Highlights of
The Guidelines for Standards of Care in Animal Shelters,
Second Edition (2022)

ASSOCIATION OF SHELTER VETERINARIANS

5. Sanitation

5.1 General

Maintaining a sanitary environment is an integral part of supporting health and welfare and minimizing the risk of infectious disease. A clean shelter increases the comfort level of the animals and personnel and presents a positive image of the shelter to the public. Protocols for proper sanitation are essential for any sheltering program.

5.2 Definitions

Cleaning is defined as the manual removal of urine, fecal matter, food waste, hair, bodily fluids, and other debris from the environment. ***Disinfection***, typically by the application of a chemical product to a clean surface for a specific period, is the process of killing most of the remaining pathogens. ***Sanitation*** refers to the combination of cleaning and disinfection. ***Sterilization*** is the destruction of all pathogens (e.g. viruses, bacteria, and fungi), including spores, and is generally reserved for surgical instruments and other equipment necessary for sterile procedures.

5.3 Sanitation practices

Shelters must have a sanitation plan for all locations in which animals are present, including enclosures, common-use areas, foster homes, and outdoor spaces. Sanitation protocols are used to describe which areas to sanitize, which products to use, and how to use them. Sanitation protocols should be based on pathogens, routes, and risk of transmission. Sanitation protocols must include steps for removal of organic matter, cleaning, and disinfection. Ideally, sanitation protocols will be developed in consultation with a veterinarian experienced in shelter medicine. Those making decisions about sanitation protocols need to be familiar with the active ingredients of common disinfectants, target pathogens, and potential routes of transmission. An increasing number of resources provide guidelines tailored to the shelter environment.

Sanitation products must be diluted and used according to label instructions or published recommendations. Some disinfectants such as quaternary ammonium products and bleach can be harmful when animals contact or ingest them, even at recommended dilutions, so removing the residue is an essential step. Disinfectants used in animal areas must be effective against non-enveloped viruses, such as parvovirus, panleukopenia, and calicivirus. Several studies have found that quaternary ammonium-based products, which are commonly used in shelters and veterinary clinics, do not eliminate non-enveloped viruses despite label claims. Other products, such as accelerated hydrogen peroxide, potassium peroxymono-sulfate, and bleach products, are effective against non-enveloped pathogens and dermatophytes at the appropriate concentration and contact time. Adequate sanitation cannot be accomplished by using water alone, by spraying and quickly wiping off a disinfectant, or by using a disinfectant with no detergent properties (i.e. bleach) without cleaning first. Alternative methods of disinfection such as ultraviolet light, steam, freezing, and air filtration systems must not be relied on as the sole means of sanitation in shelters.

Industry guidelines recommend a minimum of 9 minutes per animal per day for routine cleaning of enclosures. The actual time needed to accomplish daily sanitation will vary based on population, housing size and type, specific products and protocols, and facility use. Calculating how long proper sanitation typically takes per housing unit can provide better estimates of sanitation staffing needs. Sanitation should proceed in an order that minimizes both the risk of pathogen transmission from infected animals and the exposure of vulnerable animals. In general, the recommended order of cleaning and care, from first to last, is 1) healthy puppies and kittens, 2) healthy adult animals, and 3) unhealthy animals. Shelters may need to alter sanitation protocols when disease rates increase or a more difficult to kill pathogen is identified. During an outbreak, protocols should be reviewed; common mistakes include incorrect choice of disinfectant, under- or over-dilution, not observing contact times, etc.

5.3.1 Sanitizing primary enclosures: Enclosures must be completely sanitized before being occupied by a different animal. This process, also known as ***deep cleaning***, is important even if an animal has only occupied a primary enclosure for a short time, the enclosure is not visibly soiled, or the animal appears healthy. Sanitation is indicated when enclosures are heavily soiled, an infectious disease is diagnosed and on a regular schedule based on use. It is unacceptable to spray primary enclosures while animals are inside them; animals nearby also need to be removed when overspray is likely. Adequate drainage is essential for animal housing areas; drainage systems or operational practices (e.g. squeegee and towel drying) must prevent the accumulation of standing water. Dry surfaces are required before animal use. Ideally, mopping is avoided in animal housing areas, as mops may harbor pathogens. However, mopping may be necessary when sanitizing animal enclosures and ward hallways that do not have drains. When mopping cannot be avoided, personnel must ensure that both cleaning and disinfection of the floor surface occur. Mop heads require disposal or sanitation and drying between uses.

