

Bioterrorism . . .

Facts about the potential threats

The investigative skills, diagnostic techniques and physical resources required to detect and diagnose a “normal” disease outbreak are the same ones required to identify and respond to a silent bioterrorist attack. The key components of success will be the sharing of information among all components of the public health and health care systems to ensure an early diagnosis and a rapid response.



Cutaneous Anthrax

Anthrax

- **What is it?** A disease caused by the spore-forming bacterium *Bacillus anthracis*. The bacteria produces a toxin that can be fatal.
- **How does it spread?** The spores can spread by inhalation (the most fatal form), ingestion or contact with an abrasion on the skin. Anthrax is not contagious.
- **Symptoms:** Usually symptoms appear within seven days. Inhalation anthrax infection can start out like a common cold before acute symptoms such as severe breathing problems and shock. Cutaneous (skin) infection can look like an insect bite at first but within days develops into an ulcer with a characteristic black center. Infection by consuming contaminated food is characterized by inflammation of the intestinal tract, leading to vomiting of blood and severe diarrhea.
- **Treatment and Prevention:** After a confirmed exposure, appropriate antibiotics can prevent infection. Preventive antibiotics without confirmed exposure are not recommended. Inappropriate use of antibiotics can lead to harmful side effects and to the development of antibiotic-resistant strains. Vaccination is not currently recommended for the general public and the vaccine is not available to health care professionals or the general public.
- **Citizens concerned about any medical condition they are experiencing should contact their physician.**



Plague

Plague

- **What is it?** *Yersinia pestis*, the causative agent of plague, is found in rodents and their fleas. It is highly contagious.
- **How is it spread?** The plague bacterium could be disseminated by aerosol, resulting in the pneumonic form with the potential for secondary spread of cases through respiratory droplets of those infected.
- **Symptoms:** Within one to six days after exposure, the first signs of illness are fever, headache and weakness, which can lead to shock and death within two to four days.
- **Treatment:** Antibiotics within 24 hours of first symptoms.
- **Citizens concerned about any medical condition they are experiencing should contact their physician.**



Smallpox

Smallpox

- **What is it?** The variola virus, commonly known as smallpox, was eradicated from the world in 1977, except for stocks of it kept in two World Health Organization reference labs. It is unknown whether it is being held in other labs in violation of WHO policy. Smallpox comes in two forms: variola minor or the more deadly variola major. It is highly contagious.
- **How does it spread?** The smallpox virus is relatively stable and the dose required for infection is small, making it a candidate for aerosol release. It could then be further spread by the saliva droplets of infected people. Highly contagious.
- **Symptoms:** The incubation period is about 12 days following exposure. Symptoms include fever, fatigue and aches, followed by a rash with lesions and can lead to death within the first two weeks of the illness.
- **Treatment:** No proven treatment at this time.
- **Prevention:** In the absence of a confirmed case of smallpox anywhere in the world, there is no need to be vaccinated against smallpox. The U.S. Department of Health and Human Services and state health departments are exploring plans for vaccinating the entire U.S. population in the event of a smallpox outbreak.



Botulism Toxin

Botulism Toxin

- **What is it?** An extremely lethal substance made by the bacterium *Clostridium botulinum*.
- **How does it spread?** Botulism toxin can be inhaled or ingested via contaminated food or water.
- **Symptoms:** Double vision, slurred speech, dry mouth and muscle weakness, which also starts at the top of the body and works its way down. Symptoms begin from six hours up to two weeks after exposure. Death can be caused by paralysis of the breathing muscles within 24 hours.
- **Treatment:** Botulism anti-toxin, supplied by the Centers for Disease Control and Prevention (CDC).
- **Citizens concerned about any medical condition they are experiencing should contact their physician.**



Tularemia

Tularemia

- **What is it?** The causative agent of tularemia is *Francisella tularensis*, considered one of the most infectious pathogenic bacteria known.
- **How does it spread?** Humans can become infected with tularemia through bites by infected arthropods, contact with contaminated water or food, and inhalation of infective aerosols.
- **Symptoms:** Earlier symptoms of infection by aerosol could be similar to those of influenza or atypical pneumonia. The symptoms can occur within a few days or as long as two weeks after exposure. If untreated, the patient experiences progressive weakness and weight loss and can die within two weeks.
- **Treatment:** Antibiotics
- **Prevention:** A vaccine is currently under review by the U.S. Food and Drug Administration

Emergency Response:

JCDHE 24-hr: 303-232-6301

<http://health.jeffco.us>

CDPHE: 303-692-2700

<http://www.cdphe.state.co.us/bt>

CDC 24-hr: 770-488-7100

<http://www.cdc.gov/bt>

Sources: Centers for Defense Information, Centers for Disease Control and Prevention, American Medical Association

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