STIMULATION TESTING

AT CHILDREN’S HOSPITAL OF PITTSBURGH OF UPMC, we believe parents and guardians can contribute to the success of this test and invite you to participate. Please read the following information to learn about the test and how you can help.

Fast Facts About Stimulation Testing

- Stimulation testing measures the response of certain glands within the endocrine system to different types of hormones.
- There are several different types of stimulation testing that can be ordered to help the doctor diagnose your child’s medical condition.
- All stimulation testing can take several hours to complete. You should plan on your child’s stimulation test taking from 1 to 3 hours, including registration, the test, and a snack afterward.
- Most stimulation tests are “fasting,” meaning that your child should not eat or drink before the test. You will be given specific instructions by your child’s nurse about eating and drinking before the test.
- Your child will need to have an intravenous (IV) line placed to start the testing.
- Blood samples will be removed from the IV line at different times throughout the test.

What Is Stimulation Testing?

Stimulation testing may be ordered to measure the way your child’s endocrine system responds to different types of hormones. Different types of stimulation tests can be ordered to diagnose or rule out different medical conditions. Some of the stimulation tests that might be ordered include:

- **Growth Hormone Stimulation** — used to find out if your child’s pituitary gland is producing enough growth hormone
- **Lupron Stimulation** — used to diagnose precocious (too early) or delayed (too late) puberty in boys and girls
- **Glucose Tolerance** — used to rule out diabetes, hypoglycemia and insulin resistance
- **ACTH Stimulation** — used to find out if your child’s adrenal glands are producing enough cortisol and to rule out congenital adrenal hyperplasia

Home Preparation

Your child usually must fast before stimulation testing, which means that he or she should not have anything to eat after midnight the night before the test. Your child may have up to 8 ounces of water on the morning of the test, as long as it is before 7 a.m. Although these are the usual instructions, you will be given specific instructions on when your child may eat or drink before his or her test.

Your child may bring a DVD to watch, a book to read, or an iPod/MP3 (with earphones) to listen to during the test.

The Stimulation Tests

Although there are different types of stimulation tests to check for different medical conditions, all of the tests are done in the same way.

- Your child’s stimulation testing will be done at the Dog Suite at Children’s Hospital. Take the grape elevators to the third floor and stop at the greeter’s desk. You and your child will proceed to registration, then will be directed to the Dog Suite.
- You and your child will be called to the exam room. A nurse will take your child’s weight, height, and vital signs, and review the paperwork from your child’s doctor.
- You and your child will go to the testing room. The testing room has two beds with a curtain for privacy. Each bed has its own TV and DVD player, as well as chairs for parents. Parents may stay with their child at all times during the test, but should take other children to the hospital’s Sibling...
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Center or make arrangements to leave them at home during the testing appointment.

- The nurse will look at your child’s arm or hand to determine the best site to place the IV.
- The area will be cleaned with an antiseptic wipe and the IV will be placed using a special needle with a thin plastic tube, called a catheter. After the needle and catheter are placed, the needle is removed and the catheter stays under the skin and is taped in place. There will be a sharp pinch as the IV is placed, but the pain goes away quickly.
- If your child does not like needles, you may ask for a topical anesthetic spray to numb the skin before the placement of the IV.
- Throughout the test, medicine will be given and blood samples will be taken out through syringes that go into the IV in your child’s arm or hand. Most tests only require one needle stick for both bloodwork and medicine.
- The nurse will draw the first blood sample through the IV tube to be used as a baseline for the test.
- The nurse will then give an injection of the stimulation drug into the IV tube or subcutaneously, which means into the tissue beneath the skin.
- At different times throughout the test, a small amount of blood will be drawn from the IV. The syringe for drawing the blood will go directly into the catheter in the IV and will not go into your child’s skin.
- Different tests need different amounts of blood. The nurse might take only a small blood sample or a vial of blood, depending on which test is being done. Nurses will never take more blood than your child’s body can replenish quickly.
- Growth hormone testing can make a child feel tired and dizzy. Although this reaction to the test can be a bit uncomfortable for your child, it is part of the test and will be noted for the doctor in making a diagnosis. Your child will be closely monitored by the medical staff during the test.
- Blood samples will be taken through the IV catheter at regular intervals over the next few hours.
- When the test is complete, the IV catheter will be removed.
- Children who fasted before the test will get a snack after the test, and may go home after they have eaten their snack.

**After the Test**

- Your child may resume normal activities immediately after the Lupron, glucose, and ACTH stimulation tests.
- If your child had the growth hormone stimulation test, he or she should take it easy for the rest of the day and return to school and normal activities the next day.
- Results from most tests take about 2 weeks, but adrenal test results make take up to 4 weeks. If you have not heard from your child’s doctor after 2 weeks, please call the endocrinology office and ask to speak with a doctor for your child’s test results.

Based on the test results, your child may need follow-up visits, treatment or more testing. You and your child’s doctor will determine the best next steps for your child.

**A Parent’s/Guardian’s Role During the Test**

The most important role of a parent or guardian during the test is to help your child stay calm and relaxed. The best way to help your child stay calm is for you to stay calm.

- You may stay with your child throughout the test.
- You may bring a “comfort” item — such as a “blankie” or stuffed animal — for your child to hold during the test.

**Special Needs and Questions**

If you have any questions, or if your child has any special needs you feel the Endocrinology Clinic needs to know about, please call the nurse consultant at Children’s Hospital before your child’s clinic appointment.

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To see the list of all available patient procedures descriptions, please visit [www.chp.edu/procedures](http://www.chp.edu/procedures).