



WHAT IS RABIES?

Rabies is an acute viral disease that can be transmitted to humans by contact with the saliva of an infected animal. Human clinical rabies has a variable incubation period followed by a neurological illness that can lead to death.

HOW IS RABIES TRANSMITTED?

- By the bite of an infected animal. (It should be noted that petting a rabid animal or contact with its blood, urine, or feces is not an exposure and does not require preventive measures.)
- By a scratch, abrasion, mucous membranes or open wound coming in contact with infectious material (i.e., saliva or neural tissue of a rabid animal.)
- By the airborne route. (There are a few documented cases of rabies being contracted in caves where bats reside and in laboratories that work with the virus.)
- By human-to-human contact (e.g., a corneal transplant from an unknown infected individual).

WHICH ANIMALS TRANSMIT RABIES?

In the U.S., (except Hawaii, which is rabies-free) consider the following as suspect: dogs, cats, ferrets, skunks, raccoons, foxes, most other carnivores and bats. Occasionally livestock and rodents such as woodchucks and beavers may be suspect; consult with local public health officials. Bites of squirrels, hamsters, guinea pigs, gerbils, chipmunks, rats and mice almost never require anti-rabies post-exposure treatment.

RABIES VACCINE

There are three vaccines available to protect individuals against rabies, all considered equally safe and effective. The difference is in the virus strains and cell cultures used to prepare them.

Purified Chick Embryo Cell Culture Vaccine (PCEC or RabAvert™) is given intramuscularly (IM) and may be used as a booster dose regardless of which vaccine was used in the initial series. Traces of antibiotics (neomycin, chlortetracycline, amphotericin B) used in the manufacturing process may be present in the final reconstituted vaccine. Minimal amounts of chicken protein (due to being cultured in chicken embryo cell cultures) may be present in the final product. Bovine components originate only from source countries known to be free of bovine spongiform encephalopathy. There is no thimerosal or preservatives in the final product. Those with allergies to chicken, eggs or any of the other components listed should be vaccinated with one of the other products.

Human Diploid Cell Vaccine The vaccine is harvested from infected human diploid cells. Pre-exposure series can be given either intradermally (ID) or intramuscularly, but the post-exposure series must be given IM.

Rabies Vaccine Adsorbed (RVA) is prepared in chemically defined cultures free of serum and antibiotics. It is grown in fetal rhesus lung diploid cell culture.

WHO SHOULD BE VACCINATED?

Pre-exposure vaccine should be given to high-risk groups so that these individuals do have some protection if they come in contact with an infected animal. This group includes:

- Veterinarians (a large animal practice probably has more risk than a small animal clinic)
- Animal handlers
- Lab workers who perform rabies diagnostic testing
- Persons living in countries where rabies is a threat
- Travelers who will be working in endemic areas
- Persons who work with or around potentially rabid animals - such as zoo keepers, trappers and wildlife officers
- Spelunkers (due to possible airborne exposure)

There are three doses of pre-exposure vaccine given on Day 0, Day 7, and Day 21 or 28. The administration of the inactivated rabies vaccine stimulates rapid production of specific antibodies. In pre-exposure trials involving more than 2,000 volunteers, at least 99% of the recipients developed antibodies after three injections over a four-week period. Serological testing (titers of the antibodies in the blood that can fight rabies virus), may be performed three weeks after the pre-exposure series or after a primary post-exposure series to ensure that antibodies to rabies have been acquired.

WHEN SHOULD A BOOSTER DOSE BE TAKEN?

Booster doses of vaccine are recommended every two years for those individuals who continue to be at increased risk of contracting rabies and whose rabies antibody titer is less than 1:5. Repeat booster doses increase the risk of allergic reaction to rabies vaccine by 6%. Therefore, a titer is recommended prior to receiving a booster dose of rabies vaccine. If the titer is 1:5 or greater, a booster dose is not indicated. A titer should be repeated again in two years. There is a charge, subject to change, for titers at McKinley Health Center. Also, contact your physician for post-exposure treatment if there has been exposure to rabies, as further vaccination will be recommended.

WHAT IF I'M EXPOSED AND HAVE NOT BEEN VACCINATED?

First of all, any animal bite or scratch should be washed immediately with soap and water. Then a physician should continue wound treatment and evaluate the possible exposure to rabies to determine a course of action. Consultation with local or state public health officials may be necessary. Consideration will be given based on the type of animal, its availability and the type of exposure. If post-exposure treatment is needed then one dose of rabies immune globulin and five spaced doses of vaccine will be given regardless of the time interval from exposure to treatment.

WHO SHOULD NOT TAKE THE VACCINE WITHOUT CHECKING WITH THEIR PHYSICIAN

You should avoid the vaccine if you have any of the following conditions:

- Febrile illness (fever of over 100° F)
- Pregnancy - If there is a substantial risk of exposure to rabies, administration of the pre-exposure vaccine series may also be indicated during pregnancy
- Egg or chicken allergy would only exclude using PCEC vaccine

POSSIBLE SIDE EFFECTS TO THE VACCINE

The most common side effects are pain, redness, swelling and/or itching at the injection site. Some individuals complain of low-grade fever, headaches, dizziness, nausea, abdominal pain and muscle aches after receiving the vaccine. Side effects usually subside within 1-3 days and can be managed with the use of anti-inflammatory and fever reducing drugs. Report any side effects that continue beyond one day aside from local reactions (unless severe). In extremely rare cases, severe allergic reactions have occurred. Although use of repeated booster doses of vaccine has been linked to allergic reactions, these reactions are usually mild (i.e., hives, itching, swelling under the skin) and usually occur within 14 days of receiving the vaccine.

If you have any questions or need to report any type of reaction you may have, before you receive your next dose, please call the Immunization and Travel Clinic at 333-2702.

If you are a registered University of Illinois student and you have questions or concerns, or need to make an appointment, please call: **Dial-A-Nurse at 333-2700**

If you are concerned about any difference in your treatment plan and the information in this handout, you are advised to contact your health care provider.

Visit the McKinley Health Center Web site at: <http://www.mckinley.uiuc.edu>