



Texas Tech Physicians

Information on Electrodiagnostic Tests: Nerve Conduction Study and Electromyography

When you visit the lab for the tests, you will have nerve conduction study (NCS) and electromyography (EMG). Depending on clinical needs, you will also get an ultrasound of nerves and/or muscles.

First, nerve conduction study (NCS) measures how quickly an electrical impulse moves through your nerves. It can assess whether nerve is damaged. During the test, an electrical stimulation is delivered to your nerve via electrodes by technician several times, and the resulting electrical activities are recorded with other electrodes connected to the device. This will be repeated for each nerve being tested.

Electromyography (EMG) measures electrical activities in your muscle. To pick electrical activities in muscle, physician will put a needle electrode into your muscle through skin. When the needle electrode penetrates your skin, you would feel small sting or mosquito bite sensation. While the needle is inside your muscle being tested, you would feel dull or discomfort feeling. During the needle EMG test, electrical activities of muscle being tested will be recorded when your muscle is relaxed, and when you flex muscle. This will be repeated for each muscle being tested.

The data collected during the tests will later be analyzed and interpreted by an electromyographer, a specialist, who will create a report. The results of the test will be shared with you, either immediately after the tests or when you return to see your referring physician.

A report with the results and an interpretation will be sent to your physician or healthcare provider in 24 to 48 hours after the test during weekdays or by the following Monday, if your test is done on Friday. If your healthcare providers can access our computer system for medical records, a report with the results and an interpretation will be available to them in 24 to 48 hours after the test during weekdays or by the following Monday, if your test is done on Friday.

Your healthcare providers will review and evaluate the results of the tests with other medical tests together to determine a diagnosis.

Remove all jewelry (rings or bracelets) and wrist watch.

You may experience some muscle soreness or some uncomfortable feelings in the tested limb(s) commonly for several hours, but some patient could have residual discomfort for several days after the tests. You may experience transient tiny bruising where the needle electrode is inserted into your muscles. The bruising should disappear within several days. If it persists, contact your referring physician.