# EMS Response Planning to a Suspected Biological/Infectious Disease Incident

| Bureau of EMS Policy Statement | |
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## Purpose

To provide recommendations for Emergency Medical Services (EMS) providers, agencies and systems responding to a suspected biological/infectious disease incident naturally occurring or potentially related to a bio-terrorist event. These recommendations should be considered by municipal emergency managers in the development of municipal response plans. These recommendations are not meant to supercede any municipal Weapons of Mass Destruction (WMD) response plan for biological agents that has been developed and approved by local, state or federal authorities legally charged to do so. It is not directed toward HazMat or other specially equipped and trained emergency response teams whose primary purpose is to enter a known "hot zone" and rescue victims. These recommendations do not constitute a response protocol but serve as guidance for the protection of responders and general considerations.

## Key Points

- Personal Protective Equipment (PPE) currently carried by most EMS agencies to provide Standard Precaution Protection against patients with infectious diseases may be utilized to provide protection from a patient exposed to a biological terrorism disease.
- EMS personnel must use a fit-tested N95 or higher respirator.
- EMS personnel should be operating in the "cold zone"
- Accurate accounting of all patients treated or seen at a bio-terrorist incident must be made available to County Public Health Department /officers.
- EMS should advise the hospital of any transport of a patient with a fever and rash illness prior to arrival.
- EMS providers should know their community's emergency response plan.

## General Considerations

EMS personnel are routinely called to treat and transport patients with infectious disease. This may include a patient with pulmonary tuberculosis or the flu. You may also be called to a patient who is carrying a disease delivered by a bioterrorist. In a biological WMD release, EMS personnel may respond to the initial 9-1-1 call (s) for a patient with a fever and rash illness long before the cause of the illness is known.

EMS personnel who may come into contact with a patient with fever and rash illness should utilize a fit-tested N95 respirator or higher level of respiratory protection and practice standard/universal, contact, and airborne precautions. If the patient has an active cough place a surgical mask on the patient or an oxygen mask with 02, if not contraindicated by their respiratory condition. EMS personnel following these simple guidelines should be adequately protected from patients with naturally occurring or bioterrorist caused disease.

While the release of most biological agents will not likely create a defined "hot zone" or mass casualty incident scene, the anthrax events in the fall of 2001 demonstrated this possibility. In response to a known biological

incident EMS personnel should operate in the "cold zone" and HazMat or other specially equipped teams should bring patients to EMS providers. EMS personnel should follow the directions of the incident commander and appropriate protocols for the identified agent. Please refer to Policy # 01-02 EMS Use of the Incident Command System and #01-08 Unknown Dry Substance/Suspected Anthrax Response Advisory.

In the event of an announced release of anthrax or smallpox into a building ventilation system, exposed people may take anywhere from a couple of days (anthrax) to 7-17 days (smallpox) to become ill. These people may not need transport to a medical facility, but will need to be identified for public health information purposes so they can receive antibiotics or vaccine at a later time. EMS may be the primary health care provider at these scenes initially and must assure that an accurate accounting of **all** patient contacts is made and then provide such to public health officials.

**Remember: Use of a fit-tested N95 respirator, with standard/universal, contact, airborne and droplet precautions, will protect providers from infectious disease that is naturally occurring or man-made.**

**State Emergency Medical Advisory Committee Recommendations:**

The following recommendations are made by the State Emergency Medical Advisory Committee's (SEMAC) Bioterrorism Sub-Committee and are endorsed by the Department of Health as guidance in a suspected **biological/infectious disease** incident.

