



# THE FACTS ABOUT RABIES

BY FRANK C. MONTAGNA

Imagine that you are a ladder company officer at a fire in a private dwelling. The fire is on the first floor. You and your inside team are moving in with the engine. Your outside team is venting from the exterior. Over the radio, you hear one of the team announce, "There is a big dog in the backyard. It bit me. Watch yourselves."

You are heavily engaged in searching, and the firefighter sounded OK. You continue with your job.

Once the fire is knocked down, you seek out the firefighter and examine his wound. He has two puncture marks on his right wrist, where the dog grabbed him. From one of the wounds extends a scrape created

when the firefighter pulled his wrist from the dog's mouth. The firefighter is bleeding slightly. It is not a serious wound. Or is it?

You tell the incident commander of the bite and ask what you should do about it. He tells you to have EMS personnel on the scene wash the wound. You do so and then take up and return to the firehouse. That is the end of the story.

Or is it? Is it possible that the dog has been infected by the deadly rabies virus? If so, did the dog transmit rabies to the firefighter?

## WHAT IS RABIES?

"Rabies is a viral disease that affects the central nervous system of all warm-blooded animals," according to Dr. David L. Personett, a veterinarian based in Melbourne Beach, Florida. Raccoons, skunks, bats, as well as dogs, cats, and humans can carry and transmit the disease.

Rabies can be transmitted through a bite, scratch, lick, and even the seemingly innocuous act of petting the family dog. The virus is in the animal's bodily fluids, including saliva. If an infected animal licks itself and you touch the animal on the contaminated spot and then touch a scratch, cut, or mucous membrane on your body,

you could be at risk.

Untreated, rabies is almost always fatal; and the death is a frightful one. Before 1885, the year when Louis Pasteur first successfully treated a human rabies victim, the common treatment for human rabies was euthanasia. Smothering with a pillow was considered kinder than allowing the person to suffer the agonizing death that resulted from rabies. Today, if promptly treated with a series of injections given prior to the onset of symptoms, rabies need not be fatal.

## SOME MYTHS

Some myths concerning rabies must be dispelled if emergency responders are to avoid contracting the disease.

• *Myth.* A rabid dog will froth at the mouth.

**Fact.** Not necessarily. Dogs can be afflicted by two types of rabies: the dumb or paralytic type and the furious type. A dog with the paralytic type drools constantly as a result of paralysis of the jaw muscles. The dog's tongue will hang out of its mouth and saliva will continually drip, creating a frothing appearance. This type of rabies occurs in about 20 percent of the cases. That means that 80 percent of rabies-infected dogs won't froth at the mouth.

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• *Myth.* A rabid dog will be vicious and snap at everything.

**Fact.** Again, not necessarily. A dog with the furious type of rabies might act in this manner. At first, it will snap at strangers; as the disease progresses, it will snap at non-existent objects. Finally, if the dog should escape, it will run for miles, snapping at any creature it encounters before it eventually becomes paralyzed and dies.

• *Myth.* You are safe because no cases of rabies have been reported in your area for more than 50 years.

**Fact.** So what? How about the family who brings its unvaccinated dog on vacation to the mountains and then brings it back home infected with rabies as the result of an encounter with a rabid raccoon? How about the family who moves into town with an infected dog? How about the infected raccoon that hitches a ride on a truck and gets off in your neighborhood? The fact that recent cases of rabies have not been reported in your area is no guarantee that the dog that bit you is not rabid.

• *Myth.* A rabid dog will not drink water and will exhibit a fear of water.

**Fact.** False. Humans infected with rabies suffer painful muscular spasms when attempting to swallow, leading to a morbid fear of water (hydrophobia). Rabid dogs do not experience these spasms and can drink large quantities of water.

• *Myth.* If a dog acts friendly, it is not rabid.

**Fact.** Infected dogs likely will undergo mood shifts. A vicious dog may act friendly, and a friendly dog may exhibit aggressive tendencies. In addition, an infected dog can transmit the disease three to five days prior to the appearance of any symptoms.

• *Myth.* Don't worry, the dog has had its shots. It doesn't have rabies.

