



DEPARTMENT: AGRICULTURE

ANTHRAX



FREQUENTLY ASKED QUESTIONS

What is anthrax?

- Anthrax is an acute infectious disease caused by the spore-forming bacterium *Bacillus anthracis*.
- The disease most commonly occurs in wild and domestic animals such as cattle, sheep, goats, camels, antelope and other herbivores.
- Humans can also get anthrax when they are exposed to infected animals or tissue from these animals.

Why has anthrax become a current issue?

Anthrax is considered to be a potential agent for use in biological warfare. It has been implicated in a series of recent incidents in the USA and elsewhere, apparently spread intentionally in the mail.

How common is anthrax and who can get it?

Anthrax is a common disease of animals in agricultural regions. It is an endemic animal

disease in South Africa. When anthrax affects humans, it is usually the result of occupational exposure to infected animals or their products. Workers who come into contact with dead animals and animal products from other countries where anthrax occurs more frequently, may become infected with *B. anthracis* (industrial anthrax).

There are three forms of anthrax infection

- **Cutaneous (through broken skin)**
- **Inhalation (lungs)**
- **Gastrointestinal (ingestion of contaminated meat)**

How is anthrax transmitted?

- ***B. anthracis* spores can live in the soil for more than 90 years.**
- **Humans can become infected with anthrax by handling products from infected animals or by inhaling anthrax spores from contaminated animal products.**
- **The disease can also be spread by eating undercooked meat from infected animals.**

What are the symptoms of anthrax?

Symptoms vary, depending on how the disease was contracted, but usually occur within seven days.

Cutaneous form

Most (about 95 %) anthrax infections occur when the bacterium enters through skin lesions (cuts or abrasions) such as when handling contaminated wool, hides, leather or hair products (especially goat hair) of infected animals. Skin infection begins as a swollen itchy area that resembles an insect bite but within one to two days develops into a vesicle and then a painless ulcer, usually 1 to 3 cm in diameter, with a characteristic black necrotic (dying) area in the centre. Lymph glands in the adjacent area may be swollen. About 20 % of untreated cases of cutaneous anthrax will result in death. Deaths rarely occur when appropriate antimicrobial therapy is applied.

Inhalation anthrax

Initial symptoms may resemble a common cold. After several days, the symptoms may develop into severe breathing problems and shock. Inhalation anthrax is usually fatal unless treated intensively and early by means of antibiotics.

Gastrointestinal anthrax

This form of anthrax may follow the consumption of contaminated meat and is characterised by an acute inflammation of the gastrointestinal tract. Initial signs of nausea, loss of appetite, vomiting and fever are followed by abdominal pain, bleeding when vomiting and severe diarrhoea. Intestinal anthrax results in death in 25 to 60 % of cases, unless treated intensively and early.

Where is anthrax usually found?

Anthrax occurs globally. It is, however, more common in developing countries or countries lacking veterinary public health facilities. Certain regions of the world (South and Central America, Southern and Eastern Europe, Asia, Africa, the Caribbean, and the Middle East) report more anthrax cases in animals than others.

Can anthrax be spread from one person to another?

Direct person-to-person transmission of anthrax is extremely unlikely. Communicability is not a concern in managing or visiting patients with inhalational anthrax.

Is there a way to prevent infection?

In countries where anthrax frequently occurs and vaccination levels of animal herds are low, humans should avoid contact with livestock and animal products and avoid eating meat that has not been properly slaughtered and cooked. Vaccination against anthrax is possible when required.

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 suspected of having the disease.

Can anthrax be treated?

- **Doctors can prescribe effective antibiotics such as penicillin, doxycycline and ciprofloxacin.**
- **To be effective, treatment should start early.**

- **If left untreated, the disease can be fatal.**



ANTHRAX IN THE MAIL

What should I do if I receive anthrax-contaminated mail?

