



Electromyography (EMG)

When do I need an EMG?

Electromyography (EMG) is a diagnostic procedure which tests the health of your nerves and the muscles they work with (innervate). Your surgeon may refer you for an EMG when you have symptoms in your legs or arms. These symptoms can vary and include pain, numbness, tingling or weakness.

An EMG can help your surgeon determine what is causing your leg or arm symptoms. It could be a muscle problem, a problem with the connection between the muscle and nerve, a peripheral nerve problem or a more central problem (e.g. damage to a spinal nerve root). The test is important because many of these conditions can cause similar symptoms.

This test is also very useful in patients with known spinal problems that have been identified by clinical examination and other investigations. The EMG can identify if your spinal nerves are being irritated or damaged and can identify which nerves are involved. This can help with tailoring treatment options to your condition. When an EMG is performed after spine surgery, it can show whether a damaged or irritated nerve is recovering.

Depending on your symptoms, you may be sent for an EMG of your arms or legs (or both).

How do I prepare for my EMG?

Prior to the test, it is recommended to:

- Ensure your skin is dry and clean and to avoid application of any creams, lotions or oils. Try and have a shower just prior to heading to your appointment.
- Put on some loose clothing that will be easy to roll up.
- Be aware that things like tights and socks will need to be removed for leg testing.

Let the person performing the EMG know if you:

- Are taking any blood thinning medication
- Have a blood disorder which causes prolonged bleeding
- Have a pacemaker or other implanted electronic device





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How is an EMG done?

There are two parts to an EMG:

- 1. Nerve conduction studies (NCS)** – small electrodes will be stuck to your skin at different sites, depending on which nerves are to be tested. As the nerves are being tested you will experience some sensations, which may be a little uncomfortable. They have been described by some as a brief tingling, twinge or shock.
- 2. Needle examination** –small thin needles are inserted into specific muscles to measure their activity. This may cause some discomfort or a small amount of pain. You may also be asked to move or contract different muscles during the procedure so that they can test the activity of these muscles. The Neurologist is able to hear and see how your muscles and nerves are working through analysis of the electrical signals recorded by both the needle and the EMG machine. All of the information collected is recorded and, when analysed, helps to build a clearer picture about the current functioning of your nerves and muscles



The EMG may take 30-60 minutes but the total time can vary.

What risks are associated with EMG?

The EMG procedure rarely has any complications; however, there is a very small risk of infection, bleeding, and injury to tissues upon needle insertion.

Delivery of Results

Following your EMG procedure, the neurologist will analyse the results of your EMG and write a report to your surgeon who referred you for the test. You will need to attend another appointment with your surgeon to discuss the results of the EMG.