Electromyography (EMG)

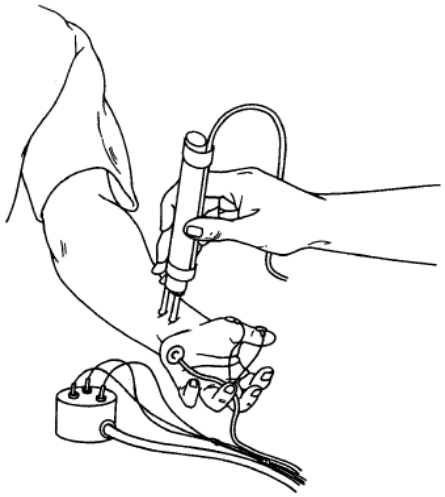
What is an EMG (Electromyography) test?
It is a test that measures the electrical activity of muscles and nerves. EMG equipment is used to detect abnormal activity of muscles that can occur in many diseases and conditions, including muscular dystrophy, inflammation of muscles, pinched nerves, peripheral nerve damage (damage to nerves in the arms and legs), amyotrophic lateral sclerosis (ALS), myasthenia gravis, disc herniation, and others.

EMG is performed with another test that measures conducting function of nerves. This is called a nerve conduction velocity study.

Why is an EMG test done?
An EMG is often performed when patients have unexplained muscle weakness. The EMG helps to distinguish between muscle weakness and nerve disorders. EMGs can also be used to isolate the level and severity of nerve irritation or injury.

How is the EMG test done?
During the test, small needles are inserted through the skin into the muscle to detect the electrical activity in the muscle. The activity is displayed visually on computer screen and may also be detected audibly with a speaker. After placement of the electrode(s), the patient may be asked to contract the muscle (for example, to bend the leg).

How is Nerve Conduction Velocity (NCV) test done?
In this test, the nerve is electrically stimulated while a second electrode detects the electrical impulse 'down-stream' from the first. This is usually done with surface patch electrodes that are placed on the skin over the nerve at various locations.



The NCV test can be used to detect true nerve disorders (such as neuropathy) or conditions where muscles are affected by nerve injury (such as carpal tunnel syndrome). Normal body temperature must be maintained for the NCV test, because low body temperatures slow nerve conduction.

How should I prepare for the test?

- Take a bath or shower to remove oil from your skin.
- Do not use body lotion on the day of the test.
- Tell the EMG doctor if you are taking blood thinners (like Coumadin®), have a pacemaker, or have hemophilia.

How long will these tests take?
The tests usually take 30 to 60 minutes depending on the number of muscles and limbs that need to be tested. You can do any of your normal activities, like eating, driving, and exercising, before the tests. There are no lasting side effects. You can also do your normal activities after the tests.

Does an EMG hurt?
There is some discomfort at the time the needle electrodes are inserted. They feel like shots (intramuscular injections), although nothing is injected during an EMG. Some people may have minor aches and pains from the testing.

Advent Neurology, 657 E Golf Rd Ste 304, Arlington Heights, IL 60005; Ph. 847 640 7377; Fax 847 640 7977