

# Cluster of Sylvatic Epidemic Typhus Cases Associated with Flying Squirrels, 2004–2006

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### Learning Objectives

Upon completion of this activity, participants will be able to:

- Describe the transmission of sylvatic epidemic typhus
- Specify the most likely exposure to *Rickettsia prowazekii* among cases in the current series
- List common symptoms and signs of sylvatic epidemic typhus
- Describe the management of suspected sylvatic epidemic typhus

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In February 2006, a diagnosis of sylvatic epidemic typhus in a counselor at a wilderness camp in Pennsylvania prompted a retrospective investigation. From January 2004 through January 2006, 3 more cases were identified. All had been counselors at the camp and had experienced febrile illness with myalgia, chills, and sweats; 2 had been hospitalized. All patients had slept in the same cabin and reported having seen and heard flying squirrels inside the wall adjacent to their bed. Serum from each patient had evidence of infection with *Rickettsia prowazekii*. Analysis of blood and tissue from 14 southern flying squirrels trapped in the wood-

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lands around the cabin indicated that 71% were infected with *R. prowazekii*. Education and control measures to exclude flying squirrels from housing are essential to reduce the likelihood of sylvatic epidemic typhus.

Sylvatic epidemic typhus, hereafter referred to as sylvatic typhus, is a rare but potentially lethal zoonotic exanthematous disease caused by *Rickettsia prowazekii*. It is associated with a cycle of infection involving flying squirrels and their ectoparasites and secondary transmission to humans. Illness in humans is characterized by fever, myalgia, severe headache, and rash. Historically, classic louse-borne epidemic typhus, caused by the same organism, has caused large epidemics where conditions were favorable for person-to-person spread of body lice.

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### Article Title

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### CME Questions

1. Which of the following statements about the transmission of sylvatic epidemic typhus (ST) is most accurate?

- A. It is most common in the southern United States
- B. It has been established that transmission to humans occurs after arthropod bites
- C. It is transmitted only by feces from flying squirrels
- D. Contact with flying squirrels or their nests has been confirmed in only a minority of cases

2. What was the most likely common exposure to *Rickettsia prowazekii* in the current case series?

- A. All case-patients had done extensive cave explorations
- B. All case-patients lived in a cabin with flying squirrel nests in the walls
- C. All case-patients had led daily nature walks through the surrounding woods
- D. All case-patients had performed nature shows involving live animals

3. Which of the following symptoms and signs of ST was least evident in the current case series?

- A. Rash
- B. Fever
- C. Headache
- D. Malaise

4. Which of the following statements about the management of suspected ST is most accurate?

- A. Treatment may begin without laboratory confirmation of infection
- B. Serologic confirmation of infection is based on a 10-fold increase in immunoglobulin (Ig) G titers or more
- C. IgM antibodies to *R. prowazekii* always decrease rapidly following acute infection
- D. PCR analysis for *R. prowazekii* is now widely available

### Activity Evaluation

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1. The activity supported the learning objectives.

Strongly Disagree

1

2

3

4

Strongly Agree

5

2. The material was organized clearly for learning to occur.

Strongly Disagree

1

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3

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Strongly Agree

5

3. The content learned from this activity will impact my practice.

Strongly Disagree

1

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3

4

Strongly Agree

5

4. The activity was presented objectively and free of commercial bias.

Strongly Disagree

1

2

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4

Strongly Agree

5