

You are booked to come in for an : INSULIN TOLERANCE TEST (ITT)



What is an insulin tolerance test?

An insulin tolerance test looks to see if your body is able to make enough of certain important hormones when it is under stress. A hormone is a chemical which is made in one part of the body but passes into the bloodstream and has effects on other parts of the body. When things are working normally, your pituitary gland (a small gland that lies just under the brain) produces a several hormones.

Two of these are:

- ACTH (adreno-cortico-trophic hormone) which stimulates your two adrenal glands (which sit just above the kidneys) to make cortisol. Cortisol is a steroid hormone and is vital for health. It has many functions which include:
 - helping to regulate blood pressure.
 - helping to regulate the immune system.
 - helping to balance the effect of insulin in regulating the blood sugar level.
 - helping the body to respond to stress.
- GH (Growth hormone) which has important effects on growth in childhood and influences adult body composition and the functioning of several body systems

The insulin tolerance test is used to test how much ACTH and cortisol you can produce and how much growth hormone is available when your body is stressed. The 'stress' in the test is low blood sugar. This is caused by an injection of insulin, under very controlled conditions.

You should not have this test if you have epilepsy, or ischaemic heart disease such as angina or a previous heart attack.

How should I prepare for the test?

You should fast overnight before the test, drinking only water from midnight. You should take your medications as usual the day before the test unless your doctor has advised you not to.

What will happen during the test?

You should come to the ward on the date of the test, by 9am. You may need to have an ECG (heart tracing) if you have not had one recently. You will have a bed to lie down in throughout the test. A cannula (a small needle with a tube attached for taking blood samples) will be placed in a vein in your arm. After your first blood test you will be given an injection of insulin. The nursing staff will monitor your blood sugar level throughout the test. In order to carry out the test properly your blood sugar needs to fall to a low level and this may make you feel a little sweaty and uncomfortable. If your blood sugar does not fall you may need a second dose of insulin. Once your blood sugar has been recorded as low you will be given something to eat and drink. You will have blood tests taken from the cannula every half an hour for up to 2 hours after this.

Once the test is completed, the cannula will be removed and after you have had something to eat you will be able to go home. However you are advised to arrange for someone to drive you home, or to wait until 2 hours after the end of the test, to make sure everything is back to normal.

What happens after the test?

When the results of the blood tests are available they will be reviewed by the endocrinology team. You will be notified by letter and your GP will also be informed of the results. If there are any changes to be made to your treatment or further tests that need to be organized, these will be outlined in the letter or someone from the department may contact you by telephone.

What if I have any questions?

You will see a doctor on the day of your test who should be able to answer your queries. If you have any questions before or after your test please leave a message and contact number with the endocrine department at the Hospital where your test is booked. Someone will call you back to discuss things.