

**Patient
Information**

Babies with a positive direct antibody test (DAT)

Introduction

This leaflet gives you information about the Direct Antibody Test (DAT) and why it might be used. You will be able to refer to this leaflet alongside any other information you have been given by your healthcare team.

If after reading this leaflet you have any questions, please do not hesitate to ask a member of the team.

Why do we test for antibodies?

During pregnancy, all women are offered a blood test to check their blood group and to check whether there is evidence of antibodies. If antibodies are present, you will be offered an injection (known as anti-D vaccine) to reduce the chance of these antibodies passing into the fetal blood.

The main blood groups are O, A, B and AB and each of those groups will be further classified as Rhesus positive or Rhesus negative.

A mother and fetus may have different blood groups. In this situation, if there is mixing of blood between the mother and fetus during pregnancy, then the mother's body will start to produce antibodies.

Antibodies are made by the body to help protect against foreign or unwanted substances. Therefore, if fetal red blood cells get into the mother's blood system, her body will produce antibodies to remove these cells. This will not cause any problems in the mothers' blood.

However, if these antibodies are made, they can cross, via the placenta, and pass into the fetal blood system. This can result in the antibodies trying to breakdown the red blood cells in the fetus or baby.

In some babies, this will not cause a significant problem but in others it can cause anaemia (low red blood cells) and/or jaundice (yellowing of the skin). This can happen in your current pregnancy and also in future pregnancies.

Reference No.

GHPI1858_08_24

Department

Neonatal

Review due

August 2027

Patient Information

What is a DAT?

This is a blood test commonly performed on babies, which is usually taken from a heel prick or from a vein with a needle. As well as from the umbilical cord after the birth of your baby.

This blood test will detect evidence of a reaction between the mother's and baby's blood group. The reaction produces antibodies from the mother's blood which will stick to the surface of the infant's red blood cells (RBC). These antibodies will destroy the baby's red blood cells. The test will identify the degree of antibodies present from 'weakly positive' to 'strongly positive'.

What will happen if the test is positive?

A positive test will alert us to check for 2 very common conditions in your baby:

- **Jaundice**, which is yellowing of the white of the eyes, gums, skin, excessive sleeping, poor feeding or irritability. This yellow pigment is called bilirubin and a bilirubin test will be requested to check for jaundice.
- **Anaemia**, which is a low number of red blood cells, very pale skin, fast breathing and heart rate. The test we perform for anaemia is called a full blood count (FBC).

It is important to remember that the jaundice and anaemia caused by the mixing of blood is temporary. The number of maternal antibodies in the baby's bloodstream will eventually be reduced over a period of about 3 months. Not all babies with a positive DAT will get jaundice and anaemia but we will monitor these babies closely because they are more at risk.

Treatment

Jaundice: This is a treatable condition in a new born baby. Your baby will be placed under a blue light (called phototherapy) with their skin exposed. Sometimes if the jaundice level is very high, your baby may also have a blue light placed underneath them.

Short breaks of about 30 minutes for feeding, skin to skin contact and cuddles are encouraged. Your midwife will monitor your baby throughout this treatment.

Patient Information

Anaemia: Some babies with a positive DAT may have a low level of red blood cells and might need a blood transfusion. This would be given on the Neonatal Unit by specialised staff.

Medicines we can use: All babies with a moderate and strongly positive test will be given **follic acid** medicine by mouth for at least 3 months to help them make new red blood cells.

Babies who are more affected, may be offered an **immunoglobulin** infusion. This is donated antibodies (proteins that are part of the body's natural defence) given directly into their bloodstream through the vein. The infusion is used to stop the breakdown of the baby's red blood cells. This treatment is very rare and will be explained in more detail by the medical team if required.

Follow up and monitoring

Several blood tests will be taken to check jaundice levels and anaemia, according to the severity of your baby's condition.

A follow up appointment at the Neonatal Clinic in the Children's Outpatient Department will be arranged before your baby is discharged.

If there are any changes in your baby's condition after discharge, such as increasing jaundice, very sleepy, poor feeding, please contact your GP, midwife or NHS 111 for advice.

If your baby has any difficulty with breathing or is difficult to wake, call 999 for an ambulance straight away.

Contact information

Neonatal Unit

Gloucestershire Royal Hospital

Tel: 0300 422 5070

Monday to Friday, 9:00am to 5:00pm

NHS 111

Tel: 111

Patient
 Information

Further information

For more information about Rhesus disease and jaundice please visit the following websites:

Rhesus disease

Website: www.nhs.uk/conditions/rhesus-disease

Newborn jaundice

Website: www.nhs.uk/conditions/jaundice-newborn

Content reviewed: August 2024

Making a choice

Shared Decision Making

If you are asked to make a choice, you may have lots of questions that you want to ask. You may also want to talk over your options with your family or friends. It can help to write a list of the questions you want answered and take it to your appointment.



Ask 3 Questions

To begin with, try to make sure you get the answers to three key questions if you are asked to make a choice about your healthcare.

1. What are my options?
2. What are the pros and cons of each option for me?
3. How do I get support to help me make a decision that is right for me?

These resources have been adapted with kind permission from the MAGIC Programme, supported by the Health Foundation

* Ask 3 Questions is based on Shepherd HL, et al. Three questions that patients can ask to improve the quality of information physicians give about treatment options: A cross-over trial. Patient Education and Counselling, 2011;84: 379-85