



# New York City Department of Health

**During business hours, please call the Provider Hotline at 866-692-3641. Please let the hotline operator know that you are a physician calling regarding a suspicious case, and they will refer your call to a NYCDOH or CDC physician consultant.**

**If you are unable to get through, please call one of the following temporary numbers for the Communicable Disease Program:**

212-295-5658 212-295-5670 212-295-5665  
212-295-5671 212-295-5675

**After hours, please call the Poison Control Center at 212-764-7667. (If that number is not working, please call 1-800-222-1222).**

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October 5, 2001

## **ALERT #6: 1 - Isolated Case of Anthrax in a 63 Year Old Man in Florida**

## **2 - No evidence of any unusual infectious disease clusters in NYC from ongoing active hospital-based and 911-EMS surveillance**

**The New York City Department of Health (NYCDOH):**

- Requests Immediate Reporting of any Suspected Cases of Pulmonary, Gastrointestinal, or Central Nervous System Anthrax
- Strongly Recommends Against Prescribing Prophylactic Antibiotics in the Absence of Any Evidence that a Bioterrorist Event Occurred in NYC
- Encourages Healthcare Providers to Remain Alert and Immediately Report any Unusual Disease Manifestations and Clusters (See Appendix I)

## **Please Share this Alert with All Medical, Pediatric, Nursing, Laboratory, And Pharmacy Staff in Your Hospital**

**TO:** Emergency Medicine Directors, Infection Control Practitioners and Infectious Disease Physicians, Laboratory Directors and Others on the NYCDOH Broadcast Alert System

**FROM:** Joel Ackelsberg, MD, MPH, Medical Director Emergency Readiness and Response Unit, Communicable Disease Program

Marcelle Layton, MD, Assistant Commissioner New York City Department of Health

### **I. Anthrax Case Confirmed in Northern Florida:**

Yesterday afternoon, the Florida Department of Health and the U.S. Department of Health and Human Services announced that a 63-year-old male hospitalized in Florida was diagnosed with anthrax, with evidence of mediastinal and central nervous system involvement. The diagnosis was confirmed by the Centers for Disease Control and Prevention (CDC), by several different laboratory methodologies, including polymerase chain reaction testing of blood and cerebrospinal fluid. Antibiotic susceptibilities are pending and should be available later today.

So far, this appears to be an isolated case, and a single case is not an indication of an outbreak. At this time, neither prophylactic antibiotics nor vaccine have been recommended by the federal or state public health authorities for the general public or healthcare providers in the area. The exact source of exposure is not yet known. The patient is an avid outdoorsman and spent time in both Florida and North Carolina during the 7-day period prior to illness onset. The CDC, and local and state health departments in Florida and North Carolina are aggressively investigating the source of infection and conducting active surveillance in both Florida and North Carolina to determine if there are any additional cases.

Although rare, sporadic cases of anthrax do occur in the United States. The anthrax spores can be found in the soil and livestock animals are most commonly infected. Humans become infected after physical contact with or ingestion of infected animals or their products, or by breathing in anthrax spores. The most recent cases of human anthrax reported in this country were from earlier this year, when two patients from Texas and North Dakota developed the cutaneous form of anthrax after handling infected animals.

Inhalational anthrax is much less common, with only 18 cases reported in the United States this past century; the last case was in 1978. The most common source of exposure for these historical inhalational anthrax cases was contaminated animal products (e.g., goat hair).

Appendix 2 summarizes key clinical points on inhalational anthrax. An excellent reference on

anthrax includes: Inglesby TV, et al. Anthrax as a biological weapon: Medical and Public Health Management. JAMA 1999;281:1735-1745. This reference is available online at: [jama.ama-assn.org](http://jama.ama-assn.org).

**There is currently no evidence of anthrax in New York City:** Since September 12, the NYCDOH has been conducting active surveillance in emergency departments at sentinel hospitals throughout the City, looking for disease patterns that could signal a bioterrorist attack and has found no evidence of any suspicious cases or clusters. Laboratory tests on environmental samples taken from the World Trade Center site, as well as from other sites in the city, were all negative for biologic agents that might be used in a terrorist attack.

