

Arginine growth hormone stimulation test

Background

Growth hormone is made by a small gland in the brain called the pituitary gland. It is released in small bursts, mostly at night. Arginine is a natural building block of protein. During this test, arginine is used to stimulate (encourage) the pituitary gland to release growth hormone. By measuring the amount of growth hormone in your child's blood, we can see how much growth hormone their body is able to produce.

Arginine is commonly used worldwide for growth hormone testing and is also used as a dietary supplement for some protein disorders.

If your child is unwell (fever, vomiting or diarrhoea), please contact the Day Treatment Unit on 6456 3772 to cancel and reschedule the test.

Eating and drinking before the test

- Your child should have a carbohydrate-rich meal the evening before the test.
- Your child must have a light breakfast at 6am on the morning of the test such as one glass of juice, one piece of toast or one glass of milk.
- After the light breakfast, your child may only drink water until the test is finished.
- The nurses will let you know when the test is complete and your child can eat and drink again.

Please note: If your child is aged under 2 or weighs less than 10kg, they do not need to fast before arriving at hospital. If your child fasts for longer than 8 hours, the test will need to be rescheduled.

How long will we be at the hospital?

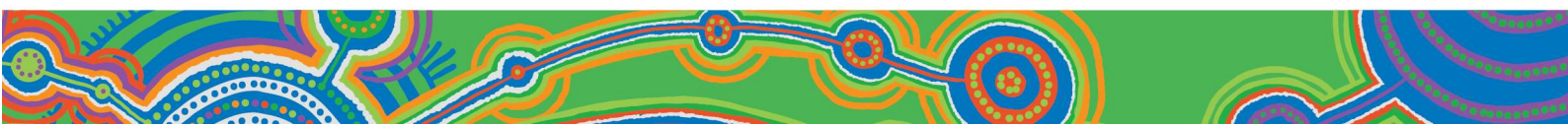
The test is time consuming and you will need to stay for most of the day (up to 8 hours). However, your child's test will be scheduled for early in the morning, to keep fasting time as short as possible. The exact fasting time may vary and will be discussed with you by your doctor.

Arrival

When you arrive at Perth Children's Hospital, take the yellow or pink lifts to Level 1, Clinic E.

What happens during the test?

- After admission, a numbing cream will be applied to your child's hand and/or inner elbow.
- This cream numbs the skin and takes about one hour to work.
- Once the area is numb, a small intravenous (IV) line will be placed into a vein using a needle.
- The needle will be removed straight away.
- This soft plastic tube stays in place for the whole test and should not cause pain once inserted.
- A blood sample is taken before the medication is given (this is called the baseline sample).
- Arginine is then given slowly through the IV line over 30 minutes.
- 4 additional blood samples are taken at 15 minute intervals.
- These are taken through the IV line, so no extra needles are needed.



The blood samples are then sent to the laboratory to measure your child's growth hormone levels. All up, the active testing time will take about 2 to 3 hours.

Possible side effects

Arginine is generally very safe, however possible side effects may include:

- flushing (warmth or redness of the skin)
- nausea
- vomiting
- headache.

To reduce these side effects, the arginine is given slowly over 30 minutes. Severe allergic reactions (anaphylaxis) are very rare, however overdoses have occurred in children and can cause serious health problems.

For this reason, the medication is prepared by the PCH Pharmacy and the test is only performed in hospital where your child can be carefully monitored.

After the test

Once all blood samples have been collected:

- your child will be given lunch
- the IV line will be removed
- if your child is well, you can go home.

Results

Results are usually available in 2 to 3 weeks and will be discussed with you:

- at your child's next Endocrine Clinic appointment
- at a private endocrinology appointment
- by your doctor over the phone.



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Child and Adolescent Health Service



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