

Rabies Facts

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What is rabies?

Rabies is an invariably fatal, acute viral encephalomyelitis (inflammation of the brain and spinal cord) caused by infection with rabies virus, a rhabdovirus of the genus *Lyssavirus*. Rabies is a disease primarily of animals.

How is rabies transmitted?

Virus-laden saliva of a rabid animal may be introduced by a bite or scratch (or, very rarely, through intact mucous membranes). Airborne spread has been demonstrated in a cave where a myriad of bats were roosting, and in laboratory settings, but this occurs very rarely. Animals can be infectious for several days before exhibiting signs of the disease.

What are the symptoms of rabies?

In humans, onset of disease is characterized by apprehension, headache, low-grade fever, malaise and vague sensory changes. Discomfort and irritation may be experienced in the area of the animal bite. Excitability and fear of fresh air (aerophobia) are frequent symptoms. Weakness or paralysis follows, and spasms of swallowing muscles leads to fear of water (hydrophobia). Delirium and convulsions usually precede death from respiratory failure. Without medical intervention, the normal duration is 2 to 6 days, sometimes longer.

The incubation period (time from exposure to onset of symptoms) is usually 3 to 8 weeks, rarely as short as 9 days or as long as 7 years. This variability depends on the severity of the wound inflicted by the rabid animal, the site of the wound in relation to the richness of the nerve supply and its distance from the brain, the amount and strain of virus introduced, the protection provided by clothing, and other factors.

How common is rabies?

In 2001, 49 states, the District of Columbia, and Puerto Rico reported 7,437 cases of rabies in animals and no cases in humans to CDC (Hawaii is the only state that has never reported an indigenously acquired rabies case in humans or animals). In this century, the number of human deaths in the United States attributed to rabies has declined from 100 or more each year to an average of 1 or 2 each year.

Wild animals accounted for 93% of reported cases of rabies in 2001. Raccoons continued to be the most frequently reported rabid wildlife species (37.2% of all animal cases during 2001), followed by skunks (30.7%), bats (17.2%), foxes (5.9%), and other wild animals, including rodents and lagomorphs (0.7%).

How can I protect myself against rabies?

To prevent exposure to rabies, avoid contact with any wild animal, particularly sick or dead ones. Signs that an animal (wild or domestic) may be rabid include nervousness, uncharacteristic aggressiveness, or other disposition change, excessive drooling and foaming at the mouth, or abnormal behavior (e.g., wild animals losing their fear of humans or venturing out in the daytime, if they are nocturnal).

Immunization against rabies: Individuals who may handle wild or domestic animals should receive pre-exposure immunization. The vaccine is given in three intramuscular or intradermal doses on days 0, 7 and 21 or 28. Antibody titer testing is done 3 weeks after the pre-exposure series. Antibody titer testing is also recommended once every 2 years if risk of exposure continues. A vaccine booster dose may be needed if the titer is less than 1:5.

Immunization side effects: Immunization with current rabies vaccines carries a very small risk of post-immunization encephalitis. Local reactions, such as pain, redness, swelling or itching at the injection site were reported in 25% of those receiving five (post-exposure) doses. Mild systemic reactions of headache, nausea, muscle aches, abdominal pain and dizziness were reported in about 20%. "Serum sickness-like" reactions, including rashes with generalized itching and wheezing, were reported infrequently.

Among those receiving booster doses for pre-exposure prophylaxis, hypersensitivity reactions occur in approximately 6% of recipients 2 to 21 days after immunization, presenting as a rash, joint pain, arthritis, swelling, nausea, vomiting, fever, and/or general achiness. Persons exposed to rabies who develop these symptoms should complete the required number of injections but in a setting where reactions can be monitored and treated, if necessary. No significant reactions have been attributed to antiserum used in post-exposure treatment. These risks must be weighed against the risk of contracting rabies.

What should I do if I am exposed to rabies?

If you sustain an injury, you must report it to your supervisor and complete appropriate injury/illness reports. Bites or scratches from wild carnivorous mammals and bats are considered potential rabies exposures unless negated by laboratory results. If you are injured by one of these animals or by one with unknown rabies status, immediate and thorough cleansing

Preventing Rabies, continued

of the wound is essential. Flush with a strong stream of water and wash with a detergent, then apply a disinfectant, such as alcohol, tincture of iodine or quaternary ammonium compounds. Then, **SEEK MEDICAL CARE IMMEDIATELY**. Under professional medical care, the area around the wound may be infiltrated with antiserum and the wound left open for drainage. A health-care professional will evaluate your rabies immunization status and determine what types of post-exposure treatment to provide.

What are university requirements regarding rabies?

Animal users in high-risk categories and/or those with a potential for exposure to rabies are required to read this information sheet and be offered, *at no cost*, the rabies immunizations, if appropriate. **The Unit Head or Principal Investigator will incur the costs for any necessary immunizations.**

Who should be offered the rabies immunizations: Animal users in high-risk categories such as veterinarians, personnel who work with or provide care to inadequately characterized animals and personnel who work with wild mammals should be offered, at no charge to themselves, the opportunity to receive the rabies immunizations. Additionally, persons working with dogs, cats, ferrets NOT bred for research; wild mammals; non-human primates; quarantined animals potentially infected with rabies; potentially infected animal body organs or persons performing post mortem examinations on selected animals with a history of poorly developed neurological disorder should also be offered the immunizations.

Receiving the rabies immunizations: Contact McKinley Health Center, Immunization and Travel Clinic at 333-2702 for schedule, cost, and other information about receiving the immunization.