



# Cat Scratch Disease



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Cat scratch disease (CSD) is a human illness characterized by regional enlargement of one or more lymph nodes close to the site of a cat scratch. For many years the cause of CSD eluded medical researchers. In 1983 scientists reported finding small gram-negative bacteria in infected tissues of patients with the disease. Although the bacterium has been cultured in the laboratory, it remains unidentified.

CSD occurs worldwide and most often affects children and adolescents. The infection is seen more commonly in males, and occurs more frequently in the second half of the year. The disease is seen more commonly in people who like cats, or whose occupations require them to handle cats frequently.

Three to 10 days after a person is scratched, a small red pustule, known as the primary inoculation lesion, appears at the site of the scratch. This lesion ruptures, crusts over and heals in 1 to 3 weeks. It is often unnoticed. About 2 weeks after the injury, the lymph node responsible for draining the area of the scratch enlarges and becomes tender. The affected lymph node usually is in the area of the head, neck or armpit. It is at this disease stage that most persons are prompted to seek medical attention. These are the only signs detected in about 50 percent of persons with CSD, and the lymph node usually returns to normal within 2 to 4 months. However, of the persons affected by lymph node enlargement, a third of these have other signs including fever, loss of appetite and malaise.

A variety of atypical forms of CSD have been reported. The best known is Parinaud's oculoglandular syndrome in which the membranes of the eye become infected.

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This may occur when a person rubs his eye after handling a cat. On rare occasions the disease may spread beyond the lymph node and affect the nervous system, causing convulsions; or, it may cause bone infection. Skin eruptions are noted in a small number of patients. With proper care, patients with atypical signs recover from the infection.

The exact role of the cat in transmitting CSD remains unclear. At one time it was thought that the disease could be introduced by the scratches or bites of other species of animals, or through punctures made by inanimate objects. It is now thought that cats are the major, if not the only, source of the bacterium. The CSD bacterium may be part of the normal microbial flora of the cat's mouth, which is transferred to the claws during grooming. The infection usually is acquired from the scratches of young cats which appear perfectly healthy themselves.

Based on the study of families in which more than one member became infected, it appears that cats may shed the bacterium for 3 weeks or less. Bacteria similar to those found in the tissues of humans with CSD have been found in the enlarged lymph nodes of a Siamese cat, leading to the speculation that cats may develop their own illness with this bacterium.

Accurate diagnosis of CSD in children is important because lymph node enlargement can be a sign of more serious diseases such as fungal and parasitic infections and cancer. Doctors diagnose CSD by noting a history of contact with cats, detecting a primary inoculation lesion, excluding the possibility of other diseases through laboratory tests and, when the signs are not typical, demonstrating a positive skin test reaction with Hanger-Rose antigen.

Hanger-Rose antigen is prepared from pus aspirated from the lymph nodes of patients with CSD. After dilution, the pus is sterilized and standardized in the laboratory. A small volume of Hanger-Rose antigen is injected into the forearm skin of the patient suspected of having CSD.

Ninety-nine percent of patients with CSD have positive skin test reactions when injected with Hanger-Rose antigen. The test is a safe, reliable and specific way of confirming the diagnosis, and remains positive for many years after recovery. About 5 percent of the population of this country react positively to this test, indicating that many people have undergone mild, self-resolving infections from the CSD bacterium. About 20 percent of veterinarians have positive skin test reactions.

Treatment of CSD usually depends on reassuring the patient that the problem eventually will go away by itself. Antibiotics do not seem to be effective in shortening the course of the disease. Analgesics and bed rest may be necessary for people with more severe signs. Drainage of pus from severely swollen nodes offers relief for some patients. People who have had CSD appear to be protected for life from future infection.

Pet cats suspected of harboring the disease should be declawed. Cats should be handled gently so that they are less likely to scratch, and should never be allowed to lick open wounds on any person. With our present knowledge of CSD, there is no justification for putting a cat which may be infected to sleep.

Our understanding of the role of the pet cat in CSD will become more clear when the causative bacterium has been identified. It is important to remember that CSD is a somewhat uncommon disease and there is minimal risk to most of us as we handle our pet cats.

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