



Recommended Standard Operating Procedures for Bio-Decontamination of an Ambulance

Standard precautions combine the major features of universal precautions and body substance isolation and are based on the principle that all blood, body fluids, secretions, excretions (except sweat), non-intact skin and mucous membranes may contain transmissible infectious agents. Standard precautions include a group of infection prevention and control practices that apply to ALL patients, regardless of suspected or confirmed infection status, in any setting in which health care is delivered. These include: hand hygiene; use of gloves, gown, mask, eye protection or face shield, depending on the anticipated exposure; and safe injection practices. Also, equipment or items in the patient environment likely to have been contaminated with infectious body fluids must be handled in a manner that prevents transmission of infectious agents (e.g., wear gloves for direct contact, contain heavily soiled equipment, properly clean and disinfect or sterilize reusable equipment before use on another patient). The application of standard precautions during patient care is determined by the nature of the healthcare worker–patient interaction and the extent of anticipated blood, body fluid or pathogen exposure. For some interactions (e.g., performing a venipuncture), only gloves may be needed; during other interactions (e.g., intubation), use of gloves, gown and face shield or mask and goggles is necessary. Standard precautions are also intended to protect patients by ensuring that healthcare personnel do not carry infectious agents to patients on their hands or via equipment used during patient care.

With this, the AMBUstat™ program recommends adequately cleaning and disinfecting an ambulance after every healthcare worker–patient interaction and use of the AMBUstat™ system at least once each week, which can be performed when a department does their routine equipment and maintenance checks and thorough weekly interior and exterior cleaning.

Using professional judgment, there will be exceptions to the recommendation for a weekly use of the AMBUstat™ system. Items to consider are the average number of calls logged each day, the community socio-demographics and environmental factors encountered and exceptional calls that should, ordinarily, demand a thorough cleaning and mid-to-high-level disinfection, such as, but shall not be limited to, the following: patient with a known, or highly suspected, case of viral hemorrhagic fever, clostridium difficile infection, methicillin-resistant staphylococcus aureus, influenza, strep throat, giardiasis, ringworm, as well as any cases involving: a traumatic injury that exposed the treatment area to blood and other body fluids or a medical condition associated with excreted bodily waste, blood or other body fluids.

Recommended Bio-Decontamination Steps

1. If HVAC system has not been cleaned and serviced, please make arrangements to have it cleaned and serviced, with arrangements being made to have it cleaned and serviced on a schedule recommended by the vehicle's manufacturer and/or the HVAC system's manufacturer (inadequate cleaning and maintenance will result in poor HVAC performance, poor infection and control outcomes and absorption of atomized sterilant that may permit residual odor from the atomized sterilant when the HVAC system is operated)
2. Remove linen from stretcher located inside space to be treated by the atomized sterilant
3. Discard all trash and clean all visible organic and inorganic matter from the contaminated space, including all equipment and the stretcher (i.e., dust, dirt, feces, blood, tar and gum)
4. If open and there is a sliding/swinging door, close door for pass/walk-through passage between patient care and driver's spaces (if there is no door, the passage should be sealed with plastic and residue-free tape)(all efforts should be made to prevent the atomized sterilant from flowing into adjacent spaces that may be occupied by a living organism (i.e., person or animal))
5. Open interior cabinets and other compartments to allow atomized sterilant to flow freely around contents
6. Open and hang gear bags from ceiling (there are typically horizontal rails that are attached to the ceiling to make this task simple)
7. Place chemical indicator test strips in different areas of the space (the spots that you think it will be most challenging for the atomized sterilant to flow)
8. Position the fogger in the space to be treated by the atomized sterilant (should be positioned as central to the space, as possible, and should be positioned with the nozzle facing into open air so that the atomized sterilant can be projected from the fogger without obstruction)
9. Ensure that safety warning signs and controls are used to prevent accidental entry into the space to be treated by the atomized sterilant
10. Use the timer and remote to activate the fogger for the desired run time
11. Run the fogger until all chemical indicator test strips indicate a level of at least 30 PPM (this step will require a couple of test cycles to determine, but typically requires 25 minutes for the patient care space and a couple of minutes for the driver's space, but fluctuates based on airflow, heat and humidity (this length of time should be recorded in a treatment log for that specific space, as each treatment space has characteristics that affect the fogger's run time)(During the test cycles, it is critical that the space is able to ventilate adequately before re-entry – see Step 13)(Test cycles should be performed with incremental adjustments for efficiency (i.e., start with 25 minutes, if not adequate, run again for 30 minutes, etc.))
12. Allow the atomized sterilant to dwell for at least 15 minutes (do not enter the space or open any doors to the space during this time)
13. Following the dwell period, open the doors to the space and allow the space to ventilate in order for permit safe re-entry (this typically requires 15-20 minutes)(use of a fan may accelerate the ventilation time by diluting any remaining atomized sterilant)(if an air quality meter is available, hydrogen peroxide and peracetic acid levels should be measured: OSHA's current permissible exposure limit (PEL) for hydrogen peroxide (H₂O₂) is 1 PPM and the American Conference of Governmental Industrial Hygienists' (ACGIH) current threshold limit value (TLV) short term exposure limit (STEL) for peracetic acid (PAA) is 0.4 PPM)(In any instance, if entry into the space is made and there is any degree of respiratory difficulty, the space should be exited immediately and additional ventilation time should be permitted)
14. Once adequate ventilation has been achieved, a clean sheet should be placed on the stretcher and the gear bags should be stowed accordingly, but all efforts should be made to prevent unnecessary contact with any surfaces to avoid recontamination of the space