

Wisconsin rabies post-exposure prophylaxis (PEP) scenarios

This is a collection of rabies post-exposure prophylaxis scenarios handled by the Communicable Disease Epidemiology Section of the Wisconsin Division of Public Health. It is intended to be a refresher for those who provide guidance regarding rabies post-exposure prophylaxis in Wisconsin. For current CDC guidelines please see <http://www.cdc.gov/mmwr/pdf/rr/rr5703.pdf> and also the important revision at <http://www.cdc.gov/mmwr/pdf/rr/rr5902.pdf>. The online Wisconsin Rabies Flowchart, based on CDC guidelines, is at <http://hanplus.wisc.edu/DISEASES/rabies/introduction.htm>.

1. Fifteen state employees slept in a large, single bunkhouse room at a training site in a wooded area. The windows were closed, the air conditioning was on, and many slept with sleeping bags open. A bat was observed flying in the room during the night, and one of the men propped the door open with a garbage can so that it would fly out of the room and went back to sleep. Ten days later one of the men called public health after reading an article about bat rabies.

Recommendation: PEP for all persons sleeping in the room.

2. An adult male observed a bat flying around in the bedroom of a guest house at 2am, immediately left the room and closed the door. The man had not yet gone to sleep in the bedroom, but earlier in the evening had slept lightly while watching TV in the living room at a time when all doors were open between the rooms. The bat's most likely entry point into the home was a fireplace chimney in a third room, suggesting the bat may have flown through different parts of the home including the living room, although entrance through the fireplace in the guest bedroom was also possible. The next day the bat was found sleeping in the guest room but was let loose and was unavailable for testing.

Recommendation: No PEP. It could not be documented that the man slept in a room where the bat was flying, and he reportedly slept *lightly* in front of the TV.

3. An adult male was bitten on the face and hand by a stray cat that was unavailable for observation or testing. PEP clearly needed. Question: Should HRIG be injected around the wound even when it is on the face?

Recommendation: You should try to infiltrate the wound as best you can, regardless of the anatomical site. Inject as much as deemed anatomically feasible. If not all IG can be injected at the site, then remaining should be injected IM in the anterior thigh and/or in the deltoid opposite the site of vaccine injection.

4. A bat is observed flying in the living room in the AM. The bat is captured and let go. No direct contact with the bat is known to have occurred, however, all doors to bedrooms were open during the night, including the door to a small child's bedroom. Parents are very concerned about rabies.

Recommendation: No PEP. Bat was not observed in same bedroom as a sleeping adult or unattended child. Physician can always decide to depart from the public health recommendation (except during vaccine shortage if public health approval is required).

5. Seventeen days ago a fireman jumped into a fire truck with an open window and sat on a bat. He was wearing khaki pants. He killed and discarded the bat. No apparent exposure.

Recommendation: PEP. Can't rule out exposure. Bat would presumably fight for its life when sat on. The 17-day delay has no impact on the decision whether to offer PEP or not as the incubation period for rabies can be months. Once recommended, PEP should be initiated without further delay.

6. An adult female was gardening in her yard and came across a bat. She picked up the bat and let it fly away. She was wearing gardening gloves that were 'old and porous'. She went to the ER, but the physician was not able to find evidence of a bite wound because the woman has severe psoriasis on her hands. The ER recommended she would be eligible for PEP if the patient wanted to pursue treatment, which the woman wanted.

Recommendation: Inquire whether patient can explicitly rule out contact with tooth or claw (i.e., determine how exactly did she pick it up). Unless she knows that no tooth or claw contact occurred, advise PEP since the bat was not available for testing.

7. A jogger was bitten as he ran past a leashed dog. The owner apologized and said the dog was up-to-date on its vaccinations. The jogger did not obtain contact information for the owner. Later the jogger presented at an ER inquiring about rabies prophylaxis.

Recommendation: In Wisconsin it is exceedingly unlikely that an owned, healthy-looking dog would have rabies. Furthermore this was a provoked bite, and there is information suggesting that the dog was vaccinated. Prophylaxis is not recommended. Physician can always decide to depart from the public health recommendation.

8. A jogger was bitten by a scruffy-looking unleashed dog while running in the park. There was no apparent owner in site and the dog was not available for observation.

Recommendation: PEP. Even though this meets the definition of a provoked bite and rabies in dogs is rare, uncertainty about the dogs history justifies PEP. A dog that is truly feral would have a higher risk of being rabid than an owned animal.

9. Lady was bitten by a bat, not insured and demanded the state have a program to pay for her treatment. The Governors Office, the Constituent Liaison from the Secretary's Office, and Dane County are all involved. What are her options?

