

ALLEGAN COUNTY HEALTH DEPARTMENT

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Office Administration

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Bioterrorism Preparedness

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Personal Health

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Communicable Disease

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Environmental Health

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Resource Recovery

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Rabies

What is Rabies and how is it spread?

Rabies is a preventable viral disease of mammals most often transmitted to humans through the bite or scratch of a rabid animal. If prompt treatment occurs, the disease can be prevented. If not treatment occurs, then the rabies virus may infect the central nervous system, eventually causing disease in the brain, and death. Rabies is almost always contracted by exposure to a rabid animal. The exposure is nearly always through a bite, but rabies can also be transmitted if a rabid animal scratches a person or if its saliva comes into contact with broken skin. Animals most affected are wild animals such as skunks, raccoons, foxes, coyotes, and bats. Domestic animals (usually unvaccinated cats, dogs can also spread the virus.

Because bites and scratches from bats may go unnoticed if a person is sleeping, is very young, or is mentally incapacitated, a physician should be contacted if a bat is found in the same room with a young child, or with a sleeping or mentally incapacitated adult.

Who is at risk for exposure to rabies virus?

Any mammal can be infected with the rabies virus. Rabies virus is contained in the saliva or brain tissue of a rabid animal. Rabies is spread when the virus is introduced into a bite wound, open cuts in the skin, or onto mucous membranes such as the eyes, nose, or mouth. If contact with either of these materials has occurred, the exposure should be evaluated by a health care provider to determine if treatment to prevent rabies is necessary. Exposures fall under two categories, bite and non-bite.

Bite Exposure:

Any penetration of the skin by teeth is a bite exposure. Bites by some animals, such as a bat, can be minor and difficult to detect. The circumstances under which a bite happened are important and help to determine if rabies is a concern from the bite.

Non-bite Exposure:

The contamination of open wounds, abrasions, or mucous membranes are nonbite exposures. Non-bite exposures rarely cause rabies, but such exposures should be evaluated to determine if rabies treatment is necessary to prevent infection.

How long after exposure do symptoms begin?

The time between exposure and the onset of symptoms is variable but averages two to eight weeks in humans. Incubation periods of over one year have been reported. This can vary depending upon the size and severity of the wound, amount of nerve supply at the area of the wound, the distance from the brain, and the amount of virus entering the wound.

What are the signs and symptoms in a human?

Early symptoms include fever, headache, general weakness, and symptoms around the bite, such as pain, tingling, or numbness. Late symptoms include anxiety, confusion, partial paralysis, hallucinations, increase in saliva, and difficulty swallowing.

What are the signs of rabies in an animal?

Any mammal is susceptible to rabies. Rabies disease in animals is similar to the disease in people. The first symptoms may include fever, lethargy, vomiting, and lack of appetite. Within days, symptoms that are more specific to brain dysfunction appear and may include weakness, difficulty

walking, paralysis, seizures, difficulty swallowing/excessive salivation, abnormal behavior, and aggression. Rabies can be prevented in pets and livestock through vaccination.

How is rabies diagnosed in an animal or person?

It is important to quickly and accurately identify rabies in animals that may have exposed a person or a pet, in order to provide for the timely administration of post-exposure treatment. If testing can be performed within a day or two of exposure, it may save a patient from unnecessary medical treatment and the associated financial burden, if the animal is not rabid.

In animals, rabies is diagnosed by looking for the virus in brain tissue using the direct fluorescent antibody (DFA) test. Because brain tissue is required for this test, it can only be performed on animals that have died or been humanely killed. The Michigan Department of Health and Human Services [Bureau of Laboratories](#) is the only laboratory in Michigan that can test animals for rabies. Testing of animals that have potentially exposed people is available 7 days a week, and must be arranged through [your local health department](#).

In humans, a number of tests are required to diagnose rabies before death has occurred. No single test is sufficient. Samples of serum, cerebral spinal fluid, saliva, and skin are necessary. Tests to detect virus and antibodies produced by the body against rabies virus are used to make a diagnosis of rabies in a person. Testing of human samples must be coordinated through the Michigan Department of Health and Human Services, and must be approved by the Centers for Disease Control and Prevention, where the specialized testing is performed.

