



Infection Prevention and Control Best Practices

For Small Animal Veterinary Clinics

Dear veterinary staff member,

We are conducting a brief online survey to understand your current infection control practices and your motivation for seeking out these guidelines. Participation in the survey is strictly voluntary. You may exit the survey at any time, and you may skip any questions you wish. All responses are anonymous

This survey should only take approximately 2-3 minutes to complete. We would greatly appreciate your feedback.

Click this link to start the survey:

https://uoguelph.eu.qualtrics.com/jfe/form/SV_6DbIPOk3dZnLbQ9

Laundry and Waste Management

Laundry management

Although single-use, disposable linens and similar items are ideal from an infectious disease control aspect, such items can also produce tremendous waste. Laundry is therefore a very important component of infectious disease control in the clinic setting. Although soiled linens are a potential source of microorganisms, with appropriate hygienic handling, storage and processing of clean and soiled linens, the risk of disease transmission from these items can be reduced to an almost negligible level.

Linens and special clothing used in veterinary clinics (e.g. cage blankets, towels, surgical drapes, surgical gowns, scrubs, lab coats) can be an important means of moving pathogens from one area to another within the clinic, and to areas outside the clinic. As a result, **clinic clothing (e.g. scrubs, lab coats) should always be laundered on-site or sent to a commercial laundry facility that is equipped to handle laundry from medical/veterinary facilities.** This helps to prevent transmission of pathogens to family members, family pets and the general population. Personnel should change into clinic clothes at the beginning of their shift and back into street clothes at the end of their shift. Clinics should have appropriate laundry facilities or laundry services to accommodate the need to change clothing daily, or more frequently if required.

Microbial numbers on soiled linens (e.g. towels, blankets) and clothing are significantly reduced by dilution and during the mechanical action of washing and rinsing. Linens used in veterinary clinics should be laundered using detergent and dried in a hot air dryer to promote killing of microorganisms. Specific recommendations for air and water temperature for medical laundry are available ([Sehulster 2015](#)).

Linens contaminated with gross organic material must be pre-cleaned by hand to remove such material prior to laundering. Appropriate personal protective equipment (PPE) should be worn for this procedure (e.g. lab coat and gloves). It is not possible to adequately clean laundry by machine when gross organic material is present, and laundering such items can lead to contamination of other laundered items. In situations where laundry cannot be adequately cleaned of gross contamination, it should be discarded.

Collection and handling

Except for linens potentially contaminated with infectious agents (see below), all used linens can be handled in the same way. Heavily soiled linens should be rolled or folded to contain the heaviest contamination in the centre of the bundle, without contaminating personal clothing or the environment. Remove large amounts of solid debris, feces or blood clots from linens with a gloved hand and disposable tissue or paper towel, which are then immediately placed in the garbage or appropriate biomedical waste receptacle. Excrement should not be removed by spraying with water or shaking as this may result in contamination of the surrounding area and personal clothing. Contain wet laundry prior to removal from the immediate area or placement in the laundry bag by wrapping it in clean towels or sheets ([PHO 2018](#)), or placing in a plastic bag or bin, if necessary.

Linens contaminated with gross organic material must be pre-cleaned by hand to remove such material prior to laundering.



Key points:

- Handle linens with minimum agitation and shaking.
- Always place soiled linens directly in a hamper or bag designated for dirty laundry.
- Never place soiled linens on the floor.
- Tie laundry bags securely and do not over-fill.
- Always perform hand hygiene after handling soiled linens, including after glove removal.
- Clean carts and hampers after each use.
- Wash laundry bags after each use (they can be washed in the same cycle as the linens they contain).

Laundry should not be considered clean until it has been dried completely, ideally using the highest heat possible.



Transport & storage

Contaminated laundry in critical areas such as surgery should be kept in closed bins within a bag that can then be removed and brought to the laundry room at the end of the day or as required. Linens transported by cart should be moved in such a way that the risk of cross-contamination is minimized (e.g. avoid moving the cart from potentially contaminated areas (e.g. runs/kennel area) to cleaner areas (e.g. prep room, surgery). If soiled laundry is significantly wet, a plastic garbage bag around the laundry bag should be used to contain any fluid that may penetrate the bag. This bag should be discarded when wet.

Clean linens should be transported and stored in a manner that prevents contamination. If laundry carts are used, separate carts should be used for clean and dirty linens. Clean laundry should be kept in a designated area in cupboards with doors that can be closed to reduce risk of contamination. Ideally clean laundry should not be stored in the laundry room where it may become contaminated by incoming soiled laundry.

Washing and drying

Use of normal machine washing with a commercial laundry detergent and machine (hot air) drying are sufficient to greatly reduce the numbers of most significant infectious pathogens on most soiled linens (Sehulster 2015). The following points should be considered when washing and drying clinic laundry:

- If laundry is washed in cold water, an appropriate cold-water detergent must be used according to label directions.
- Do not assume that hot water washing will disinfect or sterilize items. Traditional high-temperature washing (71°C for 25 minutes or more) can significantly reduce bacterial numbers (Sehulster 2015), but standard household washing machines do not typically reach this temperature, even if the hot water setting is used.
- The heat and drying effects of tumble/hot air drying are a critical step in the laundering process, and account for a large proportion of the decrease in bacterial counts achieved. Therefore, laundry should not be considered clean until it has been dried completely, ideally using the highest heat possible.
 - Line-drying linens outdoors may have the advantage of also exposing the surface of the fabrics to ultraviolet (UV) light, if they are hung to dry in the sun. However, it is difficult to expose all surfaces to sunlight, and thick fabrics, items made of multiple fabric layers and those containing seams may protect bacteria from UV exposure. Also, the antimicrobial action of the high heat of tumble drying is lost if linens are line-dried, therefore tumble drying is recommended, especially for any materials that may have been contaminated with a transmissible infectious pathogen.

