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Vacation and Raccoons Avoiding Rabies By James L. Holly, MD Your Life Your Health The Examiner July 8, 2010

As I write this column, I am completing a three-week hiatus from work – some people call it a vacation. Visiting elderly mothers, a week at the Alabama Orange beach with all of the family, books and more books, some work but not as much as usual while on vacation and some exercise but not as much as in the past, have been the mile markers of this extended time off. The most disruptive part has been the four-week and counting remodeling of our 73-year-old kitchen. Have you lived without a stove and a refrigerator for a month with two more months to go? You should try it; it is a novel experience.

Nocturnal Visitor

One of the most peculiar experiences of my time off occurred on Thursday, June 29th. At 3:30 AM, our Jack Russell Terrier bounded off the bed and ran to the window. Thinking that it was simply the rain drops falling on a flat roof outside our bedroom window, I reassured her and encouraged the household to go back to sleep; after all, it was vacation.. At 4:00 AM, our vigilant pet was at it again; so I took her outside in case her needs were biological. It was only sprinkling rain at this time.

We settled down again only to repeat our dash to the window a few minutes latter. I opened the shutters to see what could be bothering her. As my eyes focused on the dark, I was looking eye to eye with a raccoon. Our dog was standing on her back legs with her front paws on the window.. As the dog barked and as I tapped on the window pane, our nocturnal visitor, just stared back at us with no alarm. The raccoon did not scurry away and showed no fright. The good news was neither did the raccoon show any aggression. Finally, the critter wandered away and the household settled back down. Fleetingly, I wondered why a wild animal did not show a natural fear of man and dog. The raccoon was small and was possibly a young animal. That might be one reason. But, there are other reasons as well.

Brownsville, Texas

This brought up memories of an experience I had early in my medical career. I was working in the emergency room in Brownsville, Texas in 1975, a few months before moving to Beaumont. One morning, a telephone rang in the ER. The nurse said that a biology professor from Texas A&M was on the telephone and wanted to talk to the ER physician. He had an interesting story. He had a group of students in the San Carolos Mountains in northern Mexico on a scientific field trip. He had just driven twelve hours to Brownsville and was at a veterinarian's office. He told a fascinating story that while all of the students had been asleep, one of them awoke with a skunk chewing on his sleeping bag with copious amounts of salvia coming from its mouth.

With the alarm raised, all of the students began running around trying to avoid the skunk. The professor had a 410 shotgun and shot the skunk, correctly fearing that he might be rabid. The skunk fell down a ravine, but was not dead. He climbed back up and came after the students again. A second shot stopped the attack. Immediately, the professor started a twelve-hour drive with the skunk to a veterinarian's office in Brownsville. The vet confirmed that the skunk was very likely rabid and prepared its head for shipment to the state lab for confirmation. Because none of the students had been bitten, he reassured the professor that the students were OK.

In an abundance of caution, the professor called the ER for a "second opinion" before heading back to his students. I asked the professor, if any of the students had been barefooted when they were running around avoiding the skunk. He said all of them were. I asked if any of them had scratches or abrasions on their feet due to rocks or pebbles. He said that all of them did. I told him, "You may have a serious problem. The students can be inoculated with the rabies virus from cuts on the feet as quickly as they can from a bite from a rabid animal."

He came to the ER and we began the process of getting aid to the students within the window of opportunity to prevent the devastating effects of rabies. What we needed was air evacuation of these students. They were already more than twelve hours since exposure. Retrieving them by car would take at least twenty-four more hours, which was too long. I called the Naval Air Station in Corpus Christi. They called the Pentagon in Washington who called the Mexican government. With permission for a United States military helicopter to fly into Mexican airspace, the students were returned to Brownsville to begin the rabies shots.

This was a big deal in our little community. CBS Evening news had a national live report on the incident. The local medical community applied its creativity to humorous anecdotes about Aggies, rabies and diagnoses. These jokes were only funny because the students were all OK.

These two incidences remind me about how indifferent we all often are about rabies. When I was a child, we were all warned about wild and domestic animals and the potential of rabies. The classic movie, *To Kill A Mockingbird*, had a scene which alerted us all to the potential danger of rabies.

What are the facts?

