

Rabies 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 rabies?

Rabies is a serious disease. It is caused by a virus.

Rabies is mainly a disease of animals. Humans get rabies when they are bitten by infected animals.

At first there might not be any symptoms. But weeks, or even months after a bite, rabies can cause pain, fatigue, headaches, fever, and irritability. These are followed by seizures, hallucinations, and paralysis. Human rabies is almost always fatal.

Wild animals—especially bats—are the most common source of human rabies infection in the United States.



Skunks, raccoons, dogs, cats, coyotes, foxes and other mammals can also transmit the disease.

Human rabies is rare in the United States.

There have been only 55 cases diagnosed since 1990.

However, between 16,000 and 39,000 people are vaccinated each year as a precaution after animal bites. Also, rabies is far more common in other parts of the world, with about 40,000–70,000 rabies-related deaths worldwide each year. Bites from unvaccinated dogs cause most of these cases.

Rabies vaccine can prevent rabies.

2 Rabies vaccine

Rabies vaccine is given to people at high risk of rabies to protect them if they are exposed. It can also prevent the disease if it is given to a person after they have been exposed.

Rabies vaccine is made from killed rabies virus. It cannot cause rabies.

3 Who should get rabies vaccine and when?

Preventive vaccination (no exposure)

- People at high risk of exposure to rabies, such as veterinarians, animal handlers, rabies laboratory workers, spelunkers, and rabies biologics production workers should be offered rabies vaccine.
- The vaccine should also be considered for:
 - People whose activities bring them into frequent contact with rabies virus or with possibly rabid animals.
 - International travelers who are likely to come in contact with animals in parts of the world where rabies is common.

The pre-exposure schedule for rabies vaccination is **3 doses**, given at the following times:

Dose 1:	As appropriate
Dose 2:	7 days after Dose 1
Dose 3:	21 days or 28 days after Dose 1

For laboratory workers and others who may be repeatedly exposed to rabies virus, periodic testing for immunity is recommended, and booster doses should be given as needed. (Testing or booster doses are not recommended for travelers.) Ask your doctor for details.

Vaccination after an exposure

Anyone who has been bitten by an animal, or who otherwise may have been exposed to rabies, should clean the wound and see a doctor immediately. The doctor will determine if they need to be vaccinated.

A person who is exposed and has never been vaccinated against rabies should get **4 doses** of rabies vaccine—one dose right away, and additional doses on the 3rd, 7th, and 14th days. They should also get another shot called Rabies Immune Globulin at the same time as the first dose.

A person who has been previously vaccinated should get **2 doses** of rabies vaccine—one right away and another on the 3rd day. Rabies Immune Globulin is not needed.



4 Tell your doctor if...

Talk with a doctor before getting rabies vaccine if you:

1. ever had a serious (life-threatening) allergic reaction to a previous dose of rabies vaccine, or to any component of the vaccine; tell your doctor if you have any severe allergies,
2. have a weakened immune system because of:
 - HIV/AIDS or another disease that affects the immune system,
 - treatment with drugs that affect the immune system, such as steroids,
 - cancer, or cancer treatment with radiation or drugs.

If you have a minor illness, such as a cold, you can be vaccinated. If you are moderately or severely ill, you should probably wait until you recover before getting a routine (non-exposure) dose of rabies vaccine.

If you have been exposed to rabies virus, you should get the vaccine regardless of any other illnesses you may have.

5 What are the risks from rabies vaccine?

A vaccine, like any medicine, is capable of causing serious problems, such as severe allergic reactions. The risk of a vaccine causing serious harm, or death, is extremely small. Serious problems from rabies vaccine are very rare.

Mild problems

- soreness, redness, swelling, or itching where the shot was given (30%–74%)
- headache, nausea, abdominal pain, muscle aches, dizziness (5%–40%)

Moderate problems

- hives, pain in the joints, fever (about 6% of booster doses)

Other nervous system disorders, such as Guillain-Barré syndrome (GBS), have been reported after rabies vaccine, but this happens so rarely that it is not known whether they are related to the vaccine.

NOTE: Several brands of rabies vaccine are available in the United States, and reactions may vary between brands. Your provider can give you more information about a particular brand.

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 How can I learn more?

- Ask your doctor.
- Call your local or state health department.
- Contact the Centers for Disease Control and Prevention (CDC):
 - Visit CDC's rabies website at www.cdc.gov/rabies/

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