INFECTIOUS DISEASE CONTROL MEASURES

Effective: Ocotber 8, 2014
Replaces: June 2012
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Resources:
None

I. Purpose

The purpose of this policy is to state the minimum standards for infection control measures that EMS providers must adhere to for every patient contact. EMS provider agencies may be more stringent on precaution standards as deemed appropriate.

II. Definitions

A. **Universal/Standard Precautions**: defined as standard personal protective equipment (PPE) for EMS providers. Universal precautions protect EMS providers from pathogens spread by contact or bloodborne transmission. Universal/standard precautions include the following items that must be worn and actions that must be performed for every patient contact:

1. Nitrile gloves
2. Eye protection (safety glasses or face shields)
3. Hand-washing after every patient contact with soap and hot water for a minimum of 20 seconds
4. If hand-washing is not possible, use waterless hand sanitizer until hands are dry

B. **Contact Transmission**: Contact transmission occurs through contact with pathogens on the patient's skin or surfaces that the patient has touched, or pathogens contained in bodily fluid/substances/secretions, such as:

1. Vomit, feces, and urine
2. Draining wounds
3. Secretions (saliva, semen, sweat, breast milk)

Universal precautions, with the addition of an impermeable gown if indicated, should be used to prevent contact transmission. Face shield may also be used if fluid projectiles are possible.

C. **Droplet Transmission**: Droplet transmission occurs through the inhalation or absorption of bodily fluid/substance droplets that contain pathogens, such as:

1. Respiratory viruses (e.g. influenza, coronavirus, adenovirus, rhinovirus)
2. Pertussis
3. Strep throat (Streptococcus pneumoniae)

Universal precautions, with the addition of a surgical mask, should be used. Face shields and impermeable gowns may also be considered if indicated.

D. **Airborne Transmission:** Airborne transmission occurs through the inhalation or absorption of air that contain pathogens, such as:

1. Tuberculosis
2. Measles
3. Chickenpox

Universal precautions, with the addition of an N95 respiratory or P100 particle respirator, should be used. Face shield and impermeable gowns may also be considered if indicated.

E. **Aerosolized Transmission**: Aerosolized transmission may occur when bodily fluids/secretions are aerosolized during certain procedures (i.e. nebulizer treatments, suctioning, and intubation).

In addition to universal precautions, N95 respirators or P100 particle respirators should be worn. Face shield and impermeable gowns may also be considered if indicated, such as if there is a splash risk.

F. **High Risk Patients**: Defined in Section V, high risk patients have a known or suspected infectious communicable disease. In addition to universal precautions, EMS providers should wear impermeable gowns or suits, surgical masks, and face shields as needed to limit the risk of accidental fluid/substance transmission. Invasive procedures (i.e. intubation, nebulization, intravenous access, chest compressions, and suctioning) should be limited, unless clinically indicated. If resuscitation efforts are required, EMS providers shall wear an N95 mask and additional PPE should be considered, which includes, but is not limited to, double gloving and wearing disposable shoe covers.

III. Procedure

A. EMS providers should always be aware of new and emerging diseases, in such cases the agency medical director, in consultation with county health officers will develop guidance regarding current disease profiles and recommendation for appropriate PPE.

B. Put on nitrile gloves and eye protection before every patient contact and wear them until patient transfer is complete.

C. Attempt to isolate all high risk patients from bystander's on-scene.

D. Consider placing a surgical mask on high risk patients if it does not affect their clinical condition and respiratory status. Use in extreme caution with patients who have an underlying pulmonary disease, so as not to increase their respiratory workload.

E. Put on a face shield if the possibility of splash risk exists.

F. Put on a N95 or P100 particle respirator in addition to nitrile gloves and eye protection if the patient is deemed high risk:

1. The patient requires resuscitation efforts, for example

    a. BLS or ALS airway management
    b. Suctioning
    c. Respiratory treatments

2. Any procedure or disease entity that poses a risk of inhalation of airborne or aerosolized particles.

3. The EMS provider deems it appropriate

G. Put on an impermeable gown/suit in addition to nitrile gloves and eye protection if:

1. The patient presents with disease pathogens, or biohazards known or suspected to be infectious and transmitted by contact with the patient secretion or bodily fluids. This includes but is not limited to:

    a. Vomit
    b. Blood
    c. Feces/Urine
    d. Saliva
    e. Sweat (If patients are suspected or confirmed to have a viral hemorrhagic fever: Ebola, Lassa, and Marburg)
    f. The EMS provider deems it appropriate

H. Treat the patient according to the appropriate protocol. Invasive procedures should be limited, whenever possible for patients consider to be high risk, unless clinically indicated.

I. Removal of PPE should be ***carefully removed without contaminating one's eyes, mucous membranes, or clothing with potentially infectious materials*** and placed in a medical waste container or red double bagged and held in a secure location.

J. EMS providers shall wash all areas of their skin that come into contact with patients with soap and hot water for at least 20 seconds. If soap and water is not available, then use hand sanitizer and rub in contaminated areas until dry. Once soap and water are accessible, EMS providers shall wash their hands.

K. After patient transfer is complete:

1. Properly dispose of any infectious or possibly infectious material in the appropriate red biohazard bin or bag.

2. Clean PPE shall be worn while cleaning and disinfecting the ambulance.

3. Clean all surfaces, tools, and equipment (eyewear, stethoscope, etc.) that came in contact with the patient or the patient's bodily fluids/secretions with a 0.5%% bleach solution.

4. While cleaning the ambulance, tools, and equipment, the ventilation exhaust fan shall be turned on and all windows and doors shall remain open.

IV. Removing Contaminated Personal Protective Equipment

A. To remove contaminated eye protection:

1. Remove by the headband (face shield) or ear piece (safety glasses) with gloved hands
2. Dispose of eye protection in the appropriate container

B. To remove contaminated masks:

1. Grasp the bottom of the mask with a gloved hand, then grab the top ties or elastics and remove.
2. Discard in the appropriate container

C. To remove contaminated impermeable gowns/suits:

1. With gloved hands, unfasten the gown ties or unzip zipper.
2. Pull the gown away from neck and shoulders, touching the inside of gown only.
3. Turn the gown inside-out and discard in the appropriate container

D. To remove contaminated gloves:

1. Grasp the outside of one glove with opposite gloved hand; peel off
2. Hold the removed glove in the gloved hand and slide fingers of the ungloved hand under the remaining glove at the wrist
3. Peel off the remaining glove and dispose of it in the appropriate container

V. High risk Infectious Disease Examples

Many infectious diseases have more than one mode of transmission. For example, most respiratory viruses can be transmitted by both contact and droplet transmission, so both contact and droplet precautions should be utilized.

A. Contact Transmission

1. Drug resistant organisms (e.g. VRE)
2. Clostridium difficile
3. MRSA
4. Rabies
5. Vaccina
6. Many respiratory viruses
7. Viral Hemorrhagic Fevers (Ebola, Lassa, and Marburg)

B. Droplet Transmission

1. Diphtheria
2. Meningococcal Disease
3. Mumps
4. Pertussis
5. Plague
6. Rubella
7. SARS and MERS-CoV
8. Influenza and Influenza-Like Illness (ILI) - any illness that includes an acute onset of fever (100°F or greater) and an acute onset of cough and/or sore throat. Patients presenting with ILI may also have:

    a. Acute onset of shivering/chills
    b. Acute onset of general malaise
    c. Nausea, vomiting, and/or diarrhea

C. Airborne Transmission

1. Measles
2. Tuberculosis
3. Chickenpox