



# CARE INSTRUCTIONS

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## Electromyogram (EMG) and Nerve Conduction Studies: About These Tests

### What are they?

An **electromyogram (EMG)** measures the electrical activity of your muscles when you are not using them (at rest) and when you tighten them (muscle contraction).

**Nerve conduction studies** measure how well and how fast the nerves can send electrical signals.

EMG and nerve conduction studies are often done together. If they are done together, the nerve conduction studies are done before the EMG.

### Why are they done?

**You may need an EMG** to find diseases that damage your muscles or nerves or to find why you cannot move your muscles (paralysis), why they feel weak, or why they twitch.

**You may need nerve conduction studies** to find damage to the nerves that lead from the brain and spinal cord to the rest of the body (peripheral nervous system). Nerve conduction studies are often used to help find nerve disorders, such as carpal tunnel syndrome.

### How can you prepare for these tests?

- Tell your doctor if you are taking any medicines, especially those that work on the nervous system. You may need to stop taking these medicines 3 to 6 days before an EMG.
- Tell your doctor if you have bleeding problems or take blood-thinning medicine, such as warfarin (Coumadin) or heparin. If you take these blood thinners, your doctor will tell you when to stop taking them before the test.

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- Tell your doctor if you have a pacemaker.
- Do not smoke for 3 hours before the test.
- Do not eat or drink foods that contain caffeine (such as coffee, tea, cola, and chocolate) for 2 to 3 hours before the test.
- Wear loose-fitting clothing. You may be given a hospital gown to wear.

### What happens during the tests?

You lie on a table or bed or sit in a reclining chair so your muscles are relaxed.

#### For an EMG:

- Your doctor will insert a needle electrode into a muscle. This will record the electrical activity while the muscle is at rest. You may feel a quick, sharp pain when the needle electrode is put into a muscle.
- Your doctor will ask you to tighten the same muscle slowly and steadily while the electrical activity is recorded.
- Your doctor may move the electrode to a different area of the muscle or a different muscle.

#### For nerve conduction studies:

- Your doctor will attach two types of electrodes to your skin.
  - One type of electrode is placed over a nerve and will give the nerve an electrical pulse.
  - The other type of electrode is placed over the muscle that the nerve controls. It will record how long it takes the muscle to react to the electrical pulse.
- You may feel a quick, burning pain followed by a tingling feeling and a twitching of the muscle each time you receive the electrical pulse.

### What else should you know about these tests?

- After an EMG, you may be sore and have a tingling feeling in your muscles for 1 to 2 hours. You may have small bruises or swelling at the needle site.
- For an EMG, you may be asked to sign a consent form. Talk to your doctor about any concerns you have about the need for the test, its risks, how it will be done, or what the results will mean.

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## How long do they take?

- An EMG may take 30 to 60 minutes.
- Nerve conduction tests may take from 15 minutes to 1 hour or more. It depends on how many nerves and muscles your doctor tests.

## What happens after these tests?

- You may be given pain medicine if any of the EMG test areas are sore.
- You will probably be able to go home right away.
- You can go back to your usual activities right away.

## When should you call for help?

Watch closely for changes in your health, and be sure to contact your doctor if:

- Muscle pain from an EMG test gets worse or you have swelling, tenderness, or pus at any of the needle sites.
- You have any problems that you think may be from the test.
- You have any questions about the test or have not received your results.

**Follow-up care is a key part of your treatment and safety.** Be sure to make and go to all appointments, and call your doctor if you are having problems. It's also a good idea to keep a list of the medicines you take. Ask your doctor when you can expect to have your test results.

## Where can you learn more?

Go to <http://www.kp.org>

Enter W484 in the search box to learn more about "**Electromyogram (EMG) and Nerve Conduction Studies: About These Tests**".

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