

October 2001

Mandatory Safety Talk on Anthrax

Anthrax is an acute disease caused by a spore-forming bacterium (*Bacillus anthracis*). Anthrax most commonly occurs in hoofed mammals (cattle and sheep) but can also infect humans. It is important to note however, that anthrax is **not** spread from person to person. Anthrax is most common in agricultural regions where it occurs in animals. These include South and Central America, Southern and Eastern Europe, Asia, Africa, the Caribbean, and the Middle East. This disease rarely occurs in the United States, with most reports of animal infection occurring in Texas, Louisiana, Mississippi, Oklahoma and South Dakota.

Anthrax infection can occur in three ways: (1) through breaks/cuts in the skin, (2) inhalation of spores, and (3) ingestion. If the bacterium enters a cut or abrasion on the skin, an infection can result, which develops into a painless ulcer with a characteristic black area in the center. Initial symptoms from inhaled spores resemble a common cold, which may progress to severe breathing problems and shock, with death usually resulting within 1-2 days after onset of acute symptoms. Early intervention with antibiotics is the preferred treatment for inhalation exposure. The intestinal disease form of anthrax may follow the consumption of contaminated meat, and is characterized by an acute inflammation of the intestinal tract. Initial signs of nausea, loss of appetite, vomiting, fever are followed by abdominal pain, vomiting of blood, and severe diarrhea.

How likely is it that someone would receive anthrax or other terrorist-related biological agents in the mail? The Postal Service delivers approximately 208 billion pieces of mail per year, and presently we have not found any real incidents, only threats or hoaxes (no biological agent present).

During FY 1999 and FY 2000, there were approximately 178 anthrax threats received at courthouses, reproductive health service providers (clinics offering abortion services and/or counseling), churches, schools, and post offices. During FY 2001 we have had only approximately 60 threats or hoaxes which included anthrax, hoof and mouth disease, the Klingerman virus hoax and others.

Local, state, and Federal health and emergency program officials are prepared to deal with terrorist activities involving release of anthrax spores. The Postal Service is coordinating with these officials to ensure quick and effective response to any such activities.

The Postal Service is dedicated to protecting the safety and health of all employees as well as customers. Management Instruction EL-860-1999-3, *Emergency Response to Mail Allegedly Containing Anthrax*, provides emergency response procedures and management guidelines for incidents in which letters or parcels are received that allegedly contain anthrax. The remote, but real, possibility that anthrax will be introduced into the mail stream requires that the following procedures be strictly followed.

What constitutes a "suspicious parcel"? Some typical characteristics Postal Inspectors have detected over the years, which ought to trigger suspicion, include parcels that:

- are unexpected or from someone unfamiliar to you.
- are addressed to someone no longer with your organization or are otherwise outdated.
- have no return address, or have one that can't be verified as legitimate.
- are of unusual weight, given their size, or are lopsided or oddly shaped.
- are marked with restrictive endorsements, such as "Personal" or "Confidential."
- have protruding wires, strange odors or stains.
- show a city or state in the postmark that doesn't match the return address.

If you, as an employee, encounter a suspicious looking mail piece(s), do not touch it but report it to your supervisor/manager immediately.

Supervisors and Managers will immediately do the following:

1. Direct all employees away from the suspected mail piece(s) immediately.
2. Avoid further handling of the suspected mail piece(s), isolate it, and cordon off the immediate area (may utilize facility Spill and Leak Team to assist in this effort).
3. Call 911 immediately for HAZMAT Response Team.
4. Call your supervisor/manager or any member listed on the Crisis Management Plan/Emergency Action Plan.
5. Call Postal Inspectors.
6. Call the Health Unit.
7. Instruct employees thought to have handled the suspect mail to wash exposed skin with soap and water for three minutes and then rinse with water for one minute. These employees should remain in a safe place on postal premises until the Hazardous Material (HAZMAT) team arrives and employees are processed through the decontamination line.
8. After being decontaminated, employees may be interviewed by federal authorities (FBI) to determine the extent of the situation.
9. Invoke emergency action plan, including mechanical shutdowns (air handling equipment) and evacuation.
10. Call Postal Service Aviation Mail Security Office.
11. Call County Health Department.

Anthrax Talking Points

□ What is anthrax?

