

**THE DEPARTMENT OF VETERANS AFFAIRS  
MEDICAL CENTER  
(LOCATION)**

**EMERGENCY MANAGEMENT PROGRAM  
STANDARD OPERATING PROCEDURE NO. ( )**

**(DATE)**

**SUBJECT: *Generic Biological Agent Release***

**1. *Description of the Threat/Event.*** Any number of bacteria, viruses and toxins may potentially be used in an intentional fashion to injure, kill or incapacitate the public in a terrorist event. These may be rare “exotic” organisms, endemic organisms which usually only “accidentally” infect man, or common genetically manipulated organisms such as drug resistant strains. These can be spread to the public using three main routes of exposure: 1) inhalation exposure resulting in predominantly respiratory symptoms; 2) ingestion exposure resulting in gastrointestinal or neurological symptoms; and 3) contact exposure resulting in cutaneous lesions with or without concomitant systemic symptoms. The release of a biological agent in the community may occur covertly requiring astute diagnostic skills when encountering symptomatic patients, combined with pathogen surveillance and reporting mechanisms for recognition of the event. The following may be used as clues when evaluating the possibility of a potential covert “biological agent” event:

- Large or multiple simultaneous outbreaks of an infectious disease.
- Recognition of infectious diseases which are not endemic to an area.
- Multiple patients with infectious diseases that may be endemic to an area, but rarely infect humans.
- Increased animal deaths (domestic, livestock or wild) occurring simultaneously with human illnesses.
- Occurrences of multiple drug-resistant infectious diseases.
- Cluster presentations of:
  - 1) Acute febrile respiratory illnesses,
  - 2) Acute febrile illnesses associated with cutaneous lesions,
  - 3) Gastroenteritis; or,
  - 4) Bulbar and/or progressive respiratory paralysis.

Alternatively, the release of a biological event within the community may be perpetrated overtly in the setting of an “announced event” resulting in immediate mass hysteria of asymptomatic patients. These occurrences whether related to a real event, hoaxes or a perceived event could quickly overwhelm and incapacitate an entire health care system if not managed quickly and appropriately.

Biological agents have specific characteristics that define a clinical and public health response. The goals are to block the trail of exposure, to prevent further cases of disease, and

to provide safe ways of treating individual patients. Important characteristics of such biological organisms include mode of transmission, infectious period, transmission rate, and incubation period, which define the pattern of spread; and, together with person density and contact frequency, the shape of an epidemic curve. The availability of vaccines, their effectiveness, and whether they may be administered after exposure define mitigation strategies. The availability of effective pharmacologic agents for treatment of established cases or prophylaxis defines the management of individual cases. Knowledge of these characteristics allows the development of a response plan.

**2. *Impact on Mission Critical Systems.*** Response to the release of a biological agent can quickly overwhelm several mission-critical systems including staffing, critical supplies (i.e., antibiotics, intravenous fluids, laboratory supplies, anti-toxins) and operational space. In addition, a release within a VA Medical Center (VAMC) could pose an imminent risk to the HVAC and water supply systems if intentionally or accidentally contaminated with organisms. It is important to assess the airflow pressure relationships within the Medical Center to determine potential impact/risk of secondary spread of aerosolized biological agents.

**3. *Operating Units and Key Personnel with Responsibility to Manage this Threat/Event.***

- *Infection Control Team* – Key role in tracking of potential and confirmed cases with reporting responsibilities to the Public Health Service. Key role as a local information resource, as needed, for health care providers, employees and patients regarding CDC guidelines and other public health resource updates.
- *Nursing Service and Chief of Staff* – Key role in tracking patient census, staffing utilization and need for additional staff.
- *Clinical Microbiology Laboratory* – BSL 2 – Key role in “ruling out” potential bacterial bio-warfare agents isolated from patient samples with referral of all isolates that cannot be ruled out to the Public Health Referral Laboratories for specialized confirmatory testing and subsequent reporting to the CDC.

**Note** *Culturing suspect “powders” or environmental samples with potential of concentrated aerosolizable biological agents should be performed in BSL 3 Clinical Microbiology Laboratories; and, ONLY with the prior approval from VACO, public health service and the local FBI.*

- *Safety Officer/Industrial Hygienist* – Key role as the point of contact with HazMat agencies in air, powder, or environmental sampling. Key role in monitoring and proper use of specialized PPE resources, as needed. Lead role in extending availability of respiratory isolation facilities through the use of additional system filters and portable units, as available.
- *Police and Security* – Key role in perimeter control and incident site access. Key role in maintaining Chain-of-Custody for all potential evidence collected.

