Rabies

Agent: Rabies virus, a rhabdovirus of the genus *Lyssavirus*
Mode of Transmission: Most commonly transmitted through the bite of an infected animal, but may be transmitted through any method by which virus-infected saliva or central nervous system tissue enters the body.
Signs/Symptoms: Vary widely, but often include an initial headache, fever and apprehension which progresses to paralysis, spasms of the muscles used for swallowing, delirium and convulsions. Once symptoms appear, rabies is almost invariably fatal.
Prevention: Important prevention methods include vaccinating cats and dogs, eliminating stray animals, and avoiding handling wildlife. A pre-exposure vaccine should be given to people at high risk of infection (e.g., veterinarians and laboratorians working with rabies virus). Post-exposure vaccine should be administered to anyone possibly exposed to a rabid animal.
Other Important Information: The main reservoir of rabies in the United States is wildlife. In most other countries, the main reservoir is dogs.

Human

One human case of rabies was reported in Virginia during 2009. This case occurred in an adult male from the northern region who was infected with the Indian canine variant of the rabies virus and was thought to have been exposed during an encounter with a dog while traveling in India. The patient died as a result of this infection. The last case of human rabies in Virginia occurred in 2003 in an adult male from the northern region who was infected with a raccoon rabies variant.

In 2009, 1,201 people received rabies post-exposure prophylaxis (PEP). The largest proportion of those receiving PEP lived in the Fairfax Health District (199 people, 16%). The district with the second highest number of residents receiving rabies PEP was Prince William Health District (76 people, 6%), which was followed by Lord Fairfax Health District (70 people, slightly less than 6%). While the northern region had the highest number of residents receiving PEP (345 people, 29%), the eastern region had the fewest (187 people, 16%).

For every animal with a laboratory-confirmed rabies infection in Virginia in 2009, 2.1 people were reported as receiving PEP. By health region, the northern region averaged 3.9 people receiving rabies PEP for every animal that tested positive while the other regions ranged from 1.8 to 2.1 residents receiving PEP for every animal that tested positive (Table 8).

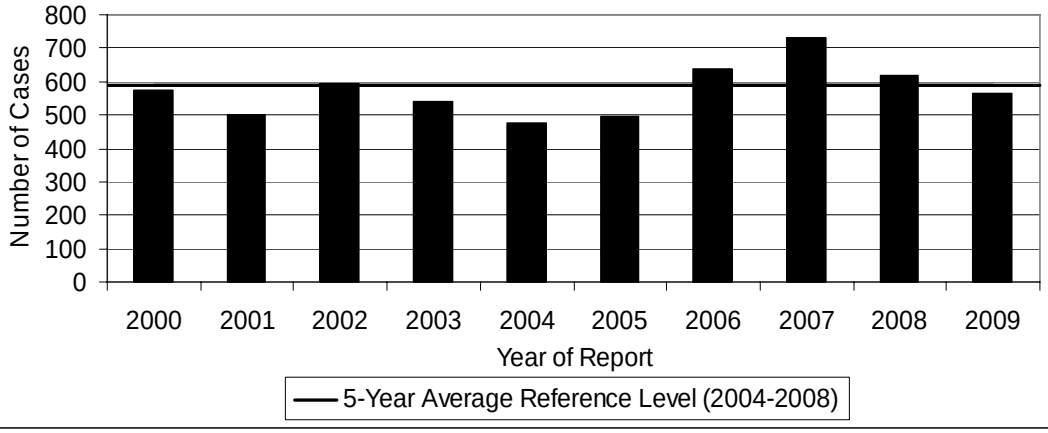
Table 8. Number of People Receiving Rabies PEP per Rabies Positive Animal, Virginia, 2009

Region	Number of People Receiving Rabies PEP	Number of Animals Positive for Rabies	People Receiving Rabies PEP/ Animals Positive for Rabies
Central	223	120	1.8
Eastern	187	102	1.8
Northern	345	88	3.9
Northwest	221	146	1.5
Southwest	225	108	2.1
Total	1201	564	2.1

Animal

A decrease was observed in the number of animals testing positive for rabies, from 620 in 2008 to 564 in 2009 (Figure 51). The proportion of animals that tested positive also decreased slightly, from 15% in 2008 to 14% in 2009. Fairfax Health District reported the highest number of rabid animal cases with 44 (8%) cases, followed closely by Chickahominy and Central Shenandoah Health Districts (42 and 40 cases respectively, 7% each).

Figure 51. Rabies in Animals: Ten-Year Trend, Virginia, 2000-2009



By region, the northwest region reported the highest number of laboratory-confirmed rabid animals with 146 (26%) cases, followed by the central region with 120 (21%) cases. The remaining regions ranged from 88 to 108 cases each.

The largest number of animals that were submitted for rabies testing occurred during June through August, and the months with the fewest submissions were December and January. This seasonal pattern is likely a result of increased interactions with wildlife during warmer months. No seasonal pattern was observed in the number of animals testing positive for rabies.

Of all species tested for rabies, cats were the most commonly tested animal with 1,061 tests (Table 9). Although skunks had the highest positivity (65%) among all animals tested, followed by raccoons (44%), and foxes (38%), nearly half of all rabid animals identified in Virginia in 2009 were raccoons.

Table 9. Animals Testing Positive for Rabies by Species, Virginia, 2009

Animal Species	Number of Animals Tested	Positive	
		Number	Percent
Alpaca	3	0	0%
Bat	742	22	3%
Bear	1	0	0%
Beaver	5	0	0%
Bobcat	4	1	25%
Bovine	66	10	15%
Cat	1,061	40	4%

Table 9. Animals Testing Positive for Rabies by Species, Virginia, 2009 (continued)

Animal Species	Number of Animals Tested	Positive	
		Number	Percent
Chipmunk	10	0	0%
Coyote	3	0	0%
Deer	4	0	0%
Dog	563	4	1%
Equine	65	1	2%
Ferret	4	0	0%
Fox	159	60	38%
Goat	30	0	0%
Groundhog	127	5	4%
Guinea Pig	1	0	0%
Hamster	3	0	0%
Llama	2	0	0%
Mole	9	0	0%
Mouse	9	0	0%
Mule	1	0	0%
Muskrat	8	0	0%
Opossum	233	1	0%
Rabbit	14	0	0%
Raccoon	617	269	44%
Rat	6	0	0%
Sheep	4	0	0%
Skunk	233	151	65%
Squirrel	70	0	0%
Vole	2	0	0%
TOTAL	4,059	564	14%