

QUESTIONS & ANSWERS

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The Children's Hospital of Philadelphia®



VACCINE EDUCATION CENTER

Rabies: What You Should Know

What is rabies?

Rabies is a virus that spreads from an infected animal to another animal or to a person. Most people are infected after being bitten, but on rare occasions infection can follow a scratch, inhalation or transplant of infected tissues.

What animals transmit rabies?

In the United States since 1960, most cases of rabies in animals have been in those that live in the wild. Most cases of rabies in people occur following bites by rabid wildlife, especially bats. Other animals that transmit rabies in the U.S. include wolves, foxes, coyotes, jackals, raccoons, ferrets and skunks. In developing countries, the major source of rabies infections is dogs.

What are the symptoms of rabies?

The virus is transmitted by the bite of an animal that is already showing symptoms of the disease. Because rabies infections have a long incubation period, the best chance for rapid diagnosis is to test the animal that bit the person. The incubation period (the time from bite to symptoms) in people is about two months, on average. Early symptoms include achiness, lack of appetite, tiredness, headache and fever. After two to 10 days, central nervous system symptoms such as hyperactivity, disorientation, hallucinations, seizures, paralysis, and coma begin and in virtually all cases are followed by death. Once symptoms appear, the disease is invariably fatal.



Is there a vaccine to prevent rabies?

Yes. Two rabies vaccines are currently available in the United States. Both vaccines are used according to the same schedule and are most often given after exposure. Because of the long incubation period, vaccination can protect against disease even after exposure to the virus. In this way, rabies vaccination is different from most other vaccines, which need to be given before exposure. However, because the disease is often fatal, it is imperative to begin the vaccine series as soon as possible after exposure.

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Information provided by the Vaccine Education Center at The Children's Hospital of Philadelphia

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Who should get the rabies vaccine?

Most people recommended to get rabies vaccine are those who have been exposed to rabies virus. Even before vaccination, individuals should thoroughly cleanse the wound and may also be advised to get rabies immune globulin. Vaccine recommendations depend upon whether or not the person was previously vaccinated.

- Not previously vaccinated against rabies — Four doses of rabies vaccine should be administered intramuscularly. The first dose should be administered as soon as possible after exposure (day 0). Additional doses should then be administered on days 3, 7 and 14 after the first vaccination. A fifth dose is recommended on day 28 for individuals with an altered immune system.
- Previously vaccinated against rabies — Two doses of vaccine should be administered intramuscularly. The first dose should be given as soon as possible after exposure (day 0) and the second, three days later.

In the absence of an exposure, rabies vaccine is recommended for high-risk groups, including veterinarians and their staff, animal handlers, spelunkers, and laboratory workers who may come in contact with rabies. These people should get three doses with the second dose given seven days after the first and the third dose given 21 or 28 days after the first dose.



Is the rabies vaccine safe?

Yes. Individuals may experience a sore arm, headache, tiredness or nausea. Up to one in 10,000 people may experience a severe allergic reaction characterized by swelling of the mouth, difficulty breathing, low blood pressure or shock. This reaction typically occurs within 15 minutes of receiving the vaccine, so it is appropriate to stay at the doctor's office for about 15 to 30 minutes after getting vaccinated.

Do the benefits of the rabies vaccine outweigh the risks?

Yes. Because almost everyone with rabies will die without treatment, the benefits of this vaccine clearly outweigh the risks for people who have been exposed or who are at high risk for exposure.