

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-DUC-shun vel-AH-sit-ee), tests the health of the nerves outside the brain and spinal cord.

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 6 hours before the test. These are stimulants and can prevent your child from relaxing.

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.

ARRIVAL TIME

Please come 20 minutes early to allow time to register.

Sometimes sedation (medicine to make your child sleepy or relaxed) is used. If your child needs sedation, **it is very important to follow these instructions exactly:**

- Your child may eat and drink before the test. There are no restrictions. **OR**
- Your child may not have food, milk, or thickened feeds for 6 hours before the test.** This also means **no Popsicles, broth, Jell-O, and orange juice.** Also, **no chewing gum, mints, lollipops, cough drops, or candy** of any kind is allowed. **Note:** If a patient has been chewing gum, the test will be delayed 2 hours from the time the gum is spit out. If the gum has been swallowed, the test will be delayed 6 hours.
- Formula** – Children may have formula by mouth or feeding tube **up to 6 hours** before the test.
- Breast milk** – Babies over 1 year (12 months or older) may have breast milk **up to 6 hours** before the test. Babies under 1 year (younger than 12 months) may have breast milk **up to 4 hours** before the test.
- Water, Pedialyte, 7-Up or clear apple juice** may be given **up to 2 hours** before the test
- Nothing** is to be given by mouth or tube for **2 hours before the test.**

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.

Have your child wear or bring loose-fitting shorts and a short-sleeved top. Children are more relaxed in their own clothes. Your child's skin should be clean and free of lotions and creams.

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. 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 is best if other children do not come with you. Please turn off all cell phones before going into the EMG lab.

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 arms. Wires to the EMG machine (Picture 1, page 1) connect these electrodes.
- 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 do not mind the tingling feeling of the small electric stimulation during these tests.
- To check the electrical activity in the muscle, the doctor inserts a very thin, coated wire into the muscle. The wire acts like an antenna. It allows the doctor to see and to hear the electrical activity. You and your child will also see and hear the response.
- Some children say this test hurts, and others say they do not 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 Nationwide Children's Hospital EMG Lab at (614) 722-5055 or 722-5051.

Picture 1 Children may wear their own clothes during the test.

