



PATIENT INFORMATION

Patient information booklet for Neurophysiology testing

NERVE CONDUCTION STUDY (NCS)

WHAT IS NERVE CONDUCTION STUDY?

This test is usually requested by your physician whenever there is a suspicion that you may have some disease process affecting your nerves. The test involves applying small amounts of electric current at specified skin areas of your body to stimulate the underlying nerves while recording the responses at another specified area. The nature of the recorded responses usually provides vital information to the interpreting physician on the type of disorder affecting the nerves.

WHAT PARTS OF THE BODY IS STUDIED IN THIS TEST?

The test is usually carried out on the limbs, either the arms or legs or both, depending on the request of your physician and the anticipated extent of the suspected underlying disorder.

HOW LONG DOES THIS TEST LAST?

This depends on whether we are studying 2 limbs or all 4 limbs. In general, however, you can expect to get through within 45 minutes to 60 minutes.

IS IT A PAINFUL PROCEDURE?

Since this test requires applying small amounts of electric current to your nerves, you may expect some level of discomfort as the shock is delivered. However, the intensity of stimulation usually started at very low levels and gradually increased as needed to minimize the level of discomfort. Overall, almost all patients can tolerate the test.

ANY SPECIAL INSTRUCTIONS?

During the study, the examiner may need to stimulate one or more of your nerves at or above the knees or elbows, hence it is advisable to wear loose fitting dresses and trousers/or that will allow access to these areas should it become necessary to reach them.

ANY SIDE EFFECTS OR COMPLICATIONS TO THIS PROCEDURE?

Nerve conduction studies are not associated with any known risks or complications.

IS NEEDLE ELECTROMYOGRAPHY (EMG) ALWAYS PERFORMED AFTER NERVE CONDUCTION TESTS?

Not always. Sometimes, the examiner decides to perform needle EMG after nerve conduction test to gain more insight about the underlying nerve or muscle disorder. This entails inserting a very fine needle into selected muscles to make direct recordings. This may be associated with a little pain. Overall, almost all patients find the procedure tolerable.

HOW LONG WOULD IT TAKE TO OBTAIN THE RESULT OF THE TEST?

Usually within 24-48 hours, you would receive a phone call from the interpreting physician, or some other staff designated by your physician notifying you of the result of the test and advising you on the next step in your care. A physical copy of the result can be collected from your physician on your next visit.

ELECTROMYOGRAPHY (EMG)

WHAT IS ELECTROMYOGRAPHY (EMG)?

Electromyography, popularly called EMG, is a diagnostic procedure in which the examiner inserts a tiny electrode into selected muscles to study their electrical activity. The information obtained is displayed on the monitor in the form of waveforms which the examiner interprets to better understand the nature of the neural, muscular, or neuromuscular disorder that is present.



IS THE TEST VERY PAINFUL?

The process of inserting the needle through the skin causes little pain, and during the study the examiner will be asking you to contract the tested muscle at varying degrees of force at some point. This also can generate some degree of discomfort. Overall, it is a very useful test, and most patients are able to tolerate the procedure.

HOW LONG DOES A STANDARD EMG TEST TAKE?

This depends very much on the number of muscles to be studied which in turn depends on the case at hand. **Most tests last about 45-60 minutes.**

ARE THERE ANY RISKS ASSOCIATED WITH THIS PROCEDURE?

EMG is a low-risk procedure, and complications are almost unheard of. However, be sure to mention to your doctor if you are on any blood thinners. If muscles along the chest wall are examined, there is a very small risk that it could cause air to leak into the area between the lungs and chest wall. This risk is again very small. You may get some small bruises or swelling at some of the needle sites. The needle electrodes used are sterile so that there is almost no risk of infection at the needle sites.

Reference: Electromyography and Neuromuscular disorder- Clinical electrophysiological correlation (David C Preston, Barbara Shapiro), PD3061-PIL969v-4-what is an EMG Nerve conduction test- MG.qxd-NHS foundation trust