



Nerve Conduction Study (NCS) and Needle Electromyography (EMG)

Patient Instructions

What is an EMG/NCS?

A nerve conduction study (NCS) and needle electromyography (EMG) are tests used to evaluate the health and function of your nerves and muscles. These tests can help diagnose conditions such as carpal tunnel syndrome, pinched nerves (radiculopathy), peripheral neuropathy, muscle disorders, and other neuromuscular conditions.

The study usually takes **45 to 90 minutes**, depending on the reason for the test.

Before Your Appointment

- Take your usual medications unless your healthcare provider instructs you otherwise.
- Eat and drink normally before the test. Fasting is not necessary.
- Shower or bathe before your appointment.
- Do **not** apply lotions, creams, oils, or powders to your skin on the day of the test, as they can interfere with the recording.
- Wear loose-fitting, comfortable clothing that allows easy access to the area being tested. You may be asked to change into a gown.

During the Test

Nerve Conduction Study (NCS)

Small electrodes will be placed on your skin. Brief electrical pulses are delivered to stimulate the nerves while recordings are obtained.

- You may feel a quick tingling or tapping sensation.
- The stimulation can be uncomfortable but is safe and lasts only a fraction of a second.
- No electricity remains in your body after the test.

Needle Electromyography (EMG)

A very thin, sterile needle electrode is inserted into selected muscles to evaluate their electrical activity.

- No medication is injected through the needle.
- You may experience mild discomfort similar to a small injection or blood draw.
- Several muscles may need to be tested depending on your symptoms.

- The physician may ask you to relax or gently contract the muscle during the examination.

After the Test

- You may resume your normal daily activities immediately.
- Mild muscle soreness or bruising may occur for 1–2 days after the needle examination. This usually resolves without treatment.
- Acetaminophen (Tylenol®) or an ice pack may help if needed.
- Contact your healthcare provider if you develop significant swelling, increasing pain, redness, drainage, or persistent bleeding.

Blood Thinners

If you take blood thinners (such as warfarin, apixaban/Eliquis®, rivaroxaban/Xarelto®, dabigatran/Pradaxa®, clopidogrel/Plavix®, or aspirin), **do not stop them unless specifically instructed by the physician who prescribed them.**

In most cases, EMG testing can be safely performed while taking these medications. Please let us know which medications you are taking before the examination.

Medical Devices

Please inform us before the test if you have:

- A pacemaker or implantable cardioverter-defibrillator (ICD)
- A deep brain stimulator (DBS)
- A spinal cord stimulator
- Any implanted electrical device
- A bleeding disorder or history of excessive bleeding
- A current skin infection or open wound near the area to be tested

Pregnancy

If you are pregnant or think you may be pregnant, please let the physician know before the study.

Results

The physician performing the test will interpret the results and send a report to your referring healthcare provider. Your provider will discuss the findings and any recommended treatment or additional testing with you.

If you have questions before your appointment, please contact our office.