

Blood Type Rh- and Pregnancy

What does it mean to be Rh negative?

When your blood is typed, you are given a letter (A,B, AB or O) and a sign (+ or -). The “+” and “-” signs refer to the presence (+) or absence (-) of the Rh factor in your blood. Both Rh+ and Rh- people are perfectly healthy. However, if you are Rh-, then your body may produce antibodies to the Rh factor if you are exposed to blood that is Rh+. This happens because your body recognizes the Rh factor as a foreign substance. Women may be exposed to Rh+ blood through blood transfusions or during pregnancy and birth if they are carrying an Rh+ baby.

What are my chances that my baby is Rh positive?

If both you and your baby’s biological father or donor are Rh-, then your baby will also be Rh-. If your baby’s biological father or donor is Rh+, then your baby has a 50% chance of being Rh+. Both of your blood types can be determined by a simple blood test. If you are Rh-, a test is performed at your baby’s birth to determine his or her blood type.

What happens if an Rh- mom is carrying an Rh+ baby?

The American College of Obstetrics and Gynecology (ACOG) estimates that as many as 17% of Rh- women may develop antibodies (or become “sensitized”) to the Rh factor. Some women produce a few antibodies and some women produce many. These antibodies have no negative effect on the mother. However, the mother’s antibodies against the Rh factor can cross the placenta and can cause the destruction of red blood cells in the fetus if the fetus is Rh+. This is known as hemolytic disease.

Unfortunately there is no way to predict which mothers will develop antibodies and which ones will not, although there are tests which can determine if the mother is already producing antibodies. We do know that the risk of a mother producing antibodies increases with the amount of Rh+ blood she is exposed to.

The most likely time that you will be exposed to your baby’s blood is during your baby’s birth. This means that your first Rh+ baby will probably not be affected by hemolytic disease. However, if you do not receive treatment after the birth of an Rh+ baby, all other pregnancies with Rh+ babies may be affected. Usually hemolytic disease becomes more severe with every pregnancy that involves an Rh+ baby.

Other times that you can be exposed to your baby’s blood are:

- Anytime you are having bleeding or spotting during your pregnancy.
- If you miscarry or have an abortion.
- If you have an invasive procedure like amniocentesis or version of a breech baby.
- After trauma to the abdomen, such as after a fall or car accident.
- Through unknown causes; this is rare, but more common during the third trimester.

What are the effects of hemolytic disease?

Hemolytic disease can cause anemia, jaundice, hepatosplenomegaly (enlarged liver and spleen), hydrops fetalis (severe swelling and fluid retention in the fetus), heart failure and death to the baby, either while still in utero or after birth.

What treatment is available to prevent Rh sensitization?

Your blood can be tested to see if you have made any antibodies to the Rh factor. If you haven't, then the most effective prevention is to treat you with Rho(D) Immune Globulin, which is also called Rho(D) Immune Globulin. Based on research, Rho(D) Immune Globulin is thought to be the most effective when administered at week 28 of pregnancy and again within 72 hours of birth if the baby is Rh+. It is also given if something happens which might expose you to your baby's blood, like bleeding during pregnancy, abdominal trauma, manual turning of a breech baby(version) or an amniocentesis.

If blood tests reveal that you are already producing antibodies to the Rh factor, then you will be referred to a physician's care. This way you can receive medical attention to give your baby the best possible outcome.

About Rho(D) Immune Globulin

Rho(D) Immune Globulin is a serum that is made from human blood. The blood is screened for Hepatitis B and C and HIV before it is used to make Rho(D) Immune Globulin. In addition, the process of obtaining the needed components from the blood is also thought to cause bacteria and viruses like HIV or Hepatitis to fracture. This means that there is very little risk that any viruses that have escaped detection through testing would survive the manufacturing process and infect a person receiving a Rho(D) Immune Globulin injection.

Rho(D) Immune Globulin is given as an injection into the muscle of the hip or arm. It works by tricking your immune system into thinking that you have already produced antibodies against the Rh factor. This means that your body does not need to make new antibodies of its own. This effect lasts for approximately 12 weeks. Rho(D) Immune Globulin works best when it is given within 72 hours of exposure to Rh+ blood. However, it may sometimes still be effective if given later than 72 hours.

Benefits of Rho(D) Immune Globulin

Receiving 2 Rho(D) Immune Globulin injections, one at 28 weeks and one following the birth of an Rh+ baby, reduces your chances of developing antibodies to 0.1%-0.2%. The impact of this reduction is the greatest on future pregnancies. If you choose to receive only one injection (after the birth of your Rh+ child) you reduce your risk of sensitization to approximately 1.7%.

Risks of Rho(D) Immune Globulin

The administration of Rho(D) Immune Globulin at 28 weeks of pregnancy has not been fully studied and long-term risks to the baby are unknown. No harmful effects have been identified at this point. Risks to the mother include discomfort at the injection site and a slight fever after the injection. The risk of disease transmission (i.e. of Hepatitis or H.I.V.) is thought to be negligible, and all of the blood used in making Rho(D) Immune Globulin is screened for H.I.V., Hepatitis B and Hepatitis C. Rho(D) Immune Globulin no longer contains a mercury-based preservative, which some people feared could negatively affect their own health or their baby's.

As with any injection, there is a small risk that some women will have an allergic response, including anaphylaxis. For this reason, all women receiving Rho(D) Immune Globulin will be observed for twenty minutes following the injection.

Who does not need Rho(D) Immune Globulin?

Rh+ women, Rh- women whose partner/donor is also documented to have Rh- blood, Rh- women who are already making antibodies to the Rh factor, and Rh- women who are 100% certain that this is their last pregnancy. Some women will choose not to receive Rho(D) Immune Globulin for religious or ethical reasons (i.e. they do not use blood products).

