

Anthrax Vaccine

What You Need to Know

Many Vaccine Information Statements are available in Spanish and other languages. See www.immunize.org/vis

Hojas de información sobre vacunas están disponibles en español y en muchos otros idiomas. Visite www.immunize.org/vis

1 What is anthrax?

Anthrax is a serious disease that can affect both animals and humans. It is caused by bacteria called *Bacillus anthracis*. People can get anthrax from contact with infected animals, wool, meat, or hides.

Cutaneous anthrax. In its most common form, anthrax is a skin disease that causes skin ulcers and usually fever and fatigue. Up to 20% of these cases are fatal if untreated.

Gastrointestinal anthrax. This form of anthrax can result from eating raw or undercooked infected meat. Symptoms can include fever, nausea, vomiting, sore throat, abdominal pain and swelling, and swollen lymph glands. Gastrointestinal anthrax can lead to blood poisoning, shock, and death.

Inhalation anthrax. This form of anthrax occurs when *B. anthracis* is inhaled, and is very serious. The first symptoms can include a sore throat, mild fever and muscle aches. Within several days these symptoms are followed by severe breathing problems, shock, and often meningitis (inflammation of the brain and spinal cord covering). This form of anthrax requires hospitalization and aggressive treatment with antibiotics. It is often fatal.

2 Anthrax vaccine

Anthrax vaccine protects against anthrax disease.

The vaccine used in the United States does not contain *B. anthracis* cells and it does not cause anthrax. Anthrax vaccine was licensed in 1970.

Based on limited but sound evidence, the vaccine protects against both cutaneous (skin) and inhalation anthrax.

3 Who should get anthrax vaccine and when?

Anthrax vaccine is recommended for certain people 18 through 65 years of age **who might be exposed to large amounts of *B. anthracis* bacteria** on the job, including:

- certain laboratory or remediation workers
- some people handling animals or animal products

- some military personnel, as determined by the Department of Defense

These people should get 5 doses of vaccine (in the muscle): the first dose when risk of a potential exposure is identified, and the remaining doses at 4 weeks and 6, 12, and 18 months after the first dose.

Annual booster doses are recommended for ongoing protection.

If a dose is not given at the scheduled time, the series does not have to be started over. Resume the series as soon as practical.

Anthrax vaccine is also recommended for **unvaccinated people who have been exposed to anthrax** in certain situations. These people should get 3 doses of vaccine (under the skin), with the first dose as soon after exposure as possible, and the 2nd and 3rd doses given 2 and 4 weeks after the first.

4 Some people should not get anthrax vaccine

- Anyone who has had a serious allergic reaction to a previous dose of anthrax vaccine should not get another dose.
- Anyone who has a severe allergy to any vaccine component should not get a dose. Tell your provider if you have any severe allergies, including latex.
- If you have ever had Guillain-Barré syndrome (GBS), your provider might recommend not getting anthrax vaccine.
- If you have a moderate or severe illness your provider might ask you to wait until you recover to get the vaccine. People with mild illness can usually be vaccinated.
- Vaccination may be recommended for pregnant women who have been exposed to anthrax and are at risk of developing inhalation disease. *Nursing mothers may safely be given anthrax vaccine.*



5**What are the risks from anthrax vaccine?**

Like any medicine, a vaccine could cause a serious problem, such as a severe allergic reaction.

Anthrax is a very serious disease, and the risk of serious harm from the vaccine is extremely small.

Mild problems

- Reactions on the arm where the shot was given:
 - Tenderness (about 1 person out of 2)
 - Redness (about 1 out of 7 men and 1 out of 3 women)
 - Itching (about 1 out of 50 men and 1 out of 20 women)
 - Lump (about 1 out of 60 men and 1 out of 16 women)
 - Bruise (about 1 out of 25 men and 1 out of 22 women)
- Muscle aches or temporary limitation of arm movement (about 1 out of 14 men and 1 out of 10 women).
- Headaches (about 1 out of 25 men and 1 out of 12 women).
- Fatigue (about 1 out of 15 men, about 1 out of 8 women).

Severe problems

Serious allergic reaction (very rare—less than once in 100,000 doses).

As with any vaccine, other severe problems have been reported. But these don't appear to occur any more often among anthrax vaccine recipients than among unvaccinated people.

There is no evidence that anthrax vaccine causes long-term health problems.

Independent civilian committees have not found anthrax vaccination to be a factor in unexplained illnesses among Gulf War veterans.

6**What if there is a serious reaction?****What should I look for?**

- Look for anything that concerns you, such as signs of a severe allergic reaction, very high fever, or behavior changes.

Signs of a severe allergic reaction can include hives, swelling of the face and throat, difficulty breathing, a fast heartbeat, dizziness, and weakness. These would start a few minutes to a few hours after the vaccination.

What should I do?

- If you think it is a severe allergic reaction or other emergency that can't wait, call 9-1-1 or get the person to the nearest hospital. Otherwise, call your doctor.
- Afterward, the reaction should be reported to the Vaccine Adverse Event Reporting System (VAERS). Your doctor might file this report, or you can do it yourself through the VAERS web site at www.vaers.hhs.gov, or by calling **1-800-822-7967**.

VAERS is only for reporting reactions. They do not give medical advice.

7**Injury compensation**

A Federal program, the Countermeasures Injury Compensation Program, has been created under the PREP Act to help pay for medical care and other specific expenses of certain individuals who have a serious reaction to this vaccine.

If you have a reaction to the vaccine your ability to sue may be limited by law. For more information, visit the program's website at www.hrsa.gov/countermeasurescomp, or call **1-888-275-4772**.

8**How can I learn more?**

- Ask your doctor.
- Contact the Centers for Disease Control and Prevention (CDC):
 - Call **1-800-232-4636 (1-800-CDC-INFO)**
 - Visit the CDC's website at <http://emergency.cdc.gov/agent/anthrax/>
- Contact the U.S. Department of Defense (DoD):
 - Call **1-877-438-8222**
 - Visit the DoD website at www.anthrax.osd.mil

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