- *Emergency Room Personnel* – Key role in monitoring clinical patient workload and recognition of potential clinical syndromes associated with bio-warfare agents. Key role in ensuring that all other medical emergency capabilities (i.e., cardiac emergencies) are maintained and operational.
- *Medical Service* – Key role in monitoring clinical patient workload and recognition of potential clinical syndromes associated with bio-warfare agents.
- *Occupational/Employee Health* – Key role in monitoring occupational health conditions/risks, employee concerns, and prophylactic therapy, as needed.
- *Facilities/Engineering* – Key role in ensuring mission-critical systems have been protected from contamination and to monitor for contamination, as appropriate.

**4. Mitigation/Preparedness Activities of the Threat/Event.** As soon as the Medical Center is aware that a potential biological event has (or may have) occurred, an initial assessment of “potential agents” based on clinical presentations or the “announced agent” will occur. See *Attachment A* for assistance with evaluation of the “Symptomatic Patient” and *Attachment B* for assistance with evaluation of the “Announced Biological Event”. Based on all available information at the time of the initial assessment, the following will be addressed:

- Perimeter security level.
  - Activation of Incident Command Station.
  - Activation of Emergency Response Team(s).
  - Determination of most appropriate PPE level for Health Care Providers.
  - Notification protocol for biologic event.
- a. *Exposure Control Strategies.*
- Potential biohazard within the VAMC.
  - Potential biohazard within the community.
- b. *Exposure Monitoring Strategies.*
- Clinical patient tracking by Health Care Providers, Infection Control and Clinical Microbiology Laboratory Personnel.
  - Environmental monitors/sampling, as needed, based upon recommendations from the CDC and Public Health Service.
- c. *Preparedness Strategies and Resource Issues.*
- Clinical education and awareness initiatives.
  - Development and updates of the Medical Center’s Bio-Terrorism Readiness Plan.
  - Rapid Inventory assessment protocol for critical resources (i.e., staffing, beds, large pre-designated waiting areas) and supplies (i.e., antibiotics, X-ray film, laboratory supplies, anti-toxins).

- Development and updates of protection and monitoring plan for mission-critical systems.

## 5. *Response/Recovery from the Event/Threat.*

### a. *Hazard Control and Monitoring Strategies.*

- Event within the VAMC:
  - 1) Immediately report any potential biohazard event to VAMC Director, Police and Security, and the Safety Officer/HazMat team member.
  - 2) Clear all patients and employees from immediate “at-risk” area.
  - 3) Document details of event and names of all persons within the immediate “at risk” area.
  - 4) VAMC Director, Police and Security, and designated HazMat team member/Safety Officer will make initial hazard assessment and will determine the appropriate next steps.
  - 5) Activate Infection Control Team for initiation of patient/exposed employee tracking system, patient/employee educational information (“fact sheet”) and follow-up of cultures.
  - 6) Initiate prophylactic antibiotic therapy for all potentially exposed persons, as appropriate.
  - 7) Notify internal personnel, as needed, which may include Health Care Providers, Pharmacy, and Microbiology Laboratory for immediate inventory of critical resources.
  - 8) Activate emergency response team(s), HazMat teams, etc., as appropriate.
  - 9) Immediately assess potential impact of actual event on mission-critical systems to include staffing, critical supplies, operational space and HVAC system.
- Event in the Community – Notification of a release within the community may come from any number of outside sources, and the primary function of the VAMC in this setting may be to treat concerned asymptomatic or symptomatic patients. Critical guidelines include the following:
  - 1) Treat all reports of a community biologic event as “real” until proven otherwise.
  - 2) Notify internal personnel, as needed, which may include VAMC Director, Chief of Staff, Nursing, Police and Security, Safety Officer/Industrial Hygienist, Emergency Room Personnel, Health Care Providers, Pharmacy, Microbiology Laboratory and Engineering for immediate inventory of critical resources.
  - 3) Notify Infection Control Team and the Clinical Microbiology Laboratory for active surveillance of potential “biologic event” cases. Initiate patient tracking system, as needed.

- 4) Immediately assess potential impact of reported community event on mission-critical systems to include bed status, staffing levels, critical supplies and operational space.
- 5) Await follow-up information from local authorities and prepare for potential presentation of patients.
- 6) VHA Pharmacies that serve as antibiotic stockpile resources for a community will begin immediate recall of staffing, as needed, to respond to supply distribution needs within the community.

