ELECTROMYOGRAPHY (EMG/NCS) PATIENT INSTRUCTIONS

This information will help you prepare for your scheduled EMG/NCS

Electromyography (EMG) is a diagnostic procedure to assess the health of muscles and the nerve cells that control them (motor neurons). EMG results can reveal nerve dysfunction, muscle dysfunction or problems with nerve-to-muscle signal transmission.

Motor neurons transmit electrical signals that cause muscles to contract. An EMG uses tiny devices called electrodes to translate these signals into graphs, sounds or numerical values that are then interpreted by a specialist.

During a needle EMG, a needle electrode inserted directly into a muscle records the electrical activity in that muscle.

A nerve conduction study, another part of an EMG, uses electrode stickers applied to the skin (surface electrodes) to measure the speed and strength of signals traveling between two or more points.

Why it's done

Your doctor may order an EMG if you have signs or symptoms that may indicate a nerve or muscle disorder. Such symptoms may include:

- Tingling
- Numbness
- Muscle weakness
- Muscle pain or cramping
- Certain types of limb pain

EMG results are often necessary to help diagnose or rule out a number of conditions such as:

- Muscle disorders, such as muscular dystrophy or polymyositis
- Diseases affecting the connection between the nerve and the muscle, such as myasthenia gravis
- Disorders of nerves outside the spinal cord (peripheral nerves), such as carpal tunnel syndrome or peripheral neuropathies
- Disorders that affect the motor neurons in the brain or spinal cord, such as amyotrophic lateral sclerosis or polio
- Disorders that affect the nerve root, such as a herniated disk in the spine



Risks

EMG is a low-risk procedure, and complications are rare. There's a small risk of bleeding, infection and nerve injury where a needle electrode is inserted.

When you schedule your EMG, ask if you need to stop taking any prescription or over-the-counter medications before the exam. If you are taking a medication called Mestinon (pyridostigmine), you should specifically ask if this medication should be discontinued for the examination.

Bathing

Take a shower or bath shortly before your exam in order to remove oils from your skin. Don't apply lotions or creams before the exam.

Other precautions

The nervous system specialist (neurologist) conducting the EMG will need to know if you have certain medical conditions. Tell the neurologist and other EMG lab personnel if you:

- Take blood-thinning medications
- Have hemophilia, a blood-clotting disorder that causes prolonged bleeding
- Have a cardiac defibrillator or pacemaker, as precautions may need to be taken.

- Notify your doctor of all medications (prescribed and over-the-counter) and herbal supplements that you are taking.
- Dress in clothes that permit access to the area to be tested or that are easily removed.
- Stop using lotions or oils on your skin the day of your procedure.
- No fasting or sedation is required prior to the procedure.

After the procedure

You may experience some temporary, minor bruising where the needle electrode was inserted into your muscle. This bruising should fade within several days. If it persists, contact your primary care doctor.

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