- Care and transport of a patient with a potential infectious disease does not require the use of any personal protective equipment that should not already be routinely available on the ambulance. EMS personnel should have a disposable gown or tyvek suit to provide protection against contact. It is not recommended that EMS personnel carry or utilize "Level A, B, etc" or other confining personal protective equipment that will limit their ability to function and provide patient care.
- All EMS personnel must use a fit-tested N95 respirator, or higher as protection against airborne transmission. The equipment and fit testing is the responsibility of the EMS agency to provide to members/employees involved in a response.
- A surgical mask should be placed on any patient with a fever who has an active cough (unless the patient is receiving oxygen via mask).
- EMS personnel should follow existing infectious disease protocols: standard/universal precautions for all patients and additional contact, airborne and droplet transmission precautions, if indicated.
- It is not the role of EMS personnel to enter a "hot zone" in an identified WMD incident. EMS crews should operate in the "cold zone" and HazMat or other specially equipped teams should bring patients out of the hot zone to be treated and transported.
- EMS personnel must notify hospitals prior to arrival to advise that a patient(s) with fever and rash illness is being transported to their facility. Hospitals may direct EMS personnel to bring such patient into the hospital through a separate and secure entrance. Hospitals may not divert this type of patient unless a municipal response plan to do so has been activated. If a specific municipal response protocol exists for hospital notification EMS agencies must follow that protocol.
- Regional Emergency Medical Advisory Committee's (REMAC's) should be involved in the development of municipal EMS response plans and take appropriate medical lead in the education of local providers.
- All EMS agencies should know their role in local and county municipal response plans.

# Review of Infection Control Precautions and PPE for the EMS Provider at Suspected Infectious Disease Incident

Standard infection control practices are taught to all EMS providers and should be reviewed regularly by agency internal training that includes:

- **Standard Precautions** apply to blood, all body fluids, secretions, non-intact skin, mucous membranes and excretions (except sweat) for all patients. Gloves and gowns (if soiling of clothing is likely) should be

used to prevent exposure to blood and other potentially infectious fluids. Mask and eye protection or face shields should be used during procedures or activities that may likely generate splashes of blood or body fluids. Appropriate hand hygiene is always necessary.

- **Contact Precautions** include the use of gloves and a gown if clothing is likely to have contact with patient, environmental surfaces or patient care equipment.
- **Airborne Precautions** include a properly ventilated ambulance and appropriate respiratory protection such as the N95 respirator and placing a mask on the patient.
- **Droplet Precautions** include the use of a disposable gown, gloves and mask when working on or within 6.5 feet of a patient. For patients who are coughing; if possible and not contraindicated by respiratory difficulties, place a surgical mask on the patient to prevent droplet spread inside the ambulance. When transferring or moving a patient inside the hospital, place a mask on the patient to prevent contamination of other patients.
- **Reminder: Even though EMS providers wear gloves during a call, vigorous handwashing with soap and water or waterless handcleaners must be done after each patient contact. This will help reduce the potential for contamination.**

# Decontamination Considerations

**Decontamination of victims at a scene is the responsibility of responding HazMat and/or fire department personnel. EMS agencies should however understand basic decontamination procedures in the event decontamination teams are not present and available. This includes decontamination procedures for both people and equipment.**

1. **People:** In general decontamination of infectious disease patients is not necessary. People exposed to a biological agent need only to remove their clothing, if heavily contaminated, and use shampoo, soap and water on themselves (shower). **Diluted bleach solutions should NEVER be used on people.** See Policy 01-08 Unknown Dry Substance/Suspected Anthrax Response Advisory for additional guidance.
2. **Equipment:** Patient care equipment must be appropriately cleaned, sterilized or disinfected between patients. Environmental surfaces can be decontaminated with diluted chlorine beach (1:10 dilution of household bleach) or an EPA-approved hospital disinfectant. For additional information see ( APIC website at www.APIC.org) or Jane's Chem-Bio Handbook previously provided to each EMS service.

# EMS Role in Disease Surveillance

EMS personnel should be alert to illness patterns and diagnostic clues that might signal an act of bioterrorism (BT). The following clinical and epidemiological clues are suggestive of a BT event.

- A rapidly increasing incidence of disease in the community.
- Unusual increases in the number of people seeking medical care, calling for an ambulance, especially with fever, respiratory or gastrointestinal symptoms.
- An unusual number of people with flu-like symptoms, particularly during the non-traditional flu season.
- Any suspected or confirmed communicable disease that is NOT COMMON in New York State, (e.g. plague, anthrax, smallpox, or viral hemorrhagic fever). Note: As smallpox has been eradicated in its natural state one case of smallpox must be viewed as caused intentionally.
- Any unusual age distribution or clusters of disease (e.g. chickenpox or measles in adults).
- Simultaneous outbreaks in human and animal populations.
- Any unusual clustering of illness (e.g. persons who attended the same public event).

