

Hantavirus pulmonary syndrome: What are the risks?

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Recent cases of hantavirus infection have increased interest in symptoms and risks for the disease. In this Q&A, **Stuart Cohen** (<http://www.ucdmc.ucdavis.edu/search/faculty/biodetail.asp?bioid=255&searchtype=3&fromsearchlist=yes>), chief of infectious diseases and infection control at UC Davis Medical Center, puts the disease in perspective.

Q: What causes hantavirus infection?

Cohen: Hantavirus infection is caused when the virus is excreted by mice or rats into the environment. The deer mouse is the primary carrier of hantavirus in Northern California. The virus is transmitted to humans when they breathe in airborne dust that includes urine or fecal matter from infected rodents. In one case a number of years ago, for instance, a hantavirus patient was infected after shaking out a stored blanket in a cabin at a Northern California campground.

Q: What are the symptoms?

Cohen: The initial symptoms are similar to the flu, including muscle aches, headache and fever. The virus may also cause nausea or vomiting. After this initial stage, hantavirus rapidly affects the lungs, causing shortness of breath, oxygen levels in the blood to drop, and possibly fluid in the lungs and decreased heart function. It's the pulmonary effects that can make the disease fatal.

Q: Is it common?

Cohen: Hantavirus pulmonary syndrome is rare — the chance of getting the disease is 1 in 13,000,000, which is less likely than being struck by lightning. There were only 54 total reported cases in California from 1980 to until 2014. However, because it is uncommon, physicians aren't necessarily on the lookout for it when patients have flu-like symptoms, especially in those who are otherwise fit and healthy. Effective treatment requires active management of pulmonary symptoms well before they become severe.

Q: Is everyone at risk?

Cohen: Anyone who has been camping, working or doing outdoor activities where mice or rats are common, especially in rural areas, and comes down with flu symptoms within six weeks should seek medical treatment. A blood test can confirm hantavirus exposure. It is important to know that the virus is not spread between humans, so friends or family members with the disease are not contagious.

Q: What are the treatments?

Cohen: There are no medications specific to hantavirus, but pulmonary interventions like intubation can help patients breathe adequately and prevent the lungs from retaining fluid until the virus runs its course. In severe cases, a technique known as extracorporeal membrane oxygenation can help maintain an adequate oxygen supply in the blood.

Q: Are there any new treatments in the works?

Cohen: It is hoped that better understanding of the genetics of hantavirus will lead to targeted antiviral medications that can halt it in its earliest stages, but the best approach to hantavirus control is prevention.

Q: How is it prevented?

Cohen: All indoor areas where rodents are common should be cleaned with a 10 percent bleach solution, and then dirt and dust should be wiped up, rather than swept away, to reduce the possibility of dust becoming airborne.



The deer mouse is the primary carrier of hantavirus in Northern California.

Learn more about hantavirus

Learn more about hantavirus from the [Centers for Disease Control and Prevention](http://www.cdc.gov/hantavirus/) (<http://www.cdc.gov/hantavirus/>) (CDC).

Download a [CDC fact sheet on hantavirus](http://www.cdc.gov/hantavirus/pdf/HPS_B) (http://www.cdc.gov/hantavirus/pdf/HPS_B)



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