

Patient information factsheet

Insulin stress test

Your doctor has recommended that you have an insulin stress test. This factsheet aims to answer some of the initial questions you may have about what's involved. If you have further concerns or would like more information, please speak to your healthcare team.

What is an insulin stress test?

This test measures how well your pituitary gland works to release certain hormones to correct low blood glucose (sugar).

Hormones are chemical 'signals' that help control and regulate processes in the body. Many hormones are produced in the pituitary gland - a small, pea-sized gland located below the brain, behind the bridge of the nose.

Low blood glucose levels should stimulate the pituitary gland to release certain hormones, and this test allows us to check that your growth hormone and cortisol response is working normally.

Growth hormone is one of the hormones produced by the pituitary gland. As children we produce large quantities to grow, but as adults we require smaller amounts for wellbeing.

Cortisol is a steroid hormone. It's produced by the adrenal gland (near the kidneys) in response to a hormone released by the pituitary glands. In times of illness, your body produces greater amounts of cortisol than usual. If your body is unable to produce enough cortisol you may not be able to cope with illness and could become very unwell.

Preparation for the test

Advice regarding your medication

If you are taking:

- Steroid tablets: you will need to miss your dose the evening before and morning of your test. However, this must first be discussed with your endocrine doctor.
- Steroid creams or inhalers: please contact the endocrine nurse (number over the page) for further instructions as you may need to stop using these for a short time if possible.
- Other medication: you can take your other regular medication as normal. Please bring all of your medication with you.

If you are female

- You may need to stop oestrogen therapy, including the contraceptive pill and HRT (hormone replacement therapy) for six weeks before your test as they can affect your results.
- If you stop taking the contraceptive pill you must use alternative contraception if you wish to avoid pregnancy. Please discuss this with your endocrine nurse or doctor.

General advice to help you prepare

- Do not eat or drink anything except water from midnight before the test.
- The test will last for around five hours. You may bring a friend or family member with you, if you wish.
- We recommend that you do not drive yourself to your appointment, and instead ask somebody to bring you or use public transport. If you must drive yourself, we will need to monitor you for longer after your test.
- It's a good idea to bring something to read or listen to as there will be periods of waiting between blood tests.
- Before the test we will carry out some assessments. Your nurse will be able to explain more about what's involved.
- The test will be carried out by an experienced doctor and an endocrine nurse specialist who will be able to answer any questions you may have.
- Please bring a sugary drink (fruit juice or fizzy drink) with you and some food containing carbohydrates, such as bread, biscuits or fruit.

Is there anyone who should not have this test?

The test may not be suitable for people with certain medical conditions. You should contact the endocrine nurse specialist if you have:

- epilepsy (or have ever had a seizure/fit in the past)
- a heart condition

During the test

- A small, thin needle called a cannula will be inserted into a vein in your arm or hand, and a blood sample will be taken. The cannula allows your nurse to take blood samples directly without further use of needles.
- We will then give you insulin through the cannula to lower your blood glucose.
- Blood samples will then be taken at regular intervals for approximately two hours.
- When your blood glucose drops to 2.2mmol/L or below, you will be given either a sugary drink or an injection of glucose through your cannula. This will return your blood glucose level to normal. The hormone levels will be monitored for a further two to three hours.

Side effects

During the test you may experience symptoms such as sweating, shakiness, hunger, dizziness or sleepiness when your blood glucose levels go low. These symptoms will resolve when you eat or drink.

Very rarely, this test can cause fainting or a seizure (fit) if your blood glucose level drops too low.

There will be a doctor present to monitor you throughout the test, and the test will be stopped if your doctor has any concerns. In the unlikely event of a complication, the doctor and nurse will be able to administer the appropriate treatment. The risk however of a serious complication with this test is extremely low. Your doctor or endocrine nurse specialist will be happy to answer any questions you may have about side effects.

After the test

When the test has finished your cannula will be removed and lunch will be provided. After lunch, provided that your blood glucose level is normal, you will be able to go home. Remember that you should not drive for at least two hours after this test.

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Results

Results will either be sent to you by letter/a phone call or discussed with you at your next clinic appointment. We will also send a letter to your GP. This may take up to three weeks.

Further information

Please contact the endocrine nurse specialist if you require more information or if there is anything you do not understand.

Contact the endocrine nurse specialist:

Telephone: **023 8120 4710**, Monday to Friday 8.30am to 4pm (answer phone service out-of-hours or if the nurse specialist is unavailable).

Email: endocrinenurse@uhs.nhs.uk

Useful links

www.pituitary.org.uk/information/symptoms,-diagnosis-and-tests/tests/

If you are a patient at one of our hospitals and need this document translated, or in another format such as easy read, large print, Braille or audio, please telephone **0800 484 0135** or email [**patientsupporthub@uhs.nhs.uk**](mailto:patientsupporthub@uhs.nhs.uk)

For help preparing for your visit, arranging an interpreter or accessing the hospital, please visit [**www.uhs.nhs.uk/additionalsupport**](http://www.uhs.nhs.uk/additionalsupport)