

# The arginine test

Information and advice for parents and carers

## *Paediatrics*

### **What is an arginine test?**

An arginine test is a test where your child is given arginine medicine through a drip. The arginine will stimulate your child's pituitary gland to produce growth hormone. This will then be measured to see if it is enough for normal growth and development.

The pituitary gland is a tiny pea-sized organ found underneath the brain which makes growth hormone. Hormones are chemicals which carry messages to different parts of the body through the bloodstream. Growth hormone is needed for growth and good health.

Your child needs this test because they are shorter than normal for their age and development.

### **What is the benefit of an arginine test?**

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

### **What are the risks of having an arginine test?**

There is a risk that your child may get a headache, low blood pressure or feel a bit sick when the arginine is given. However these symptoms are rare and do not last for long.

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

If your child does not have this test it will be difficult for the consultant to diagnose why your child has a short stature and plan treatment.

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

There are other tests that can be used to check your child's growth hormone levels such as a glucagon stimulation test or clonidine stimulation test. Your child's consultant can discuss with you whether these alternatives are suitable for your child. Some children may also have the clonidine test straight after the arginine test has finished.

### **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.**

You should explain the test to your child before they come to the hospital so that they understand what will happen.

We have a playroom but please feel free to bring your child's favourite toy or comforter with you.

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### How the test is performed

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 also having another test 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 might 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.

Please do not give your child anything to eat or drink during the test unless the nurse asks you to do so.

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 then be connected up to a bag of fluid which contains the arginine. This is called a 'drip'. The 'drip' will be given over half an hour.
6. At the end of half an hour the nurse or doctor will disconnect the 'drip' but the cannula will be left in.
7. The doctor will take small blood samples out of the cannula every 30 minutes for 2 hours and they will be sent away for testing in the laboratory.
8. If your child is also having another test, such as the clonidine test, this will be done next and involves your child swallowing some clonidine medicine and having blood samples taken from their cannula every 30 minutes for 2 hours.

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### **After the test**

You will be able to go home once your child has had something to eat and drink and their cannula has been removed.

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.

### **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 arginine test please contact:

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

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### Further information

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

### Sources used for the information in this leaflet

- Patient UK Professional Reference, 'Pituitary function tests', June 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 5495 or email: [swb-tr.swbh-gm-patient-information@nhs.net](mailto:swb-tr.swbh-gm-patient-information@nhs.net)



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ML4298  
Issue Date: October 2013  
Review Date: October 2015