

Aerosol transmission occurs when disease agents contained in droplets are passed through the air from one animal and breathed in by another.

Respiratory diseases cause animals to cough, sneeze and blow out mucus from their nose or mouth. These actions can spread disease particles through the air and can contaminate objects in the environment. Other animals become exposed by breathing in the infectious droplets or having contact with aerosol-contaminated surfaces.

Bordetella bronchiseptica (kennel cough) and feline upper respiratory disease, are examples of diseases transmitted by aerosol. Some diarrheal diseases, such as parvoviruses, can also be spread by aerosols.

Most pathogens do not survive for extended periods of time within airborne droplets; sunlight and air dry them out. Close proximity of infected and susceptible animals is typically needed for disease spread.

There are ways to decrease the risk of aerosol spread diseases.

■ Minimize exposure by increasing distance between sick and healthy animals

- Reduce the density or closeness of animals to each other or change housing layout so animals are optimally distanced from each other
- All animals with respiratory disease should be placed in isolation
- Shelter staff should take precautions, (e.g., wear masks, gloves), especially when zoonotic diseases are suspected

Minimum space requirements recommended by the Humane Society of the United States and the Animal Welfare Act.

Dogs	
10-35#	12 sq feet
36-50#	20 sq feet
51#+	24 sq feet
Group housing	Each dog should have 4 x 4 feet of floor space
Cats	
At least 10.8 sq feet per cat	
Co-housed cats	An additional 2.5 sq feet per cat

■ Ensure adequate and appropriate ventilation and air filtration

- Use an optimum air exchange rate per hour (ideally 8-15); this is the rate at which the complete volume of air inside a building or room is replaced with fresh outside air
- Minimize excessive moisture, dust and odor build up; these factors can increase stress and enhance infection in animals
- Air filters can greatly aid in pathogen removal, however filters must be cleaned and/or changed frequently to prevent the buildup of pathogens
- Ventilation systems need to be inspected regularly and updated as needed

■ Cleaning and disinfection (C&D) of environment

- When performed properly, C&D can reduce the incidence of most infectious diseases and control the transmission of pathogens by most routes