Although there is currently no evidence that the Florida case represents a bioterrorist event, the NYCDOH recognizes the need to maintain enhanced awareness among the medical community regarding any unusual disease clusters or manifestations that might represent an intentional outbreak, given the events of the past two weeks. The NYCDOH requests immediate reporting of any suspect cases of anthrax, especially inhalational, meningeal or gastrointestinal anthrax. **Any previously healthy patient with the following clinical presentations should be immediately reported to the NYCDOH:**

- A severe, unexplained febrile illness,
- Sepsis or respiratory failure with a widened mediastinum, or
- Sepsis with gram-positive rods or a *Bacillus species* identified in the blood or cerebrospinal fluid (Clinical microbiology laboratories should take care not to regard all isolates of *Bacillus species* as contaminants, especially if isolated from sterile sites {blood, cerebrospinal fluid}. Isolates should be further evaluated, and if non-motile or non-hemolytic, and/or if the clinical syndrome is suggestive of anthrax, the isolates should be immediately referred to the NYC Public Health Laboratories (212-447-6941 or 212-447-6709) for specialized testing.)

**Any suspected cases of anthrax should be immediately reported to the Communicable Disease Program:**

**During business hours, please call one of the following numbers: 212-295-5658, 347-538-0961, 347-538-0925 or 347-538-0855.**

**After hours, please call the Poison Control Center at 212-764-7667. (If that number is not working, please call 1-800-222-1222).**

## **II. Handling public concerns regarding bioterrorism**

Public concern and fears of a bioterrorist attack may remain heightened in the coming days. The likelihood of a large-scale bioterrorist event is currently thought to be low, given the technical sophistication required to develop and effectively disperse most biological weapons. Current media reports of widespread prescribing of antibiotics and purchasing of gas masks for respiratory protection highlight the need for public education to put the risk of bioterrorism in perspective.

**The NYCDOH strongly recommends against prescribing prophylactic antibiotics and/or purchasing gas masks in the absence of any surveillance or laboratory evidence of a bioterrorist event in NYC.**

If an attack were detected, NYCDOH would rapidly notify the medical community with detailed recommendations on diagnosis, treatment, and preventive measures for the specific biologic agent involved via our broadcast alert system and Website. The CDC has developed a large national stockpile of pharmaceuticals, including antibiotics that are effective against the most likely bacterial bioterrorist agents. This stockpile would be rapidly delivered in the event of a bioterrorist attack. As a precautionary measure, this stockpile was requested soon after the World Trade Center disaster, and arrived in New York City within hours of the City's request.

Use of prophylactic antibiotics is not without risk: Inappropriate use of antibiotics will lead to increased antibiotic resistance among microorganisms causing common bacterial infections (e.g., otitis media, pneumonia) and may result in serious adverse effects (e.g., Clostridium difficile colitis, allergic reactions, interactions with other medications).

The NYCDOH also strongly recommends that physicians not prescribe antibiotics for their patients to stockpile for future use: stockpiling of antibiotics could lead to inappropriate patient decisions to self-medicate, incomplete courses of antibiotics that might select for resistant organisms, the eventual use of expired medications, and to the depletion of national supplies for medically indicated uses.

Purchasing of gas masks for protection against biologic agents is likewise discouraged. Gas masks would only be protective if worn at the exact moment a bioterrorist attack occurred, and it is impractical to wear masks continuously as a protective measure against the possibility of a covert release of a biologic agent. Moreover, masks need to be fitted properly; improper use of gas masks can cause serious injury and death, especially among persons with underlying heart or lung disease.

**III. Anthrax and Smallpox Vaccines Not Commercially Available or Recommended**

There is currently no indication for the use of anthrax or smallpox vaccine. Since the World Trade Center disaster, we have received numerous questions regarding the availability of these two vaccines. Both vaccines are in short supply and not available to the general public or the medical community. Anthrax vaccination currently requires 6 shots over an 18-month period with periodic boosters. At this time, anthrax vaccine is in limited supply and only available for military

personnel thought to be at higher risk for potential exposure to anthrax in combat settings.

Smallpox vaccinations were discontinued in the United States in 1972, and the last naturally occurring human case worldwide occurred in Somalia in 1977. Smallpox vaccine is no longer a licensed product in the United States and was removed from the commercial market in 1983 as a result of the successful eradication of smallpox. According to the CDC, the United States Public Health Service maintains an emergency stockpile of approximately 15 million doses. At the present time, smallpox vaccine is supplied only to certain laboratory research workers who are at risk of infection with smallpox-like viruses (orthopoxviruses) as a result of their occupation. The CDC is authorized to release the vaccine only to these workers under an Investigational New Drug (IND) permit from the Food and Drug Administration. The IND does not allow CDC to release smallpox vaccine to any other person for any other reason. Because of the risks of smallpox vaccine, especially in immunocompromised persons, and because of the limited supply of vaccine available, there is no recommendation for initiating widespread vaccination for smallpox at this time, in the absence of any confirmed human cases worldwide. More detailed information on smallpox vaccine is available at:

[www.cdc.gov/mmwr/preview/mmwrhtml/rr5010a1.htm](http://www.cdc.gov/mmwr/preview/mmwrhtml/rr5010a1.htm).