Treatment- How is rabies prevented once a person has been potentially exposed?

Wound Care:

Bites from animals can be a risk for more than rabies. They can cause serious injury, such as nerve or tendon damage, and they can lead to local and even systemic infections. Seek medical attention for any bite wound so that proper treatment can be initiated. You may also need to receive a tetanus booster if you have not been immunized in more than 10 years.

Rabies Postexposure Treatment:

To prevent rabies in a person that has potentially been exposed to rabies, a series of injections must be initiated and completed. For people who have never received rabies vaccinations in the past, treatment must include the administration of both rabies antibody (rabies immune globulin, or HRIG) and vaccine. This combination treatment is recommended for both bite and non-bite exposures, regardless of the time that has passed between the exposure and the start of treatment.

What can be done to prevent the spread of rabies?

Exposure to rabies may be minimized by eliminating stray dogs and cats, having pet dogs, cats, ferrets, and livestock vaccinated against rabies, and staying away from all wild animals, especially those acting abnormally. Do not keep exotic or wild animals as pets, regardless of how young or cute they are. Exclude bats from living quarters by keeping screens in good repair and by closing up any small openings that could allow them to enter.

Animals: Be a responsible pet owner

- Keep vaccinations up-to-date for all dogs, cats, ferrets, horses, cattle, and sheep. Michigan law requires that dogs and ferrets must be vaccinated for rabies and it is recommended that all cats and any domestic livestock in contact with the public be vaccinated if a licensed vaccine exists.
- Vaccination is important for keeping your pet from getting rabies, but it also provides a barrier of protection for you if a wild animal bites your pet.
- There is no post-exposure treatment available for animals. As a result, unvaccinated pets and domestic animals that are exposed to a potential rabies carrier may be required to be euthanized.

- Do not keep wild animals or exotic animals as pets. Many wild and exotic species make poor pets. No rabies vaccine is licensed for use in these species. It is illegal to keep wild animals as pets, and wild animals may not be kept except by persons who possess Wildlife Rehabilitation permits.
- Keep your pets under direct supervision so they do not come in contact with wild animals that may be carrying rabies. If your pet is bitten by a wild animal, seek veterinary assistance immediately.
- Call your local animal control agency to remove any stray animals from your neighborhood. Strays may be unvaccinated and could be infected with rabies.
- Spay or neuter your pets to help reduce the number of unwanted animals that may not be properly cared for or regularly vaccinated.

People: Avoid contact with unfamiliar animals

- In Michigan, rabies most commonly occurs in bats, therefore, prevent bats from entering living quarters or occupied spaces in homes, churches, schools, or other similar settings where they might come in contact with people and pets.
- In situations where a bat has been in close contact with people, if possible, safely confine the bat and contact your local health department to determine if it should be tested for rabies or can be let go.
- Do not approach, handle, feed, or unintentionally attract wild animals with food, open garbage cans or litter. Tightly cap garbage cans. Feed pets indoors.
- Do not attempt to capture or feed feral cats. Unlike stray domesticated cats, feral cats are born in the wild and should be treated as wild animals.
- NEVER adopt wild animals or bring them into your house. Do not try to nurse unfamiliar sick animals to health. Call animal control for assistance in these situations.
- Teach children NEVER to handle unfamiliar animals, wild or domestic, even if they appear friendly. "Love your own, leave other animals alone" is a good principle for children to learn.
- Seek medical attention if bitten or scratched by a stray or wild animal.
- Animal bites should be reported to the local health department.
- Rabies Post-exposure Prophylaxis (PEP) is highly effective in preventing rabies in people possibly exposed to a rabid animal, if administered before symptoms develop.

More information can be found at www.michigan.gov/emergingdiseases or www.cdc.gov

This fact sheet is not intended to replace the advice of your physician. Parents should contact their healthcare provider if they have concerns regarding their child's health. If you have general questions, you may contact an Allegan County Public Health Nurse at 269-673-5411.