

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.

The Stimulation Tests

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

Your child's stimulation testing will be done at the NY Presbyterian Lawrence Hospital. You and your child will proceed to registration, then will be directed to the Pediatric floor.

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.

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 may take up to 4 weeks. If you have not heard from our office child's doctor after 2 weeks, please call the office to inquire.

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.