Memorial Sloan Kettering Cancer Center

PATIENT & CAREGIVER EDUCATION

About Your Nerve Conduction Study and Electromyography

This information will help you get ready for your nerve conduction study (NCS) and electromyography (EMG) tests at Memorial Sloan Kettering (MSK).

About NCS and EMG Tests

An NCS and EMG are tests to check your body's nerves and muscles. They're usually done at the same time. The NCS looks at how electrical currents move along your nerves. The EMG looks at the electrical activity of your muscles.

These tests will help your doctor see why you're having symptoms such as:

- Weakness
- Pain
- Numbness
- Tingling

Before Your NCS and EMG Tests

Ask about your medications

Pyridostigmine (Mestinon®)

If you have myasthenia gravis (a disease that causes muscle weakness) and take pyridostigmine (Mestinon) to treat it, tell your doctor. This medication may affect your test results so you may need to stop taking it before your tests. Your doctor will give you more information.

The Day of Your NCS and EMG Tests

Take a shower

Take a shower the morning of your tests. This will remove the oils from your skin and help the electrodes (small metal discs) used during your tests stick to your skin. You can wash your hair with shampoo and conditioner. Don't put on any lotion, cream, powder, body oils, or hair products (such as hairspray) after you shower.

Things to remember

- Take your medication as usual unless your doctor gives you other instructions.
- You can eat and drink as usual.
- Wear something comfortable and loose-fitting.
- Tell your doctor if you're taking any blood thinners.
- Tell your doctor if you have a pacemaker.

What to expect

Before your tests, you will change into a hospital gown. You can leave your underwear and bra on.

You will be helped onto the exam table. Depending on the muscle or nerve being tested, you will lie on your back, side, or you will sit up. Your doctor may ask you to change positions during the tests.

During your NCS test

The NCS is the first test you will have done. Once you're comfortable on the exam table, your doctor will tape or hold 2 small electrodes over the area being tested. The electrodes will be attached to a small computer with wires.

Once the electrodes are in place, your doctor will program the computer to stimulate your nerve. The electrodes will record how your muscles or nerves respond to the electrical current.

You will feel tingling in the area of your body being tested. You will also hear a radio static sound coming from the computer. This sound helps your doctor find the location and movement of your muscles.

Your doctor will test a few areas on your arms, legs, and back.

During your EMG test

After your NCS test is finished, you will have your EMG test. Your doctor will take 1 of the electrodes off your skin and clean the area. Then, they will replace the electrode with a different one that has a small needle attached to it. The needle will go into your muscle to record its electrical activity.

You may feel some pinching as the needle is placed into your muscle. Your doctor will leave the needle and electrode in place for a few seconds. You may feel some cramping and discomfort while the needle is in your muscle, but this will go away once it's taken out.

Your doctor may test a few areas of your body.

After your EMG test, your doctor will take the electrodes off your skin.

Your NCS and EMG tests will take about 1 hour in total.

Your Results

Call your doctor's office 1 week after your test for your results. Your doctor will use the results of these tests and your health history to plan your treatment.

If you have questions or concerns, contact your healthcare provider. A member of your care team will answer Monday through Friday from 9 a.m. to 5 p.m. Outside those hours, you can leave a message or talk with another MSK provider. There is always a doctor or nurse on call. If you're not sure how to reach your healthcare provider, call 212-639-2000.

For more resources, visit www.mskcc.org/pe to search our virtual library.

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