

# Improving Incidence of Upper Respiratory Infections in Shelter Kittens

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## In the literature

Jaynes RA, Thompson MC, Kennedy MA. Effect of ultraviolet germicidal irradiation of the air on the incidence of upper respiratory tract infections in kittens in a nursery. *J Am Vet Med Assoc.* 2020;257(9):929-932.

## FROM THE PAGE ...

Airborne pathogens that cause respiratory infections can contribute to significant illness in kittens housed in animal shelters. These pathogens, including feline herpesvirus-1, feline calicivirus, *Bordetella bronchiseptica*, *Chlamydia felis*, and *Mycoplasma* spp, can persist on surfaces and lead to fomite transmission. Intensive disinfection can help decrease the persistence of these pathogens and other contagions in a shelter environment. Ultraviolet (UV) germicidal irradiation has been found to effectively disinfect surfaces, air, and water<sup>1</sup> and to decrease the spread of respiratory infections in humans when added to heating, ventilation, and air-conditioning (HVAC) systems.<sup>2-5</sup>

This study compared the incidence of upper respiratory infections (URIs) in a kitten nursery setting before and after a UV germicidal irradiation system was installed in an HVAC system. Incidence of URIs (ie, URIs per 100 kittens housed) prior to installation of the UV irradiation system was compared with the incidence of URIs after the UV irradiation system was in place 2 years later. Records were reviewed for the number of kittens housed in the nursery, as well as the number of kittens diagnosed

with URI based on clinical signs. Intensive disinfection and personal protective equipment (PPE) protocols for staff remained as standard operating procedures.

Evaluation of incidence of infection revealed a significant decrease in URIs diagnosed in kittens after the UV germicidal irradiation system was in use. Incidence of URIs was 12.4 prior to and 1.6 after (2 years later) installation of the UV system—an 87.1% decrease in development of URIs.

## ... TO YOUR PATIENTS

Key pearls to put into practice:

- 1** In a shelter environment where URIs are common and easily transmitted, addition of a UV germicidal irradiation system could significantly decrease incidence of infections caused by common respiratory viruses.
- 2** Strict disinfection protocols and consideration for UV germicidal irradiation in shelter environments are also important.
- 3** UV irradiation in other veterinary environments (eg, general clinics, intensive care units, research facilities, rescue/large shelter organizations) could also be considered. It is unknown whether other types of viruses, bacteria, or fungal organisms may be susceptible to UV irradiation; thus, further studies are warranted.

## References

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