

Anthrax

Background Information

Anthrax is an extremely rare but potentially life threatening bacterial disease that can be transmitted to humans through contact with infected animals or animal products.

Organism

Bacillus anthracis

Incidence and Transmission

Anthrax cases in animals or humans are now extremely rare in the UK.

Workers are at risk of infection through skin contact with diseased animals or animal products, or through inhalation or ingestion of spore-containing material. Reservoirs include infected cattle, goats, pigs, sheep and their products, especially imported hair, wool, skin, meat and bonemeal.

Once contaminated, land can remain infected with anthrax spores for many decades.

Bioterrorist attacks occurred in 2001 in the US, where anthrax spores were released via mail in to the postal system and human anthrax cases resulted.

Cutaneous anthrax can be spread from person to person via direct contact with the lesions, but this is extremely rare. Inhalation anthrax (the more serious form of anthrax) and intestinal anthrax are not spread from person to person.

Occupations and processes where anthrax presents a risk

Occupational exposure to anthrax may occur in those who:

- are in contact with infected animals;
- work with materials or products from infected animals;
- work on land contaminated by infected animals; or
- are in direct contact with the lesions of patients with cutaneous anthrax.

Occupations and industries where there may be a risk of occupationally acquired anthrax include:

- farm workers and zoo keepers, eg livestock breeders/keepers, shepherds, dairy workers – from skin contact with, or inhalation of, spores from diseased animals, or during disposal of infected carcasses and slurry;
- veterinary surgeons – treatment of infected animals;
- local authority workers – from disposal of infected carcasses;

- abattoir workers, meat processing plant workers and butchers – from exposure to anthrax spores during preparation of animals for food and food products.
- textile companies, eg goat hair, wool;
- leather industries, eg importers, tanners;
- rendering companies, eg glue, gelatine, tallow, bone processing;
- storage and distribution, eg docks, warehousing or transport of any of the above;
- construction workers – from contaminated land or horsehair plaster;
- traditional drum makers – from imported hides;
- postal workers – from deliberate release of anthrax spores; and
- healthcare workers – direct contact with anthrax lesions;

Clinical Information

There are two main forms of anthrax infection: cutaneous (skin); and inhalation.

In cutaneous anthrax, a lesion appears on the skin, which develops into an ulcer with a black centre and infection may lead to headaches, muscle ache and vomiting.

Inhalation anthrax is a more serious, life-threatening form of the disease characterised by flu-like symptoms. If left untreated, breathing difficulties and shock develop within a few days. Inhalation anthrax is usually fatal.

Intestinal anthrax is a very rare form of the disease, which is characterised by diarrhoea and vomiting.

In recent years there have been cases of injection anthrax in heroin users in the UK.

Anyone with these symptoms who may have been at risk from anthrax should seek immediate medical attention, as the disease can be fatal but is often treatable with antibiotics if detected early.

Control

The following control measures reduce the risk of infection:

- Vaccination is available, but is only recommended for those at high risk of contracting the disease, eg workers handling untreated imported hides, hair or wool.
- Disinfection certification is required for formally imported hides and wool from anthrax endemic areas.
- Anyone going into an area where there is a suspected to be a high risk of anthrax spores should wear personal protective equipment including a fit tested respiratory protection and disposable overalls; gloves should be worn if appropriate for the work activity.

- A suitable disinfectant should be used – all instruments, equipment and vehicle wheels should be disinfected.
- Good occupational hygiene practices should be followed, especially washing with warm water and soap.
- Cuts and abrasions should be covered with waterproof plasters.
- Healthcare workers should wear protective clothing including gloves.

Further Information

[Anthrax: safe working and the prevention of infection – HSE books](#)

[HSE anthrax biosafety information](#)

[Public Health England – Anthrax](#)

[Organisation for Animal Health – Anthrax](#)