



## UTSW/BioTel EMS System October 2014

### EMS TB 14-008: Ambulance and Medical Equipment Disinfection & Personnel Decontamination Procedures

#### Purpose:

To provide UTSW/BioTel EMS agencies guidance for standardized disinfection procedures for the ambulance and medical equipment, and for basic personnel decontamination procedures used during patient assessment, management and transport.

#### Background:

Recent events surrounding the confirmed case of Ebola Virus Disease mandate refresher training and Departmental Policy reviews for all EMS providers in the adherence to standardized disinfection procedures for ambulances and medical equipment, and to personnel medical decontamination procedures. The following procedures are consistent with & derived from the Centers for Disease Control and Prevention's (CDC) current guidelines for disinfection and decontamination.

(Casualty and Mass Casualty decontamination are not covered in this Training Bulletin.)

#### Definitions:

- **Disinfection:** The act or process of killing or rendering inert pathogenic organisms through a specialized cleansing technique with heat or chemicals. This is specific to biologic agents (bacteria, viruses, fungi, etc.). It is less lethal to pathogenic organisms, as some types (e.g. bacterial spores) may not be killed.
- **Decontamination:** The act or process of removal, inactivation or destruction of foreign material and/or contaminating substances from equipment, vehicles, patients or personnel. This more broadly includes both biologic substances (e.g. blood, body fluids, secretions & excretions) containing pathogenic organisms, as well as other contaminants (e.g. chemicals or radioactive materials). For disease-causing organisms, decontamination renders them incapable of transmitting infectious particles; the decontaminated surface or item is rendered safe for handling, use, or disposal.

- **Sterilization:** A validated process used to render a product free of all forms of living microorganisms. This typically requires steam, high heat, radiation or special chemicals. Sterilization is often expressed as the probability of a microorganism surviving the sterilization process as less than 1 in a million.

## **Procedures:**

### **1. At the beginning of EVERY shift:**

At the beginning of EVERY shift, EMS Providers shall disinfect all of the following:

- All internal surfaces of the ambulance;
- Patient gurney and mattress surfaces;
- All durable medical equipment used (e.g. blood pressure cuff, monitor-defibrillator, stethoscope, glucometer, etc.). Remember: surfaces of monitor-defibrillators, AEDs and other electronic devices should be wiped, not sprayed.

### **2. ALL patient encounters, with or without transport:**

At the completion of ALL patient transports, **and** at the conclusion of the medical encounter with patients who are not transported but who have been evaluated and/or treated in the passenger compartment of the ambulance and/or with EMS equipment, EMS providers shall disinfect ALL of the following:

- Providers' hands and exposed skin (use hand sanitizer or soap and water);
- All internal surfaces of the ambulance;
- Patient gurney and mattress surfaces;
- All durable medical equipment used (e.g. blood pressure cuff, monitor-defibrillator, stethoscope, glucometer, etc.). Remember: surfaces of monitor-defibrillators, AEDs and other electronic devices should be wiped, not sprayed.

### **3. Visible contamination of the ambulance or equipment:**

For visible contamination of the ambulance or equipment with a patient's blood, body fluids, secretions or excretions (e.g. blood, urine, emesis, sputum, or feces), EMS Providers shall:

- Don appropriate PPE (refer to UTSW/BioTel EMS TB 14-007 PPE);
- Remove all visible body fluids with paper towels or cleaning wipes;
- Place the used cleaning materials into a red "Biohazard" medical waste container, or a suitably labeled double-bag and maintain it in a secure location until proper disposal is performed.
- Thoroughly disinfect the underlying surface following removal of visible blood, body fluids, secretions and excretions.

### **4. Visible contamination of an EMS Provider's uniform or clothing:**

If an EMS Provider's uniform, turnout gear, or clothing becomes visibly contaminated with any patient's body fluids (e.g. blood, urine, emesis, sputum, or feces), EMS Providers shall:

- Remove the contaminated clothing;

- Remove any visible contamination from the clothing;
- Place the clothing in a red “Biohazard” bag or clearly labeled plastic bag;
- Clean underlying skin with soap and water (shower as needed);
- Contact their EMS supervisor for further details regarding uniform and clothing disinfection, and reporting of possible pathogen exposure, per agency procedures.

### **Selection of Disinfection & Cleaning Products:**

1. The CDC recommends using an EPA-registered hospital disinfectant with label claims for viruses, such as Norovirus or Rotavirus. All three cleaning agents currently being used by Dallas Fire-Rescue are virucidal agents that meet the CDC’s recommendations for disinfecting solutions. These include:
  - Zep Spirit II Spray – “Ready to Use”
  - Zep Clean’em Spirit II Disinfectant Wipes
  - Professional Lysol Brand Disinfectant spray
2. Other disinfectant products may meet the CDC recommendations and are therefore acceptable for use by other EMS agencies.
3. Regardless of the product, it is **very important** to follow all label directions carefully, for maximum effectiveness.
4. NOTE: Bleach can burn human skin, cause corrosion, damage surfaces/electronics, stain clothing, and create toxicity when mixed with other chemicals.
  - Full-strength household bleach (sodium hypochlorite) should **never** be used on patients or personnel. Its use on durable medical equipment is not preferred.
  - Dilute bleach solution is an effective disinfectant for equipment and surfaces, but generally **ONLY** as an alternative if other, preferred, agency-specific disinfectants are unavailable. The following dilutions of household bleach may be considered:
    - a. Bleach solution (1.5 cups of bleach in a gallon of water for a 1:10 dilution): only for grossly contaminated equipment and surfaces.
    - b. Bleach solution (0.25 cup of bleach in a gallon of water for a 1:100 dilution): for routine disinfection of equipment and surfaces that are not grossly contaminated.

***For ANY questions or concerns about EMS Provider health or safety related to these procedures, contact your EMS Supervisor or BioTel immediately.***

**CDC Resources (accessed 5 October 2014):**

<http://www.cdc.gov/vhf/ebola/hcp/interim-guidance-emergency-medical-services-systems-911-public-safety-answering-points-management-patients-known-suspected-united-states.html>

[http://www.cdc.gov/hicpac/pdf/guidelines/Disinfection\\_Nov\\_2008.pdf](http://www.cdc.gov/hicpac/pdf/guidelines/Disinfection_Nov_2008.pdf)