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Facts about Wildlife Diseases: Rabies[1]

Samantha M. Wisely and Holly K. Ober[2]

The purpose of this document is to be an overview of rabies, including how it is spread, the symptoms, and what you should do if you suspect a rabies exposure. This document is intended for a general audience.

What is rabies and how does it spread?

Rabies is a virus that is carried by mammals and is deadly to humans and animals if they are not treated shortly after exposure. It can be prevented, but it cannot be cured if symptoms become evident. The virus attacks the central nervous system (the brain and spinal cord). The most common way the virus is transmitted is through saliva when a mammal infected with the virus bites another animal or person. The virus can also be transmitted when saliva, tears, or brain/nervous tissue of an infected mammal comes into direct contact with open wounds or mucous membranes (the eyes, nose, or mouth) of another animal or person. Less commonly, people have become infected as a result of receiving an organ transplant from an infected person (CDC 2026, FDOH 2026). Although the virus can survive outside the body of a host for only a short period of time, it can survive in bodies of dead animals for longer periods. Therefore, the virus could spread through contact with saliva, tears, or brain/nervous tissue of a dead rabid animal. The virus becomes noninfectious when it dries out, is heated, or is exposed to sunlight.

Which animals can get rabies?

Fish, amphibians, reptiles, and birds cannot transmit rabies—only mammals are capable of spreading the disease. Meat-eating mammals are the most commonly infected. Worldwide, rabies is most frequently reported in dogs; unvaccinated dogs in Asia and Africa are largely responsible for ~55,000 human deaths each year. Rabies is uncommon in domestic animals in the United States due to vaccination laws and reduction of stray animals by local animal control organizations. The vast majority (>90%) of reported cases of animals with rabies in the US are wildlife.



Figure 1. According to Florida law, all dogs, cats, and ferrets greater than 4 months of age must be vaccinated against rabies by a licensed veterinarian. Credit: pyotr021/iStock/Thinkstock

The animals most commonly reported to have rabies in Florida are raccoons, bats, foxes, cats, bobcats, dogs, skunks, otters, and horses (see Table 1 for details). Raccoons and bats are considered to be reservoir species for rabies in Florida; the virus is maintained and is stable within populations of these species. To date, other species like otter, bobcat, or skunk have not been shown to act as rabies reservoirs in Florida. These non-reservoir species can still transmit rabies to people, pets, and livestock if they bite or scratch you while they are infected. New rabies reservoirs can also emerge periodically, as occurred with raccoons in Florida in the 1940s.

How common is rabies?

More than 59,000 people die of rabies each year worldwide (WHO 2026). Almost all of these deaths occur outside the US and are due to bites from unvaccinated dogs. In the US it is rare for people to die of rabies although many people are exposed to rabies each year. According to CDC data, 17 human rabies cases were recorded in the US from 2015 to 2024, with two cases acquired abroad (CDC 2026). The US Department of Agriculture Animal and Plant Health Inspection Service (USDA APHIS) estimates that the cost of rabies control and prevention exceeds $600 million annually. These costs include vaccination of pets and livestock, animal control programs, maintenance of rabies diagnostic laboratories, and medical costs. Vaccination of livestock and companion animals, diligent education and medical treatment of people exposed to rabies, active rabies management for wildlife, and control of stray animals are responsible for low rates of rabies in humans in the US.

Unusually, Florida had two deaths due to rabies only a few months apart from each other more recently. One occurred in October 2017, and the other in January 2018. In both cases, the victims were bitten by bats. Prior to these incidents, there have been 77 fatal human cases of rabies in Florida between 1881 and 2016. 1948 was the last fatal case of human rabies in Florida that was acquired from Florida wildlife. There have also been fatalities from rabies in Florida reported in 1994, 1996, 2004, and 2011; however, in these cases the virus was acquired by wildlife outside of the state. More than 4,400 of Florida residents are considered to have been potentially exposed to rabies from being bitten by animals (pets, stray animals, and wildlife) and thus given post-exposure treatments every year (FDOH 2026). According to Florida law, all dogs, cats, and ferrets greater than 4 months of age must be vaccinated against rabies by a licensed veterinarian, and it is strongly recommended that horses be vaccinated. Vaccines have also been developed for cattle and sheep.

What are the symptoms of rabies?

Animals with rabies often behave abnormally. They may be either remarkably aggressive or unexpectedly passive. Aggressive animals may attack and bite other animals or humans for no apparent reason. Passive animals may seem unusually tame, may be active at odd times of the day, or may appear to be paralyzed. For example, bats or raccoons active at midday in your home or yard that are easy to approach may be rabid. Infected animals are often unable to swallow, which makes eating and drinking impossible, and may cause excessive drooling. As the disease progresses, animals with rabies often move slowly and may have difficulty walking or flying. Most infected animals die within a week of appearing obviously sick. Avoid abnormal appearing wildlife and keep pets vaccinated. Because infected animals can appear normal during the early stages of the disease, avoiding direct contact with even normal appearing wildlife is recommended. Call your county or municipal Animal Control Agency if you notice a free-ranging dog or cat behaving unusually, and be prepared to describe the location and behavior of the animal. If you are bitten or injured by an animal, seek medical care and ask your health care provider or your County Health Department about the risk for rabies. The County Health Department will work with your health care provider to determine whether the biting animal can be observed for signs of rabies for 10–14 days (most healthy appearing domestic animals), tested (most wildlife), or if rabies post-exposure treatment is recommended for the person who was bitten.