Rabies is "epizootic" in Texas and the United States. This means that rabies continually appears in animals in Texas and the USA.. The most common carriers of rabies in Texas are bats, coyotes, and foxes but raccoons and bobcats also can transmit rabies.. The most common form of rabies in Texas is from bats. There have been three documented cases of rabies in bats in Texas in 2010.

In the United States, 6 viral strains of rabies are carried by bats, and 5 viral strains are carried by land mammals: 2 fox strains, 2 skunk strains, and the raccoon strain. All strains of rabies are 100% fatal. **However, no strains of rabies are easily transmitted, and all are easily prevented.** Rabies is an acute viral disease of the nervous system of warm-blooded animals. The rabies virus reaches the brain through the nerves, reproduces, then travels back

through the nerves to the rest of the body. Once the rabies virus reaches the salivary glands, it is released into the saliva. It produces submissive or violent behavior before eventual death.

Following exposure to rabies (normally through the bite of a rabid animal), a rabies post-exposure treatment -- which is a vaccination of the rabies immune globulin administered around the wound and in the buttocks, followed by 5 vaccinations in the arm (not the stomach) over the next 28 days -- will prevent the development of rabies, *if* infection symptoms have *not* already occurred. Those symptoms are: *first*, fever, anorexia, headache, lethargy, numbness or tingling at the site of the bite, *then*, hyperactivity, disorientation, hallucinations, seizures, hydrophobia (intense fear of water), paralysis, and *finally* coma. No symptoms occur during the incubation period for the rabies virus, which, in humans, may be as little as 9 days, usually is 20-90 days, but can even be as long as several years.

Raccoon Rabies

Raccoon strain rabies is just as deadly to the raccoon as it is to untreated humans, but the latency period before symptoms become active in both raccoons and humans is about two months -- and sometimes up to six months -- which is enough time for a diseased raccoon to mate and produce a litter of rabid raccoons. Gestation in a raccoon is 63 days. In that time, 3 or 4 baby raccoons are born.

Both the United States Department of Agriculture (USDA) and the respective state departments of health have participated in programs to eliminate raccoon rabies through an Oral Rabies Vaccine -- usually in a rural setting. Vaccinating wild raccoons, instead of killing them is the most effective way to stop raccoon rabies. Oral Rabies Vaccine bait (dyed pink) is inserted within a compressed block of fishmeal and fish oil, which is very attractive to raccoons. Dropped from planes and distributed by land vehicles, the bait is quickly consumed within 5 days. Once consumed by the raccoon, antibodies will develop within 2-3 weeks to protect the newly vaccinated raccoon against exposure from rabid raccoons.

The spread of rabies is greatly reduced by ever greater numbers of raccoons that have been successfully vaccinated. Health department professionals recommend pet owners to keep their dogs and cats inside or on leashes, so only the raccoons can consume the bait. Small quantities consumed by the family pet will not harm the pet, but people with immunodeficiency may be prone to a local virus infection. Rinsing with soap and water can prevent infection. Otherwise, contact your local health department, if exposed to the vaccine.

Though raccoon rabies has rarely resulted in a fatal case of human rabies, a 25-year-old electrical engineer from Northern Virginia, who enjoyed jogging -- died of raccoon rabies on March 10, 2003. After developing a low-grade fever, he couldn't seem to shake the flu-like symptoms for 10 days. On day 11, his words slurred and he couldn't keep his balance. A coma resulted four days later, then death. He became the first and only person in the United States ever to die of raccoon rabies. We need to be more careful about our surroundings, as the suburbs are pushing further and further into formerly wild habitats; but admittedly, raccoons have become adept urban dwellers, as well.

The following steps can help you avoid raccoon or other forms of rabies:

1. Observe a respectful distance from wild animals.
2. Do not feed wild animals. (If necessary, eliminate bird feeders.)
3. Secure food and garbage to prevent wild animals access to them.
4. Only place trash out on the same day that it will be picked up.
5. Seal openings in attics, basements, porches, sheds, and barns.
6. Cap chimneys with screens.
7. Vaccinate all pets.

Rabies is not common and you do not have to live in fear of it, but it is a very dangerous condition. You should warn your children not to play with cute little animals who wander into your yard and to get away from any animal which is acting aggressively, strangely or which is salivating.