



Canadian Standards of Care in Animal Shelters: Supporting ASV Guidelines

Attard, E.; Duncan, K.; Firmage, T.; Flemming, S.; Mullaly, K.; Pryor, P.; Smrdelj, M.; Cartwright, B.; Rastogi, T.

ABSTRACT

Shelter facilities provide a unique challenge for cleaning and disinfection. Animals interact with surfaces within the environment in a far different way than humans and can be adversely impacted by harmful residues left behind on surfaces. Furthermore, many facilities employ volunteers who have little to no background in the safe use of chemicals. Accelerated Hydrogen Peroxide® (AHP®) offers the perfect balance between safety and efficacy, making it the ideal disinfectant chemistry for use in cleaning and disinfection of shelter facilities.

BACKGROUND

The Association of Shelter Veterinarians (ASV) is an international organization whose mission is to improve the health and well-being of animals in shelters through the advancement of shelter medicine. In the Canadian context, the term shelter is used for human societies and Societies for the Prevention of Cruelty to Animals (SPCA), as well as for organized rescue or foster organizations. This document has provided the animal welfare community with a comprehensive tool that helps organizations align their activities with recommended practices on all aspect of care. Although this guideline provides in depth directives on the standard of care that should be practiced in all animal shelters, this document will outline the key points of standard biosecurity.

Good Sanitation is an integral part of humane animal housing. Proper cleaning and disinfection practices help reduce transmission of infectious diseases to both animals and people, and result in a cleaner and healthier environment. A clean shelter also has the added benefit of increasing the comfort level of the animals and presenting a positive image of the shelter to the public. Protocols for proper sanitation are essential for any sheltering program. Providing education and training as well as ensuring compliance with those protocols is also essential.

CLEANING AND DISINFECTION

Physical cleaning is defined as the removal of urine, fecal matter, and other organic material from the environment. Cleaning should result in a visibly clean surface. Disinfection is

the process that will kill most of the contaminants in a given area. Sanitation is defined as the combination of cleaning and disinfection, and is a requirement for all shelters and rescue homes. Sterilization is the destruction of all microbes, including spores, and is generally reserved for surgical instruments, surgical gloves, and other equipment necessary for sterile procedures.

Whether or not infection transmission occurs is dependent on several factors: the host (exposed animal), the virulence of the pathogen, the amount of pathogen present, and the duration of exposure. Infectious dose defines a threshold amount of a pathogen required to cause infection and disease. By cleaning and using disinfectants properly, the number of pathogens in the environment is decreased, reducing the dose delivered if an animal is exposed.

SANITATION PROCEDURES

Sanitation protocols should be developed and periodically reviewed in shelter medicine. While information about shelter sanitation may be extrapolated from many sources, protocols must be based on current knowledge and recommendations developed specifically for animal shelters, and must include specific methods and agents for achieving the goals of both cleaning and disinfection.

Enough staff must be assigned to complete sanitation tasks promptly each day so that animals spend the majority of their time in sanitary conditions. Selection of proper cleaning and disinfectant products is essential. Detergents and degreasers must be used as needed to maintain clean surfaces free of visible dirt and debris. Disinfectants must be chosen that will be effective under the conditions present in a given environment, and with demonstrated activity against the pathogens for which the animals are at risk. Non-enveloped viruses such as parvovirus, panleukopenia, and feline calicivirus are of particular concern, but other disinfection-resistant agents such as coccidia and *Microsporium canis* may also be problematic. Some disinfectants have been shown by independent studies not to be effective against these durable pathogens, in spite of EPA-



approved labeling. Products that have not been independently validated against non-enveloped viruses and other pathogens of concern should not be used as the sole disinfectant.

The facility should be cleaned in order of animal susceptibility to disease and potential risk to the general population, starting with the most susceptible animals and ending with those who carry the highest risk of transmitting infectious disease. Separate cleaning supplies should be designated for each area. Appropriate personal protective equipment (PPE) should be used in each area, and removed before proceeding to care for other animals in the population.

In general, the order of cleaning and care, from first to last, should be:

1. Healthy puppies and kittens and health nursing canines and felines.
2. Healthy adult animals
3. Unhealthy animals

Thorough sanitation of primary enclosures before a new animal enters is essential. Sanitation protocols must include removal of gross organic matter, pre-cleaning of surfaces with a detergent or degreaser, application of a disinfectant at the correct concentration and for sufficient time, rinsing and drying. When water or cleaning and disinfecting products will be sprayed in or near the area of the primary enclosure, animals must be removed from the cage or kennel, or separated from the area being cleaned by guillotine doors to prevent splatter, soaking of the animals and stress. It is an unacceptable practice to spray down kennels or cages while animals are inside them. Animals who are housed long-term in the same enclosure require less frequent disinfection of their enclosure, but daily cleaning is still essential to maintain sanitary conditions. In many instances, cages and kennels can be cleaned using the "spot cleaning" method, where the animal remains in its cage while the cage is tidied, and soiled materials, urine and feces are removed.

