Central DuPage Emergency Medical Services System

# **Precautions for Infectious Disease and Disinfection Procedure**

APPROVAL: 3/90

EMS MEDICAL DIRECTOR:

REVIEW & APPROVAL:

EMSS COORDINATOR:

REVISION & APPROVAL: 6/95, 1/98, 2/09

#### **PURPOSE:**

To establish disinfection procedures when contact with a contagious disease has occurred.

## POLICY:

All suspected contagious disease exposures must be reported by prehospital personnel to the receiving hospital emergency department physician and charge nurse and the paramedic's (EMT's) infection control offices as soon as possible following the occurrence.

- I. The following precautions represent prudent practice that apply to prevention of transmission of bloodborne infections (including AIDS and Hepatitis B), respiratory/airborne infections and enteric/fecal-oral infections and should be used routinely on all patients.
  - A. Routine handwashing after contact with any patient regardless of the use of gloves.
  - B. Routine use of appropriate carrier precautions during patient care procedures and when handling instruments contaminated with blood or other bodily fluids. Avoid contact with blood and other bodily fluids use appropriate personal protection equipment (PPE) (e.g., gloves, gowns, eye coverings, masks,) as needed.

- C. When performing an invasive procedure, wear gloves when touching mucous membranes or non-intact skin of all patients, and use other appropriate PPE when indicated (e.g., gowns, eye coverings, masks) particularly if aerosolization or splashes are likely to occur (i.e., when intubating or suctioning a patient with major facial trauma). Hands should be washed thoroughly (ASAP) if they accidentally become contaminated with blood or other body fluids. Mucous membranes, including eyes, should be copiously flushed or irrigated if contaminated.
- D. Use appropriate PPE during deliveries (i.e., to protect against exposure to mother's blood or body fluids and mucous membranes) as well as handling the placenta or the infant until blood and amniotic fluid have been removed from the infant's skin. Avoid contact with blood or other bodily fluids.
- E. Use extraordinary care to prevent injuries to hands caused by needles, and other sharp instruments or devices during procedures, when cleaning used instruments, during disposal of used needles, and when handling sharp instruments following procedures. After use, disposable syringes and needles, and other sharp items must be placed in puncture-resistant containers for disposal. To prevent needle stick injuries, needles should not be re-capped, purposefully bent or broken, removed from disposable syringes, or otherwise manipulated by hand. Needles should be considered as potentially infective and handled with exceptional care to prevent accidental injuries.
- F. Any healthcare worker who has exudative lesions (i.e., a pus filled sore) or weeping dermatitis (i.e., draining sores) should not perform or assist in invasive procedures or handle equipment used for patient care and refrain from direct contact with patients until the condition resolves. Healthcare workers with any open cut or any skin dermatitis that leaves skin open (i.e., eczema, psoriasis) shall have these areas covered with a sealed moisture proof covering prior to any patient contact.
- G. When performing ventilations on a non-breathing patient, use mouth-tomask, bag-to-mask or demand valve techniques. If such equipment is not available immediately, mouth-to-nose ventilation is recommended to reduce the exposure to oral secretions.

- H. Equipment and surfaces contaminated with blood or other body fluids, regardless of infectious status, should be cleaned with soap and hot water followed by a disinfectant solution (2% glutaraldehyde, e.g., Cidex, Gluterex, etc.) or fresh solution of household bleach in water (1:10 dilution), prepared daily. Alcohol is usually ineffective becasue of its rapid evaporation and need for total immersion of items in alcohol for 10-30 minutes to achieve high level disinfection. Appropriate PPE (e.g., gloves, gowns, eye coverings, masks) must be worn while cleaning and disinfecting equipment.
- I. Contaminated linens, disposable equipment, secretions, etc., should be disposed of at receiving hospitals as per that hospital's routine procedure for contaminate items.
- J. All parenteral (e.g., needlestick or cut) or mucous membrane exposures (e.g., splashes to the eye or mouth) to blood or other bodily fluids or a cutaneous exposure involving large amount of blood or prolonged contact with blood (especially when the exposed skin is chapped, abraded or afflicted with dermatitis) from any patient are to be reported to the infection control officer and the receiving hospital Emergency Department charge nurse as soon as possible following the occurrence. The paramedic should request to be processed according to the receiving hospital's procedures for an exposure. Personnel exposed to the following diseases, to which they are not immune (previous immunization or knowledge of prior illness) should similarly report an exposure: Hepatitis B, Measles, Mumps, Rubella, Chicken Pox/Shingles/Herpes Zoster.
- K. In transporting patients with infections transmissible via air (e.g., Measles, Mumps, Meningococcal Disease, Tuberculosis), request the patient wear a mask. If the patient does not wear a mask, all persons likely to have face-to-face contact within three (3) feet (1 meter) should wear masks and eye coverings to eliminate transmission via direct projection of aerosolized infective matter (e.g., coughing, sneezing, spitting, etc.). If mucous membrane exposure occurs, report exposure as described above.
- L. Vehicles transporting patients with a contagious disease shall be aired out (all doors and windows open) for at least five (5) to ten (10) minutes while performing a thorough cleaning and disinfection. Notify your respective dispatch of this required delay in resuming service.

