



Rh Disease

Your "blood type" is determined by two kinds of proteins found on the surface of your red blood cells:

- **ABO Proteins.** Your red blood cells may have the A protein or the B protein, or both A and B, or neither A nor B. Blood types are named accordingly: your blood may be type A, type B, type AB, or type O.
- **Rh Factor Proteins.** Rh factor refers to a group of proteins on the surface of the red blood cells. If your red blood cells have these proteins, your blood is Rh positive. If your red blood cells don't have these proteins, your blood is Rh negative. Most people are Rh positive. Only about 15% of white Americans and 7% of African Americans are Rh negative.

Blood types are most accurately identified with reference to both of these proteins: A-positive, A-negative, B-positive, B-negative, AB-positive, AB-negative, O-positive, or O-negative.

What causes Rh Disease?

Rh Disease can only occur if the mother's blood is Rh negative and her unborn baby's blood is Rh positive. This is what happens:

When some of the baby's red cells enter the mother's bloodstream, her immune system is triggered. It recognizes that the Rh positive proteins on the baby's cells are different from the mother's Rh negative ones. Her immune system identifies these proteins as harmful invaders--just as it would do if viruses or bacteria had entered her body. The mother's immune system creates special substances called antibodies to destroy the foreign proteins.

Because the antibodies form so late in pregnancy, the current pregnancy is usually not affected by these antibodies. However, after this pregnancy, the woman is "Rh sensitized." Her future pregnancies are at risk, if the babies are Rh positive. This

is because the antibodies from the first pregnancy will always remain in the mother's system.

The next time the woman becomes pregnant with an Rh positive baby, her immune system reacts much more quickly. The antibodies attack the fetal cells in the mother's system and then cross the placenta and attack the baby's own circulating red blood cells. This causes no problems for the mother, but it can cause serious problems for the baby. The destruction of the baby's red blood cells can cause a group of symptoms known as hemolytic disease of the newborn.

Fortunately, good prenatal care can prevent Rh disease. When a routine blood test reveals that an Rh negative mother is pregnant with an Rh positive baby, and if her antibody screen is negative, injections of RhoGam are given. RhoGam prevents the mother from developing antibodies that could harm future pregnancies. Typically, two RhoGam shots are given. The first is given in the 28th week of pregnancy. The second is given within 72 hours of the birth. RhoGam is also given after amniocentesis, after an accident that could cause the placenta to pull away from the uterus, or after vaginal bleeding.

If blood tests reveal that the mother's blood is positive for antibodies, a high-risk pregnancy specialist should monitor you and your baby throughout the rest of your pregnancy.

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