

Adrenaline challenge for Long QT Syndrome (LQTS)

Information for patients



Your doctor has recommended that you have an adrenaline challenge. The purpose of this test is to see if you are likely to have long QT syndrome (LQTS), particularly type 1. This is a disorder that affects the cells of the heart, causing it to have an altered rhythm.

Adrenaline is a natural substance in our bodies, but is also used as a drug for a number of reasons, one of which is to test for ECG changes in people with LQTS. If you have normal cardiac cells, adrenaline will not have any abnormal effect on the ECG.

If you have LQTS you may be at risk of developing fast heart rhythms (arrhythmia). If your heart starts beating at an abnormally fast rate then it does not work as efficiently. This can cause symptoms such as weakness, dizziness, chest pain, shortness of breath, collapse, or even death in very rare cases.

If you have a close family member who has either been diagnosed with the condition or who has died at a young age from a suspected heart condition, it is very important that you and your remaining relatives are screened for LQTS.

It is important to remember that the majority of people who have the appearance of long QT syndrome on an electrocardiogram (ECG) do not experience arrhythmia and feel perfectly well. If your doctor suspects that you may have LQTS they will have advised you to have this well-established, straightforward clinical test to confirm the diagnosis.

What happens during the adrenaline challenge?

When you arrive on the Cardiac Day Case Unit you will be introduced to your nurse. They will explain what will happen and answer any questions you may have. Before the challenge starts, it is important to tell your nurse or doctor if you have any allergies or have had a previous reaction to any drugs, including over the counter or herbal remedies.

Before the procedure you will have blood taken to check your kidney function, as well as an ECG. A doctor will also see you to discuss the procedure with you, and then ask you to sign a consent form. This is to confirm you understand the procedure and risks and are happy to go ahead. If you have any worries or questions, please ask before signing the consent form.

Before the procedure starts, you will be given a hospital gown to wear and the doctor or nurse will insert a small needle (cannula) into a vein in your hand or arm, through which you will be given the adrenaline during the challenge.

The adrenaline will be injected as a liquid, called an 'infusion', through the cannula by a special pump. This makes sure it is given at the correct speed. During the infusion an ECG measurement will be recorded every 3-5 minutes for up to 30 minutes. After 30 minutes the adrenaline should be out of your system and, even if you have been shown to have the changes associated with LQTS, your ECG will rapidly return to normal.

You will then be given a drink and something to eat and the cannula will be removed.

Do I need to fast (not eat or drink) before this test?

No, you can continue to eat and drink as you would usually.

Benefits

Checking for a diagnosis of LQTS is important, as it may mean you need other tests and treatment to prevent the problems associated with the syndrome. Also, because the syndrome is hereditary (passed on from parents to children), other members of your family may need to be tested. However, if the test is negative, this will provide re-assurance that it is unlikely you have LQTS.

Side effects and risks

The adrenaline challenge is safe. However, as with any procedure, there are potential risks that may occur either during or after the procedure. Complications associated with this procedure are very rare, can be treated, and are rarely life threatening.

It is common to experience some or all of the sensations that a rush of adrenaline would normally bring. These include feeling your heart is racing and beating more forcefully, and sometimes feeling a bit sweaty. These are harmless effects and usually get better quickly once the infusion is completed.

Very rarely, the adrenaline may cause your heart to go into a very fast heart rhythm. If this happens it often needs no treatment other than monitoring you while the adrenaline wears off. Rarely this heart rhythm can require urgent treatment with defibrillation (an emergency electrical shock to restore normal heart rhythm).

Worldwide, no cases of death have ever been reported as a result of an adrenaline challenge.

Your doctor will only recommend that you have an adrenaline challenge if they feel the benefits clearly outweigh the risks.

Alternatives

An exercise treadmill test is another option, but the adrenaline challenge has been shown to be most accurate for specific types of LQTS.

After the adrenaline challenge

You should be able to go home a couple of hours after the test, or when your ECG has returned to normal and the test results have been reviewed. You are allowed to drive yourself to and from the hospital.

In the rare event that you have to have defibrillation treatment, you will need to be monitored for a longer period of time. If your heart rate remains stable you should be able to go home later that day. However, you would not be able to drive yourself home.

The ECG results will often need to be reviewed after the test by a specialist doctor known as an Electrophysiologist. The doctor giving you the drug may not be able to tell you the result of the test immediately. However, you will normally be told the result of the test the same day, before you leave the hospital. An electronic letter with the results of the challenge will also be sent to your GP.

How to contact us

If you have any other questions or need any further information please contact us.

Cardiac Angiography Suite

Tel: **01865 572 616**

(Monday to Friday, 7.30am to 9.00pm)

Arrhythmia Nurses

Tel: **01865 228 994**

(Monday to Friday, 8.00am to 5.00pm)

You can also contact the secretary of the Consultant who referred you for the test (please see your appointment letters for contact details).

Further information

More information about Long QT Syndrome can be found on the following websites:

SADS UK

Website: www.sadsuk.org

Cardiac Risk in the Young (CRY)

Website: www.c-r-y.org.uk

Arrhythmia Alliance

Website: www.heartrhythmcharity.org.uk

Please note:

The department where your procedure will take place regularly has professional observers. The majority of these observers are healthcare professionals, qualified or in training, and occasionally specialist company representatives. If you do not wish observers to be present during your procedure, please tell a doctor or nurse.

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 **PALS@ouh.nhs.uk**

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