Practices that transfer pathogens from one enclosure to another put animals at risk. Mopping should be avoided if possible. When mopping cannot be avoided, a disinfectant with good activity in the presence of organic matter must be used, and contaminated mop water should not be used from one housing area to another. Acceptable sanitation cannot be accomplished using water alone, not using only a disinfectant with no detergent properties. Alternative methods of disinfection such as ultraviolet light or reliance on freezing during cold weather are not sufficient for sanitation in shelters or rescue facilities.

FOMITE CONTROL

A fomite is an inanimate object that may be contaminated with pathogens and contribute to transmission of disease. The human body and clothing may serve as fomites. Adequate hand

sanitation is one of the best ways to prevent disease transmission and should be required before and after handling animals and fomites. Hand sanitation is achieved through hand washing, use of hand sanitizers, and proper use of gloves. Clothing, even if visibly clean, may still carry pathogens. Protective garments should be worn during cleaning and other intensive animal-handling activities and changed before going on with other activities of the day.

All equipment that comes in contact with animals including cleaning supplies should be either readily disinfected or discarded after use with a single animal. Items that cannot be readily disinfected, such as leather gloves and muzzles, represent a risk to animals. Their use should be avoided especially for animals who appear ill and during disease outbreaks. Scratched and porous surfaces are difficult or impossible to completely disinfect and should be used with caution or discarded. Transport cages and traps, as well as vehicle compartments used for animal transport, must be thoroughly disinfected after each use.

All clothing and bedding used at the shelter must be laundered and thoroughly dried before reuse. Organic debris should be removed from articles before laundering. Articles that are heavily soiled should be laundered separately or discarded. Bedding and other materials heavily contaminated with durable pathogens such as parvovirus's should be discarded.

Food and water bowls should be kept clean and must be disinfected prior to use by a different animal. Automatic watering devices and water bottles should not be used if they cannot be disinfected before being used by another animal. Use of commercial dishwashers is an excellent way to thoroughly clean food and water bowls. If viruses such as parvovirus are a problem, a disinfectant should be applied to the dishes before or after going through the dishwasher. When dishes are sanitized by hand, they must be thoroughly washed and rinsed prior to disinfection. Ideally, food and water receptacles should be cleaned in an area separate from litter boxes or other items soiled by feces. At a minimum, litter pans and dishes must not be cleaned at the same time in the same sink, and the sink should be thoroughly disinfected between uses.

Foot traffic also plays a role in fomite transmission. Floors, as well as other surfaces should be immediately sanitized after contact with urine, feces, vomit, or animals known or suspected to have infectious disease. Footbaths are inadequate to prevent infectious disease spread and should not be relied on for this purpose. Poorly maintained footbaths may even contribute to the spread of disease. Achieving adequate contact time can be impractical, and footbaths require frequent maintenance because of the presence of organic debris inactivates many disinfectants. Dedicated boots that can be disinfected or



disposable shoe covers are more effective and should be used in contaminated areas.

OTHER CLEANING

Outdoor areas around the shelter must be kept clean, recognizing it is impossible to disinfect gravel, dirt and grass surfaces. Access to area that cannot be disinfected should be restricted to animals who appear healthy, have been vaccinated and de-wormed, and are 5 months or older. Ideally, feces should be removed immediately from outdoor areas, but at a minimum must be removed at least daily. Standing water should not be allowed to accumulate in areas around the shelter as many pathogens thrive in these environments.

RODENT/PEST CONTROL

Many rodents and insects harbor bacteria and other pathogens that can contaminate food products, resulting in food spoilage or direct transmission of disease to the animals. Areas of food storage are particularly vulnerable to infestation. All food should be kept in sealed bins or containers that are impervious to rodents and insects. Food should be removed from runs at night if rodents and insects are present.

CONCLUSION

The Guidelines for Standard of Care in Animal Shelters is intended to be a positive tool for shelters and communities to review animal care, identify areas that need improvement, allocate resources and implement solutions so welfare is optimized and suffering is prevented.

IMPLICATIONS FOR AHP

As emphasized in the guidelines, cleaning and disinfecting are two crucial steps in maintaining animal shelter biosecurity. It is critical that the proper disinfectant be selected to incorporate with your cleaning and disinfecting procedures. Accelerated Hydrogen Peroxide is supported by our following pillars of strength:

AHP Disinfectants are One-Step Disinfectant-Cleaners

- AHP has proven cleaning efficacy resulting in lower costs and faster results as well as added confidence that disinfection can occur

AHP Disinfectants have realistic contact times

- Short contact times ensures surfaces remain wet for the required contact time, providing comfort and confidence that disinfection has occurred

AHP Disinfectants provide the perfect balance between safety and efficacy

- AHP is designed to be easier on employees and occupants resulting in protocol compliance
- AHP provides a HMIS rating of "0", the safest allowed by the EPA. Handling the product without the usual personal protective equipment means less cost and downtime

AHP Disinfectants are compatible

- AHP formulations are tested to ensure compatibility that preserve your investments in equipment and building surfaces

AHP Disinfectants are environmentally sustainable

- AHP's active ingredient, hydrogen peroxide, break down into water and oxygen leaving no active residues
- AHP is formulated to ensure that it will not negatively impact indoor air quality

REFERENCE

Attard et al. (2010). Canadian Standards of Care in Animal Shelters: Supporting ASV Guidelines. Canadian Advisory Council on National Shelter Standards.