- acute infectious disease caused by the spore-forming bacterium *Bacillus anthracis*
- most commonly occurs in hoofed mammals (cattle, sheep, goats, camels, antelopes)
- can also occur in humans when they are exposed to infected animals, tissue from infected animals, or spores

□ Why has anthrax become a current issue?

- one death and two illnesses in Florida due to anthrax (October, 2001)
- hoaxes which have occurred in postal and other facilities
- potential agent for use in biological warfare
- Department of Defense (DoD) has begun mandatory vaccination of all active duty military personnel who might be involved in conflict

□ How common is anthrax and who can get it?

- most common in agricultural regions where it occurs in animals
- when it affects humans, it is usually due to an occupational exposure to infected animals or their products
- workers exposed to dead animals and animal products from other countries where anthrax is more common may become infected with *B. anthracis* (industrial anthrax)
- anthrax spores can be produced in a dry form which may be stored and ground into particles which when inhaled can cause disease
- anthrax in wild livestock has occurred in the United States

□ How is anthrax transmitted?

- infection can occur in three ways:
 - cutaneous (skin)
 - inhalation, and
 - gastrointestinal (ingestion)
- spores can live in the soil for many years
- humans can become infected with anthrax by:
 - handling products from infected animals (hair, wool, hides, flesh, bone meal)
 - inhaling anthrax spores
 - eating undercooked meat from infected animals (it is rare to find infected animals in the United States)

□ What are the symptoms of anthrax?

- symptoms usually occur within 7 days of exposure
- symptoms vary depending on how the disease was contracted
- **Cutaneous:**
 - most (about 95%) anthrax infections occur when the bacterium enters a cut or abrasion on the skin
 - can happen when handling contaminated wool, hides, leather or hair products (especially goat hair) of infected animals
 - skin infection begins as a raised itchy bump that resembles an insect bite
 - within 1-2 days develops into a fluid-filled blister and then a painless ulcer, usually 1-3 cm in diameter, with a characteristic black necrotic (dying) area in the center
 - lymph glands in the adjacent area may swell

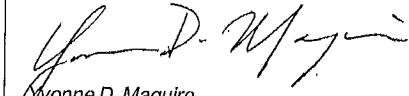
- deaths are rare with appropriate antibiotic therapy
 - **Inhalation:**
 - initial symptoms may resemble a common cold
 - after several days, the symptoms may progress to severe breathing problems and shock
 - inhalation anthrax is usually fatal
 - **Intestinal:**
 - intestinal disease form of anthrax may follow consumption of contaminated meat
 - characterized by acute inflammation of the intestinal tract
 - initial signs are nausea, loss of appetite, vomiting, fever
 - followed by abdominal pain, vomiting of blood, and severe diarrhea
- ❑ **Where is anthrax usually found?**
- can be found globally
 - more common in developing countries or countries without veterinary public health programs
 - certain regions of the world report more anthrax in animals than others: South and Central America, Southern and Eastern Europe, Asia, Africa, the Caribbean, and the Middle East
- ❑ **Can anthrax be spread from person-to-person?**
- direct person-to-person spread of anthrax is extremely unlikely to occur
 - disease can't be contracted by touching or visiting patients with inhalation anthrax
- ❑ **Is there a way to prevent infection?**
- in countries where anthrax is common and vaccination levels of animal herds are low, humans should:
 - avoid contact with livestock and animal products
 - avoid eating meat that has not been properly slaughtered and cooked
 - an anthrax vaccine has been licensed for use in humans
 - vaccine is reported to be 93% effective in protecting against anthrax (not widely available to civilian population)
 - in postal facilities, when a suspected anthrax-containing parcel is found follow procedures listed in MI 860-1999-3, *Emergency Response to Mail Allegedly Containing Anthrax* and your local Emergency Action Plan
- ❑ **How is anthrax diagnosed?**
- anthrax is diagnosed by:
 - isolating *B. anthracis* from the blood, skin lesions, or respiratory secretions, or
 - by measuring specific antibodies in the blood of persons with suspected cases
 - inhalation exposure can be determined by isolating spores from nasal passages
- ❑ **Is there a treatment for anthrax?**
- doctors can prescribe effective antibiotics (penicillin, doxycycline, ciproflaxin)
 - to be effective, treatment should be initiated early
 - treatment should continue for at least 4 weeks after exposure
 - if left untreated, the disease can be fatal
 - decontamination can be accomplished by boiling contaminated articles in water for 30 minutes or more and using some of the common disinfectants, such as chlorine

Management Instruction

Emergency Response to Mail Allegedly Containing Anthrax

This instruction provides emergency response procedures and management guidelines for incidents in which letters or parcels are received that allegedly contain anthrax, a biologically hazardous material.

