



Public Health
Seattle & King County
Epidemiology, Prevention Division
401 Fifth Avenue, Suite 900
Seattle, WA 98104



PRSR STD
U.S. Postage
PAID
Seattle, WA
Permit No. 1775

Communicable Disease and Epidemiology News

Published continuously since 1961

Shelly McKeirnan, RN, MPH, Editor (shelly.mckeirnan@kingcounty.gov)

Return Services Requested

Vol. 48, No. 4

April 2008

- **Animal Bites and Rabies Post-Exposure Prophylaxis (PEP) in King County**
- **Evaluation of Rabies Post-Exposure Prophylaxis (PEP) Reporting in King County**

Animal Bites and Rabies Post-Exposure Prophylaxis (PEP) in King County

Believe it or not it's spring, and with spring comes increased reports of animal bites and bat exposures. In 2007, Public Health—Seattle & King County received over 875 reports of animal bites and bat exposures in King County residents, with 60% reported between May and September.

Washington State law (WAC 246-101)¹ requires health care providers to report animal bites and potential exposures to rabies suffered by humans immediately, including exposures to bats and administration of rabies PEP. Bat exposures include bare-skin contact with a bat and situations where bat-to-skin contact or bat bites cannot be ruled out (e.g., a bat is found in a room with a child or inebriated person, or an adult wakes up to find a bat in the room). These exposures are reportable so that Public Health can: 1) assist health care providers in assessing the risk for rabies, 2) help determine the need for rabies PEP, and 3) facilitate laboratory testing of animals for rabies, if indicated.

From 2003 through 2007, 416 persons reported to Public Health in King County met the criteria to receive rabies PEP, including 28 persons who were exposed to bats that subsequently tested positive for rabies. In 385 cases, no animal or bat was available for testing or observation. Overall, about 15% of the reported rabies PEP cases are exposed abroad. Determining appropriate treatment for such cases can be complex: Sometimes health care providers in other countries assess rabies risk using criteria different from what is recommended in the U.S. Other times, patients may get treated with biologicals that are either not approved in the U.S., or are given on a different schedule.

Although rare, rabies still occurs in humans in the U.S. One or two deaths in the U.S. each year are attributed to rabies, and there may be additional, unrecognized deaths due to rabies. Three cases of human rabies were reported from Texas, Indiana, and California during 2006. The cases in Indiana and Texas were attributed to bat rabies virus variants, whereas the case in California was attributed to an exposure to a dog in the Philippines. None of these persons sought medical care until symptoms of rabies developed, at which point it was too late to administer PEP.

During 2000 through 2006, a total of 19 of the 24 human rabies cases reported in the U.S. were acquired indigenously. Between 1990 and 2000, 24 of the 32 reported human rabies cases in the U.S. were caused by rabies virus strains associated with bats, and in the majority of these cases a bite from a bat was not documented. In Washington State, the most recent human cases (Lewis County, 1995, and Mason County, 1997) were both due to infection with bat rabies strains.

Bats are the primary reservoir for rabies in Washington State. Though no rabies cases have been identified in wild terrestrial animals in Washington in the past 60 years, the lack of an active surveillance system for rabies makes it possible for infections to go undetected in the wild. Approximately 7% of bats tested in Washington State between 1990 and 2007 were positive for rabies.

For persons bit by dogs, cats, or ferrets, it is helpful for us to know if the animal was the victim's own pet, or the pet of a neighbor, friend, or family member. Cats, dogs, and ferrets that aren't exhibiting signs of rabies at the time of the bite can be observed for a 10 day quarantine period. If the animal survives this 10 day period in good health, the animal would not have been infectious for rabies at the time of the bite, and the person who was bitten does not need rabies PEP. If the animal becomes sick or dies during this period, testing for rabies should be done.

For people who have never been immunized for rabies, PEP after a potential rabies exposure consists of 5 doses of rabies vaccine given intramuscularly on days 0, 3, 7, 14, and 28, and rabies immune globulin (RIG; dosage based on body weight), administered at the site of the wound (if possible). RIG is given at the same time as the first dose of vaccine. In King County, RIG is typically available only through hospital emergency departments and hospital-based urgent care clinics, however, rabies vaccine for doses 3, 7, 14 and 28, and also RIG, can be ordered by any health care provider through most vaccine distributors in King County, and overnight delivery is often available.

Reporting Animal Bites and Rabies PEP in King County

Rabies is preventable with timely and appropriate care. Health care providers should advise persons who have been bitten by an animal to wash the wound with soap and water, and consult Public Health on how to manage the animal. In situations where PEP is being considered, health care providers should immediately call Public Health at 206-296-4774, preferably before beginning PEP. Public Health staff includes physicians and veterinarians and are available 7 days a week, 24 hours a day for consultation. More information on reporting of notifiable conditions is available online.¹

Public Health staff can recommend whether testing or confinement and observation of the animal is appropriate. In the case of bat exposures, capturing and testing the bat may avoid unnecessary administration of PEP, because most bats do not have rabies. For information on safe bat capture see: www.metrokc.gov/health/prevcont/bats.htm.

Tetanus Prophylaxis in Wound Management

Persons 11 to 64 years of age who require a tetanus toxoid-containing vaccine for wound management should receive Tdap instead of Td if they have not previously received Tdap. If Tdap is not available or was administered previously, Td should be administered.

