

Rabies Fact Sheet

What is Rabies?

Rabies is an ancient disease. It is well described in writings by Egyptians dating back to 2300 B.C. Rabies disease is caused by a virus that is present predominately in the saliva of rabid animals. The virus is transmitted by the bite of an infected animal. Rabies virus causes an inflammation of the brain, and is almost always fatal once symptoms develop. In wild and domestic animals, rabies virus may affect the part of the brain which regulates aggression, causing the animal to attack without fear or provocation. The rabies virus may also cause other changes in animal behavior. Wild animals that are normally out only at night may be seen during the day, approaching humans and domestic pets that they ordinarily would avoid.

What is the history of rabies in New Jersey?

In the earlier part of this century, New Jersey had a large problem with rabies in dogs. In 1939, the worst year for dog rabies, 675 dogs and four humans died of rabies. In 1942, a rabies program consisting of mass vaccination of dogs, and pick-up of stray animals was initiated. As a result of these efforts, New Jersey experienced its last case of canine rabies in 1956. In 1960, the first case of rabies in bats was detected in New Jersey. Presently, 2% to 5% of all New Jersey bats submitted to the state laboratory for testing are positive for rabies.

In 1997, a New Jersey man was diagnosed with rabies. He had removed bats from his house and may have been bitten by a bat in the process. This was the first human case of rabies since 1971, when a man was bitten by a bat and received partial treatment with the previously used rabies vaccine. The current vaccine, unlike the previous vaccine, has never failed when administered properly.

New Jersey is facing another challenge from rabies. Raccoon rabies has spread throughout the state.

How did the outbreak of rabies in raccoons get started in this part of the country?

In 1977, rabid raccoons were first detected in West Virginia. It is believed that rabies was present in raccoons imported from Florida into West Virginia by hunters in the 1970's. The disease then spread to other raccoons after they were released. Once raccoon rabies was established in West Virginia and Virginia, it spread at a rate of approximately 25 to 50 miles per year into Maryland, Washington, D.C., Delaware, and Pennsylvania. This rabies epizootic spread into New Jersey through Warren and Hunterdon counties in October 1989. The raccoon rabies epizootic now extends throughout New England and as

far west as Ohio, and south into North Carolina. (Note: an epizootic is a term used to denote an epidemic of disease in an animal population).

What areas of New Jersey are affected the most?

All areas of the State of New Jersey, including urban centers, have been affected by this rabies outbreak. Suburban areas in which raccoons, people and pets are in close proximity have had the highest number of cases.

How can I protect myself from being exposed to rabies?

Wild animals, particularly raccoons, foxes, skunks, groundhogs and bats, are most likely to be infected with rabies. Although raccoons are the most frequently infected animals in the current rabies outbreak, other animals are often bitten and infected by raccoons. Wild animals with rabies do not always display signs of illness and can be perfectly healthy in appearance. Avoid all contact with bats, particularly sick or downed ones. All bites and scratches from these animals should be washed out immediately and receive prompt medical attention. If possible, wild animals that have been exposed to humans or domestic animals should be captured and tested for rabies.

How do I "animal-proof" my house and yard?

Make sure that all garbage is stored in animal resistant containers, as raccoons and other wild animals love to feast on your leftovers. Do not leave leftover pet food outdoors as it will attract raccoons. Make sure outbuildings are secure from invasion by raccoons and skunks looking for a cozy place to stay. Chimneys should be capped, as raccoons like to den in chimneys.

Steps should be taken to exclude bats from houses and other structures by sealing the openings they use. This should be done during the winter (November-March) when bats have left for hibernation. The entry points are often near the roof edge such as under the eaves, soffits, and bands around the chimney. A variety of materials can be used to seal openings including 1/4 inch hardware cloth, fly screening, sheet metal, wood caulking, expandable polyurethane, or fiberglass insulation.

Do I still need to vaccinate my cats and dogs against rabies?

