

Infection Control in the Shelter

Much like children in schools or childcare centers, animals in shelters are at high risk for spreading and acquiring infectious disease. In certain circumstances these diseases can also spread to the people caring for and interacting with shelter animals. However, this risk can be significantly reduced through conscientious infection control practices. This background information is to help deepen your understanding of the strategies used to prevent disease spread.

How is Disease Spread?

Infectious diseases can be spread through a variety of methods. This chart details the primary methods of transmission that would be of concern in an animal shelter as well as common infectious diseases of cats and dogs that are spread via that method.

Mode of transmission	Description	Examples
Aerosolization/airborne	The infectious agent is suspended and can travel a distance through the air	Canine infectious respiratory disease (CIRDC)
Droplet	Small infectious droplets travel a short distance after being expelled but are not suspended in the air	Feline upper respiratory infections (URI)
Direct contact	The infectious agent is spread via body surface to body surface contact between animals or animal to human	Most infectious diseases in the shelter
Indirect contact/fomite	A contaminated item, surface, piece of clothing, or hand spreads disease between animals	CIRDC, URI, ringworm, canine parvovirus, and feline panleukopenia virus amongst others (particularly common with pathogens that are hardy in the environment)
Vector	Disease is spread via another living organism	Tapeworms, tick-borne bacteria, <i>Bartonella henselae</i>
Reproductive	The infectious agent is sexually transmitted or, more commonly, spread directly from mother to offspring	Feline leukemia virus Canine brucellosis

Who Will Get Sick?

Numerous factors influence whether infectious disease will spread in the shelter and whether an individual animal will become ill after exposure. It is important to understand these risk factors as an effective infection control strategy takes a multimodal approach and addresses each one.

Agent

There are inherent characteristics of infectious agents that impact their ability to cause disease and their likelihood of spread. Some pathogens, such as canine parvovirus, feline panleukopenia virus and ringworm, are very hardy in the environment. Many common pathogens are easily spread, such as CIRDC pathogens which can be spread via aerosolization. The dose of an infectious agent will also impact the likelihood of spread and disease. For example, a puppy shedding large amounts of canine parvovirus in his stool will be more likely to spread disease than one only shedding trace amounts.

Host

Aspects of the host, the animal exposed to the infectious agent, are another component that impact the likelihood of developing disease. Very young, geriatric or immunocompromised hosts are more likely to develop disease when exposed to a pathogen. Stress can negatively impact the immune response and make an animal more likely to develop infectious disease. Conversely, vaccination and other preventative wellness care such as deworming will boost the host's ability to combat disease.

Environment

The environment surrounding a potential host can either facilitate or hinder the spread of disease. Physical barriers such as separate rooms or personal protective equipment (PPE) can reduce disease spread when used properly. Effective sanitation, including hand washing or sanitizing, is also an important tool to prevent environmental spread of disease.

Overcrowding can increase the risk of disease through all three categories: increasing the dose of infectious agents, causing stress for potential hosts, and overstressing environmental control measures. Successful population management is a vital tool to reducing the spread of disease in animal shelters.

What Strategies Help Prevent Spread of Disease?

- Reduce the likelihood of a contaminated environment through sanitation, prompt identification of sick animals, isolation, and operating within the shelter's capacity.
- Identify clinical signs of disease at intake.
- Boost the ability of the individual animal to avoid disease through intake vaccinations, parasite treatment, reduction of stress, and minimizing their length of stay in the shelter.
- Avoid contributing to the spread of disease through frequent hand washing or sanitizing, careful use of PPE, changing contaminated clothing, and following the order contagion whenever possible.

Healthy juveniles



Healthy adults



Sick juveniles



Sick adults