



# All About Anthrax

While only a handful of anthrax cases have actually been diagnosed in the past few weeks, the threat of contracting the disease is a source of worry for many. The good news is that you are highly unlikely to get anthrax, but the even better news is that if you are diagnosed with the disease, you have an excellent chance of surviving with little to no residual effects. Still, it is important that Americans recognize what anthrax is and understand the early signs of the disease.

## WHAT IS ANTHRAX?

Anthrax is an infectious disease caused by a rod-shaped bacterium called *Bacillus anthracis*. Anthrax most commonly occurs in wild and domestic cattle, sheep, goats, camels, antelopes and other herbivores. When not infecting a host, anthrax forms into hard-shelled spores that have been known to survive as long as 80 years in the soil.

## WHAT DOES IT LOOK LIKE?

You wouldn't be able to spot anthrax spores with the human eye; but if the spores are mass-produced, then dried and concentrated, anthrax may resemble a fine powder of a white or brown color. Most of the material that has tested positive has been a brownish, grainy substance.

## CAN I CATCH ANTHRAX?

You can contract anthrax if you inhale spores (at least 8,000-10,000) (inhalation anthrax), eat contaminated undercooked meat (ingested anthrax) or come in contact with it through an open wound (cutaneous anthrax).

## IS ANTHRAX CONTAGIOUS?

Almost never person to person. Transmission requires direct contact with the spores.

## WHAT ARE THE DIFFERENT KINDS OF ANTHRAX DISEASE?

**Cutaneous** — More than 95 percent of all anthrax cases are skin infections. It begins as a tiny blister on the skin that increases in size and develops a dark center. Days later, the site of the infection grows to about the size of a dime, and tissue continues to decay. In the next few days, an influx of immune cells and the direct effects of the anthrax toxin cause swelling around the blister. As the infection continues, the toxin diffuses further through the skin, causing more damage. If infection spreads to the blood, death often results. However, more frequently, infection clears up on its own or with antibiotics.

**Ingested** — Intestinal anthrax most often comes from eating contaminated undercooked meat. This form is 25-60 percent lethal. It produces severe food poisoning type symptoms, leading to fever and blood poisoning. Ingested anthrax often respond in varying degrees to antibiotic treatment if given shortly after infection.

**Inhalation** — Pulmonary anthrax is contracted from inhaling thousands of tiny spores. These can germinate in the lungs, spread to chest tissue and produce toxins that enter the bloodstream. This form is usually lethal without quick treatment, but it is also rare since only extremely fine, dry anthrax particles can make it into the lungs.

## IF I RECEIVED A PACKAGE OR LETTER CONTAINING ANTHRAX, HOW WOULD I KNOW?

It would need to be tested, but anthrax would appear as a powder-like form, white or brown in color. If you think a letter contains anthrax, don't panic, stay put and call local emergency services.

## WHAT DO I DO IF I THINK I WAS EXPOSED TO ANTHRAX?

Contact your health care provider. Most health care professionals at local hospitals are able to conduct proper tests to detect *Bacillus anthracis*. If you are worried, it makes sense to see your doctor, but odds are that you have not been exposed. Flu-like symptoms appear in 1-6 days after anthrax is inhaled. These symptoms may even seem to improve in a few days. Then, suddenly, the infected person would experience difficulty breathing, heavy sweating, blue-colored skin and shock. At this point, death can follow in 24-36 hours. Intestinal anthrax causes nausea, loss of appetite, fever, abdominal pain and severe diarrhea. Cutaneous anthrax is easier to spot. At first, it looks like an insect bite, but in 1-2 days the infection becomes a painless ulcer with a black area in the center.

## CAN I GET VACCINATED AGAINST ANTHRAX?

No. The vaccine is now only available to military and laboratory personnel and is not 100 percent effective. It can also have serious side effects. Right now, health experts believe it would be counterproductive to vaccinate the U.S. population.

## WILL THERE BE ENOUGH ANTI-BIOTICS TO TREAT ALL THE CASES?

Bayer A.G., the manufacturer of Cipro®, the best-known drug to treat inhaled anthrax, has stated that it can produce enough of the antibiotic to meet demand. In addition, there are several generic antibiotics, including doxycycline and various penicillins, that are also effective against the disease after an initial treatment with Cipro, according to the CDC.

## SHOULD I TAKE ANTIBIOTICS TO PROTECT MYSELF?

Health experts are advising people not to take antibiotics without an active infection because it only opens the door for bacteria to become resistant, rendering the medications ineffective.

— Compiled by Tom Kerr, consulting editor at ADVANCE.

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*The purpose of this patient education handout is to further explain or remind you about a medical condition. This handout is a general guide only. If you have specific questions, be sure to discuss them with your health care provider. This handout may be reproduced for distribution to patients.*

