Nerve and muscle disorders cause the muscles to react in abnormal ways. Measuring the electrical activity in muscles and nerves can help find diseases that damage muscle tissue (such as myopathy or muscular dystrophy) or nerves (such as peripheral neuropathies). EMG and nerve conduction studies are often done together to give more complete information.

NERVE CONDUCTION STUDIES (NCS)

Nerve conduction studies measure how well and how fast the nerves can send electrical signals. Nerves control the muscles in the body by electrical signals, and these impulses make the muscles react in specific ways. NCS can aid in locating damage to the nervous system, which includes all the nerves that lead away from the brain and spinal cord and the smaller nerves that branch out from those nerves as well as junctions between the nerves and muscles. NCS study is performed by placing the electrode on the affected arm or leg. Then a small amount of current is applied to measure the electric signals. You may feel a little shock. NCS study is performed by a doctor or trained technologist.

ELECTROMYOGRAM (EMG)

An electromyography (EMG) measures the electrical activity of muscles at rest and during contraction. For this part of the test, a small, thin needle electrode is put into several muscles to look for diseases that damage muscle tissue or nerves. EMG is performed by a doctor who is specialized in this field. The doctor will look at and listen to the signals that travel from the electrode to the EMG machine.

How to prepare for the EMG/NCS:

- Do not wear any lotion or makeup on the day of the exam, as oils can interfere with results. Take a bath or shower to remove oil from your skin.
- If you are taking blood thinners (such as Coumadin) or have a history of bleeding problems, talk to your Neurologist.
- Certain medicines such as anticholinesterase inhibitors (i.e. Mestinon) can alter results. Thus, these medications should be held on the morning of the exam, after consultation with your Neurologist.
- Please inform the clinic nurse and/or physicians if you have a pacemaker, as it could be affected by the small electrical impulses sent during the NCS.

What to expect:

The test usually takes from 1 to 2 hours. You can do any of your normal activities, like eating, driving and exercising, before or after the test. There are no lasting side effects. You may feel some discomfort or minor bleeding around the electrode insertion points during the test.