

WHAT ARE ELECTROMYOGRAPHIC EXAMINATIONS (EMGs) and NERVE CONDUCTION STUDIES (NCSs) ???

Electrodiagnostic studies can be helpful in evaluating weakness, numbness, pain, and symptoms such as fatigue, cramps, and abnormal sensation. The two main procedures used to study nerves and muscles are the electromyographic examination (EMG) and the nerve conduction study (NCS):

EMG

During an EMG, the physician analyzes the electric activity in muscles by inserting a fine needle electrode into selected muscles. Needle insertion may cause mild, temporary discomfort. The needle is not used for injection, and no shocks are administered. The physician can determine whether or not the muscle is working normally by seeing the electric activity on a screen and by listening over a loudspeaker. The needles are sterile (usually disposable) and therefore do not have a risk of disease transmission (AIDS, Hepatitis, and other infections.).

NCS

To perform nerve conduction studies, the physician tapes small metal electrodes onto the skin and applies a brief electric stimulus to one portion of a nerve. 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 a) conducted normally, b) at a slow speed, or c) not transmitted at all, suggesting damage to the nerve.

SPECIAL PRECAUTIONS:

The patient does not need to do anything special to prepare for these tests, except to keep the skin free of any lotions or emollients on the day of the examination. However, be sure to inform the physician performing the examination if you are taking blood-thinning medication such as Coumadin, if you have hemophilia, or if you have a cardiac pacemaker.

OTHER INFORMATION:

The time required to complete the studies varies, but generally they take approximately 45 to 60 minutes. There are no restrictions relative to activities before or after the tests, and no permanent side effects.

