What's an EMG?

Overview:

A Nerve Conduction Study/ Electromyography is a testing procedure typically referred to as an "EMG." Your doctor has ordered this test to assess the function of your muscles and nerves. An EMG is a useful diagnostic tool for evaluation of symptoms such as numbness, tingling, pain and weakness in the arms and legs. Physical Medicine & Rehabilitation and Neurology Specialists perform this testing.

At South Shore Orthopedics, testing is performed by Dr. Sandra Maguire, a PM&R specialist with additional board certification in electromyography. The nerve conduction portion of the test is performed by Erin McMillen, EMG technician.

There are two parts to the test:

1. Nerve Conduction Studies evaluate the speed and strength of your nerve signals and can detect points of nerve compression. Common examples are compression of the median nerve at the wrist or "carpal tunnel syndrome" and polyneuropathy which affects the nerves more generally.

2. Electromyography (the electrical study of muscle) assesses the electrical signals from your nerves which control our muscle contractions and movements. During this portion of the test, the physician is able to view and assess these signals on a computer screen. Muscle and nerve diseases alter these signals in specific ways.

How to Prepare:

Please wear a short sleeve or loose sleeve shirt that can easily be pulled up for access to your entire arm. A sports bra is helpful for women with symptoms in the shoulder blade region. If your legs are being tested, please wear looser pants than can be pulled up to mid-thigh.
Please do not apply lotion or oils to your skin on the day of testing.

What to Expect:

1. For the nerve conduction studies, surface electrodes (small stickers) will be placed on your skin over specific muscles. Stimulation is then applied to the nerve to generate a signal that is picked up by the electrode and recorded. The stimulation is a low level shock and cannot damage the nerve. The stimulation will start very low and is gradually increased to ensure that the recording represents the best signal the nerve can generate. Most patients find the test to be an odd sensation, with possible slight discomfort with a few of the stronger stimulations.

2. For the electromyography portion, the physician will use a thin needle to evaluate individual muscles. The needle has a tiny electrode in the tip which amplifies the signal and plays it on the screen as a waveform and sound for interpretation. The muscles are examined one by one. This portion of the rest typically takes only a few minutes. Most patients experience only a mild discomfort in a few of the muscles, if any, as the needle is very thin.

After the test:

You will be able to carry on with your day normally after the testing. Small bruising is possible from the needle sites.

Please note, you will not receive the results of the testing or a treatment plan at your testing visit. The data will need to be evaluated and interpreted after your visit. The report is typically available two days following your test. You will receive a call within a week from South Shore Orthopedics to schedule an appointment with the physician who referred you for the test to hear the final results and develop a treatment plan for you.

Thank you for the opportunity to participate in your medical care!

Sandra Maguire, MD

Erin McMillen, EMG Technician