South Devon Healthcare NHS
NHS Foundation Trust

PATIENT INFORMATION

EMG and Nerve Conduction Studies

Clinical Neurophysiology

What are nerve conduction studies and EMG?

These tests assess how well your nerves and muscles are working. They are usually done for symptoms such as tingling, numbness, or weakness in the face, arms or legs. You will be asked to lie on a table or bed, or to sit in a reclining chair so that your muscles are relaxed.

Nerve conduction studies

The first of the tests is called nerve conduction studies (NCS). This checks how your nerves are working. It involves the application of small electric pulses to stimulate the nerves, usually in the arms or legs. The responses are recorded by electrodes that are attached to the skin, and these can be easily removed afterwards. The electrical stimulation can be a little unpleasant, but should not cause too much discomfort.

Electromyography (EMG)

The second part of the test is called electromyography (EMG). This is not always necessary but may be required after the nerve conduction study.
EMG involves placing a very fine needle into the muscle to record how it is working. You may feel a quick, sharp pain when the needle is put into the muscle. When the needle is in place, you will be asked to stretch the muscle by moving your arms or legs.

Who carries out the tests?

The tests will be carried out by a Consultant Neurophysiologist or a Clinical Physiologist. They will explain every step of the procedure as they progress. They may ask you questions about your symptoms and medical history, and perform a short examination of your limbs.

Are the tests painful?

Some patients find nerve conduction studies a little uncomfortable but they do not cause much pain. EMG can be a little painful and may produce small bruises. If you find any procedure too unpleasant, or if you need a rest, please let the examiner know. Any discomfort or pain will usually disappear as soon as the test is stopped.

What are the serious risks of the tests?

There is no risk of significant side effects with nerve conduction studies or EMG. If you are taking warfarin or heparin, or have a tendency to bleed, please let us know. We will restrict the test in such cases, or ask your doctor to stop your medications a few days before the day of the test. If you have a pacemaker or a cardiac defibrillator we will take certain precautions but malfunction of these devices has not been reported.

The duration of the tests

Depending on the complexity of the problem, nerve conduction studies and EMG may take between 45 - 90 minutes. Most tests are however completed within 1 hour.

How to Prepare

- Do not smoke for 2 hours before the test.
- Wear loose-fitting clothing which can be rolled up to above the elbows and knees. You may be given a hospital gown to wear.
- Keep your hands and feet warm and you may need to wear gloves and socks to do this. Cold hands and feet may interfere with the result of the tests.
- Do not apply cream and ointments on the day of the appointment as they make the skin greasy and difficult to get a recording from the nerves.
- Bracelets, rings and watches will usually be removed for tests on the hands, and socks or tights removed for tests on the feet.

After the investigation

You will be able to return to your normal activities immediately after the investigation. After an EMG, the muscles into which the needle has been placed may ache a little for a few minutes. If there is persistent redness or swelling, you should see your doctor.

Result of the investigation

The results of the test will usually be sent to your doctor within 2 weeks.

How to contact us?

You could contact us on ☎ **(01803) 656336** on Monday – Friday between 9am to 4pm.

It is very important for you to keep your appointment. If for any reason you are unable to keep this appointment, please let us know.

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