

Fifth Disease (Erythema Infectiosum, Parvovirus B19)

Fifth disease, also known as erythema infection, is a mild rash illness caused by human parvovirus B19. It got its name because it was fifth in a list of historical classifications of common skin rash illnesses in children.

Transmission

Anyone can become infected with fifth disease, but it is more common in children than adults. Fifth disease is spread by exposure to

- **Person to person** through airborne droplets, from the nose and throat of infected people.
 - People can spread fifth disease one week before the appearance of a rash.

Once a rash is showing, they are no longer contagious (except for people with compromised immune systems). After you recover from fifth disease, you develop immunity that generally protects you from parvovirus B-19 in the future.

- 50% of adults and more than 90% of elderly people are immune to parvovirus B19 and therefore are not susceptible.

Symptoms

For many people, fifth disease causes no symptoms. When symptoms are present, they generally appear four to 14 days after exposure to the virus but can appear as many as 21 days after exposure. Symptoms may include the following:

- **Rash** known as “slapped cheeks.” This rash is the most recognized feature of this illness. The rash may spread to their chest, arms, buttocks, and thighs. This rash tends to fade and reappear with exposure to heat.
- **Fever**
- **Headache**
- **Runny nose**
- **Severe joint pain** rare in children; may be present in adults

Diagnosis

In most cases, a provider can diagnose fifth disease based on the appearance of the characteristic rash.

Treatment

Fifth disease is usually mild and will go away on its own. There is no specific treatment for fifth disease. Treatment usually involves reducing symptoms. Infected people who have compromised immune systems and certain blood disorders should contact their health care provider for possible supportive care.

If you have further questions about the treatment of your fifth disease, contact your health care provider.

Prevention

There is no vaccine or medicine that can prevent parvovirus B19 infection. You can reduce your chance of being infected or infecting others by:

- **Washing your hands**
- **Covering your mouth and nose** when you cough and sneeze
- **Not touching your eyes, nose, or mouth**
- **Avoiding close contact** with people who are sick
- **Staying home** when you are sick

Exclusion Guidance

Individuals with fifth disease should not be excluded from work, school, or childcare unless the [general exclusions apply](#).

- The risk of spreading this virus to others is greatest before signs and symptoms develop.
- Transmission cannot be prevented by identifying and excluding symptomatic individuals.

Pregnancy and Fifth Disease

Any pregnant woman who may have been exposed to parvovirus B19 should contact their health care provider as soon as possible to discuss:

- **Blood tests.** A provider will order a blood test to determine susceptibility, immunity or if there was a recent infection.
- **Exclusion guidelines.** To determine if they may continue working if there is an outbreak- this may be dependent on results of their blood test.

Pregnant women who contract fifth disease can pass the infection to the baby and should contact their health care provider as soon as possible to discuss:

- **Recommendations.** Additional prenatal visits, blood tests, and ultrasounds may be recommended. There is no single recommended way to monitor pregnant women with parvovirus B19.
- **Complications.** Most cases have mild illness and do not have any complications. In 5% of cases, a baby will develop severe anemia, and the woman may have a miscarriage.

For additional information about fifth disease, contact the North Dakota Department of Health and Human Services', Division of Public Health, at 800.427.2180.

Resources:

1. Centers for Disease Control and Prevention. (2019, November 26). CDC- *Parvovirus B19 and Fifth Disease*. Centers for Disease Control and Prevention. Retrieved April 20, 2023, <https://www.cdc.gov/parovirusb19/>
2. Kimberlin, D. W., Barnett, E. D., Lynfield, R., Sawyer, M. H. (2021) Red Book: 2021-2024 Report of the Committee on Infectious Diseases. 32nd ed. American Academy of Pediatrics. [Parvovirus B19 (Erythema Infectiosum, Fifth Disease)] [Pages 562-565].