

# Public Health Fact Sheet

## Rabies

*Adapted from fact sheets developed by the Kansas Department of Health and Environment.*

### **What is Rabies?**

Rabies is a disease of the nervous system caused by a virus. It results from an exposure to the saliva of an animal infected with rabies. Rabies is a fatal disease.

### **Who gets Rabies?**

In the United States, rabies among humans is rare although anyone can get it after an exposure to a rabid animal. It is spread when the virus in an animal's saliva, or other infectious body fluid, enters an open cut, wound, mouth, or eyes.

### **What is an exposure to Rabies?**

There are two types of exposures, a bite and non-bite. A bite is any puncture of the skin by teeth. A non-bite exposure occurs when saliva, brain tissue, or spinal fluid from an animal with rabies enters any scratch, abrasion, open wound, eyes, or mouth. The petting of a rabid animal is not considered an exposure.

### **What animals get Rabies?**

Only mammals are infected with rabies, however, some mammals are more likely to be infected with rabies than others. For example, skunks, raccoons, bats, foxes and coyotes are more likely to be infected. Rodents, rabbits, and hares almost never get rabies.

### **How can you tell if an animal is Rabid?**

Although some animals with rabies look and act normal most develop either the furious or dumb form of the disease. "Furious rabies" is when the infected animal is easily excited or angered. "Dumb rabies" is when the infected animal appears paralyzed or dazed. The only sure way to tell if an animal has rabies is to kill it and test the brain for the rabies virus.

### **How long can animals spread Rabies?**

Cats and dogs can spread rabies for 3-5 days before they become ill and during their illness. The amount of time varies for other animals.

### **What should you do if you are exposed to a rabid animal?**

Immediately wash all bite wounds and scratches thoroughly with soap and water. See a doctor as soon as possible. After an exposure to a proven or suspected rabid animal, rabies shots must be started.

*This fact sheet is for information only and is not intended for self-diagnosis or as a substitute for consultation. If you have any questions about the disease described above or think that you may have an infection, consult with your healthcare provider. This fact sheet is based on the Centers for Disease Control and Prevention's topic fact sheets.*

**How can Rabies be prevented?**

Vaccination of dogs and cats against rabies is the best way to reduce human exposure. Avoid contact with wild animals and do not keep wild animals as pets. Control of stray animals can decrease both animal and human exposures to rabies. Animals which have contact with an animal that may have rabies should be reported to the local animal control agency.

**Where can you get more information?**

- Your Local Health Department
- Nebraska Department of Health and Human Services, Office of Epidemiology at (402) 471-2937
- <http://www.cdc.gov/health/default.htm>
- Your doctor, nurse, or local health center

*This fact sheet is for information only and is not intended for self-diagnosis or as a substitute for consultation. If you have any questions about the disease described above or think that you may have an infection, consult with your healthcare provider. This fact sheet is based on the Centers for Disease Control and Prevention's topic fact sheets.*

## **FREQUENTLY ASKED QUESTIONS ABOUT RABIES**

*Adapted from informational products developed by the Kansas Department of Health and Environment.*

### **What is rabies?**

Rabies is a disease caused by a virus that affects the nerve tissue of all warm-blooded animals, including humans. Rabies is transmitted in the saliva of a rabid animal and causes death by paralysis. Biting is the most common route of transmission.

### **Which animals carry rabies?**

Any warm-blooded animal may be infected with rabies, but in Nebraska skunks are the primary reservoir. However, several other animals including bats, foxes, raccoons, cats, dogs, and livestock all have been confirmed positive for rabies in Nebraska in recent years. Small rodents and opossums are almost never infected with rabies in the wild.

### **What are the signs in animals?**

In animals there are two forms of the disease: 1) furious (or vicious) rabies and 2) dumb rabies.

1) In furious rabies, the first observable sign is usually a change in personality or behavior of the animal. Other signs may include: refusal to eat or drink, unusual excitability or restlessness, snapping or growling at moving objects, and chewing on objects to the point of breaking teeth. The final symptom is paralysis, followed by death within a few days.