Laundry from infectious cases

Laundry from potentially infectious cases should be handled separately from other laundry using the following precautions:

- Collect contaminated linens in a separate laundry bag, and wash and dry them separately.
- For linens with gross contamination of a potentially infectious nature (e.g. feces from a diarrheic animal, discharge from an infected wound, urine from an animal with a urinary tract infection), remove as much organic material as possible by hand (using gloves and disposable tissue or paper towel, as described above). Then pre-soak the items in bleach solution (9 parts water:1 part household bleach) for 10-15 minutes prior to machine washing.
- Add bleach to the household detergent in the washing machine as per label instructions.
- Tumble dry all items on the highest heat setting available.

Safety of clinic personnel

Personnel need to protect themselves from potential transmission of pathogens from soiled linens by wearing appropriate personal protective equipment (e.g. gloves, gown, apron) when handling these items. Personnel should perform hand hygiene whenever gloves are changed or removed, or if they come in contact with soiled linens while not wearing gloves. Hand hygiene stations should be available in the laundry area.

Even though sharps disposal should occur at time of use, personnel need to be aware of the risk of sharps in the laundry, especially in the pockets of scrubs or lab coats. If a sharp is identified in the laundry, the incident should be reported to management and documented to prevent reoccurrence ([PHO 2018](#)).

Commercial laundry facilities

A company that specializes in handling laundry from medical/veterinary facilities should be used if it is not possible for laundry to be cleaned on-site. Adequate separation of clean and dirty laundry in the transport truck is essential to ensure that there is no opportunity for mixing or cross-contamination of clean and dirty linens.

Waste management

Veterinary biomedical waste is a potential source of both zoonotic and non-zoonotic infectious pathogens. Therefore, it is important to handle all such waste appropriately. In Canada, biomedical waste is defined and regulated at the provincial/territorial and municipal levels (usually by the applicable Department/Ministry of the Environment). Biomedical waste typically includes sharps, tissues (anatomic waste), highly contaminated (e.g. blood-soaked) materials, and dead animals. The Canadian guidelines for biomedical waste are available online ([CCME 1992](#)), but individual jurisdictions may have more stringent regulations. Details are typically available through provincial/state and municipal web sites, or through local veterinary regulatory bodies. It is important to ensure that all staff who may handle biomedical waste are aware of the relevant requirements in their area, and the information should be made readily accessible (e.g. documented in or linked to the clinic infection control manual). Small clinics in rural areas may be able to make arrangements with a local human hospital or other healthcare institution to have their waste disposed with that of the human facility, if biomedical waste disposal services are not otherwise available.

Although it is beyond the scope of these guidelines to describe veterinary biomedical waste management in detail, the following basic information may be helpful:

- **Used sharps** are considered biomedical waste and should be disposed accordingly. Use approved, puncture-resistant sharps disposal containers to remove, store and dispose of sharps such as needles, blades, razors and other items capable of causing punctures.
- **Non-anatomical waste saturated or dripping with blood** (e.g. blood-soaked lap sponges and gauze) are also best disposed of as biomedical waste.
- **Liquid waste** such as chest fluid, abdominal fluid, irrigating solutions, suctioned fluids, excretions and secretions usually may be poured carefully down a toilet or any drain connected to a sanitary sewer or septic tank. Jurisdictional regulations may dictate the maximum volume of blood or body fluids permitted to be poured into the sanitary sewer and whether pre-treatment (e.g. with bleach or disinfectant) may be required prior to disposal. If there is likely to be splashing during this disposal process, appropriate personal protective equipment should be worn.
- **All other waste**, such as general office waste and non-sharp medical equipment, may be disposed of in the regular waste stream, and requires no special treatment other than containment during disposal and removal.

Waste should be contained in a leak-proof container or bag that can be discarded with the waste (e.g. a plastic garbage bag of appropriate colour/transparency for the type of waste).

Urine and feces are not considered biomedical waste, nor is disposable equipment that has come in contact with an infectious animal (e.g. examination gloves, disposable gowns, bandage materials that are not saturated with blood). Nonetheless, some of these materials may pose a risk to clinic personnel, patients and waste disposal personnel in terms of their potential to transmit infectious pathogens. Therefore, additional precautions should be taken to minimize contamination of the clinic environment and the risks to people and animals from potentially infectious waste, whether it is considered biomedical waste or not. Precautions may include double-bagging of materials from isolation areas, keeping waste cans covered to prevent access by curious animals and to prevent spillage if a waste can is knocked over. If contamination of the inside of a waste can occurs (e.g. due to a tear in a garbage bag), the container should be thoroughly cleaned (and disinfected if needed) after emptying.

Waste bins are often required in examination rooms. If bins are in the open and do not have a fitted lid or contain potentially infectious or messy waste, they should be emptied between patients so they are not investigated or knocked over by subsequent patients. Otherwise waste bins should generally be emptied at the end of the day.

References

Canadian Council of Ministers of the Environment (CCME). Guidelines for the management of biomedical waste in Canada. 1992. Available at: http://publications.gc.ca/collections/collection_2015/ec/En108-3-1-42-eng.pdf. Accessed Dec-2018.

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Sehulster LM. Healthcare laundry and textiles in the United States: Review and commentary on contemporary infection prevention issues. *Infect Control Hosp Epidemiol.* 2015;36(9):1073-88. PubMed PMID: 26082994.

