



What is rabies?

Rabies is a virus that infects the nervous system of any mammal, causing encephalitis (acute inflammation of the brain) and leading to death. It is a zoonotic disease and is most commonly transmitted to humans through the bite or scratch of a rabies-infected animal. The virus is carried in the saliva and neural tissue. It can also enter the body through a wound or mucous membranes (for example, through the eyes, nose, or mouth).

Effects of rabies on human health

The typical length of time between exposure and the onset of clinical symptoms for rabies in humans is 30 to 90 days, with rare instances of longer incubation periods. Rabies is nearly always fatal once clinical signs appear. The initial symptoms can include headache, fever, weakness and irritation at the bite site. The illness then typically progresses to include symptoms such as hydrophobia (fear of water) and abnormal behavior, with coma and death within one to two weeks after clinical onset.

What is considered to be a rabies exposure?

Any bite, scratch or other circumstance where saliva or central nervous system (CNS) tissue from a suspected rabid animal enters an open, fresh wound or comes in contact with a mucous membrane by entering the eye, mouth, or nose. Scratches should be evaluated like any other wound. The touching or handling of a suspected rabid animal or another animal or inanimate object that had contact with a rabid animal does not constitute an exposure unless wet saliva or CNS material from the potentially rabid animal entered a fresh, open wound or had contact with a mucous membrane. Rabies cannot be transmitted by blood, feces, urine or by just petting an animal.

Due to the nature of bat bites (small, often unnoticed), evaluating exposures to bats is different than evaluating exposures to terrestrial mammals. Therefore, anyone who has been: 1. Bitten by a bat and knows he has been bitten, OR 2. In direct, bare-skinned contact with a bat and cannot rule out that a bite has not occurred, OR 3. In a room with a bat and is unable to tell or articulate whether an exposure took place (for example, while sleeping) should be considered exposed.

What animals can have rabies?

Only mammals get rabies; birds, fish, reptiles and amphibians do not. Wild animals frequently diagnosed with rabies are raccoons, skunks and foxes. Cats are the most common domestic animal diagnosed with rabies. Horses, cows and other livestock can become infected with rabies. Rabbits, squirrels, rats and mice and small pets like gerbils and hamsters seldom get rabies.

I may have been exposed. What do I do now?

Rabies post-exposure vaccinations are an urgency, not an emergency.

Don't panic...but don't ignore the bite either. To decrease the chance of infection, wash the wound thoroughly with soap and lots of water. Give first aid as you would for any wound. If it can be done safely, capture or confine the animal or at least identify it before it runs away. Don't try to pick the animal up. If the animal is owned, get the name and contact information for the owner. If you are off the main campus, call an animal control or law enforcement officer for further instructions. Don't damage the head of any animal that might need to be tested for rabies. The brain will be needed for the test.

Determination of Exposure

Those who have experienced a potential rabies exposure should contact their local health department for an assessment and also immediately notify their supervisor. The health department will help with performing an assessment to determine if post-exposure services are needed. A directory of local health departments in Virginia can be found [here](#). If you are located outside the United States, contact Environmental Health and Safety at 540-231-3600 and request assistance.

Accident reporting if exposed while on the job

If you are an employee, work with your supervisor to complete the Employers' Accident Report. Instructions can be found [here](#). If you are an employee and it is determined that you need post exposure services, follow the instructions for obtaining medical services through a Panel Physician – or – arrange to receive those services through the health department.

If you are a student and not an employee, notify your family doctor or the Schiffert Health Department immediately and explain how you got the bite. Potential rabies exposures should be reported to your local health department. Your doctor will want to know if the animal has been captured, if any reports have been made, or make a report to the local health department and/or local animal control. If necessary, your doctor will recommend a series of rabies post-exposure vaccines. Your doctor will also treat you for other possible infections that could be caused from the bite.

Those who have received rabies vaccines before/who are pre-exposure vaccinated should receive 2 doses of vaccines spaced 3 days apart if they are assessed as exposed. **Those who have received pre-exposure rabies vaccinations SHOULD NOT receive rabies immune globulin (RIG).** For more information, please see this [resource](#).

What is my risk of being exposed?

