



EMG (Electromyogram) and NCV (Nerve Conduction Velocity) – Physical Medicine

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 si tee), 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 to how the test is done (see page 2). Do not give your child coffee, tea, soda or chocolate for 6 hours before the test. These are stimulants and can prevent your child from relaxing.

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 have **CLEAR LIQUIDS** up to 2 hours before the EMG. After that, he may have nothing else to drink. Clear liquids are those you can see through that have no pulp or food bits in them. Examples of clear liquids are water, apple juice, white grape juice and Pedialyte.

For Outpatient Use Only

Child's name: _____

APPOINTMENT:

Date _____ Time _____

Please bring your child to the registration desk at the main lobby of the hospital.

You will receive a pass and directions to the EMG lab on H10A. You will be directed to the elevators that will take you to the EMG lab. Once you are off the elevator, turn left at the large turtle and enter through the glass doors by swiping your pass.

Please register your child at the EMG registration area on the right side of the hallway behind the glass windows.

Parking is available at the underground garage at 630 Children's Dr.

ARRIVAL TIME

Please come 20 minutes early to allow time to register.

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How to Prepare for the Test, continued

Your child may have breast milk up to 4 hours and formula up to 6 hours before the EMG and water or Pedialyte up to 2 hours before the EMG. All other liquids, semi-liquids and solid foods MUST BE STOPPED 8 hours before the EMG.

Gum, cough drops and hard candy are not allowed. If your child 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** from the time it was swallowed.

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 small electronic devices that are battery operated and have 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.



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

How the Test Is Done

- Your child will lie on a table. Small stickers, called **electrodes**, are placed on your child's legs and arms. Wires to the EMG machine (Picture 1) connect these electrodes.
- There are 2 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.

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How the Test Is Done, continued

- 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 Helping Hand HH-V-179, *Procedural Sedation: Care at Home*.

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