



Patient information

Antenatal prophylaxis with anti-D

Rhesus sensitisation

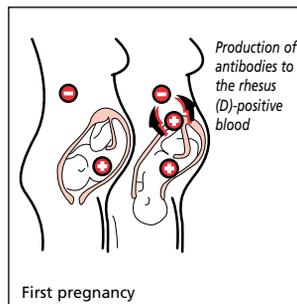
Just as every human being is unique, so are the characteristics of your blood. People can belong to one of four blood groups, A, B, AB and O which are carried on the red blood cells. There is another important difference in people's blood called rhesus factor, which is also found in the red blood cells. People who are rhesus positive have a substance known as D antigen on the surface of their red blood cells – they are said to be RhD-positive. People who are rhesus negative do not have the D antigen on their blood cells – they are RhD-negative.

Blood groups and rhesus factors are inherited from a parent. In Europe around 85% of people are RhD-positive and 15% RhD-negative.

First pregnancy

During pregnancy and childbirth the rhesus factor D can have an important role to play when a RhD-negative mother is expecting a RhD-positive baby. This can only happen if the baby's father is RhD-positive – but not all children who have a RhD-positive father will be RhD-positive.

During pregnancy the placenta acts as a barrier between the red blood cells of the mother and baby. However, sometimes small amounts of the baby's blood can cross over into the mother's blood stream.

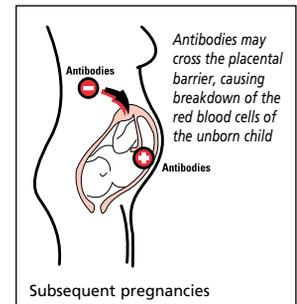


If any of the blood cells from a RhD-positive baby get into the blood of a RhD-negative woman, she will react to the D antigen in the baby's blood as though it is a foreign substance and will produce antibodies. This is called 'rhesus sensitisation'. This is not usually a problem during the first pregnancy, but can have serious consequences for subsequent pregnancies.

The most common time for a baby's blood cells to get into the mother's blood is at the time of birth. But it can happen at other times, for example during a miscarriage or abortion, or if something happens during the pregnancy such as having an amniocentesis, chorionic villus sampling, vaginal bleeding or after abdominal injury. An event that could cause the mother to produce antibodies against the D antigen is called a 'potentially sensitising event'.

Subsequent pregnancies

As a general rule the first child that triggers this sensitisation does not suffer any adverse consequences, as it will already have been born by the time antibodies have developed. However, if the woman goes on to become pregnant with a second RhD-positive child, antibodies may cross into the baby's blood and attack the red blood cells. This is called 'haemolytic disease of the newborn' or 'HDN'. HDN can be mild, but also can lead to jaundice, brain damage, or even to the death of the child.



With further RhD-positive children the antibody reaction becomes faster and more serious.

Thanks to rhesus prophylaxis with anti-D immunoglobulin, rhesus sensitisation during pregnancy and after childbirth can now largely be prevented.

Rhesus prophylaxis with anti-D immunoglobulin

Prophylaxis is the word given to a medicine that is used to prevent something happening. Rhesus or anti-D prophylaxis means giving a medicine called anti-D immunoglobulin to prevent a woman producing antibodies against RhD-positive blood cells and so to prevent the development of HDN in an unborn baby. The protective effect of anti-D immunoglobulin lasts only a few months, so the treatment must be repeated during and after each pregnancy. Anti-D immunoglobulin is given as an injection either into a muscle (intramuscular injection) or into a blood vein (intravenous injection).

During pregnancy

Generally, all expectant mothers who are RhD-negative and who have not already been sensitised (those that already have antibodies to the D-antigen) are advised to undergo prophylaxis with an anti-D immunoglobulin, either as a single injection between the 28th and 30th week of pregnancy or as two injections at 28 and 34 weeks. This is known as 'routine antenatal prophylaxis'.

After childbirth

After birth, the baby's blood will be tested. If the baby is found to be RhD-positive, the mother will be given another injection of anti-D immunoglobulin, usually within 3 days of the birth. This is known as 'postnatal prophylaxis'.

Complications during pregnancy

In the event of potentially sensitising events such as those listed below, additional injections of anti-D immunoglobulin may be necessary.

- **Impending or actual miscarriage**
- **Ectopic pregnancy**
- **Termination of pregnancy**
- **Vaginal bleeding**
- **Obstetric interventions** such as chorionic villus sampling, amniocentesis, or external cephalic version (ECV)
- **Abdominal injury** e.g. after a fall or a traffic accident

It is important that the mother reports any events such as vaginal bleeding or abdominal injury to her midwife or doctor as soon as possible.

Does every rhesus D-negative pregnant woman need prophylaxis?

There are certain circumstances when this treatment is not necessary:

- If you have opted for sterilisation after birth.
- If you are in a stable relationship with the father of the child and it is certain that he is rhesus D negative.
- If it is certain you will not have another child after the current pregnancy.
- You may be offered a test that determines your baby's rhesus D status from a sample of your (maternal) blood. If your baby is rhesus D negative then you will not need to have anti-D immunoglobulin.

Your midwife, obstetrician or GP will be able to provide advice in these circumstances.

What is anti-D immunoglobulin?

Anti-D immunoglobulin is made from a part of the blood called plasma that is collected from donors. As with all medicines made from blood there is a possibility of a known virus being passed from the donor to the person receiving the anti-D immunoglobulin. However, all donors are thoroughly screened and the production of anti-D immunoglobulin includes steps to remove and destroy viruses ensuring that the chance of passing on a virus is very low.

Routine antenatal prophylaxis appointment:

Date

What should I do next?

If you are pregnant and are RhD-negative, your midwife, obstetrician or GP (that is whoever is responsible for your antenatal care) should discuss rhesus prophylaxis with you and explain the options available so that you can make an informed choice about treatment.

If in doubt, ask your midwife, nurse or doctor who will be happy to tell you more about the rhesus factor and what it means to you.

Useful addresses and telephone numbers

Midwife's name

Telephone number

Contact address

Hospital doctor's name

Telephone number

Hospital address

GP's name

Telephone number

Contact address

Reporting of side effects

If you get any side effects, talk to your doctor, pharmacist or nurse. This includes any possible side effects not listed in the package leaflet.

You can also report side effects directly via the Yellow Card Scheme at:

www.mhra.gov.uk/yellowcard

By reporting side effects you can help provide more information on the safety of your medicine.

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CSL Behring UK Ltd

Phone: 01444 447405
medinfo@cslbehring.com
www.cslbehring.co.uk