



Anthrax

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Key facts

- Anthrax is a disease caused by a spore-forming bacterium called *Bacillus anthracis*. Anthrax is present in most parts of the world and their spores are very resistant and can survive in soil for decades, making the control or eradication of the disease very difficult. Outbreaks of the disease may re-emerge when the spores are brought to the surface by flooding, rains, or during deep tilling, and when ingested by animals (especially ruminants).
- The disease causes high mortality, primarily in domestic and wild herbivores as well as most mammals and several bird species.
- In humans, Anthrax is considered a serious zoonotic disease, and it is high on the list of classified biological weapons as related to warfare and bioterrorism (these are disease agents that can be produced and released deliberately to cause disease and death in humans, animals or plants – often during war or conflict situations). Such biological agents like anthrax can pose a difficult public health challenge because they can potentially lead to epidemics in a short time.

Transmission: direct and indirect contact, airborne

- Direct contact with (touching) infected animal products like wool, hair, hides and meat
- Eating (indirect contact) infected animal meat or products
- Breathing in anthrax spores (bacteria in the air), usually from infectious animal products

Most vulnerable to contracting the disease

- People who work closely with animals or animal products (e.g. farmers, veterinarians, employees of slaughterhouses or wool mills, etc.)
- Emergency responders whose response activities might lead to exposure to the disease

Symptoms

- Fever and chills (sometimes)

- Headache (sometimes)
- Muscle aches/body aches (sometimes)
- Nausea and vomiting (sometimes)
- Abdominal pain (sometimes)

Type-specific symptoms

Type	Symptoms
Cutaneous (skin) [the most common]	<ul style="list-style-type: none"> • Small blisters or bumps, may itch and swell • Painless sore or ulcer with a black centre
Inhalation (lungs) [the deadliest form]	<ul style="list-style-type: none"> • Cough and shortness of breath • Chest pain • Severe sweating • Fatigue • Confusion or dizziness
Gastrointestinal (digestive system)	<ul style="list-style-type: none"> • Swelling on/around neck • Sore throat/painful swallowing • Hoarseness of voice • Diarrhoea/vomiting (might contain blood) • Red face and red eyes (flushing) • Fainting/dizziness • Swelling of the abdomen

What can you do to prevent and control an epidemic?

Monitoring the community and identifying sick people and animals

- Detect sick people quickly for referral to health facilities
- Monitor the community for clusters of sick or dead animals
 - Report any clusters to your supervisor, animal health and welfare authorities and/or health authorities
 - Encourage quarantining sick animals from healthy ones
 - Discourage community members from taking sick animals to markets or other places where they may

encounter other animals or humans

- Encourage minimal contact between sick animals and humans
- Limit contact between sick and healthy animals, stop sick animals from reaching market, etc.)

Treatment and management

- Refer suspected human and animal cases for screening and treatment
 - Refer people to health facilities
 - Notify animal health and welfare authorities and professionals (such as veterinarians or para-veterinarians) of suspected cases in animals
- If antibiotic and supportive treatment is available (for animals or people), encourage people to seek and complete treatment as directed by health care providers
- Provide psychosocial support to the sick person and their family members

Safe animal handling

- Safe handling and slaughtering practices including supervision and meat inspection
- People working with animals or animal products should wear protective clothing and equipment and follow recommended hygiene practices
- Follow safe burial practices for animals infected by anthrax
 - With the assistance of your supervisor, obtain animal burial/disposal recommendations (for anthrax) from animal welfare or health authorities

Hand hygiene

- Promote good hand hygiene (handwashing with soap)
 - BEFORE: preparing food; eating; feeding a child; treating wounds or caring for sick people
 - AFTER: using the toilet or cleaning a baby; touching garbage or waste; touching or feeding animals; blowing nose, coughing, or sneezing; treating wounds or caring for sick people

Food and water hygiene and safety

- Cook animal products thoroughly (meat, milk, blood).

Social mobilization and health promotion

- Find out the specific advice being given by health and other relevant authorities
 - Liaise with health professionals in both human and animal health sectors for health advice and promotion messages for best health practices.

- Promote recommended health practices (such as safe animal handling and use of protective clothing and equipment)
- Model following this advice and inform community members of current health practice advice
- Offer support and encouragement to people to help them follow the advice
 - Try to gain understanding about if and why health advice is not being followed
 - With the advice of your supervisor and health authorities, work with communities to overcome barriers to following health advice and recommended practices

Immunization

- Anthrax is a preventable disease by vaccines, therefore, during an anthrax outbreak, support efforts to vaccinate (ring) all animals/livestock at risk (if available)
- Support vaccination campaigns for high-risk individuals (if available)

Mapping and community assessment

- Make a map of the community.
- Mark the following information on the map:
 - How many people have fallen sick with anthrax? Where?
 - How many people have died? Where? When?
 - How many animals have died? Where? When?
 - Who and where are the vulnerable people? (where are farms, slaughterhouses, wool mills, etc?)
 - Where are the handwashing facilities in the community? (are there stations at animal markets and other areas where livestock gather?)
 - Are soap and water always available?
 - Where are the local health facilities and services? (include traditional healers)
- Record the following information on the back of the map:
 - When did people start to fall sick with anthrax?
 - Which type(s) of anthrax is/are infecting people?
 - How many people live in the affected community? How many are children under five years of age? How many people work with livestock regularly?
 - What animals do people commonly keep or farm?
 - Do people cook meat and milk thoroughly before eating it?
 - Do any animal health agencies, veterinarians or agriculture ministry agencies work in the area?
 - What are the community's habits, practices and beliefs about caring for and feeding sick people?
 - What are the community's habits, practices and beliefs about care and slaughter of animals?
 - Are there societal, cultural or religious beliefs or perceptions about the care and slaughter of animals?
 - What are the community's habits, practices and beliefs about sick or dead animals?
 - How do people dispose of animal carcasses (by burning, burying, eating, etc.)?

- Is a social mobilization or health promotion programme in place?
- Which sources do people use/trust the most for information?
 - Are there rumours or misinformation about anthrax? Are there rumours or misinformation about vaccines? What are the rumours?
- What role do women play in livestock management (including caring for animals, gathering animal feed and selling animal products in markets)?

Other resources

[WOAH –World Organisation for Animal Health, Anthrax, 2024](#)

[WHO – World Health Organization; Health Topics, Biological Weapons, 2024](#)

[US-CDC – United States Center for Disease Control; Bioterrorism Agents/Diseases; 2018](#)

[US-CDC – United States Center for Disease Control; About Anthrax; 2024](#)

[US-CDC – United States Center for Disease Control; Anthrax Vaccine; 2024](#)