In humans, the period of time between infection and when symptoms appear (the incubation period) can range from 1 week to several months. The period of time between the onset of symptoms and death (the morbidity period) is usually 1 to 17 days. In humans early symptoms include headache, fever, irritability, insomnia, restlessness, anxiety, throat muscle spasms, and feelings of pain, burning, or numbness at the site of exposure. The victim may experience convulsions, paralysis, and unconsciousness before death occurs. Once symptoms appear, treatment is rarely successful. It is therefore critical to seek immediate medical care if rabies exposure is suspected.

How can you limit the spread of rabies?

There are many steps you can take to reduce the chances of getting rabies, which are summarized in below.

- Protect Your Pets
  - Vaccinate your pets and your livestock. Keep vaccinations current. Keep your pets on a leash when they leave your yard. Wash your pet to remove saliva

if your pet comes into contact with a wild mammal. Call your veterinarian if your pet is bitten by or in direct contact with a wild animal or a pet that you suspect is not vaccinated.

- Protect Your Home, Yard, and Neighborhood
  - Do not allow wild animals to get into your home or workplace. Do not leave pet food outdoors that could lure wildlife with rabies into your yard. Do not leave uncovered trash outdoors that could attract wildlife with rabies to your home. Do not contribute to the spread of the disease by relocating wildlife that could have rabies. Spay or neuter your pet to reduce the number of unwanted pets that may become strays.
- Protect Yourself
  - Do not pet or touch wildlife or strays. Keep your distance from wild animals that are acting strangely (i.e., those that seem especially aggressive or particularly friendly, are active at an unusual time of day, or are in a place you wouldn't normally expect them to be). Notify wildlife rehabilitators when you find injured mammals rather than caring for them yourself. Seek prompt medical care if you are bitten or injured by an animal and ask your health care provider or County Health Department about risk for rabies.

Pet Owners

Vaccinating your cats, dogs, ferrets, and horses will reduce the chances they will contract the virus, which in turn lowers the chances that you or your family members will get it from them. To reduce the chances that your pets come into contact with rabid animals, keep all pets on a leash when they leave the yard. If you think your pet may have been bitten by an unvaccinated mammal, put on gloves before examining your pet for bite wounds to avoid direct contact between yourself and the saliva from the other animal. If you don't notice any bite wounds but saliva is present on the fur of your pet, wash your pet with soap and water to remove the saliva and call your veterinarian immediately for advice. Do not try to remove a bat from the mouth of your pet without wearing thick gloves, and contact your County Animal Control officer for advice on what to do with the bat.

Homeowners

Protect your home, yard, and workplace. Take steps to prevent wild mammals from entering your home or workplace. Exclude bats and raccoons from buildings by sealing potential entrances. Do not leave items in your yard that might attract wild mammals near your home and your pets. For example, pet food should not be kept in the yard, and all trash should be kept in covered containers animals cannot open or knock over. Consider spaying or neutering your pet to prevent attracting stray animals, reduce risk of biting behavior and limit the birth of unwanted animals that might become strays in the future. Do not trap wild or stray mammals and later release them in other locations, as this may spread disease. It is unlawful to relocate wildlife to public lands, and both a handling permit plus permission from the receiving landowner are required before wildlife can lawfully be released on someone else's private property. See https://myfwc.com/ for more information on restrictions regarding the relocation of wild animals.

Sportsmen and Women

Many furbearing animals (foxes, coyotes, raccoons, skunks, and otter) are considered to be a high risk for rabies exposure. It is recommended that furbearer trappers receive a pre-exposure immunization to rabies. Pre-exposure vaccination does not, however, mean that you do not need a post-exposure vaccination should you be exposed; it does however reduce the treatment that is needed. All persons should take precautions to ensure that live animals do not bite or scratch you. When handling dead animals or uncooked meat from wild game be sure to wear gloves, handle sharp instruments carefully, and properly clean knives, other cleaning implements, and your hands thoroughly with hot soap and water when you are finished. A cut from a dirty knife when skinning one of these species would be considered an exposure. Should you be exposed in this manner, be sure to save the head of the carcass and call your County Health Department, who will send the animal to be tested for rabies if appropriate.

A Word about Bats

Direct contact with bats should be avoided. The only exception to this is if a bat is found inside your home or other building under one of the following conditions: (1) if someone in your household wakes up to find a bat in the room, or (2) he or she finds a bat in a room with an unattended baby or other individual (or pet) who is unable to communicate whether they had direct contact with the bat. In these situations, it is recommended that the County Health Department or County Animal Control office be contacted, and that the bat be captured and

tested for rabies. Bats have small but sharp teeth that can bite through cloth. Capture with a rigid container such as a Tupperware container or coffee can is recommended if capture is necessary. In each of these situations, it is possible (although unlikely) that the bat could have bitten someone in the house while she or he slept without her or his notice. Bat bites can be felt but may not leave a visible mark; therefore, absence of a visible wound does not rule out the possibility a bite occurred. Identifying where and how the bat got into the home is also important to prevent future bat entries.

