

Explanation of Test

Your doctor has ordered a test called an EMG. EMG stands for electromyogram which loosely translated means electrical testing of muscles, but it has come to mean electrical testing of nerves and muscles. A specialist, the electromyographer, who has specialized training in the field of electromyography, performs the EMG.

EMG is an in-office procedure that does not require hospitalization. On average, an EMG takes anywhere between 30 minutes and 2 hours, depending on how extensive your test is ordered to be. It can be done at any time during the day and, with few exceptions, does not require any special preparation.

Sometimes EMGs are thought to be a treatment of some sort, or a type of acupuncture. This is not true. An EMG is only a test, much like an EKG or an x-ray.

EMGs are usually ordered when you are having problems with your muscles or nerves. EMG's test the muscles and nerves of your arms and legs to identify problems. Weakness of your muscles or "fatigue" (tiredness) may indicate nerve or muscle disease and require an EMG.

Usually combined with nerve conduction studies (NCS), EMG's are the most important diagnostic tests for the evaluation of neuropathy and myopathy (nerve and muscle disease). These tests are performed on motor and sensory nerves, but only large myelinated fibers can be evaluated by nerve conduction studies.

EMG's help diagnose conditions such as in carpal tunnel syndrome, polyneuropathy (as seen with diabetes), nutritional deficiencies, autoimmune processes, or degradation of the myelin (a type of coating around the nerve axon which allows the electrical signal to travel faster), as seen in Guillan Barre' Syndrome. They can also be used to diagnose less common conditions such as amyotrophic lateral sclerosis (ALS or Lou Gehrig's disease), myasthenia gravis, and muscular dystrophy.

Alternatively, an EMG may be ordered to see if you have a pinched nerve in the back or the neck. If you have tingling or numbness in your arms or legs, an EMG may show if you have a nerve entrapment or injury.

If you have any doubts as to why you need this test, ask your doctor.

What to Expect with Testing

There is no specific preparation needed for the testing. However, please do not use lotion, oils, or creams on your skin prior to the test.

Though the physician performing the test has a general idea of what the findings are during the test, full results require more calculations and measurements which are performed after the test. The results are therefore usually not ready for a day or two. Reports are forwarded to the referring physician where results can be correlated with your symptoms.

As a rule, the more body areas that are studied, the more the test will cost. However, costs may vary. Most insurance policies cover EMGs, though frequently they are not covered 100%. Your primary care physician or insurance may have to approve it before it can be performed. It is best to have your doctor's office find out what kind of coverage you have for an EMG.



Possible Side Effects of Testing

People usually have a small amount of discomfort during the EMG testing because of pin insertion. Disposable needles are used so there is no risk of infection. It can be mildly uncomfortable at times but is generally tolerated by most adults without any adverse effects.

During nerve conduction studies, you may experience a brief mild shock which may be a bit unpleasant. Most people find it only slightly annoying.

Cardiac pacemakers and implanted cardiac defibrillators (ICD's) are becoming more common, but there is no evidence to suggest that performing these studies on patients with these devices poses a safety hazard. No immediate or delayed adverse effects have been reported with routine nerve conduction studies.

There are no known complications with performing EMG or NCS on pregnant patients.

Patients with lymphedema or patients at risk for lymphedema are routinely cautioned to avoid percutaneous procedures in the affected extremity, namely venipuncture, to prevent development or worsening of lymphedema or cellulitis.

After EMG there are no restrictions of your normal activities. Some people experience minor aches and pains from the testing, but they resolve quickly.

The CORE Institute is dedicated to your outcome. If any questions or concerns arise, please call The CORE Institute at 1.866.974.2673.