



The RhD Factor & Anti-D

Protecting the next generation



Bio Products Laboratory

a commitment for life

You have probably just been told...

that you require an injection of a substance called “Anti-D” and you may be wondering what it is and why you need it.

This leaflet answers both of these questions and also explains why this simple injection can provide you with the protection you need – both now and in the future.



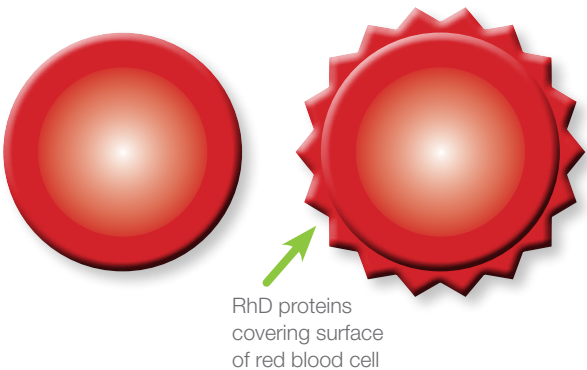
The RhD Factor

Pregnant women

Pregnant women can often belong to different blood groups from their babies. This is perfectly normal and is usually not a problem. However, in about 1 in 10 pregnancies, these blood groups differ in one particularly important way, and that involves either the presence or absence of a protein on the surface of red blood cells, originally called the 'Rhesus Factor'. It is now referred to as simply the RhD Factor.

RhD Negative
red blood cell

RhD Positive
red blood cell




If you carry this RhD Factor on your red blood cells, you are known as RhD Positive. If you do not, you are known as RhD Negative.

How the RhD Factor can affect you

Sometimes, a small amount of blood can cross over from the baby's circulation in the placenta and enter the mother's blood stream.

This generally happens just before birth and is quite normal, occurring in nearly $\frac{3}{4}$ of all pregnancies. However, such a transfer of blood is also likely to occur after a particular event such as a miscarriage or termination (abortion).





If this transfer of blood occurs from a RhD Positive baby to a RhD Negative mother, then the mother's immune system will see the baby's blood as "foreign" and will produce antibodies which destroy all the baby's blood in the mother's circulation.

The mother's immune system retains the memory of how to make these antibodies, which gives her the ability to make them more quickly and in greater numbers in the future if required.

This only becomes a problem during the next pregnancy if the baby is again RhD Positive and there is another transfer of the baby's blood across the placenta. The mother's immune system uses its memory to make the same antibodies as before. These can then re-cross the placenta and start to destroy the baby's blood within the baby's circulation before birth.

Babies who have this problem are said to have Haemolytic Disease of the Newborn, or HDN for short.

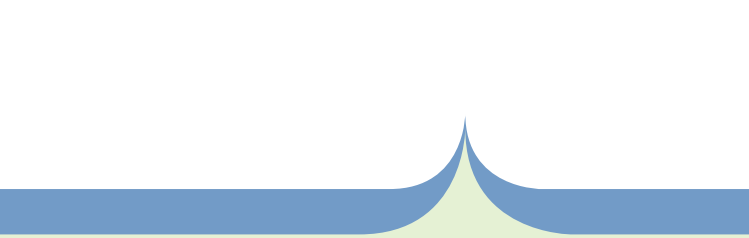
Gaining protection from Anti-D

Doctors, nurses and midwives are very aware of this problem and can prevent it from happening by giving the mother an injection of immunoglobulin – or ‘Anti-D’. This can prevent a woman producing antibodies against RhD positive blood cells and so to prevent the development of HDN in an unborn baby.

Anti-D works by destroying any blood from the baby present in the mother’s circulation before she can make her own antibodies. This means that the mother does not have the antibodies available to cause HDN in her future pregnancies.

A simple injection of Anti-D therefore protects both the mother and her baby should she become pregnant again in the future. Anti-D is made from a part of the blood called plasma that is collected from donors. The production of Anti-D immunoglobulin is very strictly controlled to ensure that the chance of a known virus being passed from the donor to the person receiving the Anti-D is very low – it has been estimated to be 1 in 10,000 million doses.





If in doubt, ask

Your midwife, doctor or nurse will be happy to tell you more about the RhD Factor and what it means to you.

If you have any questions, or if you have any doubts about the injection, don't be afraid to ask.

Your Midwife's Name:

Contact Address:

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Telephone Number:

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