

Glucagon Growth Hormone Stimulation Test

Your child has been booked for a Glucagon Stimulation Test in Clinic E - The Day Treatment Unit, located on Level 1 via the Yellow or Pink lifts. Your test is booked for 8am, please allow sufficient time to allow for traffic and parking.

Background

Growth hormone is made and released by the pituitary or master gland of the body. This happens in little bursts over 24 hours, but mainly at night. Some substances, such as GLUCAGON*, cause the pituitary gland to make and release growth hormone. The growth hormone can then be measured in the blood to see how much your child's body can make.

Key points

- Your child **must** have a light breakfast (either juice OR toast OR glass of milk) **at 6am** on the morning of the test – **if your child is fasted for longer than 8 hours the test will be rescheduled**. A carbohydrate-rich meal should be consumed the evening before.
- After a light breakfast your child can only drink water. Your nurses will tell you when the test is complete and when your child can eat and drink.
- **PLEASE NOTE: If your child is less than 2 years of age or weighs less than 10 kg your child is not required to fast, until admission to the Day Treatment Unit.**
- Please be aware that this test is time consuming, and you will be required to stay for most of the day (up to 8 hours).
- If your child is unwell (fever, vomiting or diarrhoea), please phone the Day Treatment Unit on 6456 3772 to rebook.

The Glucagon Growth Hormone Stimulation Test

Your child will require an intravenous cannula (a small plastic tube that sits in the vein) to be inserted for the duration of the test. Numbing cream can be applied to the skin on the backs of the hands and inside elbow creases and covered with a clear dressing if required. This can help with the "sharp scratch" felt when the cannula is inserted.



Please note: numbing cream will take approximately 40 minutes to 1 hour to be effective. It can be purchased from your local pharmacy and applied prior to coming into hospital to save time if you wish or can be applied by the nurse when you arrive.

At the start of the test a baseline blood sample for growth hormone and a blood sugar is taken painlessly from the intravenous cannula. "Glucagon" is then given as an injection into the thigh muscle. This can be uncomfortable, but it is very quick.

An hour later, blood samples are taken from the cannula and will continue every 30 minutes for another 2 hours to test growth hormone levels and monitor blood sugar levels. Your nurses will tell you when the last blood sample is taken for the test and your child will be able to eat. You may bring food with you or can be purchased from the café. Blood sugar levels will continue to be monitored for 2 hours after the test. If these are all normal and your child is feeling well, the cannula will be removed, and your child can go home. The whole test itself takes at least 5½ hours to complete.

Possible side effects of Glucagon are:

- A drop in blood sugar level
- Nausea
- Vomiting
- Abdominal pain

If the blood sugar drops below normal, this will be treated immediately.

*Glucagon is a hormone that is found naturally in the body. It is made and released by the pancreas. It is also man-made and used as a medication to treat low blood glucose levels. However, it can sometimes cause low blood glucose levels. This is why blood glucose levels are checked regularly during the test.

** Sometimes your doctor may request that the hormone cortisol also be measured during the glucagon stimulation test. It has been shown that glucagon causes cortisol as well as growth hormone to be made and released. Each blood sample is then sent to laboratory for growth hormone as well as cortisol measurement. Cortisol is secreted normally by the adrenal gland, especially in times of physical stress (illness/injury).

Results

The results will be sent to your child's doctor in approximately 2-3 weeks. You will receive these results at your next Endocrine Clinic or private endocrine appointment, or your child's doctor may phone you.



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Child and Adolescent Health Service



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