

## Rabies Virus

### *Rabies*

#### **Affected Animals:**

Dogs, cats, and humans, as well as foxes, raccoons, bats, and all other mammals.

#### **Overview:**

Rabies is almost always fatal in domestic animals. The classic symptoms include apprehension, anxiety, biting or snapping at random, and frothing at the mouth. Any mammal, including a human, can be infected by the rabies virus, which causes severe neurological disease and death. The virus is passed in saliva typically acquired through a bite wound or by eating an infected animal. The most common rabies carriers are wild animals, including foxes, skunks, raccoons, and bats.

There is no cure for rabies and animals showing clinical signs should be euthanized, or humanely put to death. Any human exposed to rabies must be treated immediately, before the onset of neurological disease, to prevent infection. Once neurological symptoms appear, there is no treatment for humans, either. Anyone suspected of being exposed to a rabid animal should contact the county or public health offices immediately.

Rabies vaccinations are very effective in the prevention of disease and are required by law in most areas, but regulations vary from region to region. The best prevention is regular vaccination. Rabies vaccines, by law, must be given by a licensed veterinarian; most states will not recognize a rabies vaccination that has not been given by a licensed veterinarian.

#### **Clinical Signs:**

Clinical signs of rabies can vary, but generally they include behavior changes such as depression; apprehension; nervousness; anxiety; biting or snapping, sometimes at imaginary objects; wandering or roaming; irritability; muscular incoordination; seizures; paralysis; salivation or frothing at the mouth; and a "dropped jaw," or inability to swallow. Any animal that is unvaccinated and shows abnormal behavior or unexplainable neurological disease should be suspected of having rabies.

**Symptoms:**

See Clinical Signs.

**Description:**

Rabies is a severe, fatal disease affecting all warm-blooded animals and humans. The rabies virus member of the family Rhabdoviridae and is found worldwide, except for a few places such as New Zealand, Hawaii, Japan, Australia, and the British Isles. Highly contagious, the disease is shed in the saliva of infected animals. When an animal becomes infected, it can take between one week to eight months before clinical signs of rabies develop.

Clinical signs occur due to the destruction and severe inflammation of the nerves in the body. The virus also goes to the salivary glands, where the virus can be shed in the saliva. Once signs of neurological disease are visible, the disease progresses very rapidly and the animal usually dies within a week. When a rabies-infected animal bites another animal, or the infected saliva contacts the mucous membranes of an animal, the virus starts to replicate itself in the muscle cells, and then spreads via the nerves to the spinal cord before moving rapidly to the brain.

**Diagnosis:**

Any animal that is unvaccinated and shows abnormal behavior or unexplainable neurological disease should be suspected of having rabies. There is no antemortem test for rabies that provides a conclusive diagnosis in live animals. If rabies is suspected, or the animal has bitten someone and is showing signs of rabies, the only way to confirm the presence of rabies is to immediately submit the brain to an approved laboratory to test directly for the presence of the virus.

**Prognosis:**

Grave

**Transmission or Cause:**

Rabies virus is transmitted through the saliva of an infected animal. Often, animals get the disease by being bitten by or eating an infected with the virus. Wildlife such as skunks, raccoons, bats, and foxes are common rabies carriers.

**Treatment:**

Rabies is almost always fatal once clinical signs appear, and the only humane course of action is euthanasia. Consult a veterinarian about the local laws and regulations concerning exposure or suspected exposure to rabies.

Currently, vaccinated animals that are suspected of being exposed to rabies should be re-vaccinated immediately and then strictly quarantined according to local laws -- generally for a period of 45 days. During the quarantine, the animal must be isolated in a secure enclosure from contact with other animals and people. Contact a veterinarian immediately if any contact with rabies is suspected.

Unvaccinated animals that have been exposed to rabies are a severe health hazard. Most states either recommend or mandate euthanasia and testing of unvaccinated exposed animals. If an owner refuses euthanasia, the animal must be held in strict quarantine for six months, with a vaccination administered at the fifth month. Animals that are not current with their rabies vaccination are generally evaluated on a case by case basis according to local laws.

Even an otherwise healthy, properly vaccinated domestic animal that bites a human should be reported to authorities -- generally the police or animal control - - and quarantined for a period of 10 days.

**Prevention:**

The best prevention is through vaccination. Most states require that rabies vaccinations be administered by a licensed veterinarian. The first vaccine is given at 12 to 16 weeks of age, then again in one year. Remaining boosters are given every one to three years, depending upon the vaccine product recommendations and state laws. In addition, all contact between domestic and wild animals should be avoided.