Date	October 4, 1999
Effective	Immediately
Number	EL-860-1999-3
Obsoletes	None
Unit	Safety and Health


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Background

Recent Incidents

In 1998 and 1999 there have been several instances where Postal customers have reported receiving letters or parcels that allegedly contained a specific biologically hazardous material, anthrax. Represented thus, all of these incidents were undeclared prohibited mailings, even though they were considered to be hoaxes.

Hoaxes can leave employees and the community in need of information and counseling, and the possibility of bioterrorism cannot be ignored.

Anthrax

Anthrax is an acute infectious disease caused by *bacillus anthracis*. Spores enter the body through open wounds, cuts, or mucous membranes (mouth, nose) or are inhaled or ingested. Humans usually get the disease by coming into contact with spores of infected animals (cattle, sheep, goats) or their products. It is probably not transmitted from person to person, and a person with anthrax is not contagious. *Bacillus anthracis* spores can cause disease in 2 to 60 days.

Individuals who have been identified as having had an exposure to anthrax may be treated by medication.

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Policy

General

The Postal Service is committed to providing a safe and healthful work environment for its employees. Suspected bioterrorism threats or suspicious incidents require prompt action by health, safety, law enforcement, and laboratory personnel. Coordination and communication are essential to protect first responders and employees.

Responsibilities

Postal Service Management

The Federal Bureau of Investigation (FBI) has jurisdiction for bioterrorism response, and the Inspection Service coordinates with the FBI. It is management's responsibility to minimize potential exposures through quick *isolation and evacuation* until emergency response and law enforcement can arrive and take control of the incident.

Managers must ensure the following:

1. All employees, through safety talks, hazardous materials first-responder training, and emergency action plan training, must be instructed on initial actions to take if there has been a suspected exposure to anthrax (or other biologically hazardous material).
2. Emergency action plans, crisis management plans, hazardous materials spills response instructions, medical service standing orders, and other related standard operating procedures must be modified to incorporate appropriate guidance.

Crisis management plans must be revised to do the following:

- a. Include appropriate actions to ensure initial coordination with the FBI and outside responders through the Inspection Service.
- b. Detail other initial actions to isolate and contain potential contamination and deal with potentially exposed employees.
- c. Cover subsequent actions, including proper medical treatment (using current Center for Disease Control (CDC) guidelines), employee counseling, and media liaison.

The emergency action plan must include the telephone numbers of the initial and secondary contacts.

Contractors and Suppliers

Contractors and suppliers who handle and transport mail and function outside of postal facilities must have in place and be able to demonstrate proficiency and compliance with state required and approved hazardous cargo, bloodborne pathogen, and related hazard response protocols, including international airport response procedures.

Any incident that falls within these requirements must be reported to the Postal Service immediately upon notification of the hazard.

Emergency Response Procedures

Employees Who Suspect Mail Is Contaminated

- 1> Do not handle the mailpiece or package suspected of contamination.
- 2> Notify the postal supervisor, who will immediately contact the facility safety office or other designated person.
- 3> Make sure that damaged or suspicious packages are isolated and the immediate area cordoned off.

Individuals Who May Have Touched a Contaminated Mailpiece

- >> Wash your hands and wait for further instruction from management and, ultimately, outside emergency response experts.

Internal Postal Spill and Leak Teams

- >> Do **not** handle suspect packages, clean areas, or take any response action other than to retreat, isolate, and notify management in accordance with the facility standard operating procedures.

Facility Management

- 1> Alert employees to stay in evacuation areas and not leave postal property so that they can receive necessary information and medical follow-up if appropriate.

- 2> Invoke the emergency action plan, including the following:
- a. Effecting mechanical shutdowns (including air handling equipment), isolation, and evacuation.
 - b. Notifying the Inspection Service.
 - c. Notifying Postal Service Aviation Mail Security Office.
 - d. Notifying postal and local community emergency responders, which may include the health department, fire department, or local law enforcement.