Risk level	Nature of the risk	Groups potentially exposed
Very low risk	<ul style="list-style-type: none"> ● Rare exposure to the virus ● Potential for mucous membrane, bite, or non-bite exposure 	<ul style="list-style-type: none"> ● Environmental health officers or other persons handling potentially rabid dead animals ● Most travelers to areas where rabies is common, but not workers in any of the higher-risk groups below
Low risk	<ul style="list-style-type: none"> ● Exposure to virus nearly always episodic, with the source (animal) recognized ● Potential for mucous membrane, bite, or non-bite exposure 	<ul style="list-style-type: none"> ● Veterinarians and staff, animal control workers, and wildlife workers in areas where rabies is not common ● Veterinary and animal health technology students
Moderate risk	<ul style="list-style-type: none"> ● Exposure to virus nearly always episodic, with the source (animal) recognized, but exposure may be unrecognized ● Potential for mucous membrane, bite, non-bite, or aerosol exposure 	<ul style="list-style-type: none"> ● Rabies diagnostic lab workers ● Spelunkers, veterinarians and staff, animal control workers, wildlife biologists, and wildlife workers in areas where rabies is common ● Hunters and trappers in high-risk areas
High risk	<ul style="list-style-type: none"> ● Frequent exposure ● Virus present continuously, often in high concentrations ● Potential for mucous membrane, bite, non-bite, or aerosol exposure ● Specific exposures may go unrecognized 	<ul style="list-style-type: none"> ● Rabies research lab workers ● Rabies biologicals production workers ● Bat biologists ● Necropsy on wild animals or suspect infected animals

How do I reduce my risk of being exposed?

Behavioral screening

Signs of rabies infection in animals can vary considerably. An animal exhibiting behavior that is unusual or unusually aggressive (for example, unprovoked attacks) could be rabid. If an animal shows signs of rabies infection, assume that the animal might be rabid and take the appropriate precautions. Ask if there has been any contact with wild animals and if the animal has been vaccinated for rabies. If the animal has been vaccinated against rabies and vaccinations are current, then rabies is unlikely.

Restraint devices

All potentially aggressive animals, including rabies suspects, should be handled humanely and with caution using one or more of the following restraint devices:

- Restraint/control poles
- Muzzles

- Bite-resistant gloves
- Kennel squeeze panels
- Net/restraint bags

All staff handling potentially aggressive animals must be trained in the use of such devices. Sedation and/or anesthesia may be required for severely aggressive animals.

Personal protective equipment

All staff handling suspected rabid animals will wear the following personal protective equipment:

- Body protection — protective clothing (for example, a laboratory coat and coveralls) that covers arms and legs to protect from bites and scratches
- Hand protection — bite-resistant gloves over disposable protective gloves (for example, latex, vinyl, or nitrile)
- Eye protection — protective eyewear (for example, goggles that seal to the face, or a face shield)
- Mucous membrane protection — surgical masks
- If you are performing any procedure that could aerosolize tissue from the nervous system of a rabies suspect animal, always wear a well fitted respirator, protective eyewear and a face shield.

Handwashing

Handwashing is one of the best ways to minimize the risk of infection. Handwashing helps to avoid transferring infectious material from the hands to other parts of the body (particularly the eyes, nose, and mouth) or to other surfaces. Staff should wash their hands immediately:

- Before leaving a work area
- After handling a potentially rabid animal or materials that may be contaminated
- Before eating, drinking, smoking, handling contact lenses, or applying makeup
- Following the removal of personal protective equipment

Use non-abrasive soap and warm running water (it doesn't have to be hot to do the job).

If water is unavailable, use an alcohol-based hand rub that has at least 70 percent alcohol. Follow the manufacturer's instructions on how to use the cleanser. As soon as possible afterwards, wash hands thoroughly with soap and water in a proper facility.

Response protocols

The Virginia Department of Health provides algorithms that outline response protocols based on the following exposure scenarios:

- [Dog Cat Ferret Exposed](#)
- [Livestock Exposed](#)
- [Human Exposed to Domestic Animal or Livestock](#)
- [Human Exposed to Wildlife](#)
- [Domestic Animal Exposed to Wildlife](#)
- [Human Exposed to an Animal](#)