

# The IGF-1 generation test

Information and advice for parents and carers

## Paediatrics

### What is the IGF-1 generation test?

The IGF-1 generation test measures how much IGF-1 your child's body is making to see if it is enough for normal growth and development. Your child needs this test because they are shorter than normal for their age and development.

IGF-1 stands for Insulin-like Growth Factor-1. It is made when growth hormone is released.

Growth hormone is produced by the pituitary gland, which is a tiny pea-sized organ underneath the brain. Growth hormone doesn't make you grow itself, but makes IGF-1 which makes you grow.

If your child doesn't produce enough growth hormone this can cause growth failure. If your child produces enough growth hormone but isn't able to produce IGF-1 in response to this, this can also cause growth failure and is called growth hormone resistance or growth hormone insensitivity.

The test involves 2 blood tests and 4 injections. It takes 5 days to complete.

### What is the benefit of the IGF-1 generation test?

The benefit of this test is that it will tell us if your child is making enough IGF-1 in response to growth hormone. This will help your child's consultant to diagnose the cause of their lack of growth and plan their treatment.

### What are the risks of having the IGF-1 generation test?

There is a risk that your child may get a headache, feel more tired than normal or experience mood changes during the test because of the growth hormone. They could also get some discomfort or itching in the area the injections are given. These symptoms do not last for long.

### What are the risks of not having the test?

If your child does not have this test then their consultant will not be able to check if your child is producing enough IGF-1. This will make it difficult to plan treatment.

### Are there any alternative tests my child can have?

There are no other tests that will measure how much IGF-1 your child is producing.

### Preparing for the test

Your child must not eat from midnight before coming to the hospital but may have sips of plain water to drink. **It is important to follow these instructions or we might have to cancel your child's test.**

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### How the test is performed

#### Day 1

Please arrive on Priory Ground Ward at Sandwell General Hospital at 8.30am. You will have to spend the full morning and early afternoon in hospital. If your child is having any other test at the same time you may need to stay longer.

When you arrive on the ward the nurse will check a few details like your child's name, address etc. They will also ask about your child's current state of health, and whether they have any medical problems, or have recently had or been in contact with anyone who has had an infectious illness. This is to check your child is well enough to have the test. The nurse will also give you the opportunity to ask any questions you may have about the test.

Do not worry if your child becomes upset during the test, this is normal and will depend on your child's age and how much they understand about what is happening.

This is what will happen:

1. Your child's height and weight will be measured so we can work out the right amount of arginine to give.
2. 'Magic cream' (called Emla) will be placed on the back of your child's hands and on the inside of their elbows. This is a local anaesthetic cream which numbs the area so that it won't hurt when they have a cannula (small plastic tube) put in. Magic cream takes about 1 hour to work so we will place a clear dressing over the cream to keep it in place.
3. Your child will have their cannula put in by a doctor. The cannula will be put into one of the areas that have been numbed either back of their hand or inside of their elbow. Your child may get anxious or upset when the cannula is being inserted. It will help if you stay with them for comfort.
4. The doctor will then take a small sample of blood from the cannula.
5. The cannula will be removed and your child can have something to eat and drink.
6. You will be given a 4 day supply of growth hormone injections and a prescription chart. You can then go home.

Your child will need to spend the rest of the day at home quietly, only doing light activities such as reading, playing computer games or watching TV.

Your child should eat and drink as normal when they go home. Make sure that they eat an evening meal that includes carbohydrates such as bread, potatoes, pasta or rice. This will help to make sure that their body has a good store of energy.

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### Days 2, 3 and 4

A Community Children's Nurse will visit you and your child at home on day 2, 3 and 4 to give your child the growth hormone injections. The nurse will tell you what times they will visit to give the injections. Your child can still go to school on these days.

### Day 5

You and your child need to come back to the ward on day 5 so that your child can have a final blood test. This completes the IGF-1 test. Your child can eat and drink as normal before this blood test.

### How do I get the results of the test?

Your child's doctor will discuss the results of the test with you at your child's next outpatient appointment.

### How to find us

The test will be carried out on Priory Ground Ward at Sandwell General Hospital. This is on the ground floor of the main hospital in the Children's Unit. You can ask for directions at the main reception desk near the main entrance to the hospital. Staff will be happy to direct you to where you need to go.

#### Address:

Sandwell General Hospital  
West Bromwich  
West Midlands  
B71 4HJ

### Contact details

If you have any questions or concerns about the IGF-1 generation test please contact:

**Dr Agwu - Consultant Paediatrician**  
0121 507 3358 (secretary)

### Further information

For more information about our hospitals and services please see our websites [www.swbh.nhs.uk](http://www.swbh.nhs.uk), follow us on Twitter @ [SWBHnhs](https://twitter.com/SWBHnhs) and like us on Facebook [www.facebook.com/SWBHnhs](http://www.facebook.com/SWBHnhs).

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### Sources used for the information in this leaflet

- Patient UK Professional Reference, 'Pituitary functions tests', July 2011
- 'Diagnostics of Endocrine Function in Children and Adolescents', M.B. Ranke, 2003

If you would like to suggest any amendments or improvements to this leaflet please contact the communications department on 0121 507 5303 or email: [swb-tr.swbh-gm-patient-information@nhs.net](mailto:swb-tr.swbh-gm-patient-information@nhs.net)



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