Yes, unvaccinated domestic animals can contract rabies from wild animals and transmit the infection to humans. There are safe and effective vaccines to protect dogs, cats, horses, cattle, and sheep against rabies. You can get your pet vaccinated at a private veterinarian's office or at a municipal-sponsored rabies clinic (call your municipal clerk to ask about rabies clinics held in your area). Unvaccinated pets or livestock that have had contact with a known or suspect rabid animal must be euthanized to avoid the risk of coming down with rabies, or placed in strict isolation from humans and other animals for a period of six months, until it is certain that the animal is free of rabies.

Why recommend that domestic animals get vaccinated if raccoons are the animals spreading rabies?

Raccoons are very good at spreading rabies. When rabid raccoons enter an area, many other types of animals acquire rabies from raccoons. From 1989 through 2000, over 4,300 New Jersey animals were found to have rabies as a result of the raccoon rabies epizootic. Although 77% of these animals were raccoons, 14% were skunks, 4% were cats, 2% were foxes, and 2% were groundhogs. Twelve other species of animals were also diagnosed with rabies.

Can raccoons be vaccinated against rabies?

An oral rabies vaccine for raccoons in a fish-flavored bait, called V-RG, has been tested in southern New Jersey and shown to be effective. This vaccine has recently been approved for general use by the United States Department of Agriculture and could be used by municipalities to reduce or control the spread of rabies in raccoon populations. However, state review and approval is needed to purchase this vaccine and its use would not replace traditional rabies control measures, such as domestic animal vaccination and animal control activities.

What should I do if I'm bitten or attacked by an animal?

- a. Learn as much as you can about the animal. If the animal is with an owner, get the owner's name and address. If it is a wild or stray animal, look to see if there are any features that will allow you to identify it later on. If it is possible to do without endangering yourself, capture the animal and confine it; or call your local animal control officer.
- b. Wash the wound immediately with plenty of water and soap.
- c. Contact your physician, H.M.O., or local emergency room for wound care and consultation regarding the need for rabies preventive treatment.
- d. Report the incident to your local health department.

Why does my dog or cat need to be observed if it bites someone?

If a dog or cat bites a human, the animal must be observed for ten days to see if symptoms of rabies develop. This is necessary even if it has been vaccinated, as very rarely, vaccination fails to protect an animal and it develops rabies disease. At the longest, a dog or cat can have rabies virus in its saliva for only 2-3 days before it develops rabies symptoms. Therefore we know that if a dog or cat remains healthy for at least 10 days after it bites someone, it could not have had the rabies virus in its saliva at the time of the bite. If an animal does not have virus in its saliva, it cannot transmit the disease through a bite.

If my ferret bites someone can my ferret be observed for 10 days?

Yes - The Centers for Disease Control and Prevention has been conducting studies on the viral shedding period of ferrets infected with different strains of rabies virus. Results of these studies have shown that the viral shedding time for ferrets is very short, similar to that of dogs and cats. In light of this data, the New Jersey Department of Health and Senior Services recommends that a 10-day observation period be utilized in the event a ferret bites a person. However, because of their propensity to bite, the Department discourages the keeping of ferrets as pets in households with small children. There are several well documented reports of ferrets attacking and severely biting infants. Anyone owning a ferret should take extra precautions to ensure that the animal does not bite anyone.

Can I get rabies from a squirrel or a mouse?

Squirrels, mice, and other small rodents have only very rarely been found to have rabies, and have never been known to transmit rabies to humans or other animals. In general, post exposure treatment is not recommended after a bite from one of these animals unless it is unusually vicious or appears obviously ill. Groundhogs are the only rodents that are likely to be infected with rabies virus in areas where raccoons are commonly found to be rabid.

Why do animals need to be killed in order to be tested for rabies?

Blood testing of suspect rabid animals is not a reliable method of diagnosis for rabies. The only sure method for determining if an animal has rabies is to remove a piece of its brain and look for the presence of the rabies virus under the microscope with a special fluorescent antibody test technique.

