

# MANAGING BAT ENCOUNTERS AND RABIES RISK

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*(Revised July, 2011)*

Most of the human deaths from rabies in the United States in recent years have been due to infection with bat variants of the virus, in particular one associated with the silver-haired bat. Most bats do not have rabies and the number of human deaths from bat rabies is small, usually fewer than three each year in the United States. Thus the risk of death from contact with bats is low. However, evidence indicates that many of the human cases of rabies resulted from exposures to bats that were not recognized or reported.

Because rabies is an incurable and fatal disease once symptoms begin, the goal is to reduce the rabies risk as much as possible. However, as with any health issue, achieving zero risk is not possible. Local health departments and physicians should work cooperatively to consider the exposure potential before recommending the post-exposure rabies vaccine and rabies immune globulin. Ohio Department of Health Zoonotic Disease Program staff are available to consult with medical, veterinary and public health professionals regarding problematic rabies exposures. Call (614) 752-1029 for assistance.

## **I. Definition of Exposure to a Bat**

Post-exposure treatment is recommended for the following exposures after contact with a rabid or untestable bat:

- bites (the primary, well-documented route of exposure)
- scratches
- saliva or nervous tissue in contact with a mucous membrane (e.g., inside of eyes, nose, mouth) or an open break in the skin

Because a bat bite may be so small that it could go undetected, rabies treatment should be considered under the following circumstances:

- bat found in a room with a sleeping person
- bat found in proximity to an unattended child who is not able to describe what happened
- bat found in a room with an individual under the influence of alcohol or drugs or with other sensory or mental impairment

See Table 1 for additional examples of exposures and non-exposure scenarios.

Note: If the person is reasonably certain that a bite, scratch or mucous membrane did not occur, or if the bat is available for testing, initiating post-exposure prophylaxis is not necessary.

## **II. Determining Rabies Status of the Bat**

It is frequently much easier to determine the rabies status of a bat than to determine the likelihood of exposure to a human or companion animal. On average, only five percent of bats tested by the ODH Laboratory are confirmed with rabies. Most bat-related post-exposure treatments can be avoided if the bat is captured and tested. Thus, in circumstances where there is any reasonable probability of exposure, CAPTURE THE BAT and call the local health department. Shipping and

testing procedures can be found with the Ohio Department of Health Rabies Test Submission Report <http://www.odh.ohio.gov/pdf/forms/hea2539.pdf>.

<b>Table 1: What's the Rabies Exposure Risk? Examples of Bat-Human Interactions</b>	
<b>Probable Rabies Exposure</b>	<b>Low Probability of Rabies Exposure</b>
<b>Post-exposure prophylaxis should be considered</b>	<b>Post-exposure prophylaxis not generally recommended</b>
<ul style="list-style-type: none"> <li>• unattended young child is found handling a bat</li> <li>• person touches bat without seeing the part of the bat they touched</li> <li>• bat flies into someone of any age and touches bare skin</li> <li>• adult sees bat fly near a child and child reports "it hit me"</li> <li>• someone, with bare feet, steps on a live or dead bat</li> <li>• unidentified flying object hits someone and the time of day (dusk or dawn), presence of marks where it hit, and place that it was coming from (good for roosting bats) all support that it was a bat and not a bird or insect person awakens to find a bat in the room with them</li> <li>• adult comes into room where a young child was left alone for a period of time, and live bat is found near child</li> <li>• person slept in camp cabin which was small, closed-in, and bats were swooping past sleeping people</li> <li>• bat found on ground near unattended infant, toddler, or a person with sensory or mental impairment</li> <li>• person puts hand in firewood or brush, feels pain, then sees a bat</li> </ul>	<ul style="list-style-type: none"> <li>• teenager or adult touches the fur, wings, or legs of a live bat while looking at it</li> <li>• bat brushes past thick long hair of teenager or adult and they are certain there was no skin contact</li> <li>• person has contact with a completely dried-up carcass of a bat</li> <li>• person has touched a stick or object that a bat had contacted</li> <li>• bat swoops past awake teenager or adult, but the person does not feel the bat touch them</li> <li>• dead bat found in room of home with no evidence that child touched it</li> <li>• bats are heard or seen in walls or attic of house</li> <li>• bats are found in other parts of the house even if bedroom doors were open</li> <li>• bats are heard or seen hanging from upper rafters of large A-frame cabin</li> <li>• bat guano or other signs of bats are found in sleeping quarters</li> <li>• bat found in sleeping quarters at a time when no one is there or there is an awake adult</li> </ul>

### **III. Recommendations for bat capture in a building include:**

- wear gloves and avoid direct skin contact with the bat
- avoid damage to the bat's head
- confine the bat to one room (close the windows, the room doors and closet doors)
- turn on lights if room is dark
- wait for the bat to land
- cover the bat with a coffee can or similar container
- slide a piece of cardboard under the can, trapping the bat
- tape the cardboard tightly to the can
- if necessary, use a net or long pole with a piece of duct tape (sticky side out) to capture bat

- do not use a glue board for capture as the bat cannot be easily removed for rabies testing
- immediately contact local health authority to arrange for rabies examination of the bat if a human or pet exposure has occurred
- release the bat if it's determined there was no reasonable probability of human or pet exposure

#### **IV. Bats in Homes**

It is not unusual to find bats in Ohio homes, and the presence of bats usually does not result in a need for rabies post-exposure prophylaxis. Most (95 percent) bats tested at the ODH Laboratory are negative for rabies. However, because many of the recent human cases of rabies may have acquired their disease from a bat bite in a home situation, all reasonable steps should be taken to keep bats out of the home environment, especially in sleeping quarters.

##### **To keep bats from getting into buildings, bat proofing techniques include:**

- making sure windows have screens, chimneys are capped, and electrical and plumbing openings are plugged
- keeping unscreened doors or windows closed
- sealing all openings into the attic, basement, walls or occupied areas of the house that are larger than 1/2 inch by 1/2 inch. Use materials such as expanding spray-on foam, caulk, wire mesh, wood that fits tightly, steel wool (around pipes that enter buildings) or polypropylene bird netting to seal or cover gaps and holes

##### **To determine whether bats are already in a house, check:**

- for squeaking noises coming from the attic, walls or elsewhere
- attic space, rafters, porches and walls where there are signs of roosting bats (e.g., evidence of bat guano and crystallized urine, or bare scratched areas on beams)
- outside of the house at dusk to see if bats are flying out of the house to feed, or before dawn to see if bats are flying into the house to roost

##### **To get bats out of a house in which they are roosting or entering, consider:**

- bat exclusion techniques are preferred to killing the bats. Killing or poisoning bats is seldom necessary or desirable.
- openings should not be sealed while bats are inside--this may drive them into occupied areas or create a sanitary problem when they die
- doing major home renovations and sealing in the winter when most bats have left buildings
- using special netting in a manner that allows bats to exit the house, but not to re-enter
- consulting with a licensed pest control expert specializing in bat control

#### **References:**

Human Rabies Prevention—United States, 2008: Recommendations of the Advisory Committee on Immunization Practices (ACIP) (May 23, 2008/Vol. 57/No.RR-3)

<http://www.cdc.gov/mmwr/PDF/rr/rr5703.pdf>

Rabies, Zoonotic Disease Program, Ohio Department of Health Website,

<http://www.odh.ohio.gov/odhPrograms/dis/zoonoses/rabies/rab1.aspx>

Rabies, Centers for Disease Control and Prevention Website <http://www.cdc.gov/rabies/>