Insulin tolerance test

You will receive a separate appointment letter for this test.

What is an insulin tolerance test?
Your doctor has referred you for an Insulin tolerance test (ITT) to measure your cortisol and/or growth hormone levels after stimulation.

Cortisol is the body’s natural steroid hormone. It is released from the adrenal glands which sit just above the kidneys. Its production is controlled by the pituitary gland which is a tiny pea sized gland just underneath the brain. Cortisol is a vital hormone that is responsible for enabling the body to respond to stress and illness and also regulates your immune system, blood pressure and blood sugar levels.

Growth hormone is released from the pituitary gland. In adults it plays a role in maintaining muscle and bone mass, and affects the levels of body fat. It also affects energy levels, memory and your general feeling of well-being.

Do I need to prepare for the test?
You will need to fast from 22:00 the night before your test. Only plain water can be drunk during the fasting period and the test. **Please do not take your medication on the morning of the test but bring it with you.** If you come by car it is advisable to ask someone else to drive you. If you must drive yourself we will need to monitor you for longer after the test to ensure you are fully recovered prior to driving.

Females
If you are using the oral contraceptive pill, or oral HRT you will need to stop them for six weeks prior to your test as they can affect results. If you are stopping the contraceptive pill you must use alternative contraception to avoid pregnancy. **If there is any possibility that you are or may be pregnant you need to inform us so that we can defer this investigation till outside of pregnancy.**

What happens during the test?
You will need to arrive at the Endocrine Investigation Unit by 08.30. You will be weighed; an ECG (electrocardiogram) tracing of your heart and your lying and standing blood pressure will be recorded.
A fine plastic tube called a cannula will be inserted into a vein in your arm, to allow us to take blood samples at regular intervals. After the first blood test you will be given a measured dose of insulin (calculated according to your weight) which will result in a drop in your blood sugar level. The low blood sugar level should stimulate your body to release cortisol and growth hormone so it can be measured.

During the test you are not allowed anything to eat and only plain water to drink. We will check your blood sugar at regular intervals throughout the test. If your blood sugar drops below a certain level, we will give you Lucozade and possibly an injection of hydrocortisone.

**How long will the test take?**

Blood tests will be taken at intervals over two hours. You should expect to be in the Endocrine Investigation Unit for up to three hours. When the test is completed the cannula will be removed and you will be given a drink. **Please ensure you bring something to eat at the end of the test.** You must have eaten prior to leaving the unit.

**Will I experience any side effects?**

You are likely to feel dizzy, light-headed and shaky when your blood sugar drops. The severity of the symptoms felt during the test varies with everyone. As your blood sugar starts to rise again, you will feel warm and possibly sweaty. You will be given a hospital top to wear for the duration of the test. Following the test it is likely you will feel tired. It is advisable to eat regularly for the rest of the day and avoid strenuous exercise for 24 hours. Very rarely this test can cause fits so it is important that you let your endocrine doctor know before you come for the appointment if you have previously had a fit. The doctor and nurse will have all the necessary treatments available in the unlikely event of this happening.

**When will I get my results?**

Results will be discussed at your next clinic appointment

**Any other questions?**

Please contact the Endocrine Unit on 01223 217848, 09.00 – 17.00 Monday – Friday.

The timing of the test is important, so please attend at the time specified on your appointment letter. If you are unable to attend your appointment, please contact the endocrine unit to re-arrange it.
General Information

Discounted parking is available for patients attending clinic appointments over three hours duration. Please present your appointment letter to receive this. Food & drink - there is a coffee shop in the treatment centre atrium and further food and drink facilities in the main hospital concourse.

We are now a smoke-free site: smoking will not be allowed anywhere on the hospital site.
For advice and support in quitting, contact your GP or the free NHS stop smoking helpline on 0800 169 0 169.

Other formats:

If you would like this information in another language, large print or audio, please ask the department where you are being treated, to contact the patient information team: patient.information@addenbrookes.nhs.uk.
Please note: We do not currently hold many leaflets in other languages; written translation requests are funded and agreed by the department who has authored the leaflet.

Document history

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Contact number
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Publish/Review date
May 2017/May 2020 (minor amendment made September 2017)

File name
Insulin_tolerance_test.doc

Version number/Ref
3/PIN3493/Doc ref 32113