**Fact.** There are two types of vaccine for dogs; one lasts for one year and the other for three years. After the expiration time of the shot, the dog must have booster shots. A dog that has not had booster shots could contract and transmit the disease.

How do we know if a dog has had its shots? Dr. Personett explains that "only a written certificate signed by a veterinarian accredited in the state in which he practices should be accepted as proof of a properly administered vaccination." In some instances, he adds, a dog owner may purchase the vaccine and inject the dog with it. Such a vaccination should not be accepted, he cautions, since there is no dated certificate and no guarantee that the vaccine had been handled and

administered properly.

#### AVOIDING RABIES

The following guidelines will help you avoid the hazards of rabies.

• Avoid being bitten. Before entering a room or yard, make noise. Shake the gate, rattle the door, or bang on the wall with a tool. Hopefully, if there is a dog in the area, it will bark. When confronted with an aggressive dog, consider an alternate route to your assigned position and warn all on the scene of the danger.

• Treat any warm-blooded animal bite or scratch as a potential source of the rabies virus.

• Immediately wash the bite with soap and water to remove the virus. In addition, washing the wound with a one-percent solution of povidone-iodine or some other virucide might help to prevent infection.

• Capture/confine the dog. To test the animal, it first must be captured. Firefighters are not equipped to capture a dog that might be rabid. We might, however, be able to detain the dog until the proper authorities

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arrive. Simply closing a door or gate may do the job. It may be necessary to request police assistance in capturing or destroying an aggressive dog, but it might be better to use tranquilizer darts. The police or your local animal rescue unit may be able to help. Use precautions to avoid exposing additional firefighters or civilians to a possible rabies infection. Extinguishers, hoses, ladders, and tools also can be used to keep the animal at bay.

- Determine if the dog has rabies. A stray should be destroyed and tested immediately by your local health authorities. A pet need not be destroyed even if the owner can't produce proof of the dog's immunization. Confining and observing the dog for 10 days will be sufficient to determine if it is infected. If the confined dog exhibits suspect behavior, it should be destroyed and its brain tested. If the test indicates rabies, the person bitten should then begin the series of vaccinations. If after 10 days the dog exhibits no symptoms, there is no cause for alarm.

It might be wise to confine and observe even a vaccinated dog that has bitten a firefighter. When I asked Dr. Personett if a dog who has received all the required shots was 100 percent safe from rabies, he replied,

"There is no 100 percent."

Remember, the animal must be confined immediately. Don't let it out of your sight. The test for rabies necessitates killing the dog, cutting off its head, and examining its brain. The dog's owner, knowing this, may hide the animal to avoid this morbid test. If the dog is unavailable for observation or testing, you have two choices—gamble or take the shots. If you choose to gamble and you lose, you don't get to play again.

If you are unable to impound the dog, you should follow up by checking back with the dog's owner at the end of the 10-day period. Question him as to the condition of the dog. If possible, observe the dog yourself or, better yet, have it examined by a veterinarian.

- Do not damage the animal's head. If the animal must be killed on the spot, try not to damage the head. It must be intact for the rabies evaluation.

- Take appropriate precautions when handling the dog's corpse because of the risk of infection. Use the same precautions you would use when handling a possible HIV carrier. In both cases, the result of infection is the same. Rabies, however, acts faster.

- Decontaminate any gear or tools that have been exposed to the animal's body fluids. Normal firefighting protective gear may protect against a bite or scratch; but remember, the dog's saliva and other body fluids may be on your gear and might infect you. Use standard decontamination procedures.

- Notify local health authorities of any animal bites and follow their recommendations. Have police, animal rescue, and health department phone numbers readily available, and be aware of and follow health department policy.

Firefighters do not deal frequently with the problem of rabies. It is, however, a problem that must be addressed and dealt with properly. If your department has no policy regarding rabies, contact your local health authorities and be guided by their recommendations in setting up a policy. In addition, contact local police and animal rescue units in advance to preplan how you would handle such incidents. Worrying about rabies should not prevent you from doing your job. This disease represents just another of the many dangers we face. We must, however, be informed about rabies and take appropriate precautions against infection. ■

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