

Oxford Children's Hospital

# Transcranial Doppler Screening

Information for parents and carers



As part of the care provided for your child at the Sickle Cell and Thalassaemia Clinic, we offer transcranial Doppler scans as a regular screening test.

This scan provides unique information about the flow of blood in the arteries supplying blood to the brain.

## What is a Transcranial Doppler scan (TCD)?

A transcranial Doppler machine uses an ultrasound probe to detect the rate (speed) of blood flow in vessels. The probe is rolled over the skin of the head and neck and creates an image of blood vessels (arteries) on a screen. It allows the speed of blood flow to the brain to be measured.

## Why should children with sickle cell disorders have the scan?

In some children, an abnormally fast blood flow in the arteries of the brain may mean that they are narrowed. This may reduce the blood flow to part of the brain. If the blood flow is very reduced, it may increase the risk of your child having a stroke in the future.

Research has shown that by carrying out this scan, we can find those children with this problem before a stroke develops.

## Will it hurt?

No, it is painless. The ultrasound probe is just gently rolled over the head and neck. We will use ultrasound jelly to help the probe to slide over your child's skin and hair, to improve the images on the screen.

## Who should have the scan?

All children between the ages of 2 and 16 who have sickle cell anaemia or sickle beta thalassaemia will be offered a scan.

## What are the benefits?

By having the scan, your child's Consultant will be able to detect problems with blood flow to their brain at an early stage.

The results will be discussed with you and may include the need for more detailed tests. Treatments, such as blood transfusions, can be given to improve the flow of blood to the brain; this may prevent the development of more serious problems.

Many strokes are prevented as a result of this scan.

## Is it safe?

Transcranial Doppler scans use ultrasound, which is just like the scans used to check the unborn baby in a pregnant woman. Ultrasound uses harmless sound waves to create the images on the screen.

Please let us know before the scan if your child has been unwell in the past week. This might interfere with the scan results and we may need to reschedule their appointment.

## Where will my child go for the scan?

Your child will have the scan in LG1 Radiology. This is on the same level as the outpatients department in the Children's Hospital at the John Radcliffe Hospital in Oxford.

## What will happen when my child has the transcranial Doppler scan?

The scan is carried out in a room with low lighting, so that the person doing the scan can see the images on the screen more clearly.

Some ultrasound jelly will be put on the skin on the side of your child's head or directly onto the probe before the scan is carried out. This is harmless and can be easily wiped or washed away.

The test usually takes 10-30 minutes.

Your child will need to be relaxed and still during the test. They will be awake and lying on a bed and you will be able to stay with them to reassure them. You may need to encourage them to stay still during the scan.

Your child may hear a gentle whooshing sound from the machine as it takes the measurements.

There will be one person performing the scan, who has been trained especially in this procedure.

Sometimes there are other people present who work in the department or who may be students learning about scans. They will all be introduced to you and your child before the scan starts.

## What happens after the scan?

The results will be sent to the doctor who asked for the test. If the results are normal, we will simply plan to repeat the scan every year or so.

If the results show a fast blood flow this could mean there is possible narrowing of the blood vessels.

If the results are not clear, we will arrange another transcranial Doppler scan test within a few months.

Your child's Consultant may also arrange other tests as well, such as a brain scan called an MRI (Magnetic Resonance Imaging) and an angiography. This is another painless scan to check the brain and its blood vessels in more detail. We will talk to you and explain what the results mean and what treatment options are available.

## If I need to cancel or rearrange my child's appointment who should I contact?

Please contact the Paediatric Haematology Consultant's secretary.

Tel: **01865 234 212**

(9.00am to 5.00pm, Monday to Friday)

## If I have any other questions, who should I contact?

If you have non-urgent questions your child's Consultant will be able to answer these at their next hospital visit.



If you have a specific requirement, need an interpreter, a document in Easy Read, another language, large print, Braille or audio version, please call **01865 221 473** or email **[PALSJR@ouh.nhs.uk](mailto:PALSJR@ouh.nhs.uk)**

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