

Rabies: What We Should Know



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Incidence

Rabies is a vaccine- preventable disease that occurs in more than 150 countries around the world. It is estimated by the WHO that annually some 15 million people get post-bite vaccinations. Of these victims, 40% are children under the age of 15 years. Usually, the biting animal is a stray dog. Annual death toll from rabies is around 55,000 people in Africa and Asia combined.

Rabies virus belongs to the Rhabdoviridea viral family, which also includes the measles virus. It is an RNA virus, meaning that it is sensitive to drying and sunlight, which

kill it immediately. It is found in animals' salivary glands during a bite, and enters the muscle and nerves via the bite. Once inside our nerves, it takes about 9 days to 2 weeks to travels inside these nerves to our central nervous system (spinal cord and brain). The time needed to reach the central nervous system depends on the site of the bite and the viral dose in the animal's saliva. Once inside the brain, it disrupts the normal functioning of the brain, while it also travels down to the salivary glands. Death always occurs about a week after signs of brain infection start.

Diagnosis & Symptoms

Symptoms always start after the virus reaches the brain. During this period between the bite and the first signs, the virus remains a silent traveller inside the body. Days after the bite, initial flu-like signs appear, which persist days afterwards, with added signs of agitation, confusion and anxiety. This leads to more delirium, insomnia and abnormal behavior and finally death.

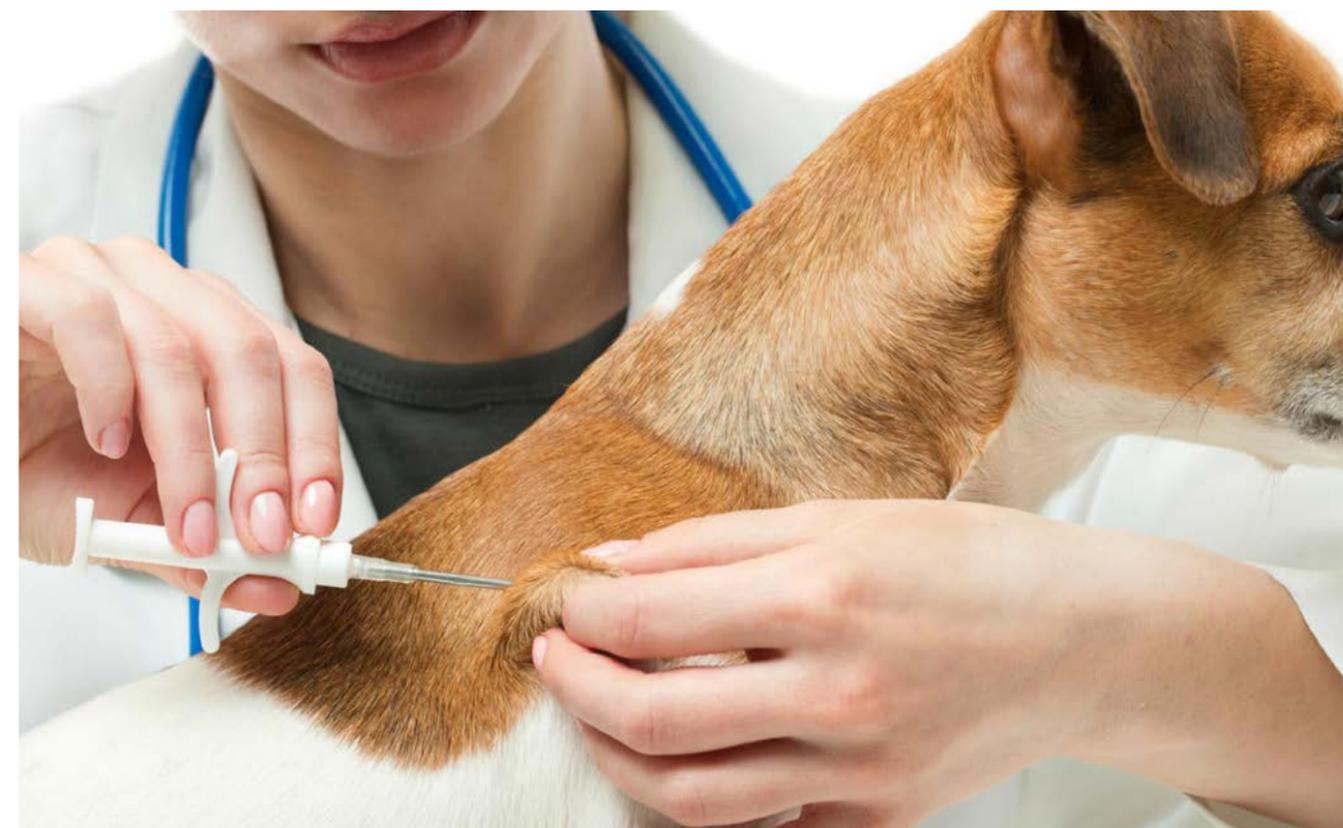
Diagnosis is done via a blood test called the Direct Fluorescence Ab. This is the gold standard for rabies testing. Pathologic examination of the rabid animal, if it was caught, also adds value to the post-bite assessment of the human victim.

Source

Mammalian animals that can bite a human being are the source of this virus. These include dogs (95% of cases), cats, rats & bats. Scratching can also transmit rabies, but it is less commonly seen since the virus doesn't survive long on nails. Transmission is not possible from blood, urine or feces of rabid animals.

Pet Care

The Centers for Disease Control (CDC, USA) recommends that ALL dogs and cats that are domestic pets be vaccinated at the veterinarian



on schedule. More than one vaccine is usually administered, so don't omit any. **Vaccinated pets are NOT a threat if they bite you accidentally. Mice and hamsters are NOT a source of rabies.**

The CDC recommends that if an un-vaccinated domestic pet bit you, clean the wound with soap and water, plus some anti-viral solution like Povidine- Iodine. The pet in question must be taken to the veterinarian for observation for ten days, and vaccinated before release if the behavior remains nominal.

When a stray (wild) animal bites or scratches deeply, the animal must be isolated immediately and euthanized. Its brain should be sent to a lab by the municipality personnel for immediate testing. The victim must receive the vaccine within six days. This is the time when the vaccine can be 100% effective. The vaccine consists of 5 shots: (1) Immediate vaccine #1 + Immunoglobulins. (2) Vaccine #2 three days later; (3) Vaccine #3, one week later; (4) Vaccine #4, two weeks later. The cost of the vaccine is around 50\$, and it is the ONLY option for treatment. There

are no antibiotics or other medications that will help here. Once brain infection occurs and signs of this infection start to appear, treatment or vaccine DO NOT help!

In conclusion:

- If you have a pet dog or cat, vaccinate as soon as the veterinarian schedules it. Meanwhile, keep cats indoors, while dogs must be under close observation at all times.
- If you see stray dogs or cats in your neighborhood, inform municipality personnel.
- If you get bitten or scratched by a stray animal, (1) inform municipality of this animal so that they can euthanize it for testing; (2) Clean your wound with soap and water, and head to the nearest clinic to start vaccinations. If the animal is captured and its brain tests clean for rabies, you may omit vaccines.

