

QUESTIONS COMMONLY ASKED BY HEALTH CARE PROVIDERS ABOUT ANTHRAX

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A. ANTHRAX DISEASE FACTS

1. What is anthrax?

Anthrax is a bacterial infection caused by the organism *Bacillus anthracis*. This bacterium is carried by wild and domestic grass eating animals such as cows in Asia, Africa, South America and parts of Europe. The bacterium can exist in a form known as a spore, which allows it to survive in the environment (for example, in the soil).

2. What are the symptoms?

There are three different types of Anthrax. The most common type is the skin (cutaneous) type. Very rarely it can cause gut or lung (inhalational) disease. Clinical pictures are available via the [PHLS website](http://www.phls.org.uk/topics_az/anthrax/photos.htm) http://www.phls.org.uk/topics_az/anthrax/photos.htm.

In **cutaneous anthrax**, itching occurs first. This is followed by appearance of a lesion commonly on the head, forearms or hands. At first, the lesion is a small bump. It then ulcerates and becomes weepy, and although surrounded by marked swelling, it is rarely painful. This **painless swelling** is the cardinal feature of the disease and differentiates it from cellulitis. The ulcer develops a depressed, black centre in 2-6 days; focal lymph nodes may be enlarged. If untreated the infection can spread and cause blood poisoning. Untreated, it used to be fatal in 5-20% of cases but with effective antibiotic therapy very few deaths occur.

Initial symptoms of **inhalational anthrax** are mild and non-specific. They characteristically include fever, tiredness, mild cough or chest pain. This is followed by the second phase characterised by acute respiratory distress, sepsis and acute haemorrhagic mediastinitis causing **mediastinal widening on chest X-ray**. This presentation in a previously healthy patient is highly suggestive of anthrax. At this stage, the disease often has a fatal outcome.

Intestinal Anthrax is a very rare form of food poisoning and results in severe gut disease, fever and blood poisoning. It is very difficult to recognise and consequently is often fatal

3. How is anthrax caught?

Anthrax is primarily a disease of animals not humans. It is an occupational hazard of workers who process hides, hair, bone and bone products, vets and agricultural workers and people in specialist laboratories who work with the bacteria. The reservoir is in infected herbivores. When their blood is spilt, the bacteria come into contact with the air, and then convert to a tough coated spore that can survive in the soil for years.

Cutaneous anthrax is contracted by contact with the tissues of animals dying with the disease or by contact with contaminated products.

Inhalation anthrax classically results from inhalation of spores in industrial processes e.g. processing animal hides. It is very rare, the last case in England and Wales was in 1974.

Intestinal anthrax is even more rare; it occurs from swallowing spores in contaminated meat.

Inhalation anthrax is not transmissible from person-to-person. Cutaneous anthrax may rarely be transmitted from person-to-person through direct contact with skin lesions.

4. How long can you have the infection before developing symptoms?

Usually from 1–7 days, although the incubation period can be up to 60 days.

5. How can anthrax be prevented?

There is a vaccine against anthrax, but this is recommended only for those in highest risk (for example laboratory staff who may be handling the organism or those people working in tanneries). Vaccination is not recommended for the general public.

Correct treatment of hides and wool (washing, or disinfecting them) as well as adequate ventilation of work areas in hazardous industries are also recommended.

6. How do you treat Anthrax?

Anthrax can be treated effectively with a variety of antibiotics, but early recognition of the disease is essential if the treatment is to be successful.

In case of cutaneous anthrax, antibiotic therapy sterilises a skin lesion within 24 hours but the ulcer goes on through its natural cycle.

The antibiotics of choice are ciprofloxacin for cutaneous anthrax, given for 5-7 days. Tetracyclines, erythromycin and penicillin are also effective. Intravenous ciprofloxacin is the drug of choice for inhalational anthrax.

If exposure to aerosolised anthrax is credible or confirmed, person at risk should begin post exposure prophylaxis with both antibiotics (fluoroquinolones are the drug of choice) and may also be given vaccine. Immunisation is recommended because of the uncertainty of when or if the inhaled spores may germinate. It consists of 5 injections; the first one is as soon as possible, followed by 3 weeks, 6 weeks, 6 months and 1 year after the exposure.

7. Do patients need to be quarantined?

No, there is no need for quarantine

B. ANTHRAX THREATS

1. One of my patients is very concerned about anthrax and believes that he/she should be vaccinated. Where can I get the vaccine?

Anthrax vaccination is not recommended for the general public. It is recommended for a very few people at high risk from their work. For example, those working with animal hides (especially imported hides), in abattoirs or in laboratories. Details are in the recommendations of the UK Joint Committee for Vaccination and Immunisation (JCVI) in the current Green Book (Immunisation Against Infectious Disease, pp 61-3). The vaccine is not produced commercially and cannot be purchased.

2. My patient works in a tannery/abattoir – should they be vaccinated against anthrax?

They may be in the group that is at higher risk. You should contact the immunisation division at CDSC to discuss vaccination.

3. One of my patients is going to work abroad where I hear anthrax is common. Should they be vaccinated?

No, anthrax vaccine is only recommended for people in the high risk groups.

4. Can I buy anthrax vaccine privately for my patients?

No. The vaccine is produced by the government and is not for sale to private individuals or companies. It is not produced commercially in the UK.

5. My patient has received a suspicious package from the USA and is anxious that it could contain anthrax. What shall I advise?

They should not handle or open it. They should call the local police immediately, who will come and assess the package. Further advice is available via the [PHLS website](#)

6. I am concerned that my patient has inhalation anthrax – what should I do?

A proforma to help assess patients with suspicious illnesses is available on the [PHLS website](#)

7. I am concerned that my patient has cutaneous anthrax – what should I do?

A proforma to help assess patients with suspicious illnesses is available on the [PHLS website](#)