*b. Resource Issues.*

- Staffing needs will be monitored and addressed by Chief of Staff, Chief of Nursing, VAMC Director and other involved Service Chiefs.
- Critical Supplies – Antibiotic availability will be monitored by Chief of Pharmacy. If the VHA is the source of an emergency antibiotic stockpile, the Chief of Pharmacy will be called upon to monitor and distribute supplies, as needed, for a community release event. This will be coordinated with the VAMC Director. Additional critical supplies to assess in a biologic event include alternate antibiotics, anti-toxins, respiratory isolation equipment/mobile units, X-ray film, laboratory culture supplies and intravenous fluids.
- Isolation supplies and PPE inventories.
- Space Management – Assess bed and space availability, respiratory isolation capacity.
  - 1) Emergency Room capabilities, Acute Care Clinic capabilities, current/projected bed capacity and Intensive Care capacity should be immediately assessed.
  - 2) If an event of potential “mass casualty” proportion has occurred, then plans for clearing of potential, large designated patient waiting areas or cohort treatment sites should be immediately reviewed and activated, as needed.
  - 3) If event has occurred within the VAMC, patients and employees may be relocated to alternate sites, or alternate health care facilities based upon previously established agreements/memoranda of understanding.
- Notify VISN and request standby or more active assistance from other VISN facilities, other VISNs, Emergency Response Teams, Pharmaceutical Caches, etc.

*c. Clinical Response.*

- Triage and initial patient assessment for those involved in a biologic event may require removal of potentially contaminated clothing and a self-shower where appropriate. Decontamination protocols used for a chemical event are rarely needed in the setting of a biologic event. However, if the type of event is “unknown” and not

- clearly established as either a biologic or delayed chemical event, default protocols should revert to chemical decontamination. See *Attachment B* for assistance with evaluation of the “Announced Biologic Event.” All collected potential evidence should be double-bagged, labeled and held using Chain-of-Custody procedures.
- Treatment Protocols for the most likely or known biologic agent will be based upon current CDC guidelines or other public health resources to include choice of antibiotic(s), length of therapy, use of vaccine, use of anti-toxins or agent-targeted human anti-globulins.
  - Isolation and Quarantine Protocols will be based on the most current available CDC guidelines.
  - All VAMC quarantine decisions will be made by the VAMC Director and/or Incident Commander based upon recommendations from Infection Control and the CDC/Public Health Service.
  - Admission decisions will be made by the Health Care Providers.
  - Patients who are treated and released will be provided an information “fact sheet” about the biologic agent reported, with instructions to call the hospital immediately if any warning signs or concerns arise.
  - All patients treated and evaluated for exposure to a biologic agent must be reported to the Infection Control Team.
  - The Infection Control Team will monitor all potential and proven cases, making appropriate reports to both the VAMC Director and the Public Health Service. The Public Health Service will notify the CDC of all suspected and confirmed biologic event cases, as deemed appropriate.

**Note:**

- 1) *Physicians dealing with patients who have been involved in an intentional terrorist biologic event, will most likely be dealing with a clinical entity they have never treated or even seen before. It is essential in these circumstances to rely upon the clinical expertise and recommendations provided by the Centers for Disease Control and other public health resources. Treatment protocols are likely to evolve over time with updates as more is learned about the specific biologic strain used in the release, an “exposure” is redefined, and as additional resources such as vaccines and/or anti-toxins become available.*
- 2) *The Infection Control Team working with the Chief of Staff and VAMC Director will notify Health Care Providers when CDC treatment guidelines are updated, or as new resources are made available. The Infection Control Team can monitor the APIC web site ([www.apic.org](http://www.apic.org)) and CDC web site ([www.bt.cdc.gov](http://www.bt.cdc.gov)) for the most current CDC updates, protocols and recommendations.*