The U.S. Postal Service has had no confirmed incidents involving the use of the mail to transmit any harmful biological or chemical weapons

How likely is it that someone would receive a harmful biological or chemical substance in the mail?

The Postal Service delivers approximately 208 billion pieces of mail per year, and presently we have not seen any real incidents – including Anthrax – only threats or hoaxes.

How often do these threats and hoaxes occur?

During FY 1999 and FY 2000, there were approximately 178 anthrax threats received at courthouses, reproductive health service providers (clinics offering abortion services or counseling), churches, schools, and post offices. During FY 2001 we have had only approximately 60 threats or hoaxes, which included anthrax, hoof and mouth disease, the Klिंगerman virus hoax and others.

Chemical and biological weapons are sometimes referred to as the “poor man’s nuclear weapons” and pose a significant threat in the post-Cold War environment. Their relative low cost and simplicity of design and technology make them weapons of choice for a variety of rogue states and terrorist and non-state organizations. Although acts of chemical and biological terrorism have not been prevalent in the U.S. up to now, use of these weapons or the threat of their use are disruptive forces.

What Should I do if I Receive an Anthrax Threat by Mail?

- *Do not handle the mail piece or package suspected of contamination.*
- Notify your supervisor, who will immediately contact the Inspection Service, local police, safety office or designated person.
- Make sure that damaged or suspicious packages are isolated and the immediate area cordoned off.
- Ensure that all persons who have touched the mail piece wash their hands with soap and water.
- The Inspectors will collect the mail, assess the threat situation and coordinate with the FBI.
- Designated officials will notify local, county, and state health departments.
- Designated officials will notify the state emergency manager.
- List all persons who have touched the letter and/or envelope. Include contact information. Provide the list to the Inspection Service.
- Place all items worn when in contact with the suspected mail piece in plastic bags and keep them wherever you change your clothes and have them available for law enforcement agents.
- As soon as practical, shower with soap and water.
- If prescribed medication by medical personnel, take it until otherwise instructed or it runs out.
- Notify the Center for Disease Control Emergency Response at 770-488-7100 for answers to any questions.

What Is Anthrax?

Anthrax is a bacterial disease caused by *Bacillus Anthracis*. Anthrax occurs in domesticated and wild animals, including goats, sheep, cattle, horses and deer.

The skin form of the disease may be contracted by handling contaminated hair, wool, hides, flesh, blood or excreta of infected animals and from manufactured products such as bone meal. Infection is introduced through scratches or abrasions of the skin, wounds, inhalation of spores, eating insufficiently cooked infected meat or from flies. *The spores are very stable and may remain viable for many years in soil and water.* They will resist sunlight for varying periods.

What Are the Symptoms and Effects of Anthrax?

After an incubation period of 1-7 days, the onset of inhalation anthrax is gradual.

Possible symptoms include:

- fever
- malaise
- fatigue
- cough
- mild chest discomfort followed by severe respiratory distress

This mild illness can progress rapidly to respiratory distress and shock in 2-4 days followed by a range of more severe symptoms, including breathing difficulty and exhaustion. Death usually occurs within 24 hours of respiratory distress.

What Are the Clinical Features of Anthrax?

Anthrax is an acute bacterial infection of the skin, lungs or gastrointestinal tract. Infection occurs most commonly via the skin .

The cutaneous or skin form of the infection occurs most frequently on the hands and forearms of persons working with infected livestock or contaminated animal products and represents 95% of cases of human anthrax. It is initially characterized by a small solid elevation of the skin, which progresses to a fluid-filled blister with swelling at the site of infection. The scab that typically forms over the lesion can be black as coal, hence the name anthrax – Greek for coal. With treatment, the case fatality rate is less than 1% among people who get the skin form of the disease. The fatality rate for untreated inhaled or intestinal anthrax is over 90%.

The inhaled form of anthrax is contracted by inhalation of the spores, occurs mainly among workers handling infected animal hides, wool and furs. Under natural conditions, inhaled anthrax is exceedingly rare, with only 18 cases reported in the United States in the 20th century.

What Is the Treatment for Anthrax?