2) In the dumb form of rabies, the animal may develop a progressive paralysis, but “furious” signs are rarely observed.

### **What are the signs in humans?**

**NEVER WAIT FOR SIGNS IN A PERSON.** By the time signs of rabies develop, it is too late for any treatment and rabies is always fatal. There is presently no test available to diagnose rabies in people before signs develop.

### **How is rabies diagnosed in animals?**

Ideally the animal should be captured so it can be observed for clinical signs or tested for rabies. The only way to tell for sure if an animal is rabid is for the animal to be sacrificed and have the brain tested for rabies. There is no reliable test for live animals. Signs and symptoms cannot give a definitive answer, and there is no blood test available. Dogs, cats, and ferrets that can transmit rabies will start showing signs within 3-4 days. For other animals, it is not known how long they may transmit the virus before they start showing signs, so they need to be sacrificed and tested immediately. If a person has been exposed, they should receive post-exposure treatment as soon as possible.

### **What is an exposure?**

The most common exposure is a bite from an infected animal. Other uncommon exposures include scratches or mucous membrane exposure (such as the eyes or inside of the mouth) from an infected animal. Exposures from bats are more difficult to determine, so finding a bat in the bedroom of a sleeping child, or waking to find a bat in a bedroom, or any known bites or scratches from a bat, are considered exposures.

## **FREQUENTLY ASKED QUESTIONS ABOUT RABIES (CONTINUED)**

### **Is petting a rabid animal an exposure to rabies?**

Simple contact such as petting an animal is NOT an exposure. Likewise, contact with blood, feces, urine, or skunk “spray” are NOT exposures. As a rule, only if a person’s broken skin or mucous membrane is in contact with wet saliva from a potentially rabid animal is it considered a nonbite exposure.

### **What should I do if I’ve been exposed?**

Clean and flush the wound immediately. See your doctor as soon as possible after the exposure, for evaluation and further treatment of the wound. For most people, the treatment consists of a shot of immune globulin and a series of five vaccinations spaced over the course of 4 weeks. If treatment has begun and the animal was subsequently proven not to be infected with rabies, the treatment may be stopped.

### **What should be done with the biting animal?**

Try to safely capture the animal. If the animal is captured, enclose it in a secure pen where other animals and people cannot come in contact with it. If the animal cannot be captured, it should be killed, but DO NOT shoot it in the head. The head should be removed and examined for rabies in a laboratory.

### **How do I safely capture a bat?**

Turn on the room lights. Close the room, including windows and closet doors, and wait for the bat to land. Wearing gloves, place a coffee can, pail, or similar container over the bat. Slide a piece of cardboard under the container to trap the bat. Firmly hold the cardboard in place against the top of the container, turn it right side up and tape the cardboard tightly to the container.

### **Who should get rabies treatment?**

Any person with a bite or a significant nonbite exposure from a known or suspected rabid animal. All wild carnivores and bats should be considered rabid unless proven otherwise. Dogs, cats or domestic ferrets, should be confined for 10 days. If the animal shows signs of illness in that time, it should be euthanized and tested for rabies. If there are unusual circumstances, the local or state health department should be contacted for advice. The number for the Nebraska Department of Health and Human Services is (402) 471-2937.

### **What should I do if my dog or cat is bitten by a rabid animal?**

If your pet has been immunized, it needs an immediate booster and should be observed closely for 45 days. If your pet has not been immunized, it should be euthanized (killed) or held in strict quarantine in an approved facility for six months and vaccinated one month prior to release.

### **How can I prevent rabies?**

The most important way to prevent and control rabies is for owners to have their pets and valuable breeding stock properly vaccinated. Most human links to rabies are through domestic animals. There is a greater chance that our domestic animals may have an encounter with a skunk or other animal that may be carrying rabies so protecting our pets is critical. Animal control programs that remove stray and unwanted animals and avoiding contact with wild animals are other useful measures.

