

TML\MSH Microbiology Department Policy & Procedure Manual	Policy # MI\BI\01\v01	Page 1 of 9
Section: Bioterrorism Procedure Manual	Subject Title: Laboratory Manual for Handling Bioterrorism Samples	
Issued by: LABORATORY MANAGER	Original Date October 12, 2001	
Approved by: Laboratory Director	Revision Date: October 17, 2001	

**PRACTICAL APPROACH TO BIOTERRORISM IN THE ROUTINE
CLINICAL MICROBIOLOGY LABORATORY**

I. INTRODUCTION

The recent events in the USA have created a heightened awareness and concern regarding the potential of a bioterrorist attack. Because such an attack could be overt (announced/broadcast) or covert, the microbiology laboratory may play an important role in the initial identification and control of spread of potentially infectious agents. Although many biological agents could be used as weapons of bioterrorism, the following are considered the most likely:

1. *Bacillus anthracis* (Anthrax)
2. *Francisella tularensis* (Tularemia)
3. *Yersinia pestis* (Plague)
4. *Brucella* spp. (Brucellosis)
5. Botulism toxin (*C. botulinum*)
6. Variola virus (Smallpox)

There are 3 possible scenarios which may occur and may involve the Microbiology Department directly or indirectly. The following will deal with each scenario as well as the appropriate handling, microbiologic work-up and reporting of the above pathogens.

II. SCENARIOS / SPECIMEN PROCESSING

Scenario I: Suspicious letter/package

A person opens a letter/package containing a suspicious powder/substance and contacts the Microbiology Department asking how to proceed.

1. The person should be instructed to proceed as follows:
 - (i) Place the envelope or package in a plastic bag. If do not have a plastic bag, or powder has spilled out, cover the area, and do not further disturb it. The package should be kept for the emergency services team, and not disturbed. **Do not send the package to the microbiology lab.**

TML\MSH Microbiology Department Policy & Procedure Manual	Policy # MI\BI01\v01	Page 2 of 9
Bioterrorism Procedure Manual		

- (ii) If the scene occurs in the hospital, activate the hospital's emergency response procedure for a biohazard threat (at Mount Sinai Hospital, call ext. 5133), then notify the area manager/supervisor. If the scene occurs outside the hospital, call 911.
 - (iii) Ensure that any person who have touched the envelope/package wash their hands and face.
 - (iv) Identify anyone who is in the immediate area, and ensure that they remain in the area until the emergency response team arrives.
 - (v) Keep all other people out of the area until the emergency response team arrives.
2. The laboratory personnel receiving this call should page infection control and the microbiologist on call.

NB: Please also refer to the Hospital Emergency Manual.

Scenario II: Specimen collection for suspected biological agents

Clinician/Physician telephones asking what specimens to be sent to the Microbiology Department for work-up of a patient with a suspected clinical diagnosis involving one of the potential bioterrorist agents listed above.

1. The physician should be referred to the medical microbiologist on call to discuss the case. The medical microbiologist will notify infection control.
2. Appropriate specimens (as listed in Table 1) should be collected and sent immediately to the Microbiology Department with completed requisitions noting the clinical diagnosis and suspected agent(s).
 Note: Nasal swabs are not an appropriate specimen. They are useful in outbreak investigations to assess the extent and degree of risk, and improve our ability to manage exposures in the future. Persons with a significant exposure to confirmed anthrax should receive prophylaxis whether they have a positive nasal swab or not. Nasal swabs in unexposed persons, or those exposed to a powder which is NOT confirmed to be anthrax, are not helpful. For ill persons, blood cultures and lesion specimens are diagnostic, and nasal swabs are not recommended. Nasal swabs received in the laboratory will be stored, and reported as "Specimen held but not processed. Nasal swabs are useful only for epidemiologic investigation. This specimen will be processed at the request of public health. Please call the medical microbiologist on call for information."

TML\MSH Microbiology Department Policy & Procedure Manual	Policy # MI\BI01\v01	Page 3 of 9
Bioterrorism Procedure Manual		

3. The physician should contact the Infectious Diseases Service requesting an urgent consult.

When specimens arrive in the laboratory, they should be processed and worked up as outlined below. All microbiology staff handling or processing such specimens should do so following standard Level II biological safety guidelines. All specimen handling and processing should take place in a Level II biological safety cabinet.

Scenario III: Specimen processing and presumptive identification of possible biological agents

If, based on the Gram stain and/or culture results, one of the above noted biological agents is suspected, regardless of whether it was suspected clinically, appropriate work-up, identification, and reporting should proceed as outlined below.