

Rabies

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Rabies is an infectious viral disease that affects the central nervous system, causing encephalopathy and, ultimately, death. The majority of rabies cases in the United States occur in wild animals like raccoons, skunks, bats, and foxes. Although domestic animals account for less than 10 percent of reported cases annually, most human exposures occur as a result of exposure to domesticated animals.

Rabies virus is almost exclusively transmitted through the bite of an infected animal. For an exposure to occur, rabies virus from infected saliva must enter through an open cut, wound, scratch, or mucous membrane. Simply being in the same area or petting an animal that is infected with the rabies virus is not considered an exposure.

Rabies virus does not survive for long periods in the environment and is easily destroyed by soap and water or common household disinfectants. Once saliva is dried, it is no longer considered infectious. The virus also is readily destroyed by bleach, ultraviolet light, and/or heat. Live rabies virus will not survive for more than 24 hours in dead animals when temperatures reach 70°F. However, the virus will survive for extended periods at low or freezing temperatures.

Although human rabies deaths are rare, it is estimated that at least 40,000 people in the United States receive post exposure prophylaxis annually. A course of rabies postexposure vaccination includes administration of Rabies Immune Globulin and five doses of vaccine which cost over \$1000. Public health costs associated with rabies prevention and control now exceed \$300 million annually.

Symptoms

There are two forms of clinical rabies: "Furious Rabies" and "Paralytic or Dumb Rabies." Most people envision the furious form of rabies, the symptoms of which include: vicious unprovoked attacks using teeth and claws, hypersalivation, roaming long distances, noticeable voice change, and unusual sexual activity. Paralytic rabies, as the name implies, includes ascending paralysis normally beginning in the hind limbs. The animal also may have a drooping jaw and an extended tongue with hypersalivation. An animal may have one or more of the clinical signs listed above. If the animal is not euthanized, the disease will progress to paralysis and death.

Clinical rabies in an animal usually begins with a distinct and noticeable change in temperament. Cats and horses usually exhibit furious rabies, whereas dogs and cattle usually develop the paralytic form of the disease. Wild animals may become disoriented, confused and lose all fear of humans.

In the Midwest, rabies is endemic in the skunk population. Rabid skunks can shed virus in their saliva for several days before they exhibit typical clinical signs of rabies. Rabid skunks may change their normal noctur-



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nal behavior and may become active in the daytime. They also may exhibit signs of aggression, confusion, and/or paralysis. Skunks infected with rabies may or may not spray a human or another animal. The spray from a skunk is not infected with rabies virus and does not constitute an exposure.

Prevention

There is no cure for rabies after symptoms of the disease occur, making prevention and control extremely important. Because most human exposures occur through contact with infected domestic animals, we can break this link by keeping our pets current on their rabies vaccination. Acting as a responsible pet owner can help prevent the spread of rabies.

A responsible pet owner should:

- Keep vaccinations current for all animals. Most rabies vaccines are licensed to be administered at 3 months of age. In 1999, a new vaccine was licensed for use in 8-week-old cats and dogs. A booster is given one year after the primo vaccination, and then the animal is vaccinated according to whether the vaccine was a one- or a three-year vaccine.

Note: Rabies vaccine must be administered under the supervision of a licensed veterinarian. If a pet is vaccinated by a private individual and the pet exposes someone, the pet will be considered unvaccinated and may have to be destroyed or subjected to a lengthy quarantine.

- Keep pets under direct supervision if they are in an area where they may come into contact with wild ani-

mals. If your pet is bitten by a wild animal, seek veterinary assistance immediately.

- Report stray animals to your local animal control agency because the animals' disease status is unknown.
- Spay or neuter your pets to reduce the number of unwanted animals that may not be properly cared for or routinely vaccinated.

The United States Center for Disease Control recommends avoiding contact with unfamiliar animals and offers these tips:

- Enjoy wild animals from afar. Do not handle, feed, or unintentionally attract wild animals with open garbage cans or litter.

- Never adopt wild animals or bring them into your home. Do not try to nurse sick animals to health. Call animal control or a reliable animal rescue agency for assistance.

- Teach children never to handle unfamiliar animals, wild or domestic, even if they appear friendly.

- Prevent bats from entering living quarters or occupied spaces in homes, schools, churches, and other similar areas. If a bat is found in a room with a sleeping or incapacitated person and exposure **cannot** be ruled out, the bat should be tested for the presence of rabies infection immediately. If the bat is positive for rabies or unavailable for testing, the exposed person should receive postexposure treatment immediately.

- When traveling abroad, avoid direct contact with wild animals and be especially careful around dogs in developing countries. Canine rabies is common in develop-

ing countries such as Asia, Africa, and Latin America and cause thousands of human rabies deaths every year.

Treatment

Appropriate postexposure treatment of individuals exposed to rabies will prevent the disease from occurring. Rabies treatment for a human who has never received rabies vaccination consists of a series of five injections of rabies vaccine in the upper arm one each on days 0, 3, 7, 14, and 28. Rabies Immune Globulin (RIG) is also administered at the time of the first injection. If the individual has received rabies vaccination in the past, he/she should receive a series of two boosters in the upper arm. One on day 0 and the other on day 3. In this case RIG is **not** administered.

Scenarios and Course of Action

If a person is bitten or scratched by a bat or wild animal known to be involved in transmitting rabies he/she should immediately wash the wound with soap and water. If the animal is available for testing, it should be humanely destroyed and submitted to a diagnostic laboratory for rabies testing and examination. This can be accomplished through a local veterinarian, animal control office, or health department. If the animal is unavailable for testing, rabies treatment should be initiated as soon as possible.

If an individual is involved in an unprovoked attack by a dog or cat that has not been vaccinated or is not current on its vaccination, the animal should be humanely de-

stroyed and submitted for laboratory examination. If the animal cannot be located, it should be assumed rabid and treatment should be initiated as soon as possible.

If a person is bitten by a dog or cat that is current on its vaccination, the local health officer may choose to confine and observe the animal for 10 days. If the animal sickens or dies within the 10-day period, it should be submitted for rabies testing.

If a vaccinated dog or cat is bitten by or exposed to a rabid animal, it should be revaccinated immediately and

observed for 45 days. If the dog or cat is unvaccinated or not current on its vaccination, it should be humanely destroyed. If the owner chooses not to have the animal destroyed, it must be quarantined for six months and revaccinated one month before its release. The local health officer must specify the quarantine facilities.

Livestock exposed to rabid animals should be slaughtered within seven days or quarantined for six months. Livestock are considered to be “dead end hosts” and it may not be necessary to quarantine the entire herd.

In the case of any exposure or potential exposure contact your physician or public health office immediately.


Additional Information:

[Http://www.vet.ksu.edu/depts/rabies/index.htm](http://www.vet.ksu.edu/depts/rabies/index.htm)

[Http://www.cdc.gov/ncdod/dvrd/rabies/](http://www.cdc.gov/ncdod/dvrd/rabies/)

<http://www.avma.org/pubhlth/default.htm#rab>





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Kansas State University Agricultural Experiment Station and Cooperative Extension Service

MF-962

January 2000

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