

Parvovirus B19 Infection (Fifth Disease, Slapped Cheek, Slapped Face, Erythema Infectiosum)

Parvovirus B19 is a virus that commonly infects humans. The most common illness caused by parvovirus B19 is 'fifth disease', a mild rash illness that occurs most often in children. (Dogs and cats may be immunised against 'parvovirus', but these are animal parvoviruses that do not infect humans.)

About 20% of infected children will have no symptoms at all. In others, early in the infection there may be mild cold-like symptoms, then two to five days later, the child typically develops a 'slapped cheek' rash on the face and a lacy red rash on the trunk and limbs (colour plate no. 14). The child usually is not very ill, though the rash may occasionally be itchy. The rash disappears after seven to 10 days, although it may come and go for several weeks, often in response to heat. On recovery, the child develops lasting immunity and is protected against future infection.

Adults may also be infected with parvovirus B19 and may have no symptoms, or may have the typical rash of fifth disease, joint pain or swelling, or both. The joints most frequently affected are the hands, wrists and knees, usually on both sides of the body and usually getting better in a week or two, though sometimes the pain and swelling may last several months. At least 50% of adults have previously been infected with parvovirus B19 and have developed immunity, so they will not get the infection again.

Infection by parvovirus B19 generally causes only a mild illness. However, if a pregnant woman is infected, the infection may be transmitted to the foetus. In less than 5% of cases, parvovirus B19 infection may cause the unborn baby to have severe anaemia (low blood count) and the woman may have a miscarriage. This occurs more commonly if infection occurs during the first half of pregnancy. There is no evidence that parvovirus B19 infection causes birth defects or mental retardation. Still, a pregnant woman who has been exposed to parvovirus B19 should seek the advice of the doctor managing her pregnancy, although there is no universally recommended approach to monitoring of a woman in this situation.

Infection in people with a weakened immune system, or some blood disorders, can result in prolonged infection and severe anaemia.

Parvovirus B19 infection is diagnosed by a blood test. The blood test can also be used to test for immunity, to see if the person has had the infection in the past.

Spread of infection is by direct or indirect connection with airborne droplets from coughing or sneezing. Once the rash appears, the person is no longer infectious. An exception to this is in infected people with immune suppression, who may remain infectious for months. Infection may also be transmitted from a woman to her foetus.

Incubation period

(time between becoming infected and developing symptoms)

4 – 14 days from exposure, though may be up to 20 days.

Infectious period

(time during which an infected person can infect others)

In most cases, not infectious once the rash appears. Immunocompromised people with parvovirus infection may be infectious for long periods.

Control of spread

- > There is no vaccine or antiviral drug for prevention or treatment of parvovirus infection.
- > Do not exclude people with parvovirus infection from child care, preschool, school or work. People are contagious before they develop the rash.
- > Wash hands regularly.
- > Clean surfaces contaminated by discharges from the nose or throat.
- > Pregnant women who are concerned that they are at risk of exposure to parvovirus B19 infection (for example, school teachers) can have a blood test to detect evidence of previous infection and therefore immunity. Over 50% of women will already have had the infection and these women and their unborn babies are protected from infection and illness. It is not recommended that non-immune pregnant women should routinely be excluded from a workplace where there are known cases of parvovirus infection. A woman in this situation should make a decision about continuing at work after discussion of options with her family, doctor and employer.