

Children's haematology

Trans-cranial Doppler scans (TCD)

Information for patients, relatives and carers

What is a trans-cranial Doppler (TCD) scan?

A trans-cranial Doppler machine uses an ultrasound probe to detect the speed (rate) 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. This helps us measure the speed of blood flow to the brain,

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.

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

We use TDC scans as regular screening tests for children with sickle cell disease. In some children, an abnormally fast blood flow in the arteries of the brain might mean that they are narrowed. This can reduce the blood flow to part of the brain. If the blood flow is reduced, it could increase the risk of your child having a stroke in the future.

Research has shown that by carrying out this scan, we can identify children with this problem at an early stage, before a stroke happens. We can then do more detailed tests and plan treatment options. This might include hydroxycarbamide and blood transfusions, which can improve the flow of blood to the brain and prevent more serious problems. Many strokes are prevented because of this scan.

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, which will improve the images on the screen.

Is it safe?

Yes, the scan is safe. The TDC scans use ultrasound, 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.

What will happen when my child has TCD screening?

The scan happens in a room with low lighting, so that the person carrying out 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 doesn't hurt and can be easily wiped or washed away.

The test usually takes ten to 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 specialist training in this area. Sometimes there are other people in the appointment who work in the department or students learning about scans. They will all be introduced to you and your child before the scan starts.

The scan takes place in the **Irvine vascular studies department**, which is on the ground floor of the **Mary Stanford wing at St Mary's Hospital on South Wharf Road**. This is opposite the main hospital building called the Queen Elizabeth Queen Mother building. Turn right when you enter the Mary Stanford wing and you'll see signs to the department.

What happens after the test?

The results will be given to the consultant looking after your child. If the test is normal, we will simply plan to repeat the test the next year. If the results show fast blood flow, which could mean there is narrowing of the blood vessels, or the results aren't clear, we will arrange another test within a few weeks.

We may also arrange other tests, such as a brain scan called an MRI (magnetic resonance imaging), 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.

Contact details

- **Haemoglobinopathies admin team:** 0203 312 6157
- **Haemoglobinopathies clinical nurse specialist team (9am-5pm):** 07795651153
imperial.paediatricaemoglobinopathies@nhs.net
- **Paediatric Haematology Day Unit:** 0203 312 5080/5081
- **Paediatric Site Practitioner:** 07824625419

The team

- Dr Kirstin Lund, consultant paediatric haematologist,
- Professor Josu de la Fuente, consultant paediatric haematologist
- Dr Adam Gassas, consultant paediatric haematologist
- Dr Toni Petterson, consultant paediatric haematologist
- Dr Leena Karnik, consultant paediatric haematologist
- Miss Catherine Mkandawire, matron (Haemoglobinopathies and apheresis children and young people)
- Miss Kajal Rai, clinical nurse specialist (Haemoglobinopathies children and young people)
- Ms Nancy Huntley, clinical nurse specialist (Apheresis children and young people)
- Miss Ristell Fernandes, clinical nurse specialist (Apheresis children and young people)
- Mr Renzo Tiong, clinical nurse specialist (Apheresis children and young people)

Further information

<https://www.imperial.nhs.uk/our-services/adolescent-and-young-adult-healthcare---11to25>

<https://www.readysteadygo.net/>

Sickle Cell Society

020 8861 7795

sicklecellsociety.org

UK Thalassaemia Society

020 8882 0011

office@ukts.org

ukts.org

Sickle Cell and Young Stroke Survivors (SCYSS)

0800 084 2809 or 0207 277 2777

info@scyss.org

scyss.org

Contact

The charity for families with disabled children
<https://contact.org.uk/>

Family Fund

<https://www.familyfund.org.uk/>

Grants are available for families raising a child or young person with a long-term disability, disabling condition or life-limiting illness, and living on a low income.

The Hope Project Scotland

07756 266691
thehopeprojectscotland.org.uk

Citizens Advice Bureau.

<https://www.citizensadvice.org.uk/>

The Care Information Exchange (CIE)

CIE gives secure online access to information from the hospital such as test results, appointments and letters. Young people and their parents can also add things like symptoms the young person is experiencing to give a more complete record. To register and access the record QR code below to download the application.

Everyone registering will need to complete a form, show proof of identification, and have an email address. The email address will be the login name, and the address for notifications when something new is added to the record. Go to www.careinformationexchange-nwl.nhs.uk/ or scan this QR code with your phone camera to find out more and register:



How do I make a comment about my visit?

We aim to provide the best possible service and staff will be happy to answer any of the questions you may have. If you have any **suggestions** or **comments** about your visit, please either speak to a member of staff or contact the patient advice and liaison service (**PALS**) on **020 3312 7777** (10.00 – 16.00, Monday to Friday). You can also email PALS at

imperial.pals@nhs.net The PALS team will listen to your concerns, suggestions or queries and is often able to help solve problems on your behalf.

Alternatively, you may wish to complain by contacting our complaints department:

Complaints department, fourth floor, Salton House, St Mary's Hospital, Praed Street
London W2 1NY

Email: ICHC-tr.Complaints@nhs.net

Telephone: **020 3312 1337 / 1349**

Alternative formats

This leaflet can be provided on request in large print or easy read, as a sound recording, in Braille or in alternative languages. Please email the communications team:
imperial.communications@nhs.net

Wi-fi

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