#### **IV. Ongoing Surveillance for Infectious Disease Outbreaks that May Represent Bioterrorism:**

Now more than ever, vigilance for unusual clusters or manifestations of disease is critical to the detection of any new infectious disease outbreak, whether the cause is natural or intentional. Given the ongoing concerns about terrorism in general, we recognize the need to remain alert to the occurrence of unusual disease clusters or manifestations that might represent a bioterrorist attack. Surveillance systems are currently in place and include:

##### **A. Active Emergency Department (ED) Syndromic Surveillance:**

In sentinel hospital EDs, NYCDOH has established surveillance for illness syndromes that would likely occur if a biological pathogen were released covertly in New York City, including febrile illness associated with respiratory symptoms or rash, or a botulism-like syndrome. Epidemic Intelligence Service (EIS) officers from the CDC are currently on-site at these sentinel hospitals, working closely with ED staff to collect clinical data on all individuals presenting for evaluation. Data are analyzed daily at the NYC DOH and CDC for trends and patterns that could signal an increase in illness consistent with a possible bioterrorist event. Any clustering or increase in a particular disease syndrome is investigated immediately by the EIS officers on-site. In the event that this surveillance system identifies a suspicious pattern of illness in the community, the NYC DOH will initiate an epidemiologic field investigation to determine the etiology of the illness and rapidly notify the medical community by our broadcast alert system. **To date, NO unusual disease clusters or manifestations suggestive of bioterrorism have been identified by this system.**

**B. Enhanced Healthcare Provider Reporting of Unusual Illnesses:**

You, as health care providers play a critical role in identifying a covert bioterrorist attack. We depend on local clinicians and laboratorians to identify and report in a timely way any unusual clusters of infectious diseases or any unusual disease manifestation. It was the prompt reporting of a cluster of unusual encephalitis cases by an infectious disease physician in northern Queens that led to the recognition of the 1999 West Nile encephalitis outbreak in the New York metropolitan area.

Please read Appendix I at the end of this alert, which highlights clinical and epidemiologic clues that could suggest a bioterrorist event, and underscores how all clinicians in New York City can assist in detecting and reporting illness that might reflect a covert and/or intentional release of a biological agent.

**C. Syndromic Surveillance of 911-EMS Calls:**

Many potential bioterrorist agents, including anthrax, plague, tularemia and smallpox, have an initial influenza-like illness prodrome. Detection of an increase in non-specific influenza-like illness could provide an early warning of a bioterrorist event. Since 1999, the NYCDOH has been actively monitoring 911-EMS calls on a daily basis to identify temporal or geographic increases in respiratory illnesses that might represent any infectious disease outbreak, including seasonal influenza, an unexpected introduction of a pandemic influenza strain, as well as a potential bioterrorist event. This system has been validated on an annual basis, as each year, the first surveillance indicator at the start of the influenza season has been an increase in 911-EMS calls compared to an established baseline. **There has been no indication of an increase in influenza-like illness in New York City based on EMS-911 calls over the past few weeks.**

**V. Mental Health Issues -Acute Stress Disorders:**

All New Yorkers, especially those directly affected by the World Trade Center disaster, those providing care to the victims or their families, and those working in the relief effort are vulnerable to experiencing emotional distress in response to the events of September 11th. The following American Red Cross and Department of Mental Health Hotlines can provide direct access to services:

American Red Cross (212) 787-1000  
English LifeNet (800) 543-3638  
Spanish LifeNet (877) 298-3373  
Chinese LifeNet (877) 990-8585

**Attachments:**

Appendix 1: Clinical Recognition and Management of Suspected Bioterrorist Events

## Appendix 2: Key Clinical Points on Inhalational Anthrax

### **Appendix I. Clinical Recognition and Management of Suspected Bioterrorism Events**

Healthcare providers in New York City should be alert to the illness patterns and diagnostic clues that might signal an unusual infectious disease outbreak due to the intentional release of a biological agent and should report these concerns immediately to the NYCDOH. More detailed references with information on the clinical presentation, laboratory diagnosis, medical management, and preventive measures for the more likely bioterrorist agents (e.g., anthrax, plague or smallpox) are provided at the end of this appendix.