M. Transportation of patients identified with Methcillan Resistant Staph Aureus (MRSA) require appropriate PPE.

# II. Care of Ambulance and Ambulance Equipment

- A. Aeration the amount of air exchange in most vehicles is such that airborne contamination with infectious agents, if present, will likely be gone five (5) minutes after the patient is removed and the vehicle is parked with all doors and windows open.
- B. Disposable equipment and linens if there is reason to believe such materials are or might be contaminated, they should be appropriately bagged where they were used and then disposed of per the receiving hospital's policies. See emergency department charge or duty nurse for assistance. Use appropriate PPE (e.g., gloves, gowns, eye coverings, masks) when handling contaminated items.

## III. Decontamination of equipment

These methods should be used on equipment regardless of suspected diagnosis of patient. PPE (e.g., gloves, gowns, eye coverings, masks) must be worn while cleaning and disinfecting.

- A. Cleaning (physical removal of soilage) with an effective and safe product.
  - 1. On washable equipment, use a low-sudsing detergent with neutral pH (all participating hospital Emergency departments and providers will have supplies).
  - 2. Regular household detergents do not necessarily have a neutral pH and should not be used as they may damage equipment.
  - 3. Hydrogen peroxide helps to loosen blood and tissue; will corrode copper, zinc, and brass.
  - 4. Disinfection cannot take place unless the equipment is physically clean and all organic material (e.g., blood, mucous, etc.,) present on the surface has been removed.
- B. Instances for disinfection:
  - 1. Items that will frequently contact skin or mucous membranes, such as respiratory therapy equipment.
  - 2. Items that do not usually contact skin or mucous membranes, such as environmental surfaces (e.g., blood pressure cuffs, EKG leads, IV poles, bed rails, counter tops, etc.).

3. Instruments and resuscitation devices must be disassembled and soaked for the prescribed times set forth by the provider's policy and/or manufacturer's recommendation for their products.

## IV. Surface Disinfectant Methods

(Note: Appropriate PPE [e.g., gloves, gowns, eye coverings, masks] must be worn while cleaning and disinfecting equipment).

**Method A** - employing 2% glutaraldehyde product (e.g., Cidex, etc.): wash with detergent to decontaminate. Disinfect with 2% glutaraldehyde product (review manufacturer's specifications for compatibility and appropriate use). Let soak for 10-15 minutes as directed by the manufacturer. Rinse with water after soaking.

**Method B** - employing bleach: Soak with standard household bleach in a 1:10 dilution for 10 minutes after object is cleaned. If air dried, it will probably not be wet on the surface for the 10 minutes need to disinfect. Therefore, cleaning is the most important step. **WARNING** - Never add bleach from the bottle directly onto protein spills such as urine, blood, sputum or vomitus. Chlorine and nitrous oxide gases will be liberated in excess of those considered sage by National Institute of Safety and Health (NIOSH). Pour 1:10 dilution (bleach water) directly onto the area of the spill and let soak for 10 minutes minimum. Avoid direct breathing of fumes and ventilate area well. Chlorine is very corrosive to metal.

## <u>EQUIPMENT</u>

#### METHOD(S) TO USE

Plastic Items	A or B
Aluminum Items	А
Wood Items	A or B
KED	A or B
Suction Bottles	A or B
Cervical Collars	A or B
Environmental surfaces	A or B
Laryngoscope Blades	А

## V. Respiratory Equipment Disinfection

- A. Laryngoscope blades:
  - 1. Appropriate PPE (e.g., gloves, gowns, eye coverings, masks) must be worn while cleaning and disinfecting equipment.
  - 2. Disassemble parts.
  - 3. Clean with detergent, rinse, rough dry.
  - 4. Soak submerged in glutaraldehyde product (e.g., Cidex, etc.) for 10-15 minutes as directed by the manufacturer, (45 minutes required if tuberculosis exposure suspected).
  - 5. Rinse will with tap water. Valves do not have to be sterile, just decontaminated.
  - 6. Dry with clean paper towels to prevent bacteria and fungal contamination during storage.
  - 7. Notify provider's dispatch if delay returning to service anticipated due to respiratory equipment disinfection procedure.
- B. Bag-Valve-Mask (BVM) device:
  - 1. Use of disposable BVMs is the standard for the Central DuPage EMS System.

## VI. Summary

- A. Routine use of appropriate PPE when contact with blood or other bodily fluids is anticipated (e.g., gloves, gowns, eye coverings, masks, etc.).
- B. Regular thorough handwashing for all personnel after each patient contact is essential.
- C. Regular cleaning and disinfecting of the ambulance and equipment between each patient transport; use appropriate barrier precautions.

- D. All suspected significant exposures to blood or other bodily fluids shall be immediately reported to the receiving hospital emergency department physician and the paramedic's (EMT's) infection control officer as soon as possible following the occurrence. All blood or other bodily fluid contact shall be documented on a system approved run sheet and on forms required by the receiving hospital's policy. Arrangements should be made to have the source patient's blood drawn and tested for Hepatitis B, HIV and other suspected pathogens.
- E. Prehospital healthcare providers are urged to have appropriate immunization or knowledge of prior illness to the following diseases: Hepatitis B, Measles, Mumps, Rubella, Chicken Pox, Tetanus, Diphtheria, Polio.