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The Hazard Evaluation and Emergency Response (HEER) Office is part of the Hawaiʻi Department of Health Environmental Health Administration whose mission is to protect human health and the environment. The HEER Office provides leadership, support, and partnership in preventing, planning for, responding to, and enforcing environmental laws relating to releases or threats of releases of hazardous substances under Hawaiʻi Revised Statute (HRS) 128D, Hawaiʻi Environmental Response Law (HERL). For additional information on HRS 128D please reference:

<https://www.capitol.hawaii.gov/hrscurrent/Vol03_Ch0121-0200D/HRS0128D/HRS_0128D-.htm>

**Anthrax Fact Sheet**

**What is Anthrax?**

Anthrax is a disease caused by the spore-forming bacteria *Bacillus anthracis*. Anthrax can be fully treated by a healthcare provider with appropriate antibiotics, especially if detected early. *B. anthracis* is a naturally occurring bacteria that is present in soil across the world, including the United States. The presence and persistence of *B. anthracis* in soil depends on many factors, such as soil types and weather conditions. Many people associate anthrax with the 2001 bioterrorism event that occurred in the U.S. through the mail. However, the spores used then were weaponized and engineered in a laboratory to have a more concentrated form.

**How do you get Anthrax?**

Humans can get infected with naturally occurring anthrax through the following routes:

1. Direct contact with spores through open cuts and wounds on the skin, while handling infected animal products such as (wool or hides) or *B. anthracis-*containing soil. This is the most common way and is responsible for nearly 95% of anthrax cases.
2. Eating raw or undercooked meat infected with *B. anthracis*, which can affect the upper and lower gastrointestinal tracts (from esophagus to the intestines).
3. Breathing in *B. anthracis* spores from animal products or soil. Disease from breathing in naturally occurring *B. anthracis* spores is very rare.

**Can it be spread from person to person?**

People with suspected illness do not need to be quarantined or isolated. Anthrax does not spread from person to person or between animals. Individuals at the highest risk are those working in close proximity with infected animals or animal products. Individuals not in direct contact or close proximity of infected animals or animal products are considered low risk for infection.

**Has anthrax been found in Hawaiʻi before?**

In 1917, there was an anthrax outbreak amongst livestock (mostly cattle, horses and mules) on Kaua‘i, O‘ahu, and Maui. Some of the impacted animals died from infection, while other livestock suspected to be infected were euthanized. Carcasses were reportedly either burnt or buried within their respective ranches. This outbreak was limited to livestock and no human cases were reported. There have been no human cases of anthrax documented in the state of Hawai‘i, before or after this 1917 outbreak.

**How long can *B. anthracis* survive in the soil?**

*B. anthracis* spores can remain dormant and survive in the soil for multipledecades, but not forever. There are many factors that determine the survival period of the spores such as soil composition, temperature, and moisture.

**Can we test for *B. anthracis* in the environment?**

Although anthrax can be tested in the environment (soil, water, and air), testing has limitations. A laboratory’s ability to detect anthrax varies depending on sampling and testing methods. Uneven distribution of the bacteria in soil means that negative testing cannot provide assurance the organism is not there. Additionally, since *B. anthracis* is a naturally occurring soil bacteria, positive results may not indicate a risk to human health.

Despite these attributes, there is minimal risk to human health associated with naturally occurring *B. anthracis* directly from the environment.

**Are there other states in the U.S. with similar history?**

*B. anthracis* has been detected in nearly every state in the United States, but it is exceedingly rare, and historically it was found due to contaminated soil or infected livestock. Anthrax in animals is common in agricultural regions in Central and South America, Southern and Eastern Europe, Africa, and Asia.

**What are the symptoms of anthrax?**

* Skin - The most common form of anthrax may cause itching and form large sores or boils that develop scabs. If left untreated, the infection can spread to the bloodstream and lymph nodes.
* Gastrointestinal - Symptoms include fever, severe abdominal pain, loose or watery bowel movements, bloody diarrhea, and vomiting with blood.
* Inhalation - A rare form of anthrax which begins with fever, fatigue, malaise, cough, or chest pain. After two to five days, symptoms worsen with high fever, rapid pulse rate, and severe difficulty in breathing.

**How can you protect yourself?**

Most people in the United States are at minimal risk for encountering *B. anthracis*. Primary forms of prevention include avoiding touching or handling potentially infected animals, their carcasses, and products made from these animals. Vaccination against anthrax is limited to persons with frequent or potential high-risk exposure to the bacterium such as laboratory workers and military personnel. If you suspect exposure and are experiencing symptoms, contact your healthcare provider.

For more information on preventing exposure to anthrax please reference [CDC guidelines](https://www.cdc.gov/anthrax/about/index.html) for general exposure.

For more information on workplace exposure, please reference [Occupational Safety and Health Administration (OSHA) guidelines](https://www.osha.gov/anthrax).