

What Every Pet Parent Needs to Know About Rabies

Just reading about what happens to a rabies-infected animal is disturbing, but as a pet parent, you must know what to look for if your pet gets into a fight or is attacked by a wild animal. If stricken with rabies, your pet will pass away, so know the best and safest way to protect your dog or cat.

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Mar 12, 2023 • 6 min read

STORY AT-A-GLANCE

- The rabies virus is a dire, usually fatal inflammatory infection that attacks the brain and central nervous system
- In the U.S., the rabies virus is most often transmitted to pets through a bite from an infected wild animal
- Once the virus reaches the brain, the infected animal will experience from one to three phases of the infection and associated symptoms
- Diagnosis of rabies in living, symptomatic animals involves a brief quarantine period and fluid samples
- Prevention can be achieved with a well-timed initial vaccine against the virus, followed by re-vaccinations as required by law or titer tests for at-risk pets

The rabies virus, also called acute viral encephalomyelitis, is an extremely serious, usually fatal inflammatory infection that affects the brain and central nervous system (CNS). Rabies is a single strand RNA virus of the genus *Lyssavirus* in the family *Rhabdoviridae* that's carried in the blood and saliva of infected animals.

How Pets Become Infected

In dogs and cats in the U.S., the rabies virus is most often transmitted when an infected fox, raccoon, skunk, coyote, or bat bites a pet. Infectious virus particles are present in the saliva of these animals to more efficiently transmit the disease.

It's extremely rare, but transmission has also been documented to occur through exposure to the escaping gases of an infected decomposing animal. This transmission usually happens in caves where there are large populations of infected bats. It's something to think about if you have a hunting dog or enjoy exploring caves with your dog.

Rabies is a zoonotic disease, meaning it can also be transmitted to humans by infected animals. Once the rabies virus enters a pet's body, it multiplies in muscle cells, and then spreads to nearby peripheral sensory and motor nerves, which move it to the brain and central nervous system (CNS).

During the incubation period before the virus enters the CNS, the infected animal doesn't exhibit symptoms and can't transmit the disease. The virus moves relatively slowly, with the average time between exposure to brain involvement being three to eight weeks in dogs, and two to six weeks in cats. However, incubation periods as long as six months have been reported in dogs.

Phases of Infection and Associated Symptoms

Once the rabies virus reaches the brain, the affected animal will experience one, two or three phases of the infection. Also at this point, the virus moves to the salivary glands where it can be transmitted by a bite. Just reading about what happens to a rabies-infected animal is extremely disturbing, but it's important that pet parents know what to look for.

The first rabies phase is the prodromal phase, which usually lasts between one and two days in cats, and two to three days in dogs. Symptoms during this phase can include a fever, anxiety, nervousness, and a desire to be left alone. Normally friendly pets may show shyness, irritability, or snappiness.

Interestingly, normally aggressive animals can turn docile and affectionate, which we see frequently in infected wild animals. Most pets also persistently lick at the site where they were bitten.

The second phase of rabies is either the furious phase or the paralytic phase, which is also called the dumb phase. In the furious phase, which can last from one to seven days, symptoms include restlessness, irritability, hypersensitivity to noise and visual stimuli, roaming and attacking behaviors. Eventually, the animal becomes disoriented, begins having seizures, and eventually dies.

The paralytic phase can follow either the prodromal or the furious phase and is usually seen two to four days after the first signs of disease are noticed. Nerves in the head and throat will be affected in this phase, which leads to excessive drooling because the pet can no longer swallow efficiently.

There can also be significant labored breathing, a dropped jaw, and choking sounds, as the diaphragm muscles and muscles of the face become paralyzed. The animal will grow progressively weaker and eventually go into respiratory failure and die.

Diagnosing Rabies

This is a fast-moving virus that must be treated as soon as symptoms appear if the pet has any chance for survival. If your dog or cat has been in a fight with another animal, has been bitten or scratched by another animal, or if you suspect he may have had an encounter with a rabid animal, you should take him to your veterinarian or emergency clinic immediately.

