In addition, because nerves go into muscles and give signals to muscles causing muscle contraction, the EMG/NCS also tests muscles. Abnormalities with the peripheral nervous system (all nerve tissue outside the brain and spinal cord), including myelin and muscles, can be evaluated with EMG/ NCS.

Problems commonly detected with EMG/NCS include:

- Cervical or lumbar radiculopathy
- Peripheral polyneuropathy (i.e. diabetic neuropathy)
- Entrapment mononeuropathies (i.e. Carpal tunnel syndrome)
- Myopathy

How Should I Prepare for an EMG/NCS?

After showering on the day of your examination, do not use any creams, moisturizers or powders on your skin. Important information to disclose to the physician prior to testing include any bleeding disorders, any blood thinners you may be taking, pacemaker or other implanted devices, and any history of neck or back surgery. While none of these things are contraindications to EMG testing, the examination may have to be modified.

When Are The Results Ready?

After EMG/NCS testing, the examining physician must analyze the data and combine all the information into a report. The electrodiagnostic examination report will be added to your medical record and a copy is sent to the referring provider. Be sure to follow up with your health care provider.

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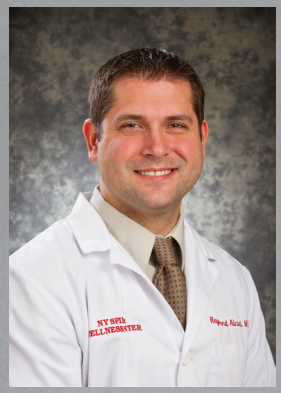

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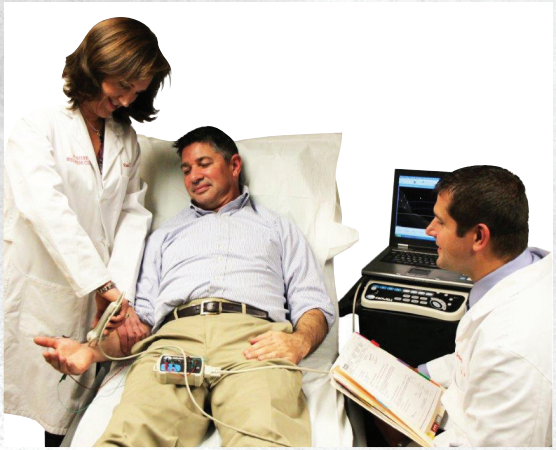


What is Electrodiagnostic Testing?

The term "electrodiagnostic testing" covers a whole spectrum of specialized tests, two of which are the electromyogram and the nerve conduction study. Many problems involving nerves or muscles require electrodiagnostic testing to provide information. Although they are different tests, the electromyogram and the nerve conduction study go hand in hand giving vital information regarding your nerve and muscle function.

What is an Electromyogram (EMG)?

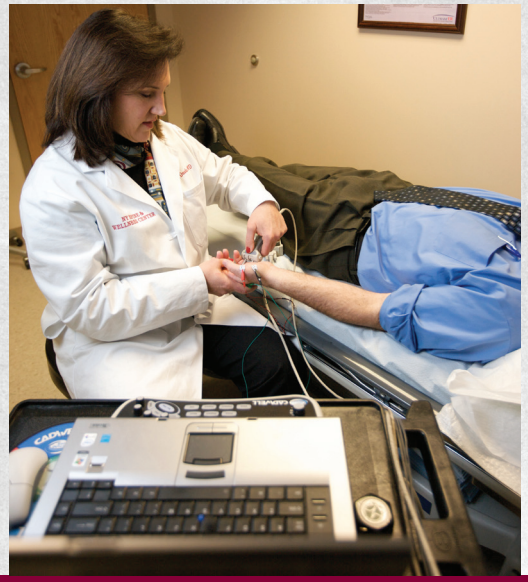
An electromyogram (EMG) is a diagnostic study that has been used by health care providers for over fifty years. An EMG provides information about the integrity of the muscles and nerves in your body. An EMG examination is typically ordered by a physician to evaluate for muscle or nerve damage as part of a medical workup.

Using a computer, monitor, amplifier, loudspeaker, stimulator, and high tech filters the examiner actually sees and hears how your muscles and nerves are working.

As part of the EMG, a very small needle is inserted into various muscles in the arm, leg, neck, or back where you are having symptoms. In many cases the examination will include areas far from where you are having symptoms because nerves can be very long. A clean new needle is used on each examination and the needle is thrown out after the exam is complete. There is virtually no chance to catch any diseases from having an EMG. Also, because the needle used is sterilized, the chance of infection is minimal. An EMG is only one part of nerve testing; another part is called the nerve conduction study.

What is a Nerve Conduction Study?

A nerve conduction study (NCS) is one part of a comprehensive nerve and muscle diagnostic test. Like an EMG, a NCS is typically ordered by a physician to evaluate for muscle or nerve damage as part of a medical workup. Once again, the examiner uses a computer, monitor, amplifier, loudspeaker, and high tech filters to monitor the functioning nerves and muscles in your body.



The examiner places small electrodes on your skin over muscles being tested in your arms or legs. The examiner then uses a stimulator to deliver a very small electrical current to your skin near nerves being tested, causing your nerves to fire. The electrical signals produced by nerves and muscles are picked up by the computer and the information is interpreted by a physician specially trained in electrodiagnostic medicine. The stimulator only produces a very small shock that does not cause damage to your body. Many different motor and sensory nerves are typically evaluated.

Do I need an EMG/NCS?

When you go to your health care provider with symptoms including pain, numbness, and weakness or tingling in an arm or leg, it is important to find out what is causing your symptoms. There are many possible causes for the above symptoms even though many cases resolve spontaneously on their own. However, if symptoms persist, an EMG/NCS is one way to assess muscle and nerve function and is often used with other tests such as MRI or CT scans that create images of the body.

What Can an EMG/NCS Detect?

The EMG/NCS examines nerves from just outside the spinal cord to the skin. Nerves have long projections called axons that carry electrical signals. Axons are surrounded by supporting cells called Schwann cells, which produce myelin. Myelin acts like an insulator for the axons and makes nerve signals travel faster.