

NEW JERSEY DEPARTMENT OF HEALTH GUIDE TO PROPER HANDLING OF BAT EXPOSURES

April 2014

Introduction

Rabies in humans is rare in the USA, with usually only 1 - 4 human cases diagnosed per year. The most common source of human rabies in the USA since the 1990s is bats. Between 2001 and 2012 there have been 20 naturally occurring cases of rabies in humans. All but one of these cases were associated with bats. In a few cases there was history of a bat bite, but the majority of cases handled or had direct contact with a bat but did not report being bitten. These findings suggest that limited or seemingly insignificant physical contact with rabid bats may result in transmission of rabies virus to humans, even without a definite history of a bite. The most likely scenario is that a bite was ignored or went unnoticed during an interaction with a bat.

New Jersey History

The 5 year average of bat rabies cases from 2009 - 2013 was 48 per year. In 2013, 66 bats (out of 1,188 submitted for testing) were diagnosed with rabies, representing the second highest number of rabid bats documented in a calendar year (2012: 68). This number is higher than seen in 2009-2011, with 32, 40, 36 rabid bats respectively. However, the percentage of confirmed rabid bats has stayed relatively constant at about 4 -6% of the bats submitted for testing.

There have been 2 cases of human rabies in New Jersey from bat exposures. A Warren County man died of rabies in the fall of 1997 with a history of bats in his home several months before. There was no report of the patient being bitten or scratched, but his wife later reported that he had removed several bats from the residence using "rags" over his bare hands to catch them. This was the first human case of rabies in New Jersey since 1971, when a person who was bitten by a rabid bat refused to complete rabies treatment post-exposure prophylaxis (PEP) and eventually developed the disease and died.

What is a Bat Exposure?

A bat exposure is a bite (any penetration of the skin by teeth) OR saliva or brain/spinal cord tissue introduced into an open wound, abrasion, or scratch in the skin (those that have bled in the past 24 hours), or into mucous membranes (eyes), from a known or suspect rabid bat. **Bat bites may be less severe and more difficult to recognize than bites inflicted by larger animals (Figure 1). It is important to properly assess any possible bat exposures.**

Other situations that might qualify as exposures include finding a bat in the same room as a person who might be unaware that a bite or direct contact occurred, such as a deeply sleeping person who awakens to find a bat in the room, or an adult witnessing a bat in the room with a previously unattended small child, mentally disabled or intoxicated person. These situations should not be considered exposures if laboratory testing of the bat has ruled out rabies infection or circumstances suggest it is unlikely that an exposure took place.

Management of Known or Possible Rabies Exposures from Bats

Transmission of rabies virus can occur from minor or unrecognized bites from bats. In all instances of potential human exposures involving bats, the bat in question should be safely collected, if possible, and submitted for rabies testing. PEP should be considered when direct contact between a human and a rabid bat, or a bat that cannot be tested, has occurred, unless the exposed person can be certain a bite, scratch, or mucous membrane exposure did not occur.

PEP may be appropriate in the absence of a demonstrable bite. In instances in which a bat is found indoors and there is no history of bat-human contact, the likely effectiveness of PEP must be balanced against the extremely low risk such exposures present. PEP may be considered for persons who were in the same room as a bat and who might be unaware that a bite or direct contact had occurred (e.g., a sleeping person awakens to find a bat in the room or an adult witnesses a bat in the room with a previously unattended child, mentally disabled person, or intoxicated person) and rabies cannot be ruled out by testing the bat.

PEP is not recommended for other persons present in the household during the incident.

Specimen Collection and Submission for Laboratory Testing

In all instances of potential human exposure involving bats, the bat in question should be collected and submitted to the New Jersey Department of Health (NJDOH) Rabies Laboratory for testing, if possible. Residents reporting a bat in the home should be instructed to leave the bat alone until the Animal Control Officer (ACO) or other responder arrives on the scene to capture the bat. **Residents should not be told to open a window or otherwise release the bat from the home.** ACOs, police officers and other officials responding to “bat in the house” situations should safely capture the bat if possible when an exposure has occurred.

The head of the bat should not be crushed or destroyed during capture, as this may render the brain tissue unsatisfactory for rabies testing. Bats can be **safely captured** utilizing leather work gloves, a small box or coffee can, a piece of cardboard, and tape by following these steps:

1. Put on the leather work gloves,
2. Place the box or can over the bat,
3. Slide the cardboard under the box or can to trap the bat inside,
4. Tape the cardboard to the box or can securely, and
5. Punch small holes in the top.

The captured bat should be held until a determination is made by local health officials as to whether testing is necessary. If the bat is submitted for testing, a veterinarian or ACO can euthanize the bat, or alternatively, bats can be shipped to the Rabies Laboratory alive, with a clearly visible label on the container indicating that it contains a “**LIVE BAT**”. If the bat is dead, it should be kept at cool temperatures during storage and transportation to prevent decomposition, which will render the bat unsatisfactory for testing. **Bats that bite people should be delivered directly to the Rabies Laboratory and tested on a priority basis; the use of couriers and delivery services which delay specimen transport by more than 24 hours should not be used in this situation.** However, in situations where a bat is found in the house and there are no known bites or scratches, immediate human treatment or emergency (e.g., weekend) testing of bats is not indicated.

Public Education

Public education efforts should stress that **contact with downed bats and other ill-appearing wildlife should be avoided** and that all physical contact with bats should be carefully evaluated by a physician for possible rabies PEP. It should be emphasized that PEP may be indicated even in the absence of puncture wounds or specific a history of a bite.

Because reduction of bat populations is not a feasible or desirable strategy for rabies control in bats, **human and domestic animal contact with bats should be minimized by physical**

exclusion of bats from houses and surrounding structures by sealing entrances used by bats. Bats should not be routinely handled and should never be kept as pets.

In addition, all dogs and cats should be currently vaccinated against rabies to provide a barrier to human exposures to wildlife rabies through pets.

Additional information

For additional information on bats and rabies, contact the NJDOH, Infectious and Zoonotic Diseases Program, at 609-826-4872 or go to the NJDOH Website:

<http://www.state.nj.us/health/cd/rabies/techinfo.shtml>

http://nj.gov/health/cd/rabies/documents/shouldknow_bats.pdf

New Jersey Department of Environmental Protection website:

<http://www.state.nj.us/dep/fgw/ensp/bat.htm>

Centers for Disease Control and Prevention website:

<http://www.cdc.gov/rabies/index.html>

<http://www.cdc.gov/rabies/bats/index.html>



Figure 1. Wound inflicted by canine teeth of *Eptesicus fuscus* (big brown bat) while bat was being handled; picture taken same day as bite.