

February 9, 2017

Dear Shelter Managers,

This memo is to provide background and guidance to shelters and humane societies regarding a recently detected outbreak of a Seoul hantaviral disease associated with contact with domestic rats from facilities in Illinois and Wisconsin.

The Wisconsin Department of Agriculture, Trade, and Consumer Protection (DATCP) is aware of recently confirmed cases of human illness caused by Seoul virus being investigated by the Wisconsin Department of Health Services, Division of Public Health (DPH). Human cases have occurred in Wisconsin among residents who cared for domestic rats in Wisconsin ratteries and among Illinois residents exposed to ratteries in their state. There has been considerable movement of these rats via sales and swapping of breeding stock among the Wisconsin facilities, and to other ratteries in both Illinois and Wisconsin.

Seoul virus is an old world hantavirus whose reservoir is rats. Seoul virus can only be transmitted by rats and not by other rodents or animals. Rats infected with Seoul virus will not show any signs of illness, but the infection spreads readily between rats.

Humans become infected by direct exposure to urine, droppings, or saliva from infected rats, or exposure to dust from their bedding. Transmission may also result from bites from infected rats. Seoul virus is not transmitted person-to-person. Human infections with this virus are rarely reported in the United States.

Symptoms of the illness in humans caused by Seoul virus usually begin 1 to 2 weeks after contact with infectious material [rat urine, feces, saliva]. Rarely, it may take up to 8 weeks to develop symptoms. Most illnesses due to Seoul virus infections are relatively mild and the vast majority of patients recover, although complete recovery can take weeks or months. Some infected people do not develop any symptoms at all. In rare cases, infection can also lead to a type of acute renal disease called Hemorrhagic Fever with Renal Syndrome (HFRS), which might include low blood pressure, acute shock, and acute kidney failure.

DATCP, in consultation with DPH, is recommending the following for shelters/humane societies that may receive rats for surrender based on level of risk. An algorithm is attached on page 3 to help assess risk.

### **RISK LEVELS OF SURRENDERED/STRAY RATS**

#### **Criteria and recommendations for low to no risk animals:**

- Complete history of ownership and movement of rat is known and not linked to a suspect or confirmed facility AND rat has not left current owner's facility and has not been in contact with other rats since September 1, 2016. OR
- Rat was obtained from chain pet stores (e.g. PetCo, PetSmart) and has not been comingled with rats from a different source.
- Recommendation: Rat can be placed for adoption. Testing with IDEXX Haantan test can be performed but is not required.

**Criteria and recommendations for animals with an unknown level of risk:**

- History is unknown or there are significant gaps in possible exposures since September 1, 2016.
- Recommendation: Do not offer for adoption or place on display. Reject animal, euthanize, or isolate for 4 weeks and test with IDEXX Haantan test.

**Criteria and recommendations for high risk animals:**

- Known exposure to a suspect/confirmed Seoul virus infected facility.
- Recommendation: Do not offer for adoption or place on display. Reject rat, or euthanize rat using the same personal protective equipment (PPE) CDC recommends for "[Heavy rodent infestation](#)" clean-up. Contact the Division of Public Health as outlined below.

Please contact the Division of Public Health (608-267-9003) in the following situations:

- If rats were obtained by the owner after September 1, 2016, and if the rats originated from home-based ratteries, particularly in Wisconsin or Illinois.
- If rats have had contact with other rats in the settings of barn hunts, rat parties, rat swapping since September 1, 2016.
- To determine if a rat is from a suspect Seoul virus positive facility.
- To receive more information regarding appropriate PPE for handling rats possibly infected with Seoul virus.

**General resources**

- CDC rodent clean up: <https://www.cdc.gov/rodents/cleaning/index.html>
- DHS Seoul virus fact sheet: <https://www.dhs.wisconsin.gov/publications/p4/p42053.pdf>
- CDC Seoul Virus FAQs: <https://www.cdc.gov/hantavirus/outbreaks/seoul-virus/faqs-seoul-virus.html>
- IDEXX Haantan testing: <http://www.idexxbioresearch.com/serology-testing-profiles#rat>

# Screening Algorithm For Veterinarians and Shelters Receiving Requests For Seoul Virus Testing, Rat Euthanasia or Surrendering Rats

Use the following questions and algorithm to screen rat owners or people surrendering rats to a shelter for a possible connection to the ongoing Seoul virus associated outbreak. Public Health should be consulted prior to providing care or euthanizing rats known to be associated with the outbreak. For rats that may be connected, we also recommend contacting the Division of Public Health for consultation.