Recommendation: Patient assistance programs that provide medications to uninsured or underinsured patients are available for rabies vaccine and immune globulin. See http://www.cdc.gov/rabies/medical_care/programs.html for details.

10. In her car a woman brushed a bat off her head. Bat was unavailable for testing.

Recommendation: PEP. Can't rule out contact with tooth or claw and bat was not available for testing.

11. Child bitten on forearm by cat on Friday; bite broke skin. MD delayed start of prophylaxis in hopes that cat could be found. It's now Wednesday and no cat. Question: If there is a possibility that the cat might be found, how much time are you comfortable giving the family to look for it?

Recommendation: Start PEP right away. If local hospital doesn't have vaccine on hand then make an effort to travel further to a hospital that does. Already a 5-day delay. It's one thing to delay 5 days while you're observing a still healthy cat, but if cat is lost to follow-up it could already be dead from rabies. The question of how long prophylaxis can be delayed while searching for the biting animal is a judgement call, and the answer depends on the species of the animal, the severity and circumstances of the bite, and the anatomic location of the bites. There is no unequivocally "safe" period to wait.

12. ER calls re. man who, while sleeping, was bitten in the finger and woke up. The bite left a moon-shape bite mark and bled. He thinks it was probably a rat or a mouse but never saw the animal. Did not see anything flying around the room.

Recommendation: Without a crystal ball public health cannot make an informed recommendation. If this is a bat bite, PEP is recommended. If it is a rodent bite, PEP is not recommended. The patient must discuss with their physician and decide which animal he thinks it was. If uncertain PEP is the safer course.

13. Clinic calls re. an adult male who has received 3 doses of vaccine totally off schedule, on day 0, 11, and 25. Should he start the series over or pick up as if its dose 4?

There are no data regarding the efficacy of off-schedule regimens. Give him a 4th dose as if it were day 14 then check his titre about 2 weeks after his last dose. We advise using the RFFIT assay done at Kansas State University.

14. Owner observes dog get bitten by a skunk that runs away.

If the dog is unvaccinated, euthanasia is strongly encouraged. If owner chooses not to euthanize, dog needs to be quarantined for 6 months, with the rabies vaccine administered after the 5th month. If the animal is vaccinated, give dog rabies booster ASAP, then quarantine for 60 days. Both quarantines may be done on owner's premises. (This is in Statute 95.21) Dr. Yvonne Bellay of the Division of Animal Health (608/224-4888) should be consulted on any animal to animal exposures.

15. Owner finds fox dead in yard with lacerations, wet fur, and other signs that the family dog may have fought with it and killed it or at least mouthed it. Test? Will public health pay for testing?

Yes, test the fox fee-exempt. If positive contact Dr. Yvonne Bellay of the Division of Animal Health (608/224-4888) who should be consulted on any animal to animal exposures.

16. Family traveling in Mexico visits zoo. Keeper releases squirrel monkey from cage for photo with 12yo boy. Monkey bites boy. Zoo shows family documentation that monkey was up to date on rabies vaccine. Family is back home in WI asking whether prophylaxis is indicated.

A caged monkey should be at low risk for dog bites or bites from other terrestrial animals but a bite can't be ruled out and batrabies is still an issue in Mexico. It's impossible to evaluate the reliability of the vaccine – there are no rabies vaccines approved for use in non-human primates. Also, it is not clear how long a squirrel monkey survives with rabies (unlike cats and dogs for which we have a reliable 10-day maximum window). This is a low risk situation but not zero. Consider prophylaxis to reduce risk to zero.

17. Woman finds bat flying free in house and is concerned about the risk for her cat, so submits bat for testing. The bat is positive for rabies.

She may not meet the definition of exposure. If she confirms that she was not bitten and did not come in contact with a tooth or claw while capturing the bat, and if the bat was not observed in the same room that she was sleeping in, then she is not considered exposed and prophylaxis is not recommended. She and her physician can still decide to initiate prophylaxis.

18. A feral cat, now lost to follow-up, tried to bite my arm. I don't see a scratch but how would I know if the skin is abraded?

An abrasion of even the epidermis is considered an exposure; the wound does not have to bleed. This determination can be made by a health care provider. Another test that can be considered is to put rubbing alcohol on the site. If it stings, then consider it an abrasion. If it feels cool but doesn't sting then the skin is likely not abraded.

19. Does a patient need rabies prophylaxis after being bitten by a mouse? **No. WSLH has tested thousands of small rodents and none has been positive.** If the mouse is available for testing should it be submitted? **Only if the circumstances were very strange (squirrel or mouse runs up, bites a person, has a seizure and dies).**