Electromyography (EMG) and Nerve Conduction Studies (NCS)

Electromyography, or EMG, involves the testing of the electrical activity of muscles. A nerve conduction study, or NCS, measures the conducting function of nerves. Many times EMG testing is performed in conjunction with NCS testing. Both tests will usually be performed at the same office visit and by the same physician. Risks and procedures will generally apply to each test.

The physiatrists of Iowa Ortho are physicians trained in physical medicine and rehabilitation. They perform special testing called electrodiagnosis, to assist our orthopaedic surgeons and other physicians in the evaluation of muscle and nerve concerns.

Why EMG and NCS?
In some medical conditions, the electrical activity of the muscles or nerves is not normal. An EMG and/or NCS can detect these abnormal muscle and nerve properties and provide specific detailed reporting as to how your muscles and nerves are functioning. This information will greatly aid in determining an accurate diagnosis and appropriate treatment plan.

Electrodiagnostic testing can assist with the diagnosis of nerve compression or injuries such as carpal tunnel syndrome, lumbar or cervical nerve root compression or injury. EMG and NCS testing also aid in determining the cause of weakness, numbness, pain and symptoms such as fatigue, spasms and abnormal sensation, and many other conditions or problems involving the muscles or nerves.

Electromyography (EMG)
During an EMG, the physician analyzes the electric activity in muscles by inserting a fine needle electrode into selected muscles, the needle insertion may cause mild discomfort during the test. The needle is not used for injection and no shocks are given. The physician can then determine if the muscle(s) are working normally by seeing the electric activity on a computer screen and listening to patterns over a loud speaker.

Nerve Conduction Studies (NCS)
To perform nerve conduction studies, the physician tapes small metal electrodes on the skin and applies a brief electric stimulus to one portion of a nerve. This nerve stimulation will cause a tingling sensation. The physician can then evaluate the electric response of the nerve, or muscle to which the nerve is attached, and determine if the nerve impulse is:

- Of normal size
- Conducted at normal speed
Preparation
There are no patient restrictions regarding activities before or after either test is performed. We ask that you do not put on any lotions the day of your test. The studies generally take anywhere from 30 to 60 minutes to complete. There are no permanent after affects. Results of your study are read and forwarded to the physician ordering the test(s).

Special Precautions
Be sure to inform the physician if you are taking blood-thinning medications such as Coumadin, have hemophilia or a cardiac pacemaker. These require the physician to determine if the testing procedure ordered is suitable at that time. The outpatient testing schedulers will be glad to collect this information and to assist you in scheduling the appropriate test at the right time.

Scheduling an EMG or NCS
*Our focus is on providing quality electrodiagnostic testing that is convenient for you and your family.*
That’s why IOC offers convenient hours each week day for you to have your testing completed.

Since an EMG and/or NCS is a diagnostic medical study, a referral from a physician or appropriate health care professional is normally required. If you have received a referral from your physician or healthcare provider, you can schedule your appointment in person or by phone. Your physician’s office or hospital emergency room staff can also call our scheduling staff to schedule an EMG or NCS for you. *If you wish to make an appointment by phone, please call (515) 247-8400, or (800) 642-6381.*

Check with your insurance carrier before scheduling your test. If your insurance plan requires a referral, verify with our office that the referral has been received prior to your scheduled study.

Questions
If you have any questions regarding an EMG or NCS, please feel free to contact our office at (515) 247-8400 or (800) 642-6381.