

# Rat Bite Fever

## What is rat bite fever and what causes it?

Rat bite fever is a rare disease in the U.S. caused primarily by the bacterium *Streptobacillus moniliformis* (Strep-TOE-bah-sill-us mon-ILL-eh-form-iss). In some other parts of the world, particularly Asia, another bacterium called *Spirillum minus* (SPY-ril-um MY-nus) commonly causes spirillary rat bite fever. Rats can carry the bacteria that cause this disease and generally do not show any signs of illness. Disease, sometimes fatal, can occur in humans and a variety of animal species.

## What animals can get rat bite fever?

Rats are carriers (the reservoir) for the rat bite fever bacteria and rarely show signs of illness. Disease has been reported in mice, birds, guinea pigs, and non-human primates. Bacteria that cause rat bite fever have also been found in a variety of other animals, many that do not show signs of illness but may play a role in spread of the disease. These include animals that eat rodents such as cats, dogs, ferrets, and weasels.

## How can my animal get rat bite fever?

Rat bite fever is spread to animals by **direct contact** (usually bites and scratches) with infected rats. It can also be spread by ingestion (**oral**) of infected rats or food or water contaminated with rat feces or urine.

## How does rat bite fever affect my animal?

Mice may develop joint infections, sore/reddened eyes, bloody urine, diarrhea, other signs of severe dis-

ease, and even death. In guinea pigs, rat bite fever can be fatal and infection may result in fever, weight loss, pneumonia, and large swellings or abscesses of the neck. In non-human primates, infection results in swollen and painful joints and the bacteria can also affect the heart.

## Can I get rat bite fever?

Yes. Most human cases occur as a result of a bite or scratch (**direct contact**) from an infected rat. Infection may also occur from exposure to infected rat urine or by eating food or water contaminated with rat feces.

Illness develops within 3 weeks of the injury. Signs of disease often develop after the infected wound heals; initial symptoms include fever, chills, muscle aches, joint pain, headache, nausea, and vomiting. Many patients will develop a rash on their extremities (e.g., hands and feet), 2 to 4 days after the onset of fever. If not treated, severe disease involving the heart, brain, lungs, and entire body can occur and in rare cases can lead to death.



**Rat Bite Fever**  
is a bacterial disease that  
can affect humans and  
some animal species.

Photo from [www.stackyard.com](http://www.stackyard.com).

## Who should I contact, if I suspect rat bite fever?

**In Animals** – Contact your veterinarian immediately.

**In Humans** – Contact your physician immediately.

## How can I protect my animal from rat bite fever?

Do not allow pet rodents or other pets to have contact with wild rodents, particularly rats. Do not allow cats, dogs, and ferrets to hunt or eat wild rodents. Pets can serve as carriers of the bacteria, if they are exposed to infected rats.

## How can I protect myself from rat bite fever?

Avoid contact with rats, particularly wild rats. Prevent contamination of water and food by rat excrement (feces and urine). Drink milk only if it is pasteurized and water that comes from safe sources. People that handle rats or clean their cages should wear protective gloves, wash their hands after contact, and avoid hand-to-mouth contact. If you are bitten by a rat, clean and disinfect the wound promptly; additionally, seek medical attention and make sure your doctor knows your injury was a rat bite. This is very important, so be truthful even if you may not feel comfortable sharing this information.

## For More Information

CDC website. Rat bite fever at [http://www.cdc.gov/ncidod/dbmd/diseaseinfo/ratbitefever\\_g.htm](http://www.cdc.gov/ncidod/dbmd/diseaseinfo/ratbitefever_g.htm)

CFSPH Technical Fact Sheets. Rat bite fever at <http://www.cfsph.iastate.edu/DiseaseInfo/default.htm>