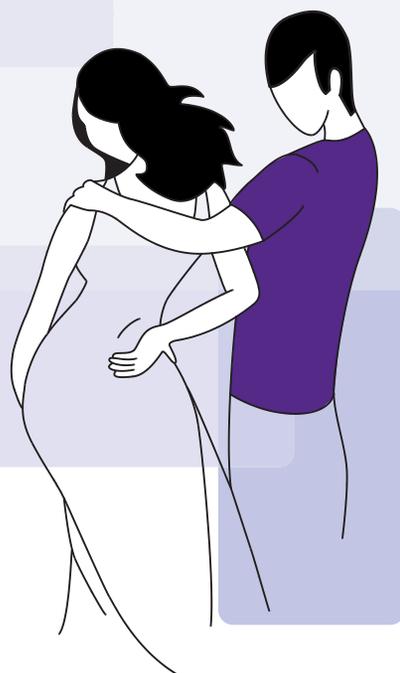


## Information for women who are Rhesus negative

This is one of a series of leaflets designed to give you up-to-date information based on what is known to be effective, so that you can make the right choices for you and your baby.



This leaflet is based on research to help you make your own choice

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The advice in this leaflet can only be an overview of the issues around this topic. If you have concerns about anything raised in this leaflet, you should seek advice for your individual and specific needs with a health care professional, for example a doctor, midwife or health visitor.

## What does Rhesus negative mean?

You may be aware that there are four main blood groups: A, B, AB and O but alongside your blood group there is also the Rhesus factor (Rh). If you have this factor you are described as being Rhesus positive (Rh+ve) and if you do not you are Rhesus negative (Rh-ve). The majority of people are Rh+ve but 16 people out of every 100 are Rhesus negative. For most people, especially men, being Rh-ve is only really of concern if they need a blood transfusion. However, this is different for women, as being Rhesus negative can have an effect on your baby's health during the first or any future pregnancies.



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## Why is it important to know your Rhesus status?

In pregnancy, it is unusual for the mother's and the baby's blood to come into contact and mix with each other, as they both have separate circulation systems. For a mother who is Rh-ve and where her unborn baby is Rh+ve, if there is mixing between the two bloods (feto-maternal transfusion), the baby's positive blood is seen by the mother's body as a foreign substance (an antigen) to be attacked and destroyed. This sets off a reaction in the mother's blood to protect her body from what is seen as something that is harmful. The time of greatest risk when this mixing of the bloods can happen is as the afterbirth (placenta) separates or at any time in pregnancy where the placenta is damaged, as this is where the fetal and maternal blood systems are closest.

## What are the long-term consequences if a feto-maternal transfusion occurs?

The reaction of the Rhesus negative mother's blood to the foreign Rhesus positive antigen is called isoimmunisation. This follows the same process as the one used to immunise or protect us from harmful viruses, like polio. The body forms antibodies to fight and destroy the virus therefore preventing us from getting

the disease. Antibodies are cells specifically designed to combat the foreign antigen and the presence of these antibodies means that the mother's body will be sensitised to this particular Rhesus antigen for the rest of her life. These antibodies will then try to destroy the blood of a Rhesus positive baby. This can result in the death of the baby while still in the womb or, if the baby survives, the development of a condition called haemolytic disease of the newborn (HDN), where the baby requires medical care and often a blood transfusion shortly after birth. These antibodies are not usually present in the first pregnancy, as the Rhesus negative mother is unlikely to have had contact with any Rhesus positive antigens before the pregnancy.

## What can be done to reduce or prevent the risk of this happening?

It is possible to prevent the formation of antibodies by giving the mother immunoglobulin. This blocks the sensitisation process and returns the maternal blood system back to how it was at the start of that pregnancy. The immunoglobulin, commonly called *anti-D*, is a specially processed, blood-derived product that can only be given by intramuscular injection. This can be given antenatally (ie prophylactically), where there is a risk of contact between maternal and fetal blood and sensitisation could occur. It may also be given as a treatment (therapeutically), where it is *highly likely* that

fetal and maternal blood have come into contact with each other, which would happen most often after the birth of the baby.

If you choose to have the injection of anti-D you can be reassured that there is much less risk of haemolytic disease of the newborn (HDN) affecting the baby in your current pregnancy or a baby in a subsequent pregnancy. There are, however, a few issues that you need to know about so that you can make an informed choice.

## Should all Rhesus negative mothers be offered anti-D?

If both the father and the mother of the unborn baby are Rhesus negative, they can only have a Rhesus negative baby and the mother will not require anti-D. Likewise, if the blood type of the baby is known to be Rhesus negative, either from tests done in pregnancy or soon after the birth, these mothers do not need anti-D.

