

Patient Information Sheet

For patients referred to Neurology for EMG & Nerve Conduction Studies

The following *Patient Information Sheet* is published by the American Association of Neuromuscular & Electrodiagnostic Medicine. PLEASE NOTE: Your testing could include either just one of the procedures (Nerve Conduction Study or Needle EMG) or both of the procedures. Often for hand studies like carpal tunnel or just numbness in the feet, it may only require the Nerve Conduction Study.



Electrodiagnostic medicine is the study of diseases of nerves and muscles. Your doctor has recommended an EMG test to see if your muscles and nerves are working right. You can have problems in only one part of your body or throughout your body. The results of the tests will help your doctor decide what is wrong and how it can be treated.

Who does the testing?

The American Association of Neuromuscular & Electrodiagnostic Medicine's policy is that an appropriately trained doctor should do all needle EMG testing. A trained assistant or technologist under a doctor's supervision can do nerve conduction studies.

What kind of medical training do doctors who do EMGs have?

Doctors who do EMGs go to four years of medical school then have three or four more years of training in a residency program. Most work as neurologists or physical medicine and rehabilitation doctors. Medical training helps the doctor decide which tests to perform based on your symptoms. It teaches doctors what can go wrong with the human body and how to tell the difference between these problems.

Why am I being sent to the EMG Lab for tests?

You are being sent to the electromyography (EMG) lab because you have numbness, tingling, pain, weakness, or muscle cramping. Some of the tests that the EMG doctor may use to diagnose your symptoms are nerve conduction studies (NCSs), needle EMG, and evoked potentials. The EMG doctor will examine you to decide which tests to do.

Nerve Conduction Studies

NCSs show how well the body's electrical signals are traveling to a nerve. This is done by applying small electrical shocks to the nerve and recording how the nerve works. These shocks cause a quick, mild, tingling feeling. The doctor may test several nerves.

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Needle EMG (Electromyography)

For this part of the test, a small, thin needle is put in several muscles to see if there are any problems. A new needle is used for each patient and it is thrown away after the test. There may be a small amount of pain when the needle is put in. The doctor tests only the muscles necessary to decide what is wrong. The doctor will look at and listen to the electrical signals that travel from the needle to the EMG machine. The doctor then uses his medical knowledge to figure out what could be causing your problem.

Evoked Potentials

Evoked potentials are painless tests that check the nerve pathways through the spinal cord or from the eyes and ears. The signals for these tests can come from small electrical shocks, light pulses, or clicks of sound in the ears. The nerve responses are recorded over the scalp and other areas of skin.

How long will these tests take?

The tests usually take 20 to 90 minutes. You can do any of your normal activities, like eating, driving, and exercising, before the tests. There are no lasting side effects. You can also do your normal activities after the tests.

How should I prepare for the tests?

Tell the EMG doctor if you are taking aspirin, blood thinners (like Coumadin®), have a pacemaker, or have hemophilia. Take a bath or shower to remove oil from your skin. Do not use body lotion on the day of the test. If you have myasthenia gravis, ask your EMG doctor if you should take any medications before the test.

When will I know the test results?

The EMG doctor will discuss your test results with you or send them to your regular doctor. After the exam, check with the doctor who sent you to the lab for the next step in your care.