Treatment with antibiotics beginning one day after exposure has been shown to provide significant protection against death in tests with monkeys, especially when combined with active immunization. Penicillin, doxycycline, ciproflaxin, are all effective against most strains of the disease. Penicillin is the drug of choice for naturally occurring anthrax. If untreated, inhaled anthrax is fatal.

A vaccine is available and consists of a series of 6 doses over 18 months with yearly boosters. This vaccine, while known to protect against anthrax acquired through the skin, is also believed to be effective against inhaled spores.

Effective decontamination can be accomplished by boiling contaminated articles in water for 30 minutes or longer and using common disinfectants. Chlorine is effective in destroying spores and vegetative cells. Remember, anthrax spores are stable, able to resist sunlight for several hours and able to remain alive in soil and water for years.

What constitutes a “suspicious parcel?”

Some typical characteristics Postal Inspectors have detected over the years, which ought to trigger suspicion, include parcels that:

- are unexpected or from someone unfamiliar to you.
- are addressed to someone no longer with your organization or are otherwise outdated.
- have no return address, or have one that can't be verified as legitimate.
- are of unusual weight, given their size, or are lopsided or oddly shaped.
- are marked with restrictive endorsements, such as “Personal” or “Confidential.”
- have protruding wires, strange odors or stains.
- show a city or state in the postmark that doesn't match the return address.

What should I do if I've received a suspicious parcel in the mail?

- Do not try to open the parcel!
- Isolate the parcel.
- Evacuate the immediate area.
- Call a Postal Inspector to report that you've received a parcel in the mail that may contain biological or chemical substances.

10/12/01

ADVISORY:

USE OF GLOVES AND FILTERING FACEPIECES FOR MAILHANDLING AND PROTECTION FROM ANTHRAX

We have had inquiries on the use of gloves and respirators to protect against anthrax while handling mail.

There is no indication that wearing gloves for protection against potential anthrax spores in the mail is of any significant benefit to employees. Skin infections from anthrax typically involve contact with heavily contaminated animal hides and similar materials. Any serious skin infection is very unlikely with subsequent treatment. The principal hazard is the release of anthrax spores, inhalation, and subsequent respiratory infection, which gloves will not prevent. This is a very low risk scenario for postal employees, and public health authorities are not recommending the use of respirators. Additionally, use of latex (surgical/examination gloves) can cause severe allergic reactions in some individuals.

We understand, however, that employees have real concerns based on recent events. Therefore please advise employees that they may wear disposable nitrile gloves during routine mail handling, such as culling and other direct contact with mailpieces. In most cases those points of operation do not involve immediate mechanization hazards, e.g. an in-running nip-point in automation or mechanization. We still do not want employees exposed to a greater probability of injury, so in those specific locations where a gloved hand presents a hazard, advise employees not to wear gloves.

Persons concerned about inhalation may also utilize filtering facepiece respirators. For maximum efficiency, they should be NIOSH approved N95 types. This is in accordance with existing respirator policy on voluntary use of filtering facepieces.

Please note that this advisory is not in response to any known significant threat from anthrax mailings, but is to provide postal employees with a measure of security.

Employees may wear their own nitrile gloves or FFPs, or gloves and FFPs purchased by the Postal Service. Management can use existing stocks of non-nitrile gloves, until nitrile stock can be purchased. For administrative purposes, providing gloves is not considered part of the PPE program under OSHA.

As the Chief Postal Inspector has said: "Considering that the post office delivers approximately 208 billion pieces of mail per year...the chances of someone actually receiving a mailpiece containing a biological agent are remote. "The Postal Inspection Service is working closely with other law enforcement agencies to keep all postal employees safe from terrorist threats."

If an employee encounters a suspicious package, or a mailpiece leaking unknown materials, they should isolate the mailpiece without further handling, retreat, cordon off the area, and notify their supervisor to obtain expert help. They should wash their hands or other skin areas with soap and water if they think they have experienced skin contact. This is the best protection against any hazardous material release, including anthrax.

The Postal Service policy on the use of gloves and filtering facepieces is contained in the PPE MI, EL-810-2001-1 and is still applicable. Additional guidance is also available on the Safety Toolkit Resources Page, and recent safety talks issued on the anthrax issue.

-SAFETY PERFORMANCE MANAGEMENT, HEADQUARTERS