



# Transcranial dopplers (TCD)

## Information for parents and children

### What you need to know

We routinely offer transcranial dopplers (TCD) as an annual regular screening test in the sickle cell clinic as part of your child's care. This begins at the age of two until your child is 16. By using screening tests, such as blood tests and TCD, we aim to detect and treat any problems at an early stage.

### What is a transcranial doppler scan (TCD)?

A Doppler machine uses an ultrasound probe (similar to the ultrasound test used during pregnancy), to detect the rate of blood flow in blood vessels. Placing the probe over blood vessels (arteries) in the head and neck allows the speed 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 pitched noise.

In most children with sickle cell disease, the TCD is normal, but if it is abnormal we may need to repeat it or do further tests such as MRI of the head to check the arteries. It is recommended that all children with certain type of sickle cell disease have this screening test attempted by two years of age and then yearly thereafter.

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

In some children with sickle cell disease, abnormally fast blood flow in the arteries of the brain may indicate a narrowing. This may reduce the blood flow to part of the brain, and if it is much reduced, it may increase the risk of having a stroke in the future.

### What are the benefits?

By doing the TCD test, we aim to detect problems related to blood flow to the brain at an early stage. We can then discuss with you the need for more detailed tests. We can advise you about the treatment options available for preventing the development of more serious problems, such as having a stroke.



### What will happen when my child has TCD screening?

Your appointment for the TCD scan will be in Clinic 4D, the children's outpatients department at the Whittington Hospital. The test usually takes about 30 minutes, but with younger children it may take longer. The test is painless, but your child needs to be relaxed and still during the test. He or she will be awake and lying on a couch during the test and you will be able to stay with them.

### Who performs the scan?

The scans are performed by the children's clinical nurse specialist. Please let the nurse specialist know if your child has been unwell in the previous week, as this may affect the result.

### Are there any risks?

There are no known risks or side effects of this test.

### What happens after the test?

The results will be given to a consultant paediatrician and a consultant haematologist for their interpretation. This may not happen on the same day. If the test is normal, we will simply plan to repeat the test every year. If the results show fast blood flow, indicating possible blood vessel narrowing, or do not give clear results we will probably arrange another TCD test within a few weeks.

We may also arrange other tests as well, such as a brain scan called an MRI (Magnetic Resonance Imaging and Angiography), which 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.

### Contacts

Switchboard	020 7272 3070
Paediatric outpatients	020 7288 5883
Children's clinical nurse specialist	020 7288 3017
Paediatric secretaries	020 7288 5616
Paediatric registrar on-call	Bleep 3111
Ifor Ward (Paediatrics)	020 7288 5442



### Patient advice and liaison service (PALS)

If you have a compliment, complaint or concern please contact our PALS team on 020 7288 5551 or [whh-tr.whitthealthPALS@nhs.net](mailto:whh-tr.whitthealthPALS@nhs.net)

If you need a large print, audio or translated copy of this leaflet please contact us on 020 7288 3182. We will try our best to meet your needs.

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Date published: 02/07/2019  
Review date: 02/07/2021  
Ref: CYP/PaedHaem/TCD/04



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