Adults who have never received tetanus and diphtheria toxoid-containing vaccine should receive a series of three vaccinations. The preferred schedule is a dose of Tdap, followed by a dose of Td >4 weeks later, and a second dose of Td 6 to 12 months later. Tdap can be substituted for Td for any one of the three doses in the series. More information on wound management is online at: www.metrokc.gov/health/providers/epidemiology/rabies/animal-bite-factsheet.pdf

Rabies Prevention

Many animal bites and rabies exposures can be avoided. Health care providers can help educate their patients about reducing the risks associated with wild and domestic animals. One of the primary ways to prevent rabies is to avoid contact with wild animals. Another is to prevent bats from entering homes or occupied spaces where they might come in contact with people and pets. Another way is to keep rabies vaccine up-to-date for all dogs, cats, and ferrets. For more information on rabies prevention see: www.metrokc.gov/health/env_hlth/rabies.htm. For a health care providers' fact sheet on animal bites see: www.metrokc.gov/health/providers/epidemiology/rabies/animal-bite-factsheet.pdf. Additional information for health care providers on animal bites and bat exposures, and for reporting notifiable conditions, is also online.¹

Evaluation of Rabies PEP Reporting in King County

A key issue for disease surveillance is determining how well a surveillance system detects cases. Public Health recently conducted an evaluation of the completeness of rabies PEP reporting in King County from 2003 to 2006 to assess if improvement in case identification is needed.

In 2000, rabies PEP was added to the list of notifiable conditions reportable by health care providers and health care facilities to local health jurisdictions in Washington State in accordance with WAC 246-101.¹ The case definition for this notifiable condition is "administration of rabies PEP following exposure to a rabid or potentially rabid animal." In King County, rabies PEP treatments are usually initiated at hospital emergency departments where RIG is routinely available.

We sought to determine how completely rabies PEP administration is reported to Public Health. One way to evaluate reporting completeness is to obtain case data from an alternate source that is separate from the routine

¹ Information on WAC 246-101 and reporting online at: www.metrokc.gov/health/providers/epidemiology/reporting.htm

reporting source and compare that data to reported cases. We obtained information on RIG prescriptions from 2003 to 2006 from hospital pharmacies in King County and compared the pharmacy cases with rabies PEP cases reported to Public Health during the same time period. A total of 290 rabies PEP cases were reported to Public Health from 2003 to 2006. An additional 76 cases were identified by the pharmacies during this time period.

The overall reporting completeness for the evaluation period was 67.5%, increasing from 32% in 2003 to 62% in 2004, 79% in 2005, and 85% in 2006.

We are encouraged by the improvement in reporting over this 4 year period. However, the ideal would be for all cases of rabies PEP to be reported at treatment initiation. This is not only for better data collection, but also to help guide the appropriate use of rabies PEP. Decisions regarding rabies PEP are often complex, depending on (1) the epidemiology of rabies in the geographic location where the exposure occurred, and (2) whether the animal that caused the exposure is available for rabies testing, or for a 10-day observation period (in the case of dogs, cats, and ferrets only). Public Health also requests that providers report patients who receive or begin rabies PEP in other countries.

Public Health continues to encourage providers to consult with us regarding exposures to bats and other potentially rabid animals. More information on reporting notifiable conditions is in the prior article or online.¹

Disease Reporting	
AIDS/HIV	(206) 296-4645
STDs.....	(206) 744-3954
TB	(206) 744-4579
All Other Notifiable Communicable Diseases (24 hours a day).....	(206) 296-4774
Automated reporting line for conditions not immediately notifiable.....	(206) 296-4782
Hotlines	
Communicable Disease.....	(206) 296-4949
HIV/STD.....	(206) 205-STDS
Public Health-Seattle & King County Online Resources	
Home Page: www.metrokc.gov/health/	
The EPI-LOG: www.metrokc.gov/health/providers	
Communicable Disease listserv (PHSKC INFO-X) at: mailman.u.washington.edu/mailman/listinfo/phskc-info-x	
Influenza Surveillance Update: www.metrokc.gov/health/immunization/fluactivity.htm	

Reported Cases of Selected Diseases, Seattle & King County 2008

	Cases Reported in March		Cases Reported Through March	
	2008	2007	2008	2007
Campylobacteriosis	32	14	73	52
Cryptosporidiosis	2	3	8	5
Chlamydial infections	531	423	1595	1551
Enterohemorrhagic E. coli (non-O157)	0	0	0	2
E. coli O157: H7	0	1	1	5
Giardiasis	12	13	25	40
Gonorrhea	130	119	361	398
Haemophilus influenzae (cases <6 years of age)	0	0	2	0
Hepatitis A	0	1	5	1
Hepatitis B (acute)	3	0	11	5
Hepatitis B (chronic)	85	73	250	206
Hepatitis C (acute)	1	1	4	3
Hepatitis C (chronic, confirmed/probable)	87	131	298	359
Hepatitis C (chronic, possible)	33	28	93	87
Herpes, genital (primary)	42	39	130	64
HIV and AIDS (new diagnoses only)	N/A*	32	34*	89
Measles	0	0	0	0
Meningococcal Disease	0	0	1	1
Mumps	0	1	0	2
Pertussis	4	0	21	11
Rubella	0	0	0	0
Rubella, congenital	0	0	0	0
Salmonellosis	20	19	45	52
Shigellosis	5	5	15	13
Syphilis	16	23	54	23
Syphilis, congenital	0	0	0	0
Syphilis, late	7	7	20	16
Tuberculosis	9	13	15	38

The EPI-LOG is available in alternate formats upon request.

*The HIV/AIDS cases reported in and through March represent a correction due to de-duplication activities.