Electromyogram and Nerve Conduction Tests

The EMG (electromyogram) and NCV (nerve conduction velocity) test how the muscles and nerves work by measuring the electrical signals that they produce. The EMG and NCV are done by a doctor who has had special training in doing the test and looking at the results. The tests can tell the doctor what the problem is and how severe it is. The EMG might be done to check a nerve injury or a disease of the muscles or nerves.

Do I need to do anything to get ready for the test?

- Take a shower or bath before the test. Be sure you do not apply any lotions, creams or oils to your skin before the test.
- If you are taking blood thinner medicine like warfarin (Coumadin) or clopidogrel (Plavix), or have hemophilia, you should tell the doctor so extra precautions are taken to avoid bleeding.
- Also tell the doctor if you have a heart pacemaker or other implanted device.
- You should take your regular medicines, including pain medicine, before the tests.
- If you have Myasthenia Gravis, ask your doctor if you should take your medicine on the day of the test.
How is an EMG done?
A fine wire electrode is put through the skin and into the muscle to measure electrical signals from your muscles. You may feel some discomfort as the electrode is placed in the muscle. Six to eight muscles may be tested. This is because many diseases affect only a few muscles in each person. The electric signals from the muscles show up on a computer screen and are heard over a speaker.

How is a NCV done?
The nerve conduction velocity (NCV) test measures how a nerve responds to electric stimulation. Electrodes are applied to the area to be tested. A small electric shock is applied to certain places on the nerve. The response is measured.

How long will the tests take?
The EMG and NCV last about 30 to 60 minutes.

What should I do after the tests?
Cold packs can ease the sore spots where the electrode was inserted. You can apply cold packs to the sore muscles for 15 to 20 minutes, three to four times each day. You can moisten a towel with cold water to use as a cold pack, or put some ice in a plastic bag and wrap a towel around it before placing it on your skin.

You may also take nonsteroidal anti-inflammatory medicine (NSAIDs) such as ibuprofen (Advil or Motrin) after your EMG for pain and swelling to help ease the soreness in the areas where the electrode was inserted. If you are not able to take NSAIDs, you can take acetaminophen (Tylenol). Be sure to follow the instructions on the bottle for how much medicine to take and how often.

When will I know the results of the test?
The doctor will tell you the results when the test is done. A written report will be sent to your doctor.