

## Anti-D Prophylaxis in Pregnancy for Rhesus Negative Women

### What is the rhesus factor?

The rhesus factor is found on red blood cells. People who are rhesus positive have a substance known as 'D antigen' on the surface of their red blood cells. People who are rhesus negative do not have 'D antigen' on their red blood cells. Whether a person is rhesus positive or rhesus negative is determined by their genes, it is inherited from a parent.

### Why does rhesus status matter in pregnancy?

Rhesus status matters if a woman who is rhesus negative becomes pregnant with a baby who is rhesus positive. This can only happen if the baby's father is rhesus positive, but not all children with a rhesus positive father will be rhesus positive as he may have both the rhesus positive and the rhesus negative gene.

If any of the blood cells from a rhesus positive baby get into the blood of a rhesus negative mother she will react to the 'D antigen' on the baby's red blood cells as though it is a foreign substance and she will produce antibodies. This is not usually dangerous in a first pregnancy but in later pregnancies the antibodies can cross the placenta and attack the red blood cells of an unborn rhesus positive baby.

This can cause 'haemolytic disease of the newborn', known as HDN. HDN can be mild but it can be more serious and each year 25-30 babies a year (out of 62,000 rhesus positive babies born to rhesus negative women) die from HDN, with additional babies experiencing developmental problems.

### What is anti-D prophylaxis?

Prophylaxis is the word given to a medicine that is given to prevent something happening. Anti-D prophylaxis means giving anti-D immunoglobulin to prevent a woman producing antibodies against rhesus positive blood cells and so to prevent the development of HDN in an unborn baby. Anti-D immunoglobulin is made from a part of the blood called plasma that is collected from donors.

### When do I need anti-D prophylaxis?

Routine anti-D prophylaxis is offered to pregnant women who are rhesus negative between 28-30 weeks of pregnancy (Nice 2008) of their pregnancy. Anti-D is additionally offered to rhesus negative women who experience a sensitising event during their pregnancy including any vaginal bleeding, miscarriage or abortion and during procedures such as amniocentesis, chorionic villus sampling or external cephalic version. This is in line with the recommendations of NICE (National Institute of Clinical Excellence). Please let your community midwife or doctor in the antenatal clinic know if you have had anti D at another hospital in this pregnancy.

After the birth of your baby, a blood sample will be taken from the afterbirth (placenta) to test the baby's blood group. If the baby is rhesus positive, a mother who is rhesus negative will be offered a further injection of anti-D immunoglobulin.

## What are the benefits of having Anti-D in my pregnancy?

By having anti-D immunoglobulin injections a woman who is rhesus negative can prevent her body developing the antibodies that can attack the blood cells of a rhesus positive baby and cause HDN.

## What are the risks of having Anti-D?

Occasionally Anti-D immunoglobulin can cause an allergic reaction in the mother, but this is rare. Some short term side effects may include tenderness at the site of the injection, occasionally fever malaise or headache may occur.

True allergic reactions are rare, early warning signs are hives, generalised urticaria, tightness of the chest, wheezing, please tell your midwife if you develop any of these symptoms immediately. You will need to stay on the maternity Day Unit for 30 minutes after your injection to check for any reaction to the injection.

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 immunoglobulin is very low – it has been estimated to be 1 in 10,000 billion doses. There has been no reported cases of vCJD in America since the 1970s however this does not imply there is no risk of prior risk transmission (ZLB BOHRING 2005).

## Is this treatment always effective?

No, not always. For the majority of women who are having Anti-D as a preventative measure the effects of Anti-D immunoglobulin will last for up to 12 WEEKS therefore receiving a dose at 28 -30 weeks should cover the majority of your pregnancy. This is in addition to anti-D offered after sensitising events. **It is very important that you have your 28 week routine blood tests done prior to your injection. This needs to be done because the blood transfusion department that store the injections and your samples needs to check your blood for antibodies that may have developed since your booking bloods were taken.**

Occasionally it is possible that you may have experienced a sensitising event and not be aware of it, in which case you may already have made antibodies. Very occasionally the first dose you are given is not sufficient for the amount of your baby's cells in your blood. This can be tested and further Anti-D given.

## When do I NOT need to have Anti-D prophylaxis?

A healthcare professional should discuss with you the situations where anti-D prophylaxis would be neither necessary nor cost effective. Such situations might include those where a woman:

- Has opted to be sterilised after the birth of the baby
- is certain that the father of the baby is rhesus negative
- has already developed anti-D antibodies that have been detected by a blood test

## You should not be given Anti D if:

You have had a serious reaction to Anti D in the past or other human blood product, or you lack a specific protein called IgA in your blood

You should not receive Anti D into a muscle if you have low platelets (thrombocytopenia) or any other serious blood clotting disorder.

NB Active immunisation with live vaccine (measles, mumps, rubella, varicella should be postponed for 3 months as the vaccine may reduce the efficacy of the anti D (CSL Behring )

## Can I give blood after having this injection?

**Yes you can give blood after having the anti D injections or blood transfusions however the recommendation from the NHS blood transfusion service is 9 months after the event. For any further information please call the NHS National Blood transfusion service on 0300 123 23 23.**

## Sources of information

You can talk to your midwife, General Practitioner or Obstetrician for further information and an additional information leaflet is produced by NICE (National Institute for Clinical Excellence) which is available from staff or on the website [www.nice.org.uk](http://www.nice.org.uk)

If after reading this information there are any questions you would like to ask, please list below and ask your midwife or doctor.

This leaflet is was put together by the Guidelines group and the Women's Focus Group

Routine antenatal anti-D prophylaxis for women who are rhesus D negative, Published: 27 August 2008 [www.nice.org.uk/guidance/ta156](http://www.nice.org.uk/guidance/ta156)

NHS National Blood transfusion service [www.blood.co.uk](http://www.blood.co.uk)

## Important information

This patient information is for guidance purposes only and is not provided to replace professional clinical advice from a qualified practitioner.

## Your comments

We are always interested to hear your views about our leaflets. If you have any comments, please contact the Patient Experience Team – Tel: (01323) 417400 Ext: 5860 or by email at: [esh-tr.patientexperience@nhs.net](mailto:esh-tr.patientexperience@nhs.net)

## Hand hygiene

The trust is committed to maintaining a clean, safe environment. Hand hygiene is very important in controlling infection. Alcohol gel is widely available at the patient bedside for staff use and at the entrance of each clinical area for visitors to clean their hands before and after entering.

## Other formats

**If you require any of the Trust leaflets in alternative formats, such as large print or alternative languages, please contact the Equality and Human Rights Department.**

**Tel: (01424) 755255 Ext: 2620**

After reading this information are there any questions you would like to ask? Please list below and ask your nurse or doctor.

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## Reference

The following clinicians have been consulted and agreed this patient information:  
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The Clinical Specialty/Unit that have agreed this patient information leaflet:  
Strategic Business Unit Women's Health Operational Meeting

Next review date: January 2020  
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