Electromyography (EMG)

What is an EMG?
An EMG is a test that measures the electrical activity of muscles and nerves. It helps your doctor determine the site, nature and extent of any muscle or nerve problems. An EMG consists of 2 parts:
- Nerve Conduction Studies (NCS)
- Needle Examination

What happens during the Nerve Conduction Studies?
The NCS are the first part of the test. A series of electrical impulses are used to stimulate your nerves. The responses are recorded from different parts of your arm or leg. You will feel a mild tingling sensation where the technologist (tech) places the stimulator. The results show us the condition of your nerves.

What happens during the Needle Examination?
A small needle is inserted into the muscles to measure the activity of the muscles and nerves. The results help us find the cause of your muscle or nerve problems.

How should I prepare for this test?
Symptoms must be present for 3 weeks or more before scheduling. Otherwise, the EMG may be falsely normal.
- Do not use oil or creams on your arms and legs.
- Eat a normal breakfast and/or lunch.
- If you take pyridostigmine (Mestinon®) and/or blood thinners, please call the Neurological Testing Center before your test for further instructions. Please take your other medications, including pain medications as usual.
- Keep hands and feet warm with socks, this will help speed up the testing.

Where do I go?
Come to the Neurological Testing Center (NTC), 7th floor, Galter Pavilion. This is at 201 East Huron Street. Parking is at 222 East Huron Street. For a discounted rate, bring your parking ticket to the NTC for validation.
**What should I expect?**

The test usually takes about 2 hours. You will be asked to change into a gown before NCS and/or EMG testing.

During the NCS, a small recording electrode will be taped to your hand or foot. The tech will send an impulse through an electric stimulator placed on the skin. The signal is recorded by the electrodes and will show up on a screen. The small shock may tingle or make your muscle twitch for a moment, but this is not harmful.

During the needle exam, the doctor will insert a needle electrode into the muscle. You will be asked to contract or move the muscle for a few moments. The muscle signal is then transmitted through the electrode and will show up on a screen.

**Testing Precautions**

Please call 312.926.8120 if you have any of the following:

- Internal nerve stimulator (such as a bladder or spinal cord stimulation device)
- Cardiac defibrillator
- Bleeding disorder
- Lymphedema

Let us know right away if you take medicine such as:

- Blood thinning medication
- Pyridostigmine (Mestinon®)

**After the Test**

- When finished, the electrodes are removed.
- Minor discomfort might occur after an EMG. Please contact your physician if pain increases.
- Check with your doctor in 2 business days to discuss the results and further treatment.

To learn about neuromuscular disorders, visit nm.org.

**Northwestern Medicine – Health Information Resources**

For more information, contact Northwestern Memorial Hospital’s Alberto Culver Health Learning Center (HLC) at hlc@nm.org, or by calling 312.926.5465. Health information professionals can help you find the information you need and provide you with personal support at no charge.

For more information about Northwestern Medicine, please visit our website at nm.org.