5.3.2 Spot cleaning primary enclosures: When an animal will remain in their enclosure and it has not been heavily soiled, complete sanitation of the enclosure may not be necessary. Daily cleaning is essential, but can often be accomplished using a spot cleaning method. During spot cleaning, an animal may remain in their enclosure or be given out-of-kennel enrichment. Soiled bedding, old food, urine, and feces are removed, the area tidied, and food and water resupplied (Table 5.1). Spot cleaning is typically less stressful for animals as it requires less animal handling and does not remove familiar scents.

5.4 Reducing pathogen spread

Care to avoid the spread of disease through fomites (contaminated objects including hands, work clothing, food bowls, litter boxes, toys, etc.) is important during sanitation and when interacting with animals in the shelter.

5.4.1 Personal protective equipment: Personal protective equipment (PPE) is a physical barrier that reduces the spread of disease when used properly. PPE should be selected based on specific pathogens and exposure risks within each population (see Public Health). Appropriate PPE should be used in each area and disposed of or sanitized before proceeding to care for other animals (Appendix C). Protective garments must be changed between handling each animal when there is a high risk for disease transmission. Staff training, adequate supplies, and facility set-up (e.g. location of trash receptacles) allow for proper use and removal of PPE. Personnel should wash hands after removing PPE.

5.4.2 Hand hygiene: Hand hygiene stations should be available in or near every area where contact with animals occurs. Ideally, hand hygiene stations are sinks that allow washing with soap and water and drying with single use towels. At a minimum, hand hygiene stations provide hand sanitizer with at least 60% alcohol. Because hand sanitizers are ineffective against some of the most concerning pathogens in shelters (e.g. parvovirus, calicivirus, and ringworm), hand sanitizers should not be relied on as the sole means of hand hygiene. Sanitation protocols must address hand hygiene for shelter staff, volunteers, and visitors.

5.4.3 Equipment and supplies: All items that come into contact with animals should be sanitized on a regular basis, whenever visibly soiled, and when in direct contact with bodily fluids. In disease outbreaks or when proper sanitation of supplies is not possible between animals, the use of disposable items may be warranted. Gloves, clothes, and shoes can serve as fomites, underscoring the importance of the proper use and replacement of PPE. Separate cleaning supplies must be designated for each shelter area or be sanitized prior to use in each area.

Transport cages and traps, as well as vehicle compartments used for animal transport, must be sanitized before being occupied by a different animal. Mobile equipment, such as rolling trash cans and carts, should be assigned to one area or be sanitized between areas. Items with scratched, damaged, and porous surfaces are difficult or impossible to completely disinfect and should be used with caution or discarded between animals. All bedding and other textiles must be discarded or laundered and thoroughly dried when visibly soiled and before reuse with a different animal. Routine cleaning or laundering of bedding could fail to remove non-enveloped viruses and dermatophytes; discarding the items in question or using pathogen-specific laundry protocols is recommended. Automatic watering devices and water bottles should not be used if the watering valve cannot be sanitized before being used by another animal. Dishwashers have excellent mechanical washing action and attain high temperatures which destroy most pathogens but may not destroy non-enveloped viruses (e.g. parvoviruses). The best way to inactivate these viruses is through the application of a disinfectant to the dishes following the dishwasher cycle.

5.5 Other shelter areas

Foot traffic plays a role in fomite transmission throughout the shelter and grounds; dedicated boots that can be sanitized or disposable shoe covers should be used in potentially contaminated or protected areas, such as isolation and surgery. Footbaths are not practical and must not be relied on for infectious disease control in the shelter. Animal waste and bodily fluids must be removed from indoor common spaces as soon as possible; the area then needs to be sanitized properly. Feces must be removed from outdoor areas between animals or groups. To reduce parasite egg accumulation in the environment, daily removal of feces is acceptable; immediate removal is preferred. Outdoor areas around the shelter must be kept clean, recognizing it is impossible to disinfect gravel, dirt, and grass surfaces. Many shelters designate certain outdoor areas for use by specific animals, allowing closure of an area when needed while still preserving other areas for continued use. Access to areas that cannot be sanitized should be restricted to adult animals who have been vaccinated, dewormed, and appear healthy. Standing water should not be allowed to accumulate in or around the shelter.

5.6 Wildlife, rodent, and insect control

Rodents and insects may harbor pathogens that can spread to shelter animals through direct ingestion, contamination of pet food, or contamination of the environment. All food storage areas must be protected from wildlife, rodents, and insects. Properly storing food bags in sealed bins, promptly cleaning spills or waste, and resealing and refrigerating opened food containers (animal or human) can help mitigate infestations. Rodent and insect control solutions must be safe, humane, and effective. Integrated pest management plans are recommended.

See the full guidelines for references and supporting documents: https://jsmcah.org/index.php/jasv/issue/view/2