Diagnosis of rabies in a living dog or cat is done through history taking and symptom observation. Pets suspected of having rabies are quarantined in a locked kennel at a veterinary clinic for 10 days and carefully monitored.

If your pet is showing progressive symptoms of the disease while quarantined, the veterinarian will take fluid samples for evaluation. If the samples are positive for rabies, sadly, the law requires that your dog or cat be euthanized.

Animals who die of a suspected rabies infection are diagnosed post-mortem (after death) with a direct fluorescence antibody test performed at a state-approved laboratory. All confirmed cases of rabies must be reported to the state health department.

Unfortunately, there's no treatment or cure for rabies. Death typically occurs in unprotected animals within 7 to 10 days after the onset of symptoms.

Prevention and Vaccination

Since rabies is a devastating and fatal disease, it's important to protect your dog or cat through vaccination as appropriate and required by law, as well as to avoid situations in which your pet could be exposed to a rabid animal. Rabies vaccines are the only vaccines mandated by law in all 50 states.

These vaccines, like all vaccines, have the potential for **adverse reactions** that can range from very mild to profound, up to and including anaphylaxis and death. Fortunately, all 50 states now have a three-year revaccination protocol after the second vaccine is given. However, a few county and city laws may differ, so it's important to check with your veterinarian or local animal control agency for more information.

The amount of rabies vaccine given is a hotly debated topic among veterinarians. While the majority of integrative vets believe a "one size fits all" approach to vaccines puts dogs under 40 pounds at risk for substantially more rabies vaccine reactions, the law still mandates all dogs must receive a 1 milliliter dose.

Thankfully, Dr. John Robb has brought this issue to national attention and we are hoping the increased awareness will prompt changes in this requirement on a state-by-state basis.

Some states allow for medical exemptions from rabies vaccines for pets who are ill or have had an adverse reaction in the past. I've done many medical exemptions over the years for pets who are chronically ill or at risk for a toxic reaction to the vaccine. I do a rabies antibody titer test instead, and in many instances these pets aren't required to have additional vaccinations.

Tips for Improving Rabies Vaccine Safety

I strongly recommend waiting until a pet is as old as allowable by law before giving the first rabies vaccination. In some states, this is six months. In others, it's earlier. A booster shot is usually required within 12 months.

After the second shot, I strongly encourage you to insist on the three-year rabies vaccine. The three-year vaccine is actually identical to the one-year vaccine, so you're providing the protection required by law, but at much less frequent intervals. This means fewer vaccines throughout pets' lifetimes, which means healthier pets.

In addition, rabies vaccinations should never be given in combination with or at the same time as another vaccine. Rabies vaccines should be given alone, separated from all other vaccinations by at least two weeks. Because rabies is the only vaccine required by law, I recommend that it be the only repetitive vaccine you give your pet. You can titer for all other diseases.

I also recommend a homeopathic detox remedy for the rabies vaccine called Lyssin, especially if your pet has had an adverse reaction. Always closely monitor the injection site after each vaccination. If you notice inflammation or any abnormality or change in the appearance of the skin, such as a lump, irritation, or heat, contact your veterinarian immediately.

Rabies vaccines contain an adjuvant, usually mercury (thimerosal) or aluminum, that can accumulate in your pet's body; offering chlorella to your pet for a month following vaccines can help reduce the metals in their system.

It's the goal of the integrative veterinary community that the **Rabies Challenge Fund**, which was initially set up by immunologist Dr. Ron Schultz and veterinarian Dr. Jean Dodds, proves that the rabies vaccine provides duration of immunity for a much longer period than three years.

Ultimately, that would mean pets receive far fewer vaccines. It will allow animals to be immunologically protected without the risk of cumulative vaccine damage over the course of their lifetime.
