

## BASIC INFORMATION

### Description

Rabies is a uniformly fatal infection that causes neurologic signs in infected animals. Rabies virus is maintained in various wildlife reservoirs around the world and can infect any mammal. Wildlife reservoirs vary by geographic location. In the United States, the most commonly infected wildlife species are bats, raccoons, skunks, and foxes. Rabies can be prevented in dogs and cats by vaccination.

### Cause

Rabies is caused by a virus that is most commonly transmitted through saliva via a bite wound. It can also be transmitted by contact with the virus in saliva through an open wound or scratch, or through mucous membranes such as the gums of the mouth or the conjunctiva of the eyes. It is rarely transmitted by contact with other body fluids. The rabies virus spreads from the site of entry along nerves to the central nervous system (primarily the brain) and then to the salivary glands. Once in the central nervous system, the virus causes damage to nerve cells and to nerves that supply various tissues.

### Clinical Signs

Neurologic signs are the main manifestation of rabies. Two different syndromes are described, a *furiosus* form and a *dumb* or *paralytic* form. Signs of both syndromes can occur in the same animal. The onset of signs is variable and may occur from 1-2 weeks to several months after exposure.

Initially, affected animals may appear anxious or restless or exhibit other behavioral changes. In the furious form of rabies, infected animals become irritable and aggressive and may bite or attack without provocation. Disorientation, weakness, and a wobbly gait are usually seen. These signs may last a few days, and then seizures may occur that are followed by death.

In the paralytic form, the initial anxious phase is usually followed by progressive weakness that eventually involves the muscles associated with swallowing and breathing. Excessive salivation may occur from inability to swallow normally. A change in bark or meow may be noticed. These signs are usually followed in a few days by coma and respiratory failure, which lead to death.

### Diagnostic Tests

A history of a recent bite wound or other exposure to a potentially rabid animal, in combination with the clinical signs listed, are suggestive of rabies. A diagnosis of rabies should be considered in any animal with neurologic signs that has a history of possible exposure to a rabid (having rabies) animal.

No good diagnostic test is available to definitively diagnose rabies in a living animal. Testing of brain tissue after euthanasia remains the best diagnostic test. Testing of brain tissue is done at state diagnostic laboratories. Other tests may be recommended to rule out other diseases that can cause similar clinical signs.

## TREATMENT AND FOLLOW-UP

### Treatment Options

There is no effective treatment for rabies.

### Follow-up Care

If rabies is suspected, extreme caution must be exercised when handling the animal, to avoid exposure to saliva or other bodily fluids. It is very important to avoid being bitten. Any bite wounds or potentially exposed open surfaces should be washed as soon as possible with warm, soapy water, and your health care provider should be contacted immediately.

Animals exposed to rabid animals must be carefully examined and then placed under close observation or quarantine, depending on the circumstances and whether they are currently vaccinated for rabies. Specific rules exist regarding the handling of animals exposed to rabies, and these rules are updated yearly in the *Compendium of Animal Rabies Control*, available at <http://www.nasphv.org>. Excellent information on rabies is also available from the Centers for Disease Control (<http://www.cdc.gov>).

States and local municipalities have laws regarding rabies control, including vaccination requirements and rules for handling domestic animals exposed to other animals known or suspected of being rabid.

### Prognosis

Rabies is uniformly fatal. It is imperative that all cats and dogs be vaccinated for this disease, in accordance with local and state regulations.