

What is "Fifth Disease?"

Fifth Disease is a mild rash illness that occurs most commonly in children. The ill child typically has a "slapped-cheek" rash on the face and a lacy red rash on the trunk and limbs. Occasionally, the rash may be itchy. An ill child can have a low-grade fever, malaise or a "cold" a few days before the rash breaks out. The child is usually not very ill, and the rash resolves in 7-10 days.

What causes Fifth Disease?

Fifth Disease is caused by infection with human parvovirus B19. This virus infects only humans. Pet dogs or cats can be immunized against "parvovirus" but these are animal parvoviruses that do not infect humans. A person cannot "catch" parvovirus from a pet dog or cat, and a pet cat or dog cannot catch human parvovirus B19 from an ill person.

Can adults develop Fifth Disease?

Yes. An infected adult may have no symptoms or may develop the typical rash, joint pain and swelling. The joints most frequently affected are the hands, wrists and knees. The joint pain and swelling usually resolve in a week or two, but may last several months. About 50% of adults have been previously infected with parvovirus B19, have developed immunity to the virus and cannot get Fifth Disease.

Is Fifth Disease contagious?

Yes. A person infected with parvovirus B19 is contagious during the early part of the illness, before the rash appears. By the time a child has the characteristic "slapped cheek" rash of Fifth Disease, for example, he or she is probably no longer contagious and may return to school or child care center. This contagious period is different than that for many other rash illnesses, such as measles, for which the child is contagious while he or she has the rash.

How does someone become infected with parvovirus B19?

Parvovirus B19 has been found in the respiratory secretions (e.g., saliva, sputum, or nasal mucus) of infected persons before the onset of rash, when they appear to "just have a cold." The virus is probably spread from person-to-person by direct contact with those secretions, such as sharing drinking cups or utensils. In a household, as many as 50% of susceptible persons exposed to a family member who has Fifth Disease may become infected. During school outbreaks, 10% to 60% of students may develop Fifth Disease.

How soon after infection with parvovirus B19 does a person become ill?

A susceptible person usually becomes ill 4-14 days after being infected with the virus, but may become ill as long as 20 days after infection.

Does everyone who is infected with parvovirus B19 become ill?

No. During outbreaks of Fifth Disease, about 20% of adults and children who are infected with parvovirus B19 do not develop any symptoms. Furthermore, other persons infected with the virus will have a non-specific illness that is not characteristic of Fifth Disease. Persons infected with the virus, regardless of symptoms, develop lasting immunity that protects them from future infection.

How is Fifth Disease diagnosed?

A physician can often diagnose Fifth Disease by seeing the typical rash during a physical examination. In cases in which it is important to confirm the diagnosis, a blood test is available to detect antibodies to parvovirus. Antibodies are proteins produced by the immune system in response to parvovirus B19 and other germs. If immunoglobulin M (IgM) antibody to parvovirus B19 is detected, this suggests that the person has had a recent infection.

Is Fifth Disease serious?

Fifth Disease is usually a mild illness that resolves on its own among children and adults who are otherwise healthy. Joint pain and swelling in adults usually resolve without long-term disability.

Parvovirus B19 infection can cause an acute, severe anemia in persons with sickle cell disease or similar types of chronic anemia. The typical rash of Fifth Disease is rarely seen in these persons. Once the infection is controlled, the anemia resolves. People who have leukemia or cancer, who are born with immune deficiencies, who have received an organ transplant or who have human immunodeficiency virus (HIV) infection are at risk for serious illness due to parvovirus B19 infection. Infected persons who have problems with their immune systems may also develop a chronic anemia that requires medical treatment. Occasionally, serious complications may develop from parvovirus B19 infection during pregnancy.

How are parvovirus B19 infections treated?

Treatment of symptoms such as fever, pain or itching is usually all that is needed for Fifth Disease. Adults with joint pain and swelling may need to rest, restrict their activities and use medicines such as aspirin or ibuprofen to relieve symptoms. The few people who have severe anemia caused by parvovirus B19 infection may need to be hospitalized and receive blood transfusions. Persons with immune problems may need special medical care, including treatment with immune globulin (antibodies), to help their bodies eliminate the infection.

Can parvovirus B19 infection be prevented?

There is no vaccine or medicine that prevents parvovirus B19 infection. Frequent hand washing is recommended as a practical and probably effective method of preventing transmission. Excluding persons with Fifth Disease from work, child care centers or schools is not likely to prevent the spread of the virus, since people are contagious before they develop the rash.