

## Rat Bite Fever

### Disease Vectors

Rat bite fever (RBF) is a rare disease in North America, caused by the bacterium *Streptobacillus moniliformis*. As the name implies, rats are a reservoir for these bacteria but generally do not exhibit symptoms of illness. RBF has been reported in and transmitted by mice, gerbils, and guinea pigs (CDC 2013, Center for Food Security & Public Health 2013), but rats are the primary source of infection in people. Bacteria are spread to humans through a bite or scratch, from contact with rat secretions, or less frequently by consuming contaminated food or drink.

### Symptoms, Diagnosis & Treatment

Symptoms in people appear within three weeks of exposure (typically 3-10 days) and include swelling around the wound, fever, enlarged lymph nodes and a rash on the extremities, typically on the hands and feet. Antibiotic therapy (penicillin, tetracycline) has been effective in treating the infection. However, untreated infections can lead to severe complications and even death.

Following a rodent bite, antibiotics should not be given prophylactically because the disease is rare. If a fever or any of the above symptoms develop within 21 days of close contact with a rodent, the person should notify their health care provider of their contact with a rodent and be evaluated for rat bite fever and treated if appropriate.

In the event of a confirmed case, customers that purchased an animal in contact with the positive rat should be notified. Inventory management and record keeping is important to be able to trace the history and potential exposure of store animals.

Testing rats for *Streptobacillus moniliformis* in a timely manner requires submitting an oral swab to a qualified

laboratory for evaluation. There is no known effective treatment in rats, and the likelihood is high that other animals in contact with a positive rat also have the bacteria. Therefore, store owners should strongly consider euthanizing exposed animals, and should contact customers who have purchased rats that were exposed.

### Prevention

Adopt handling procedures to minimize the chance for rat bites. Move rats to another cage or enclosure when cleaning their habitat so they do not feel threatened.

Staff regularly handling rats should consider protective gloves, e.g., nylon/PVC coated gloves that are flexible and easily sanitized; inexpensive latex gloves can be worn over the protective gloves and discarded between habitats to prevent cross-contamination. Hand washing with soap and running water is recommended after handling rodents, their cages or bedding.

Store associates involved with rats (feeding, cleaning, etc.) should be provided information on RBF, including the nature of the disease, signs of infection, and what to do following a bite or exposure.

### References

Centers for Disease Control and Prevention. Rat Bite Fever. <http://www.cdc.gov/rat-bite-fever/>  
Spickler, Anna Rovid. Rat Bite Fever. (Last Updated August 2013).  
[http://www.cfsph.iastate.edu/Factsheets/pdfs/rat\\_bite\\_fever.pdf](http://www.cfsph.iastate.edu/Factsheets/pdfs/rat_bite_fever.pdf)

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