



## ERYTHEMA INFECTIOSUM OR FIFTH DISEASE

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### ABSTRACT

Erythema infectiosum (also known as fifth disease) is usually a benign childhood condition characterized by a classic slapped-cheek appearance and lacy exanthem. [1] It results from infection with human parvovirus (PV) B19, anhrerytovirus. [2]. Human PV-B19 also is associated with other hematologic, rheumatologic, and neurologic conditions, including polyarthropathy, aplastic anemia, and hydrops fetalis. In erythema infectiosum, a classic 3-phased cutaneous eruption follows a rarely noticed prodrome. In most cases, this is such a mild illness that no medicine is necessary.

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## INTRODUCTION

Erythema infectiosum or fifth disease is one of several possible manifestations of infection by parvovirus B19.[1] The disease is also referred to as slapped cheek syndrome, slapcheek, slap face or slapped face.[2][3]. It typically causes a red rash on children's arms, legs, and cheeks. In adults, the main symptom is joint pain, usually in the wrists, ankles, and knees.

The name "fifth disease" comes from its place on the standard list of rash-causing childhood diseases, which also includes measles (1st), scarlet fever (2nd), rubella (3rd), and Dukes' disease (4th), though the last is no longer widely accepted as distinct.

### Incidence

It's commonly passed around in elementary schools during the winter and spring. It's common and mild in most children, but it can be more severe and potentially dangerous for pregnant women and those with compromised immune systems.

### Causes

Parvovirus B19 causes fifth disease. The virus tends to spread through saliva and respiratory secretions among children who are in elementary school. It's most prevalent in the winter and spring, but it can spread at any time and among people of any age. The incubation period (the period between infection and

signs or symptoms of illness) is usually four to 14 days, but can be as long as 21 days.

Many adults have antibodies that prevent them from developing fifth disease because of previous exposure during childhood. However, when people do become infected as adults, the symptoms can be severe. If fifth disease affect during pregnancy, there are serious risks, including life-threatening anemia, for unborn baby.

For children with healthy immune systems, fifth disease is a common, mild illness that rarely presents lasting consequences.

### Signs & Symptoms [5]

Mild prodromal symptoms begin approximately 1 week after exposure to PV-B19 and last 2-3 days. They include the following:

- Headache
- Fever
- Sore throat
- Pruritus
- Coryza
- Abdominal pain
- Arthralgias

These symptoms precede a symptom-free period of about 7-10 days, after which the infection progresses through the following stages:

Phase 1 - The exanthem begins with the classic slapped-cheek appearance, which typically fades over 2-4 days [1]

Phase 2 - This phase occurs 1-4 days later and is characterized by an erythematous maculopapular rash that fades into a classic lacelike reticular pattern as confluent areas clear [3]

Phase 3 - Frequent clearing and recurrences for weeks or occasionally months may occur due to stimuli such as exercise, irritation, stress, or overheating of the skin from sunlight or bathing in hot water

### Diagnosis

The diagnosis of erythema infectiosum usually is based on clinical presentation alone, and a workup for patients with the classic presentation is not necessary. For patients with other signs or symptoms associated with human parvovirus (PV) B19 or for exposure in a woman who is pregnant, confirmation of infection may be helpful and can be accomplished with the following specialized tests [4, 5, 6]:

IgM assays - Enzyme-linked immunosorbent assay (ELISA), radioimmunoassay (RIA)

Dot blot hybridization

Polymerase chain reaction (PCR) assay

Loop-mediated isothermal amplification



### Treatment

The only available treatment is supportive. Fluids, acetaminophen (Tylenol), and rest provide relief. Antibiotics are useless against fifth disease, because it is a viral illness. For those with persistent arthritis, anti-inflammatory medications such as ibuprofen (Advil) or naproxen (Aleve) can be used. Children can often return to school once the red rash appears since they're no longer contagious.

### Complications

Fifth disease is usually mild for children and adults who are otherwise healthy. But for some people fifth disease cause serious health complications.

People with weakened immune systems caused by leukemia, cancer, organ transplants, or HIV infection are at risk for serious complications from fifth disease. It can cause chronic anemia that requires medical treatment.

Pregnant women (who have not previously had the illness) should avoid contact with patients who have fifth disease. The fifth disease virus can infect the fetus prior to birth. Although no birth defects have been reported as a result of fifth disease, for 2%-10% of B19-infected pregnant women, fifth disease can cause severe anemia and even the death of the unborn fetus (by hydrops fetalis)

### Prevention

There is no vaccine for fifth disease, and no real way to prevent spreading the virus. Isolating someone with a fifth disease rash won't prevent spread of the infection because the person usually isn't contagious by that time.

Practicing good hygiene, especially frequent hand washing, is always a good idea since it can help prevent the spread of many infection.

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