Unlike a chemical or nuclear release, the covert release of a biological agent will not have an immediate impact because of the delay between exposure and illness onset. Consequently, the first indication of a biologic attack may only be identified when ill patients present to physicians or other healthcare providers for clinical care.

Look for the following clinical and epidemiological clues that may be suggestive of a possible bioterrorist event:

- Any unusual increase or clustering in patients presenting with clinical symptoms that suggest an infectious disease outbreak (e.g., > 2 patients presenting with an unexplained febrile illness associated with sepsis, pneumonia, adult respiratory distress, mediastinitis, or rash; or a botulism-like syndrome with flaccid muscle paralysis especially if occurring in otherwise healthy individuals).
- Any case of a suspected or confirmed communicable disease that is not endemic in New York City (e.g., anthrax, plague, tularemia, smallpox, or viral hemorrhagic fever) or that occurs in a person without a travel history to an endemic area.
- Any unusual age distributions for common diseases (e.g., a cluster of severe chickenpox-like illness among adult patients who all report a previous history of varicella infection).
- Any unusual temporal and/or geographic clustering of illness (e.g., persons who attended the same public event or religious gathering).
- Any sudden increase in the following non-specific syndromes, especially if illness is occurring in previously healthy individuals and if there is an obvious common site of exposure:
  - Respiratory illness with fever
  - Gastrointestinal illness
  - Encephalitis or meningitis

- Neuromuscular illness (e.g., botulism)
- Fever with rash
- Bleeding disorders
- Simultaneous disease outbreaks in human and animal populations.

Some infections caused by potential bioterrorist agents present with distinctive signs that can provide valuable diagnostic clues. In previously healthy persons presenting with a febrile illness, the following signs and symptoms are highly suggestive of infection with certain biological agents:

**Diagnostic sign**

**Disease**

- |  |                      |
|--|----------------------|
| ● Widened mediastinum with fever and sepsis:   | Inhalational anthrax |
| ● Pneumonia with hemoptysis:   | Pneumonic plague     |
| ● Vesicular/pustular rash starting on face and hands, with all lesions at the same stage of development: | Smallpox             |

Similarly, laboratorians should be alert to microbiologic clues that may indicate the presence of a potential bioterrorist agent. For example, blood cultures growing Gram-positive rods, especially if found in multiple cultures and/or the clinical syndrome is suggestive of anthrax, should be evaluated for *Bacillus anthracis*. Characteristics of *B. anthracis* include: Gram-positive rods, often in chains; non-motile; non-hemolytic on sheep blood agar; positive for India Ink capsule stain if obtained from blood; and a characteristic consistency of "beaten egg whites" when colonies are picked with an inoculating loop. All suspect cultures should be immediately referred to the Public Health Laboratory for further testing at the contact number listed below.

Most pathogens that could be used as a biologic weapon (e.g., anthrax, plague, and smallpox) would present initially as a non-specific influenza-like illness. Therefore, an unusual pattern of respiratory or influenza-like illness (e.g., occurring out of season or in large numbers of previously healthy patients presenting simultaneously) should prompt clinicians to alert the NYCDOH. These disease patterns might represent an early start to the influenza season or the introduction of a new pandemic strain of influenza, or could be the initial warning of a bioterrorist event.

**Response to Suspected BT Event**

Any unusual cluster or manifestations of illness should be reported immediately to the New York City Department of Health:

**During Business Hours:** While we have moved back to our offices in Downtown Manhattan, our regular telephone numbers are no longer working and land lines are unpredictable. Temporary numbers for **NYC DOH's Communicable Disease Program include either (347) 538-0961, (347) 538-0925 or (347)-538-0855.** We will send a brief broadcast alert when our telephone number changes again.

The **Bioterrorism Laboratory** at the NYC Public Health Laboratory can be reached at 212-447-6941 and 212-447-6709.

During Nights and Weekends: Please call the Poison Control Center at 212-764-7667. (If that number is not working, please call 1-800-222-1222.)

After learning of any suspicious disease cluster, the NYC DOH will initiate an immediate investigation to determine the clinical diagnosis, as well as the mode of transmission, and whether the cause is natural or intentional. Information on the diagnosis, treatment and preventive measures for the specific biologic agent will be sent rapidly to the healthcare provider community through our broadcast alert system and posted on our Website.

