

Endocrinology

Glucagon stimulation test

Your doctor has recommended that you have a glucagon stimulation test to check if your body is producing enough cortisol and growth hormone.

Cortisol is an essential steroid hormone which is required to keep you healthy and to enable your body to respond to stress and illness. Cortisol also has effects on your immune system, blood pressure and blood sugar levels. Cortisol is produced by the adrenal glands and this is controlled by the pituitary gland. The pituitary gland produces a hormone called adrenocorticotrophic hormone (ACTH) that stimulates the adrenal glands to make cortisol. Low cortisol levels can indicate a problem with either the pituitary gland or the adrenal glands.

Growth hormone is one of the hormones produced by the pituitary gland. Growth hormone is responsible for controlling growth and metabolism in childhood. It is also produced in adulthood and has a role in maintaining muscle and bone mass, and body fat composition. It can also have effects on energy levels, memory and general feeling of well-being.

Preparation for the test

- If you are taking **steroid medications orally** (e.g. hydrocortisone, prednisolone, plenadren or dexamethasone), you will need to stop these medications for at least 24 hours prior to the test. Please contact the Endocrine unit to discuss further if this is not possible.
- If you are taking **oestrogen containing medications** (e.g. contraceptive pill or HRT), you will need to stop these medications for at least 6 weeks prior to the test as they can affect the results. If you are taking the oestrogen pill for contraception, it is essential that you consider alternative forms of contraception. If you are using oestrogen patch, this can be continued as it will not affect the results of your test. Please contact the Endocrine unit to discuss further if you have any queries.
- If you are using **steroid creams or inhalers**, please contact the Endocrine unit for further instructions as you may need to stop using these medications for a short period of time prior to the test.
- You can take your other regular medications. Please bring all of your medications with you when you attend for your test.
- You need to fast from midnight the night before your test but water is allowed.
- The test will take at least 4 hours. You will be able to drive home afterwards.



What will happen during the test?

- You will be introduced to the doctor or nurse performing the test, who will provide an explanation as to what to expect during the test and obtain your informed consent.
- You will be seated for the duration of your test.
- A cannula, which is a small tube used to take blood samples, will be inserted into a vein in your arm, and an initial blood sample will be taken to measure the baseline level of growth hormone, cortisol and glucose.
- You will then be given an injection of glucagon into the muscle in your arm. Glucagon raises blood glucose and stimulates insulin release. The induced stress should then stimulate growth hormone and cortisol production.
- Blood samples will be taken from the cannula to measure growth hormone, cortisol and glucose every 30 minutes for a period of 3 hours.

What will happen after your test?

- Once the test is completed, the cannula will be removed.
- A set of observations including blood glucose, blood pressure and heart rate will be taken to ensure you are safe to go home.
- Your results will be reviewed by the endocrinology doctor.
- You do not have to contact the department for your test result. We will inform you and your GP of your results and any changes to treatment or medication by letter.
- If necessary, you will be called back to clinic to discuss the result, especially if you need to start on any treatment.
- Sometimes it is also necessary for us to contact you by telephone, so please provide us with your home and mobile telephone numbers when you come in for your test.

Are there any risks or complications?

The glucagon stimulation test is very safe. Known side effects associated with this test include headache, nausea and rarely, vomiting.

Please remember that the timing of endocrine tests is important so please attend at the time specified on your appointment letter. If you are unable to keep your appointment please contact the department and we will rearrange it for you.

Contacts

If you have any queries please contact:

Endocrine nursing team on **0161 446 3479**
Email: **the-christie.endocrinology@nhs.net**

Notes:

If you need information in a different format, such as easy read, large print, BSL, braille, email, SMS text or other communication support, please tell your ward or clinic nurse.

The Christie is committed to producing high quality, evidence based information for patients. Our patient information adheres to the principles and quality statements of the Information Standard. If you would like to have details about the sources used please contact **the-christie.patient.information@nhs.net**

For information and advice visit the cancer information centres at Withington, Oldham or Salford. Opening times can vary, please check before making a special journey.



Contact The Christie Hotline for
urgent support and specialist advice
The Christie Hotline: 0161 446 3658
Open 24 hours a day, 7 days a week