

RABIES

rabies is an acute encephalomyelitis caused by a virus affecting dogs, cats, bats and wild carnivores. however, all warm blooded animals are susceptible to this virus.

The rabies virus is found world wide, except in Australia, New Zealand, New Guinea, Oceania, Sweden, Norway, Great Britain, Japan, Taiwan, Hong Kong and Malaya.

Enzootic (affecting animals in a limited region) in nature, it can however become **epizootic** (suddenly and temporarily affecting a large number of animals) throughout the Western Hemisphere in dogs, foxes, skunks and bats.

The virus may be recovered from the central nervous system (CNS) and also from the salivary glands, lacrimal glands, kidney, pancreas, and adrenal tissues of animals infected with rabies.

In nature, rabies is transmitted from mammal to mammal by means of a bite that introduces the virus-bearing

saliva.

The incubation period is variable. Generally it is within 15 to 50 days. In some rare cases it may last much longer, even up to several months.

Infection takes place by the deposit of infected saliva in or near a nerve. The virus is carried to the CNS by route of the nerve trunk. Experiments have shown that the rabies virus can reach the spinal cord within 24 hours and can be absorbed into the cord tissue within 4 to 5 days. The virus travels in an upwards manner in the spinal cord until it finally reaches the brain. The time period from the date of initial infection until the virus reaches the brain varies and accounts for most of the incubation period of this virus. The virus travels centrifugally from the CNS until it reaches the salivary glands by their nerve supply.

This virus is invariably fatal, however there is now evidence to indicate there are rare instances of recovery. If there is human exposure to a wild rabid animal, the animal should be confined in quarantine for 10 days. When possible, it is best

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to let the rabid animal die as a part of the progression of the virus as opposed to being killed. Rabies progresses rapidly and the typical signs will usually be evident within a day or two. While under observation a complete history is important to obtain as part of the diagnosis. When the rabid dog dies the brain should be examined in a laboratory for lesions in the bulbar region of the CNS. If the laboratory evaluation is inconclusive, then inoculation of laboratory mice will provide a definitive diagnosis.

When an unvaccinated dog or other pet is bitten by a known rabid animal, the pet should be destroyed immediately. When the owner is unwilling to destroy their pet the other option is that the dog or pet be vaccinated immediately and then placed in quarantine for four months or longer.

When a vaccinated dog or other pet is bitten by a known rabid animal and the pet has been vaccinated within the previous three years with a modified live-virus canine vaccine or within one year with an inactivated-virus vaccine, the dog only needs to be revaccinated and restrained for

30 days. Restraint may be through house, yard or leash confinement.

All rabid animals exhibit clinical signs which are consistent with the virus. The clinical signs of the disease, particularly in dogs, can be divided into three phases: 1) the Prodromal; 2) the Excitative and 3) the Paralytic.

Prodromal phase: This phase last 1 to 3 days and is recognized by the following symptoms. The first sign is a change in behavior, which may be indistinguishable from any type of digestive disorder, injury, foreign body in the mouth, early infectious disease, or poisoning. The temperature of the dog may not be significant and the dogs ability to retain its saliva may or may not be noticeable. Dogs typically stop eating and drinking and will seek a place of solitude. Increased urination, erection in the male dog and increased sexual desire are evidence that irritation or stimulation to the urogenital tract has occurred. After this phase dogs will show either the signs of the excitative phase or the paralytic phase

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Excitative phase: This phase is commonly known as the "mad-dog" syndrome. The dog will be irrational and viciously aggressive. Pupils will be dilated, the facial expression is one of anxiety and alertness. Noise will invite an attack, the dog will lose all caution and fear of all natural enemies. Dogs in this phase rarely exhibit the Paralytic symptoms and rarely live beyond 10 days after onset of symptoms. Dogs in the Excitative Phase of rabies are frequently found roaming streets and highways, they often bite other animals, people and any moving object. You will find that they commonly swallow foreign objects such as sticks, stones, straw and feces. They will chew the wire on their kennels and frequently break their teeth. Dogs with Excitative Rabies have been known to attempt to bite a human's hand through a cage and will track the hand in a deliberate attempt to bite. Young puppies in this phase of rabies will commonly seek out human companionship, and play roughly, but bite even when petted. The puppies will become vicious in a few hours of seeking out human companionship. Muscular incoordination and

convulsive seizures are common as the disease progresses.

Paralytic phase: This form of rabies is typically characterized by the early paralysis of the masseter muscles, and throat. Usually one will notice profuse salivation and an inability to swallow liquids. Dogs commonly drop their lower jaw. Dogs that are in this type of rabies are not vicious and rarely attempt to bite, most are not able to bite. In an effort to determine if a foreign body is lodged in the dogs throat or mouth, many owners will insert their bare hand into the mouth of the animal to dislodge such obstruction. The paralysis progresses very rapidly to all parts of the dogs body, leading to coma and death within a few hours.

Control methods for rabies work best on a countrywide basis and need to include the following:

- 1. Mass inoculation of dogs. Outbreaks are controlled when 70% of the dog population is vaccinated within a two to three week period of the initial outbreak.**
- 2. Elimination of stray and wild dogs.**

3. Reduction of the wildlife populations that carry the rabies virus during this outbreak.

Additional Information can be found at the following Rabies Pages

[Center for Disease Control](#) .

[Rabies Information Just For Kids](#)

[CDC Rabies Fact Sheet](#)

[Travelers Health Information](#)