, risk of aerosol pathogen transmission increases with proximity to the source and duration of exposure.
- Vector-borne transmission occurs when vectors such as mosquitoes, fleas, and ticks transmit pathogens. Animals may bring flea and tick vectors into contact with veterinary personnel.

Standard Precautions to prevent zoonotic disease transmission include:

- Zoonotic pathogens are transmitted via contact, aerosol, or vector-borne routes, or any combination thereof. Therefore, taking appropriate precautions for each will reduce infection.
- Use of disposable gloves, frequent hand-washing (especially after handling a patient), and disinfecting hands with alcohol-based products are effective ways to reduce exposure to zoonotic diseases.
- Personal protective equipment such as gloves, goggles, masks, face shields, gowns, footwear and other supplies should be used when handling animals that are suspected or known to be infected with a zoonotic disease.
- Protective actions when handling or cleaning up after animals including safety protocols for animal restraint and handling, and sharps safety should be followed to minimize bite, scratch or needlestick injury.
- Food and drink should not be present when working with patients, and should be kept away from medications or soiled bedding from patient.
- Environmental infection control including isolation of infectious or suspect infections animals, cleaning and disinfection protocols, handling of soiled linens, spill response and decontamination, managing medical waste, and rodent control should be in effect at all times.
- High risk procedures include handling fractious or aggressive animals (increasing risk of bites / scratches), or performing dentistry, diagnostic tests and procedures, wound care, resuscitation, obstetrics, surgery and necropsy should be reviewed with staff to minimize zoonotic disease exposure.
- Special consideration should be taken to limit exposure of immunocompromised or pregnant employees to patients that are suspected or known to be infected with a zoonotic disease.

- Employees should report to a supervisor any signs or symptoms in a patient that are consistent with a zoonotic disease.
- Personnel who have been exposed to animals with zoonotic diseases may need to seek medical help and should consider doing so in cases of likely or confirmed exposure.

LEARNING QUESTIONS

Which zoonotic diseases are most likely to be encountered in our practice?

What are the methods of zoonotic disease transmission and what are the risk factors for each?

Where are food and drink kept and permitted to be ingested in the practice?

What are the hospital's procedures and policies for minimizing risk of zoonotic disease exposure and infection?

Who do practice employees report suspect zoonotic disease signs and symptoms to?

What procedures are in place for personnel who have been, or are likely to have been, exposed to an animal with a suspect or confirmed zoonotic disease?

ADDITIONAL TRAINING RESOURCES

- Download and print the National Association of State Public Health Veterinarians NASPHV publication titled, "Compendium of Veterinary Standard Precautions for Zoonotic Disease Prevention in Veterinary Personnel" and distribute to your staff.
- Also available online is a wall chart and other resources to educate staff about zoonotic diseases. Visit the Iowa State Center for Food Security and Public Health at: <http://www.cfsph.iastate.edu/Zoonoses/>