Sick or Injured Wildlife

Call a local animal rehabilitation center, your veterinarian, or County Animal Control if you find a sick or injured wild mammal rather than bringing the animal into your home to care for it yourself. Visit the Florida Fish and Wildlife Conservation Commission's website (Report a Wildlife Nuisance Case) for more recommendations on what to do with injured or orphaned wild animals.

What should you do after a wild animal bite or scratch?

A rabies exposure is any bite, scratch, or other situation in which saliva, brain/nervous material, or tears from a suspect or known rabid animal or a high risk animal enters an open wound or comes in contact with mucous membranes (FDOH 2026). In Florida high risk animals are raccoons, bats, skunks, coyotes, foxes, otters, or bobcats, or stray cats and abnormal appearing stray dogs. If you get bitten or scratched by one of these animals **OR** get saliva from a wild mammal into your mouth, nose, eyes, or a wound, **OR** receive a cut while processing the carcass of one of these animals you should do three things:

1. First, immediately scrub the site of infection with soap and running water for 5–10 minutes.
2. Second, report to your doctor, a clinic, or an emergency room promptly so a medical professional can treat the wound and determine if you should receive post-exposure rabies prevention measures.
3. Third, call your County Health Department or County Animal Control Agency and give a detailed description of the animal you were in contact with plus information on your location at the time the incident occurred.

Remember that rabies can only be transmitted through contact with the saliva, tears, or brain/nervous tissue of an infected mammal. If you were bitten by a fish, amphibian, reptile, or bird, there is no reason to worry about rabies. Also, there is little need to be concerned about getting rabies by touching the fur, scat, urine, or blood of wild animals (although you could potentially contract other diseases by touching some of these things)! Similarly, there is no reason to fear getting rabies when a bat is simply seen flying indoors or out, as long as no one is asleep or otherwise unable to notice being bitten or scratched.

While the risk of exposure to rabies is low in the US, the consequences are great! Obtaining prompt medical attention after a bite wound can save your life! This is especially true if you are bitten by a dog in a foreign country where dog rabies cases are more common than in the US.

Additional Sources of Information

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Tables

Table 1. Number of individuals of each species that tested positive for rabies in Florida between 2012 and 2022. Data from Florida Department of Health (https://www.floridahealth.gov/diseases-and-conditions/disease/rabies/).

	2022	2021	2020	2019	2018	2017	2016	2015	2014	2013	2012	20 Year Total	20 Year Average	Year of Last Positive Case
Bat	14	13	14	22	20	19	13	15	19	19	14	365	18	
Beaver	0	0	0	0	0	0	0	0	0	0	0	0	0	2001
Bobcat	0	0	1	1	0	0	1	0	0	2	3	30	2	—
Cat	12	6	13	12	16	11	4	8	15	9	8	227	11	—
Coatimundi	0	0	0	0	0	0	0	0	0	0	0	0	0	1969
Cow	0	0	0	0	0	0	0	0	0	0	0	0	0	1998
Coyote	0	0	1	0	0	0	0	0	0	1	0	2	<1	—
Deer	0	0	0	0	0	1	0	0	0	0	0	1	<1	—
Dog	0	2	0	1	1	2	0	2	2	0	2	28	1	—
Ferret	0	0	0	0	0	0	0	0	0	0	0	0	0	1996
Fox	5	16	14	15	10	8	6	10	5	2	11	298	15	—
Goat	0	0	0	0	0	0	2	0	0	0	0	2	<1	—
Horse	0	1	0	0	0	0	2	0	1	0	2	16	1	—
Mule	0	0	0	0	0	0	0	0	0	0	0	0	0	1911
Opossum	1	0	0	0	0	0	0	0	0	0	0	1	<1	—
Otter	0	0	2	3	1	0	1	0	0	0	0	19	1	—
Panther	0	0	0	0	0	0	0	0	0	0	0	0	0	1989
Pig	0	0	0	0	0	0	0	0	0	0	0	0	0	1969
Raccoon	31	40	31	69	61	37	31	45	50	71	59	1501	75	—
Skunk	1	0	4	2	1	2	0	1	0	2	2	25	1	—
Squirrel	0	0	0	0	0	0	0	0	0	0	0	0	0	1961
Total	63	79	79	126	110	79	59	83	92	105	102	2430	122	—

[2] Samantha M. Wisely, director, Cervidae Health Research Initiative (CHeRI) and professor, Department of Wildlife Ecology and Conservation, research affiliate, UF Emerging Pathogens Institute; Holly K. Ober, former professor of wildlife ecology and wildlife Extension specialist, Department of Wildlife Ecology and Conservation, UF/IFAS North Florida Research & Education Center; UF/IFAS Extension, Gainesville, FL 32611.

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