For more detailed clinical information on specific pathogens that might be used in a bioterrorist event, please consult the following references or Web sites:

American College of Physicians:

[www.acponline.org/bioterr](http://www.acponline.org/bioterr)

American Society of Microbiology:

[www.asmta.org/pcsrc/bioprep.htm](http://www.asmta.org/pcsrc/bioprep.htm)

Association for Infection Control Practitioners:

[www.apic.org/bioterror](http://www.apic.org/bioterror)

CDC Bioterrorism Preparedness and Response:

[www.bt.cdc.gov](http://www.bt.cdc.gov)

Infectious Disease Society of America:

[www.idsociety.org](http://www.idsociety.org)

[www.hopkins-biodefense.org](http://www.hopkins-biodefense.org)

Johns Hopkins Center for Civilian Biodefense:

In addition, the Johns Hopkins Center for Civilian Biodefense has written consensus guidelines on the medical and public health management of the primary bioterrorist agents, including smallpox, anthrax, botulism, plague and tularemia. These guidelines were published in the Journal of the American Medical Association and archived copies are available at [jama.ama-assn.org](http://jama.ama-assn.org).

US Army Medical Research Institute of Infectious Diseases:

[www.usamriid.army.mil/education/bluebook.html](http://www.usamriid.army.mil/education/bluebook.html)

## **Appendix 2: Inhalational Anthrax** **Key Clinical Points**

## Epidemiology:

- Anthrax can be transmitted by inhalation, ingestion or inoculation. (**Inhalation is the most likely route during a bioterrorist attack**).
- The spore form of anthrax is highly resistant to physical and chemical agents; spores can persist in the environment for years.
- **Anthrax is not transmitted from person-to-person.**

## Clinical:

- Incubation period is 1-5 days (up to 43 days reported in the literature).
- Biphasic illness, with initial phase characterized by nonspecific flu-like illness followed by an acute phase with a rapid clinical deterioration characterized by acute respiratory distress and toxemia (sepsis).
- Inhalational anthrax presents as acute hemorrhagic mediastinitis.
- Chest x-ray findings: **Mediastinal widening in a previously healthy febrile patient is highly suggestive of anthrax.** Parenchymal infiltrates are uncommon.
- Mortality rate for inhalational anthrax approaches 90%, even with antibiotic treatment.

## Diagnosis:

- Laboratory specimens should be handled in Biosafety Level 2 facilities.
- Gram stain shows large, gram-positive encapsulated bacilli, occurring singly or in short chains, often with squared off ends (safety-pin appearance). In advanced disease, a gram stain of unspun blood may be positive.
- Distinguishing characteristics on culture include: non-hemolytic, non-motile, capsulated bacteria that are susceptible to gamma phage lysis, with a characteristic consistency of "beaten egg whites" when colonies are picked with an inoculating loop.
- Diagnostic testing is available at the New York City Department of Health (NYC DOH) Public Health Laboratories (212-447-6941 or 212-447-6709); positive specimens would be sent to the Centers for Disease Control and Prevention for additional testing.

## Treatment:

- Prompt initiation of antibiotic therapy is essential and antibiotic susceptibility testing is KEY to guiding treatment.
- Ciprofloxacin (400 mg iv q 12 h) is the antibiotic of choice for penicillin-resistant anthrax or for empiric therapy while awaiting susceptibility results (alternative: doxycycline).
- Females who are pregnant (or who may be pregnant) and children less than 8 years old also can be treated empirically with a quinolone (alternative: doxycycline).
- Natural strains of anthrax are resistant to extended-spectrum cephalosporins, trimethoprim and sulfamethoxazole.
- Antibiotic treatment should continue for 60 days.

**Prophylaxis:** In the event that an outbreak of inhalational anthrax was confirmed or suspected, all exposed persons should receive antibiotic prophylaxis:

- Start antibiotic prophylaxis as soon as possible after exposure with either ciprofloxacin 500 mg po bid or doxycycline 100 mg po bid. (If strain is penicillin-susceptible, therapy can be switched to penicillin or amoxicillin.) .
- Currently, anthrax vaccine is in limited supply and not available to the general public. If vaccine is made available in the event of a confirmed outbreak, exposed persons can be vaccinated with 3 doses of anthrax vaccine (Days 0, 14, and 28) at the same time that they are taking antibiotic prophylaxis. If this dual regimen is followed, antibiotics need to be administered for a total of 30 days.

**Patient Isolation:**

- Standard precautions. Patients with anthrax of any form do not require isolation.

**Any suspected cases of anthrax should be immediately reported to the Communicable Disease Program:**

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**After hours, please call the Poison Control Center at 212-764-7667. (If that number is not working, please call 1-800-222-1222).**

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