How do people get rabies?

Rabies virus infection most commonly occurs when a rabid animal bites an individual. Rabies can also occur when infected saliva from a rabid animal contaminates an open wound (one which was bleeding within the past 24 hours), a scratch or skin abrasion, or a mucous membrane.

In addition to saliva and the salivary glands, tissues and fluid of the central nervous system (i.e., brain and spinal cord) contain high amounts of the virus. Virus is rarely found in other body organs and fluids.

People cannot get rabies by just petting an animal or even by getting saliva contaminated with rabies virus onto their intact skin. In order for them to get rabies, the virus must come in contact with a recent wound or break in the skin or the virus must get onto their mucous membranes (such as into the eye or mouth). However, any physical contact with a bat is considered a possible exposure to the rabies virus and should be carefully evaluated for the post-exposure rabies treatment. Bats have such tiny teeth that a bite may go undetected.

What are the symptoms of rabies in humans?

The following is a list of the clinical stages of human rabies infection. Not all of these symptoms may occur in every cases of human rabies.

- a. Incubation period - Usually 20-90 days, but may be as short as nine days; very rarely as long as several years. There are no symptoms during this period.
- b. Prodromal Phase - 2 to 10 days fever anorexia (poor appetite), nausea, vomiting headache malaise, lethargy pain or paresthesia (numbness or tingling) at site of the bite
- c. Acute Neurological Phase - 2 to 7 days hyperactivity, disorientation, hallucinations, seizures, neck stiffness, hydrophobia or aerophobia (intense fear of water or air caused by pain from tightening of muscles in the throat), paralysis or weakness
- d. Coma - 0-14 days.
- e. Death, or extremely rarely, recovery

Is there a treatment for rabies?

There is no known effective treatment for rabies once symptoms develop. Rabies can be prevented if rabies immunoglobulin and vaccine are given shortly after exposure to the virus. This is called rabies post-exposure treatment.

What is the protocol for rabies post exposure treatment?

Rabies post exposure treatment is no longer the painful process that it used to be. The current vaccines are much safer and more effective than the previously used vaccine. Post exposure treatment begins with a dose of rabies immune globulin administered partially around the wound, if possible, and partially in the gluteal region. This is followed by a series of 5 vaccinations given over 28 days. This vaccine has been extensively used for over fifteen years with very few significant side effects. The vaccine is given in the upper arm, instead of the stomach.

What are the chances that I will get rabies if I am exposed to a rabid animal and don't get the rabies treatment?

The chances of getting rabies depend upon the type of exposure (such as bite) and where on your body the exposure occurred. In general, penetrating bite wounds to areas of the body with a rich nerve supply are highest risk. Studies have shown that not all bites from rabid animals result in infection with the rabies virus. However, since there is no treatment for this disease once symptoms begin, it is recommended that all persons exposed by a known or suspect rabid animal should receive rabies post exposure treatment. Immediately washing the exposed area with water and soap is also an important factor in helping to prevent infection.

How can rabies be prevented?

- a. Vaccinate all dogs and cats. It is recommended that horses, cattle and sheep also be protected against rabies by vaccination.
- b. Control unwanted animals. Abandoned and unwanted dogs and cats should not be left to roam, as they can contract rabies from rabid wildlife and then transmit the infection to community residents and their pets.
- c. Avoid contact with wild animals and do not feed them or keep them as pets. Although you cannot get rabies by petting a wild animal, you are likely to get bitten if you try to pet or feed a wild animal. It is natural for wild animals to bite people that try to pet or feed them. Wild animals will also attack and bite when defending their young, which may be nearby but not visible. There are no injectable rabies vaccines approved for use in wildlife or hybrid crosses of domestic animals and wildlife, such as wolf-dog hybrids.

- d. Consult a doctor when you are bitten or scratched by any animal and report all bites to your local health department.