

700 Children's Drive
Columbus, Ohio 43205-2696
nationwidechildrens.org

EMG (ELECTROMYOGRAM) and NCV (NERVE CONDUCTION VELOCITY)

An EMG, or electromyogram (e-LECK-tro-MY-oh-gram), is a test that is done to show the electrical activity of the muscles. Electrical activity is normal and necessary for muscle movement. This test shows any change in that electrical activity.

The NCV, or nerve conduction velocity exam (NERV-kon-duck-shun vel-AH-sit-ee), tests the health of the nervous system in the arms, legs, trunk, and face.

HOW TO PREPARE FOR THE TEST

If your child is old enough, explain how the test is done (see page 2). Do not give your child coffee, tea, soda pop, or chocolate for 4 hours before the test. These are stimulants and can prevent your child from relaxing.

Follow the directions checked below:

- Your child may eat and drink before the test.
- Your child should not have anything to eat or drink for 6 hours before the EMG.
- Your child may have 7-Up, water, Pedialyte, or apple juice up to 2 hours before the EMG.
- You may breast-feed your child up to 2 hours before the EMG.

Be sure to tell the doctor if your child has any allergies. Bring a list of all the medicines your child is taking.

Try to keep your child awake before the test so that he or she will be sleepy. If your child is an infant, please bring formula, a clear liquid drink, and a pacifier if your child uses one. Children may bring favorite blankets or toys. Older children may bring MP3 or CD players with headsets.

For Outpatient Use Only

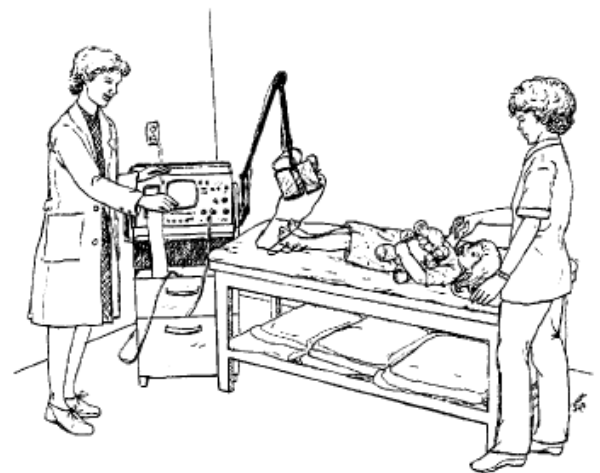
Child's name _____

APPOINTMENT:

Date _____ Time _____

Please bring your child to the Outpatient Care Center to register at the 1A Physical Medicine clinic window on the first floor. You will then be directed to the main lobby of the hospital. From the main lobby, take the tower elevators to 3 Tower. At the window in the 3 Tower elevator lobby, tell the receptionist you have arrived for an EMG.

Please come 15 minutes early to allow time to register.



Picture 1 Having an EMG

BEFORE THE TEST

Before the test, your child may be given some medicine by mouth that will help relax him. The medicine will make your child sleepy for several hours. He should lie down and not be left alone after the medicine is given so he does not fall and hurt himself.

Have your child wear or bring loose fitting shorts and a short sleeve or sleeveless top. Children are more relaxed in their own clothing.

Parents may stay with their child during the test if they can help the child relax. In some cases it may be better for parents to wait in the waiting room. It's better if other children do not come with you.

Please turn off all cell phones before going into the EMG lab.

Your child's skin should be clean and free of lotions and creams.

HOW THE TEST IS DONE

- Your child will lie down on a table. Small stickers called *electrodes* are placed on your child's legs and/or arms. These electrodes are connected by wires to the EMG machine (Picture 1, page 1).
- There are two parts to the test, the **nerve conduction test** and the **muscle or EMG test**. The doctor will do nerve conduction tests first. Most children don't mind the tingling feeling of the small electric shocks during these tests.
- The doctor will check the amount of electrical activity in the muscles. To do this the doctor puts a very tiny wire that is like an antenna into the muscle. It is like getting a small shot (injection), except no medicine is inserted into the muscle. The wire is Teflon-coated to make it slide into the muscle more easily. This wire picks up any electrical activity in the muscles and shows it on a small TV screen in the test room that you and your child can watch. You will also hear the electrical activity from your child's muscles.
- Some children say this test hurts, and others say they don't feel the wire at all. Any discomfort should only last a few minutes.
- The length of time the test takes is different for each child. Usually the test takes between 30 and 90 minutes to complete.

AFTER THE TEST

- Your child may return to normal activity.
- If your child has been sedated, please refer to the Helping Hand, Procedural Sedation: Care at Home, HH-V-179.
- The test results will be sent to the doctor who sent your child for the test.
- The doctor who ordered the test will explain the results to you.
- If you want the test results sent to your family doctor, please make sure we have his or her name and address before you leave.

If you have any questions, or if you cannot keep the appointment, please call the Children's Hospital EMG Lab at (614) 722-5055 or 722-5051.