



MotherToBaby

Medications & More During Pregnancy & Breastfeeding
Ask The Experts

Fact Sheet

by the **Organization of Teratology Information Specialists (OTIS)**

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Fifth Disease (parvovirus B19)

In every pregnancy, a woman starts out with a 3-5% chance of having a baby with a birth defect. This is called her background risk. This sheet talks about whether exposure to fifth disease may increase the risk for birth defects over that background risk. This information should not take the place of medical care and advice from your health care provider.

What is fifth disease?

Fifth disease, also called erythema infectiosum, is a viral illness caused by human parvovirus B19. It occurs most commonly in children ages 4 to 14. The infection often starts with mild fever, headache, sore throat, and flu-like symptoms. Children can also develop a bright red rash on the face that looks like “slapped cheeks”, along with a lacy or bumpy rash on the body, arms, and legs. Joint aches occur more commonly in adults than children. Rash and joint symptoms may develop several weeks after infection. A pregnant woman who develops symptoms of fifth disease may or may not develop facial or body rash. About 20 to 30% of adults infected with parvovirus B19 have no symptoms.

Is fifth disease contagious?

Yes, fifth disease is very contagious. The virus is spread through contact with secretions of the nose and lungs (mucus), and through contact with blood. The time between infection and the development of the illness (incubation period) is between 4 and 21 days.

Individuals with fifth disease are most infectious before the onset of symptoms and are unlikely to be contagious after the development of the rash. This makes efforts to prevent exposure difficult.

I don't remember ever having fifth disease. Can I develop the infection?

Because fifth disease is a mild illness, many adults may not be aware that they have had it, especially since many people do not have symptoms. About 50% of adults have had the infection, have antibodies to the virus, and are immune. These antibodies prevent infection for you and your unborn baby. A blood test can be done to look for the antibodies and tell if you have had a recent infection or are not immune. Once you have had fifth disease, it's very rare to be re-infected.

I don't think I've had fifth disease and I am an elementary school teacher. Could I be exposed at work?

Many women in occupations such as daycare settings and teaching have antibodies to parvovirus B19 and are not at risk for infection. You can ask your health care provider to do a blood test for antibodies to parvovirus B19 to see if you are immune to fifth disease. If you are not immune to the disease, there is a 20-30% risk that you will be infected after exposure in a school or daycare setting. You can lower your risk of infection by practicing good hygiene such as washing your hands regularly and avoiding sharing food or drinks.

My children had fifth disease about 3 weeks ago and now my joints are sore. I am pregnant. Could I have fifth disease?

Yes, it is possible that you have fifth disease. However, there are many other causes of joint pain. Your health care provider can order a blood test to check for antibodies for fifth disease. If you are not immune, you have a 50% risk of becoming infected from contact with an infected family member. It is important to be properly diagnosed since it helps your health care provider watch for possible pregnancy complications.

I am 14 weeks pregnant and testing showed that I recently had fifth disease. Is my pregnancy at increased risk of problems because of the infection?

Many studies show that most women who become infected with fifth disease during pregnancy deliver healthy babies. Fifth disease does not cause birth defects. If a woman is infected during pregnancy, there is up to a 33% chance of passing it to the baby. However, only about 10% of infected babies will have complications. Once born, children have not been found to be at increased risk for further health problems such as blood disorders, heart disease, autoimmune disease, asthma, or cancers. The greatest chance for fetal loss (miscarriage or stillbirth) and health complications is during the pregnancy, specifically in early pregnancy.

Fetal infection with fifth disease (whether a mother has symptoms or not) can lead to inflammation of the heart (myocarditis) and can damage the bone marrow so that red blood cells cannot be made (aplastic crisis). This can lead to anemia, a condition in which the body does not have enough healthy red blood cells. Fetuses with mild anemia generally recover. Rarely, if the heart damage or anemia is severe, hydrops fetalis (excess fluid in fetal tissues) can occur and may lead to fetal death. Sometimes, the hydrops goes away without treatment, and most of these babies will not have problems at birth. Rarely, a baby is born unable to make red blood cells and will need transfusions. Babies with hydrops may also have severe breathing problems at birth.

In a small number of cases, fetal loss can occur. Infection in the first 20 weeks of pregnancy has up to a 10-15% chance of fetal loss, but this risk decreases as the pregnancy goes on. Infection after 20 weeks gestation may also carry a risk, though likely lower, for fetal loss.

I had fifth disease when I was 10 weeks pregnant. Are there any tests I can have to see if my baby is OK?

An ultrasound can tell whether the baby has hydrops and can look at the amount of amniotic fluid around the baby. A series of ultrasounds for several months after the time of infection may be helpful. Your health care provider may want to do some other tests to study the platelet count and red blood cells in your baby, and use ultrasound to measure blood flow through a vessel in the baby's brain.

Are there any treatments available?

At this time there are no vaccines or medications available to prevent or treat maternal fifth disease. Regular ultrasounds to detect hydrops are recommended when a pregnant woman tests positive for fifth disease. When a fetus develops severe anemia and hydrops in the second and third trimester, fetal blood transfusions have sometimes been successful in reversing these life-threatening conditions. It is believed that parvovirus may affect the fetal central nervous system. While some studies show neurodevelopmental delay in a small number of children who had blood transfusion before birth, other studies have not shown this finding.

If you are in your third trimester, your health care provider may recommend early delivery if your baby is showing signs of hydrops.

What if the father of the baby has a Fifth disease?

There are no studies on how parvovirus may affect a man's fertility (ability to get his partner pregnant). However, since Fifth disease is contagious, talk to your health care provider if your partner has been diagnosed with this. In general, exposures that fathers have are unlikely to increase risks to a pregnancy. For more information, please see the MotherToBaby fact sheet Paternal Exposures at <https://mothertobaby.org/fact-sheets/paternal-exposures-pregnancy/>.

My dog has a parvovirus infection. Can I catch it from him?

No. There are many types of parvoviruses. Each type is species-specific, meaning that dog (canine) parvoviruses infect only dogs, cat (feline) parvoviruses infect only cats, and human parvoviruses infect only humans.

References Available By Request

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