## **Protecting Yourself, your Family, and your Pets from Rabies**

Rabies is a deadly disease caused by a virus that attacks the central nervous system. The virus can be found in saliva and nervous tissue of sick animals. If you believe saliva or nervous tissue from any animal has gotten into an open cut or bite wound, or into your eyes, nose, or mouth, a potential exposure may have occurred. Wildlife such as skunks, raccoons, bats, and stray dogs and cats can all be carriers of rabies. If bitten by a dog or cat, find out the vaccination status of the animal; if unvaccinated for rabies or if rabies vaccines are not up to date, follow these instructions:

### **Response to Human Exposure to Rabies**

- Wash the wound thoroughly with soap and water.
- Seek medical attention immediately.
- Contact your doctor and your county health authority immediately.
- Try to capture the animal without risking further exposure or damaging the animal's head. The animal may be needed for rabies testing, the results of which could influence your treatment.
- Although guidelines exist for treatment, decisions are made by your physician and public health officials on a case-by-case basis. Post-exposure prophylaxis is usually recommended if the animal was unvaccinated or vaccines were not up to date. Remember: rabies is a 100% fatal disease in humans!
- People in high-risk occupations such as veterinarians, wildlife biologists, wildlife rehabilitators, and animal control officers should consider obtaining rabies pre-exposure vaccines.

### **Response to Domestic Animal Exposure to Rabies**

- If your animal has been in a fight with another domestic or wild animal, wear gloves when handling it.
- Isolate it from other animals and people.
- Call your veterinarian.
- Treatment decisions are made by your veterinarian and public health officials on a case-by-case basis, depending on vaccination status of your pet.
- ***Remember to keep your pets' rabies vaccinations up to date for your safety, as well as their own***

*Adapted from informational products developed by the Kansas  
Department of Health and Environment.*

For more information, contact your local health department or:

Nebraska Department of Health and Human Services  
Office of Epidemiology  
301 Centennial Mall South  
Lincoln, Nebraska 68509  
(402) 471-2937

## Hunter Safety and Rabies

Although deer or other large game are unlikely to be rabid, hunters may come in contact with the other species in the area that are the primary wildlife reservoirs such as skunks. Birds do not carry and cannot transmit the rabies virus. The possibility still exists for large game species to be affected with the rabies virus, so follow these recommendations to reduce your risk with all animal species:

- Consider pre-exposure rabies vaccination if trapping skunk, raccoon, or fox. Discuss these concerns with your physician.
- Keep vaccinations for dogs and cats up to date. Dogs are at particular risk for contacting rabid or otherwise ill animals while on hunts. Minimize the risk for these hunting companions by regularly vaccinating. If a companion animal is attacked or injured by wildlife, put on gloves prior to handling the pet, as saliva from the wildlife may be present on the pet's fur. Seek veterinary attention and contact local health agencies for guidance.
- Do not touch or tag any dead animals unless you have killed it.
- Handle game with care. The rabies virus is found in large concentrations in the brain, spinal cord, nerves, and salivary glands of rabid animals.
- Wear long rubber gloves when dressing or skinning, as well as handling uncooked or thawing meat.
- Practice safe-handling techniques as for other meat products. Thorough cooking of meat will destroy the rabies virus.

*Adapted from informational products developed by the Kansas  
Department of Health and Environment.*

For more information, contact your local health department or:

Nebraska Department of Health and Human Services  
Office of Epidemiology  
301 Centennial Mall South  
Lincoln, Nebraska 68509  
(402) 471-2937

## **Bat Inspection in Homes: Minimizing Contacts by Minimizing Numbers**

*Adapted from recommendations from the Centers for Disease Control and Prevention, the New York State Department of Health, and the Kansas Department of Health and Environment*

Because bats pose potential risk for human exposure to rabies, reasonable steps should be taken to prevent contact with bats. These include determining if bats are already present, preventing entry of bats into buildings, and passive exclusion techniques when necessary.