- 3) *Even ONE case of confirmed smallpox represents an immediate international emergency and requires immediate notification of the local Public Health Service, CDC, WHO and FBI.*
  - 4) *All criminal investigations related to a bio-terrorist event are in the jurisdiction of the FBI.*
- d. *Recovery strategies.*
- Periodic critical supply inventories with re -supply or supplementation from outside facilities, as needed.
  - Periodic staffing census with workload redistribution, as needed.
  - Close monitoring of patient census and bed status.
6. ***External Notification Procedures.***
- a. *Within VA. VISN, VACO.*
  - b. *Other State and Federal Agencies. Local Public Health Service, CDC, FBI, FEMA, DoD, EPA, OSHA reporting for employee injuries.*
    - OSHA – Notify within 8-hours of one (1) employee fatality, or three (3) employees hospitalized from a single incident.
  - c. *Community Entities. Neighboring hospitals, emergency response systems (police, firefighters, EMS, 911 operators).*
7. ***Specialized Staff Training.***
- *Health Care Provider Training* – Recognition of clinical syndromes associated with biologic agents, treatment protocols, CDC and other public health guidelines.
  - *Infection Control Team Training* – Passive and active surveillance systems for monitoring reportable infectious disease pathogens. Coordination with the designated Public Health Laboratory.
  - *Safety Specialist/Industrial Hygienist* – Recommended agent sampling and environmental monitor protocols for biologic agents.
  - *Clinical Microbiology Laboratories* –
    - 1) Recommended specimen collection protocols, culture methods, “rule out” protocols and local referral resources for various biologic agents and various BSL Laboratory requirements. A few examples are noted in the table below. Always contact the Public Health Laboratory and CDC prior to collection and transport of samples to their facility for BSL 3 and 4 organisms.

Agent	Disease	Agent Type	Clinical Samples	BSL
<i>Bacillus anthracis</i>	Anthrax	Bacteria	Blood, Pleural fluid, CSF, Stool, Skin lesions; acute & convalescent serum	2
<i>Yersinia pestis</i>	Plague "Black Death"	Bacteria	Blood, Lymph node aspirate, sputum; acute & convalescent serum	2-3
<i>Francisella tularensis</i>	Tularemia	Bacteria	Blood, Lymph node aspirate, sputum; acute & convalescent serum <u>(Very dangerous for laboratory workers!)</u>	2-3
Variola	Smallpox	Virus	Blood, skin, tissue; acute & convalescent serum	4
Viral Hemorrhagic Fevers	Ebola; Marburg, etc.	Viruses	Blood, skin, tissue; acute & convalescent serum	4
<i>Clostridium botulinum</i>	Botulism	Bacteria Toxin	Nasal swabs; stool cultures; acute & convalescent serum	2
Ricin	Ricin poisoning	Castor bean Toxin	Tissue or blood for toxicologic testing	2

- 2) Education regarding detection limits for definitive diagnosis of various biologic agents based on culture methods, molecular methods and rapid antigen detection methods.

Approximate Detection Limits of Various Diagnostic Methods (in CFUs)				
Culture	PCR	Direct Hybridization	Direct Microscopy	Antigen Immunoassays
1	10-100	100-1000	10,000	100,000+

- 3) Recommended samples for serologic studies and future antigen and/or molecular studies as requested by the Public Health Service.
- *Police and Security* – Introductory training on potential biologic risks, BSL designation for various types of organisms and PPE recommendations.

- *Environmental Management Service Personnel* – Introductory training on potential biologic risks, BSL designation for various types of organisms and PPE recommendations.
- *Social Work Service* – Introductory training on potential biologic risks, BSL designation for various types of organisms and PPE recommendations.

#### **8. *References and Further Assistance.***

- Local Public Health Service/State Health Department
- Centers for Disease Control
- Local FBI Representatives
- Textbook of Military Medicine
- Web Sites:
  - CDC Bio-terrorism web site: [www.bt.cdc.gov](http://www.bt.cdc.gov)
  - Association for Infection Control Practitioners web site: [www.apic.org/bioterror/](http://www.apic.org/bioterror/)
  - US Army Medical Research Institute of Infectious Diseases. Physician Handbook
  - For Management of Biologic Casualties:  
[www.usamriid.army.mil/education/bluebook.html](http://www.usamriid.army.mil/education/bluebook.html)
- Phone Numbers
  - USAMRIID 301-619-2833
  - US Public Health Service 1-800-872-6367
  - Domestic Preparedness Information Line 1-800-368-6498
  - National Response Center 1-800-424-8802

#### **9. *Review Date.***

(NAME)

Chief, (SERVICE NAME)

Attachments:

- A: Sample Biologic Surveillance Plan (Symptomatic Patient)
- B: Sample Biologic Event Plan
- C. Pharmaceutical Cache Program
- Infection Control Bio-terrorism Checklist
- Key Activity Management Tool/Structure