



Bartonella and Cat Scratch Fever

Ted Nugent made cat scratch fever (actually called cat scratch disease) nearly a household name with his song, but most people still know very little about this infection other than it involves a fever spread by cat scratches. In fact, it involves infection by a bacterium called *Bartonella henselae*, which is spread by fleas. Classically, cats transmit the organism when they are parasitized by fleas, scratch themselves, and get infected flea dirt (digested host's blood excreted by fleas) in their claws, and scratch a person or another cat with their dirty claws. Cats can also harbor *Bartonella* in their mouths and transmit the infection via bites or groom their feet and self-infect their claws.

The Human Disease

Infection with *Bartonella henselae* in the immunocompetent person leads to cat scratch disease. The inoculation site (a bite or scratch) develops a small red bump (a papule.) About 2 to 3 weeks following contact with the infected cat, the lymph node in the area of the contact will swell and become painful and a fever develops. If the patient does not have a competent immune system, one of several much more serious syndromes can result. The infection goes deeper into the body causing spleen enlargement, and potentially encephalitis, heart valve infection, and other conditions. Please contact your physician for specific questions regarding a cat scratch and possible infection.

If a person is diagnosed with cat scratch disease, there is a 90% chance that the cats they own will be found infected as well.

How Likely Is it for a Cat to Be Infected?

Free-roaming or shelter cats with insufficient flea control, as well as cats living in warm and humid climates (conditions fleas thrive best) are most likely to be infected.

Do Infected Cats Get Sick?

This is a highly controversial question as there is some evidence that *Bartonella henselae* infection may be one cause of the progressive oral disease of the cat called plasma cell stomatitis. It has been suggested that *Bartonella* infection may be the root of numerous chronic inflammatory conditions of the cat. With such high numbers of infected cats present regionally (up to 40%), it is going to be difficult to prove one way or the other whether there is a real association or just coincidence.

Many cats with [Plasma Cell Stomatitis](#) test strongly positive for *Bartonella henselae* but this may simply reflect a high incidence of exposure in the community. These cats often show tremendous improvement in their oral disease with antibiotics focussed on eradication of *Bartonella*; however, since secondary infections are common with plasma cell stomatitis, antibiotic response is common. The jury is still out and the controversy rages on, but there is certainly nothing harmful in treating a cat with plasma cell stomatitis for *Bartonella*, though the medication (azithromycin) is somewhat expensive.

Other than this controversy over chronic illnesses, if there are symptoms of infection they are mild, transient, and similar to those of humans: fever, swollen lymph nodes, and muscle pain.

Is My Cat Infected?

There are five tests available to detect *Bartonella henselae*: ELISA, IFA, PCR, culture, and Western blot. All the tests have pros and cons and no method seems to shine above the others.

The ELISA, IFA, and Western blot tests are tests for antibody detection, the idea being that if antibodies against *Bartonella* are there then *Bartonella* must be there as well. For most diseases where antibody levels are used to establish a diagnosis, a minimum "titer" or antibody amount is considered necessary to say, "Yes, this patient is infected." The problem for *Bartonella* is that no such guidelines have been established. Making matters worse, we know that up to 11% of cats with *Bartonella* organisms happily circulating in their bloodstreams will not make antibodies and will thus test negative. At least this means that when the test is negative there is an 89% or greater chance that the cat is truly negative.

Treatment of Cats

Right now the most reliable treatment seems to be Azithromycin, which clears 83% of infected cats. The course of treatment is approximately 2 - 3 weeks. Other antibiotics have been less promising.

Prevention of Human Infection Guidelines from The Centers For Disease Control and Prevention

Infection with *Bartonella* Prevention of Exposure

1. Immunosuppressed persons are at unusually high risk for developing relatively severe disease due to infection with *Bartonella*, which can be transmitted from cats. These persons should consider the potential risks of cat ownership. Persons who acquire a cat should adopt or purchase an animal aged greater than 1 year that is in good health.
2. Although declawing is not generally advised, immunosuppressed persons should avoid rough play with cats and situations in which scratches are likely. Any cat-associated wound should be washed promptly. Cats should not be allowed to lick open wounds or cuts of immunosuppressed persons.
3. Care of cats should include flea control.
4. No evidence indicates any benefits to cats or their owners from routine culture or serologic testing of the pet for *Bartonella* infection.

Prevention of Disease

5. No data support chemoprophylaxis (*i.e.*, preventive drug treatment) for *Bartonella*-associated disease.\

Prevention of Recurrence

6. Relapse or reinfection with *Bartonella* has sometimes followed a course of primary treatment. Although no firm recommendation can be made regarding prophylaxis in this situation, long-term suppression of infection with erythromycin or doxycycline should be considered.

Further References

<http://www.winnfelinehealth.org/health/csd.html>