*As the risk to humans from rabies is serious, please consult pest control specialists whenever necessary to maintain your health and safety.*

### **Determining if bats are in your home or building**

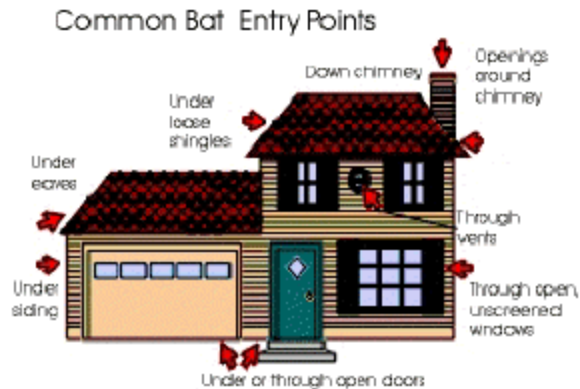
- Do you hear squeaking noises coming from attics, walls, or elsewhere?
- Inspect attic spaces, rafters, porches, and walls for signs of roosting bats, including guano, crystallized urine, or bare/scratched areas on beams or rafters.
- Walk around the outside of structures at dusk to see if bats are flying out of the building to feed. Do the same at dawn to determine if bats are entering the building to roost.

### **Bat Proofing Techniques**

- Do not leave unscreened doors or windows open to the outside. Make sure all doors that close to the outside close tightly.
- Make sure doors and windows are screened, chimneys are capped, and electrical and plumbing openings in the structure are plugged.
- Seal openings larger than ¼ inch by ½ inch square that would allow access into the attic, basement, walls, or living areas of a structure.
- Utilize materials to seal or cover gaps and holes including spray-on expanding foam, wire mesh, netting, caulk, or tight-fitting wood. Steel wool or caulking can be utilized around pipes that enter buildings.

### **Passive Exclusion Techniques for Removing Bats from Structures**

- *Consider contacting a pest control professional for assistance or advice.*
- Never directly handle a bat.
- Killing or poisoning is rarely needed. Remember that healthy bats help communities by eating several pest species of insects.
- Determine bat entry and exit points by observing the structure at dawn and dusk.
- Avoid sealing openings from May to August as young bats may be separated from their adult caretakers, forcing them into living quarters in search of food.
- Do not seal openings while bats are inside the structure as this may drive them to inhabited areas, increasing risk of human rabies exposures. You may place bird netting or clear plastic sheeting loosely over entry and exit points, allowing them to crawl out, but not to fly into structures. Attempt to seal openings during winter months when adult bats are hibernating.
- Major home renovations and sealing should be performed in the winter when bats have in large part left buildings.



[http://www.cdc.gov/ncidod/dvrd/rabies/bats\\_&\\_rabies/bats&.htm](http://www.cdc.gov/ncidod/dvrd/rabies/bats_&_rabies/bats&.htm)

### Managing Bats in Your Immediate Area

**If there was no possibility of human or domestic animal contact with the bat, it can be released.**

- Close the room and closet doors. Open windows, and if the room is dim turn on a light.
- Observe from outside the room if possible until the bat leaves, and immediately close windows and doors.

**If the bat has potentially contacted humans or domestic animals, it should be captured for testing. The brain must be intact for such testing, so avoid crushing the animal.**

- *Consider contacting a pest control professional for assistance or advice.*
- Close the windows, room, and closet doors. Turn on lights.
- Wait for the bat to land
- Wearing heavy protective gloves, cover the bat with a coffee can or similar container with a lid. If the bat is out of reach, an extension pole with net may be needed to capture the bat.
- Slide a piece of cardboard under the can, trapping the bat.
- With one hand firmly holding the cardboard in place, turn the can right-side up
- Immediately replace the cardboard to the lid or tape the cardboard securely in place.
- **CONTACT LOCAL AUTHORITIES FOR ARRANGEMENTS TO TEST THE BAT FOR RABIES AS SOON AS POSSIBLE.**

For more information, contact your local health department or:

Nebraska Department of Health and Human Services  
Office of Epidemiology  
301 Centennial Mall South  
Lincoln, Nebraska 68509  
(402) 471-2937