



# RABIES WATCH

YOUR SOURCE FOR RABIES AWARENESS AND EDUCATION

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## Wyoming Woman's Death From Rabies Highlights Ongoing Need for Public Health Efforts and Education

On September 22, 2015, an elderly Wyoming woman presented at a local hospital after 5 days of progressive weakness and ataxia (see Clinical Summary box).<sup>1</sup> She developed respiratory failure and was transferred to a referral hospital in Utah, where her encephalitis progressed. She was ultimately diagnosed with rabies a day before her death on October 3, 2015. Her case illustrates limitations in public understanding of the risk for rabies exposure, particularly as it relates to bats. It also underscores the need for greater awareness and cooperation among public agencies to help ensure those with possible bat exposure are referred for assessment of rabies risk.<sup>1</sup>

### *Critical Points Illustrated by This Case*

Most cases of rabies acquired by humans in the United States during the last few decades have been associated with bat exposures, including either a history of bat contact, identified infection with a bat-associated rabies virus variant, or both.<sup>2</sup> In the majority of these cases, no bite was reported.<sup>2</sup> Bat bites can cause relatively limited injury, making them difficult to detect.<sup>3</sup>

### *Clinical Summary: Human Rabies Case in Wyoming<sup>1</sup>*

#### 2015 Timeline

AUGUST 22

- 77-year-old Wyoming woman awakes at night and swats away a bat on her neck
- Woman washes her hands with soap and water
- Woman's husband captures the bat with gloved hands and releases it
- Husband examines his wife, finding no bite wounds
- Husband later contacts county invasive species authorities but is not advised to seek health care for evaluation of wife's risk of rabies
- Contact with bat is not immediately noted once illness develops in September

SEPTEMBER 22

- The woman is admitted to a Wyoming hospital with a 5-day history of progressive weakness, ataxia, dysarthria, and dysphagia

SEPTEMBER 27

- Woman is transferred to Utah hospital because of respiratory failure
- While hospitalized in Utah, woman develops progressive encephalitis

SEPTEMBER 30

- After 8 days of hospitalization, the family recalls the woman's contact with a bat in August

OCTOBER 2

- Centers for Disease Control and Prevention (CDC) confirms the woman was infected with a bat rabies virus variant

OCTOBER 3

- Patient dies



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Furthermore, some bat-related rabies viruses may be more likely than other rabies viruses to result in infection after inoculation into relatively superficial wounds of the epidermal layers.<sup>3,4</sup> Thus, bats represent a unique source of potential rabies infection.

- ✓ **Bats should be kept out of houses and public buildings.**<sup>5</sup> In the Wyoming case, the family reported that during multiple years of owning their current home they had often seen bats outside or under the eaves, and that the couple had occasionally encountered bats inside the home,<sup>1</sup> suggesting a need to better minimize bat dwelling space and limit entry points for bats into the home.
- ✓ **Public agencies other than those in the public health domain require education to ensure accurate information is provided to the public and proper referrals are made.**<sup>1</sup> In addition to the contact made after the August 22 exposure, the family reported contacting multiple authorities from local wildlife, invasive species, and health agencies about bat removal over the years, but they never received information about rabies.<sup>1</sup>
- ✓ **There is a need to increase public awareness of rabies transmission risk.**<sup>1</sup> Not only were the husband and wife unaware of the risk for rabies in the absence of a visible bite wound, they released the bat after the initial incident on August 22, they did not seek medical evaluation, and they did not receive postexposure prophylaxis (PEP), which can prevent the development of rabies in people exposed to the virus.<sup>1</sup> Education of the public remains critically important, with particular emphasis made that any direct contact between a person and a bat is a high-risk exposure that should be evaluated and considered for PEP.<sup>2,3</sup> Further, if possible, bats involved in potential human exposures should be safely collected and submitted for rabies testing.<sup>3</sup> PEP should also be considered in situations where the level of contact with a bat is uncertain, such as when a bat is discovered in a room with a sleeping adult or with an unattended child, intellectually impaired person, or a person who is intoxicated.<sup>2,3</sup>

Rabies is lethal in the vast majority of patients once symptoms develop.<sup>4</sup> As illustrated by the recently documented fatality in Wyoming, there is a need to improve the public's understanding of the risk of contracting rabies from bats, as well as a need for public health agencies to collaborate with other agencies to help ensure people with potential or definitive bat exposure are assessed for rabies risk. Such steps will hopefully maximize the use of appropriate PEP while minimizing transmission of the rabies virus to humans.



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## REFERENCES

1. Harrist A, Styczynski A, Wynn D, et al. Human rabies—Wyoming and Utah, 2015. *MMWR Morb Mortal Wkly Rep.* 2016;65(21):529-533. 2. Monroe BP, Yager P, Blanton J, et al. Rabies surveillance in the United States during 2014. *J Am Vet Med Assoc.* 2016;248(7):777-788. 3. Manning SE, Rupprecht CE, Fishbein D, et al; Advisory Committee on Immunization Practices Centers for Disease Control and Prevention (CDC). Human rabies prevention—United States, 2008: recommendations of the Advisory Committee on Immunization Practices. *MMWR Recomm Rep.* 2008;57(RR-3):1-28. 4. Crowcroft NS, Thampi N. The prevention and management of rabies. *BMJ.* 2015;350:g7827. 5. The Center for Food Security and Public Health, Iowa State University. Rabies and rabies-related lyssaviruses. <http://www.cfsph.iastate.edu/Factsheets/pdfs/rabies.pdf>. Updated November 2012. Accessed July 26, 2016.

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