Careful observations and understanding of historic disease patterns in the community can help identify a biological incident or epidemic early. It is the early detection of any epidemic that can prevent or contain the spread of disease in a community. This rule applies to intentionally spread disease or naturally occurring disease. EMS personnel should advise hospital triage staff of any concerns or patterns in patient presentation as hospital

staff may have received similar patients from other ambulance services. EMS agencies should follow local municipal public health guidelines on how to provide information to the local public health office.

## Integration with Municipal Public Health

The municipal public health office will play a significant leadership role in response to any biological incident or epidemic (e.g. West Nile Virus). It is important that EMS agencies understand this role and integrate their efforts with public health to work in a cooperative manner. Municipal public health response plans may include specific policies/protocols for disease reporting, patient destination or quarantine. It is important for EMS agencies to understand the policies and protocols that may affect how they respond.

## Hospital Notification

EMS personnel must notify the hospital before arrival if they are transporting a febrile patient with rash illness to their facility. Agency officers should speak with hospital personnel in advance to discuss what procedures are in place for accepting such patients. Hospitals may request EMS personnel deliver such patient (s) through a separate secure entrance. A hospital may not divert such patients unless a municipal response plan designed to do so has been activated.

## Patient Reception at Hospital:

Follow hospital instructions upon arrival. If the facility does not appear prepared for your arrival, identify the condition of the patient to hospital personnel immediately. Patient's clothing, linens, etc. should be double red bagged and taken with the patient. When transferring or moving a patient inside the hospital, place a mask on the patient to prevent cross contamination.

## Municipal Response Plans:

It is important that all EMS agencies know and understand their role in the city or county municipal response plan. All county governments are required to develop and implement a county disaster plan response to a biological incident. Many counties and all MMRS cities have complete plans in place. Some municipal plans are currently under development. County governments and MMRS cities are required to exercise disaster and WMD response plans and may request EMS participation in city or county exercises. EMS agencies are encouraged to cooperate in such exercises.

## Protective Equipment

1. EMS agencies should carry sufficient PPE equipment to protect responding crews. This should include, at a minimum, N95 respirators fit-tested for each crew member, gloves, eye protection, face shields, disposable gowns or tyvek suits.
2. Care and transport of patients should not require the use of high levels of protective equipment. We do not recommend the use of Level A, B type, PPE for ambulance crews. The use of Level A personal protective equipment is meant for special response teams trained to use such equipment and enter a known or suspected "hot zone". It is not designed for personnel whose primary duty is to provide medical care to victims at a scene.

## Summary

1. Potential Exposure to infectious disease during an emergency call is not new. Patients with measles, influenza (flu), or chickenpox are no less infectious than patients with infectious disease caused by a

WMD biological agent. All EMS providers have been trained in standard/universal, contact and airborne precautions. Utilizing this knowledge and practice of these skills will protect EMS providers from exposure and benefit patient(s).

2. EMS personnel must be knowledgeable and follow municipal plans for response to a biological incident. It is critical that all EMS personnel review and understand the Incident Command System (ICS). A biological event may be of long duration and involve large numbers of patients over time. The ICS system will likely be implemented to manage any such incident/outbreak.
3. EMS personnel must notify the hospital before arrival that they are transporting a patient with fever and rash illness to their facility.
4. EMS personnel can play an important part in the early identification of an epidemic. Understanding a community's historic disease patterns or general health profile, observation of a change in that pattern and notifying hospital staff and/or public health officials of such observations can be helpful in early identification of a disease outbreak.
   **EMS agency training officers, captains and crew chiefs should review this policy with all personnel. Additional questions may be answered by the service medical director, REMAC or DOH regional EMS representative.**

**Additional resources regarding this and other WMD topics can be located on the Bureau of Emergency Medical Service's' WMD and Disaster preparedness web page at:**

http://www.health.state.ny.us/professionals/ems/emswmd.htm