

Transcranial doppler ultrasound for children with sickle cell anaemia

This leaflet offers more information about transcranial doppler scanning to detect the risk of stroke in children with sickle cell anaemia. If you have any further questions or concerns, please speak to one of the doctors or nurses caring for your child.

What is transcranial doppler (TCD)?

A doppler machine uses an ultrasound probe (similar to the ultrasound used for scans during pregnancy), to detect the rate of blood flow in blood vessels. Placing the probe over blood vessels in the head and neck allows the rate of blood flow to be measured in some of the arteries supplying the brain. If arteries are narrow, the blood travels faster through the narrowed area and makes a higher pitch noise.

Why test children with sickle cell disease for abnormal blood flow?

In some children with sickle cell disease (HbSS, HbSC, HbS/beta thalassaemia) abnormally fast blood flow in the arteries of the brain may indicate narrowing due to sickle cell damage. This may reduce the blood flow to part of the brain, and if it is very reduced, it may increase the child's risk of having a stroke in the future.

Why use TCD for children with sickle cell anaemia?

By using screening tests in sickle cell anaemia, we aim to detect and treat any problems at an early stage. Studies have shown that TCD can help identify children with sickle cell anaemia who have the highest risk of stroke. TCD is therefore offered in the sickle cell clinic as a regular screening test, starting at the age of two years. If your child is found to be at high risk of stroke, we can begin a blood transfusion programme to help reduce their risk.

What will happen when my child has TCD screening?

We will arrange an appointment for your child to have the test, which is done by the **vascular laboratory** staff at St George's Hospital (4th floor, St James' Wing). Details of where to go will be sent along with your appointment letter. The test usually takes about 30 minutes, although with younger children it may take longer. TCD is painless, but your child needs to be relaxed and still for the duration. He or she will be awake and lying on a couch during the test and you will be able to stay with him or her.

What happens after the test?

The results will be checked by the doctors in the sickle cell clinic. If the test is normal, we will simply plan to repeat the test every year or so. If the results show fast blood flow, indicating possible blood vessel narrowing, or if it does not give clear results, we will arrange a further TCD test within a few weeks. We may also arrange other tests for your child, such as a magnetic resonance angiogram (MRA), which allows us 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 have any other questions, who should I contact?

If you have any further questions or concerns about your child's TCD ultrasound scan, the sickle cell team are available to answer your questions on **0208 725 3921** (Monday to Friday, 9am to 5pm). You can also call through to the switchboard on **020 8725 1255** and ask to speak to the paediatric haematology office.

Additional services

Patient Advice and Liaison Service (PALS)

PALS can offer you on-the-spot advice and information when you have comments or concerns about our services or the care you have received. You can visit the PALS office between 9am and 5pm, Monday to Friday in the main corridor between Grosvenor and Lanesborough Wing (near the lift foyer). **Tel:** 020 8725 2453 **Email:** pals@stgeorges.nhs.uk

NHS Choices

NHS Choices provides online information and guidance on all aspects of health and healthcare, to help you make decisions about your health.

Web: www.nhs.uk

NHS 111

You can call 111 when you need medical help fast but it's not a 999 emergency. NHS 111 is available 24 hours a day, 365 days a year. Calls are free from landlines and mobile phones.

Tel: 111

