

# What is an EMG/NCS?

This test helps in the diagnosis of conditions or diseases affecting the peripheral nerves, muscles, neuromuscular junction and motor neuron. General Indications for EMG & NCS are: numbness, tingling, burning sensation or pain, limb pain (arm or leg), muscle weakness and/or atrophy and abnormal movements of the muscles.

Indications for EMG & NCS are:

- Carpal tunnel syndrome (median nerve entrapment at wrist)
- Cubital tunnel syndrome (ulnar nerve entrapment at elbow)
- Tarsal tunnel syndrome (plantar nerve entrapment at ankle)
- Nerve injuries or lesions
- Peripheral neuropathy such as diabetic neuropathy
- Radiculopathies – cervical and lumbar
- Brachial and lumbar plexus injury
- Guillain Barre syndrome
- Congenital and acquired neuropathies
- Myopathies, i.e. muscular dystrophy
- Motor neuron diseases such as amyotrophic lateral sclerosis (ALS) □

# How do you prepare for an EMG / NCS?

Tell the doctor if you are taking blood thinners (like Coumadin), or if you have a bleeding disorder. Take a bath or shower to remove oil from your skin. Do not use body lotion or wear jewelry on the day of the test. In cold weather wear warm clothing. This includes gloves if your hands are to be tested or warm socks and boots if your feet will be tested. Please bring/wear shorts if the test is of your legs and a sleeveless top to change into if the test is of your arms/hands.

Your test will generally take between 30–60 minutes depending on the study that has been ordered.

# **What to expect during an EMG/NCS?**

## **Nerve conduction study (NCS)**

The NCS is the first part of this test. It studies your nerves. Small metal discs are taped on your skin based on the nerves that are going to be tested. Then, a small electrical current is used to stimulate the nerve. This electrical testing will be done on several nerves and may be done at different sites along the nerve. The electrical current produces a tingling, which may be uncomfortable.

## **Electromyogram (EMG)**

The second part of this test is an EMG, which studies your muscles. The doctor will insert a small needle into your muscle in order to record your muscle's electrical activity. EMG testing may be done on several different muscles but each muscle is tested one at a time. During the test, you will hear a crackling speaker sound. This is the electrical activity from your muscles, which has been changed into sound waves. You do not receive any electrical stimulation for this part of the test. The EMG can be somewhat uncomfortable because of the small needle sticks. For a day or two after the test, you may feel some tenderness or notice a small bruise around the sites where the needle was inserted.