- **Do not handle the letter or packet suspected of being contaminated. Unless already opened—do not open it.**
- **Do not sniff at it or get too close to it.**
- **Do not try to clean up any powder. Cover the spilled contents immediately with anything (e.g. clothing, paper dustbin/wastepaper basket, etc) and do not remove this cover!**
- **Notify your line manager, who should immediately contact the police. Report that you have received a packet in the mail that may contain dangerous biological or chemical substances.**
- **Make sure that damaged or suspicious-looking mail items are isolated and the immediate area cordoned off.**
- **Ensure that all persons who have been in contact with the mail wash their hands with soap and water.**
- **The police will examine the items, assess the danger and coordinate with their forensic division.**
- **Compile a list of all persons who have been in contact with the letter and/or envelope. Include contact information. Hand the list to the incident manager and/or health officials.**
- **Place all items worn when in contact with the suspect mail in plastic bags and keep these wherever you change your clothes and have them available for the police.**
- **As soon as practical, shower with soap and water. Do not use bleach or other disinfectants on your skin.**
- **Seek medical advice immediately upon the onset of illness.**
- **If a doctor prescribed medication, take it until otherwise instructed or until the full dose**

has been taken.

How to recognise suspicious-looking packages and letters

Some characteristics of suspicious-looking packages and letters include the following ...

- **are unexpected or from someone unfamiliar to you**
- **excessive postage**
- **visual distractions**
- **incorrect titles**
- **a title, but no name**
- **misspelling of common words**
- **handwritten or poorly-typed addresses**
- **oily stains, discoloration or odour**
- **ticking sound**
- **have no return address, or have one that can not 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"**
- **may have suspicious-looking powder or sand inside**
- **have protruding wires, strange odours or stains**
- **show a cancellation postmark that does not match the return address.**

Suspicious-looking unopened letter or package marked with threatening message such as "Anthrax"

- **Do not shake or empty the contents of any suspicious-looking envelope or package.**
- **Place the envelope or package in a plastic bag or some other type of container to prevent leakage of contents.**

- **If you do not have a suitable container, then cover the envelope or package with anything at hand (e.g. clothing, paper, dustbin/wastepaper basket, etc) and do not remove this cover.**
- **Then leave the room and close the door, or section off the area to prevent others from entering (i.e. keep others out).**
- **Wash your hands with soap and water to prevent spreading any powder to your face.**
- **What to do next...**
 - **If you are at home, then report the incident to the local police.**
 - **If you are at work, then report the incident to the local police, and notify your building security official or an available supervisor.**
- **Compile a list of all people who were in the room or area when this suspicious-looking letter or package was noticed. Hand this list to security.**

Envelope with powder and powder spills out onto surface

- **Do not try to clean up the powder, cover the spilled contents immediately with anything at hand (e.g. clothing, paper, dustbin/wastepaper basket, etc) and do not remove this cover!**
- **Then leave the room and close the door, or section off the area to prevent others from entering (i.e. keep others out).**
- **Wash your hands with soap and water to prevent spreading any powder to your face.**
- **What to do next ...**
 - **If you are at home, report the incident to the local police.**
 - **If you are at work, then report the incident to the local police, and notify your building security official or an available supervisor.**

- **Remove heavily contaminated clothing as soon as possible and place in a plastic bag, or some other container that can be sealed. This bag should be handed to the emergency responders.**
- **Shower with soap and water as soon as possible. Do not use bleach or other disinfectants on your skin.**
- **If possible, compile a list of all people who were in the room or area, especially those who had actual contact with the powder. Hand this list to security so that proper instructions can be issued for a medical follow-up.**

Room contamination by aerosolisation

For example: small device triggered, warning that air-handling system is contaminated, or warning that a biological agent is released into a public area.

- **Turn off local fans or ventilation units in the area.**
- **Leave area immediately.**
- **Close the door, or section off the area to prevent others from entering (i.e. keep others out).**
- **What to do next...**
 - o **If you are at home, report the incident to the local police.**
 - o **If you are at work, then report the incident to the local police, and notify your building security official or an available supervisor.**
- **Shut down air-handling system in the building, if possible.**
- **If possible, compile a list of all people who were in the room or area. Hand this list to security so that proper instructions can be given for a medical follow-up.**

2001

Compiled by

Directorate Communication, Department of Agriculture
in cooperation with Directorate Veterinary Services
Printed and published by Department of Agriculture
and obtainable from Resource Centre, Directorate
Communication
Private Bag X144, Pretoria, 0001 South Africa