## What is recommended?

The Department of Health has set out clear guidance recommending that all Rhesus negative women between the 28th and 34th week of their pregnancy should be offered prophylactic anti-D. This might not apply to some women if they have:

- **opted for postpartum sterilisation**
- **are in a stable relationship with the father of their child and they are sure of his Rhesus negative status**
- **are certain they will not have another child after the current pregnancy.**

The government has also recommended that anti-D should be offered to Rhesus negative women who:

- **have given birth within the previous 72 hours**
- **have experienced a potentially sensitising event during their pregnancy. This includes situations where women have had a miscarriage, or abortion, and where they have had screening tests in early pregnancy that involve possible damage to the placenta, such as amniocentesis or chorionic villus sampling (CVS). It also includes unexplained or unexpected vaginal blood loss, any sign of placental bleeding and any incidences that involve injury to the abdomen.**

Occasionally, although a woman may have already had one dose of anti-D, she may need one or more further doses. This happens when there are more fetal cells in the mother's blood sample than usual and so more immunoglobulin is needed to 'mop' these up.

## How do I find out if I am Rhesus negative?

At one of the first contacts with the midwife or doctor in your pregnancy, they will explain about the need to have a blood test to find out your blood group and Rhesus factor. If you are found to be Rhesus negative, further blood tests will be done when you are 28 and 34 weeks into your pregnancy to see whether any antibodies have formed. A blood test will also be done at any time where there has been a risk of sensitisation. Once your baby is born, a sample of blood will be taken from you and from your baby's umbilical cord. Taking a sample from the umbilical cord means that your baby will not need to have a blood test themselves. These tests will give information about the baby's blood group and Rhesus factor and whether and how much of the baby's blood has entered the mother's system.

## Is routine antenatal anti-D effective?

Studies have shown that offering routine antenatal anti-D is very effective and reduces the number of women who become sensitised to the Rhesus factor during their pregnancy. Where it is not effective, this is often because of what has been called 'silent sensitisation' where no one knows that the bloods have mixed. This is most likely where there has been some bleeding behind the placenta during the pregnancy and this remains hidden inside the womb, or where a woman has not realised she has had a miscarriage. It is because of these risks, and the effect of this on the woman's future pregnancies that the government recommend that all Rhesus negative women should be offered anti-D in pregnancy.

## Further considerations

Because anti-D is a type of blood product, there has been some concern about the possible risk of women receiving anti-D becoming infected with viral, blood borne diseases such as hepatitis C and HIV. However, anti-D immunoglobulin is now screened extensively for these specific conditions and the risk of contamination of a batch of anti-D immunoglobulin has been estimated as being less than one in a million.

## Do I have to have an injection?

The only way to receive anti-D is through a needle as an injection which is given into the muscle at the top of the leg or the buttock. Some women may not want to have an injection and the fear of the injection might dominate their decision about having anti-D. If it is the injection that concerns you, please talk to your midwife or GP as they can help you to overcome your fears about this.

Some women experience short-term but unpleasant rashes or flu-like symptoms after receiving anti-D but this is not common.

If you have a condition that affects your blood, such as one of the haemoglobinopathies, and you are not already in the care of a specialist, you should ask your GP to refer you to a medical practitioner in this field who can give you advice.

## Your choice

From the beginning of your pregnancy you should have been given all the information you need about the use of anti-D during your current pregnancy and for any future ones. This is a complex issue and it has been recommended that health care practitioners should make efforts to enable information about it to be more accessible to women. This will mean women can make their choices based on factors that are relevant to them. This leaflet is part of that process and you should now be more aware of the issues surrounding potentially sensitising events in the antenatal period. If you are Rhesus negative and you have cause for concern about whether or not you need anti-D please talk to your midwife or GP.

## What we don't know

- **There has been very little research on the risks to women who are given anti-D, its side effects, and the potential implications for their unborn babies where this is given in pregnancy. However, women have now routinely received anti-D, particularly after childbirth, for over 40 years. It is therefore reasonable to assume that if there were any major negative effects as a result of this, we would know about them by now.**
- **Preliminary work is being conducted in order to establish whether it is possible to discover the Rhesus status of a baby *in utero*, which would prevent Rhesus negative women who are carrying a Rhesus negative baby (and therefore who have no need for anti-D) from being given unnecessary doses of anti-D during pregnancy.**

## How to find out more

If you would like to know more about anti-D, you can discuss this leaflet with your midwife or doctor. For more detailed information, ask your midwife, health visitor or doctor for the professionals' version of this leaflet.

