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## BOULDER MEDICAL CENTER, P.C.

Department of Neurology

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### Electromyography (EMG) Instructions

EMG is a diagnostic procedure to assess the health of muscles and the nerve cells that control them (motor neurons).

Motor neurons transmit electrical signals that cause muscles to contract. An EMG translates these signals into graphs, sounds, or numerical values that a specialist interprets.

An EMG uses tiny devices called electrodes to transmit or detect electrical signals. During a needle EMG, a needle electrode inserted directly into a muscle records the electrical activity in that muscle.

A nerve conduction study (NCS), another part of an EMG, uses surface electrodes – electrodes taped to the skin – to measure the speed and strength of signal traveling between two or more points.

EMG results can reveal nerve destruction, muscle destruction, or problems with nerve-to-muscle signal transmission.

#### RISKS

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

#### BATHING

Take a shower or bath shortly before your exam to remove oils from your skin. Do not apply lotions or creams before the exam.

#### During Your EMG

You'll likely be asked to change into a hospital gown for the procedure and lie on an examination table. The following explanations will help you understand what will happen during the exam:

**Electrodes:** The neurologist places surface electrodes at various locations on your skin depending on where you're experiencing symptoms. The neurologist may insert needle electrodes at different sites depending on your symptoms.

**Sensations:** The electrodes will at times transmit a tiny electrical current that you may feel as a twinge or spasm. The needle electrode may cause discomfort or pain that usually ends shortly after the needle is removed. If you are concerned about discomfort or pain, you may want to talk to the neurologist about taking a short break during the exam.

**Instruction:** During the needle EMG, the neurologist will assess whether there is any spontaneous electrical activity when the muscle is at rest or active when you slightly contract a muscle. She will give you instructions on resting and contracting a muscle at appropriate times. Depending on what muscle and nerve the neurologist is examining, she may ask you to change positions during the exam, such as rolling onto your side.

**After your EMG:** You may experience some temporary, minor bruising where the electrodes were inserted into your muscle. This bruising should fade within several days.

**Please be sure to arrive no later than 15 minutes prior to your scheduled examination time.**

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