



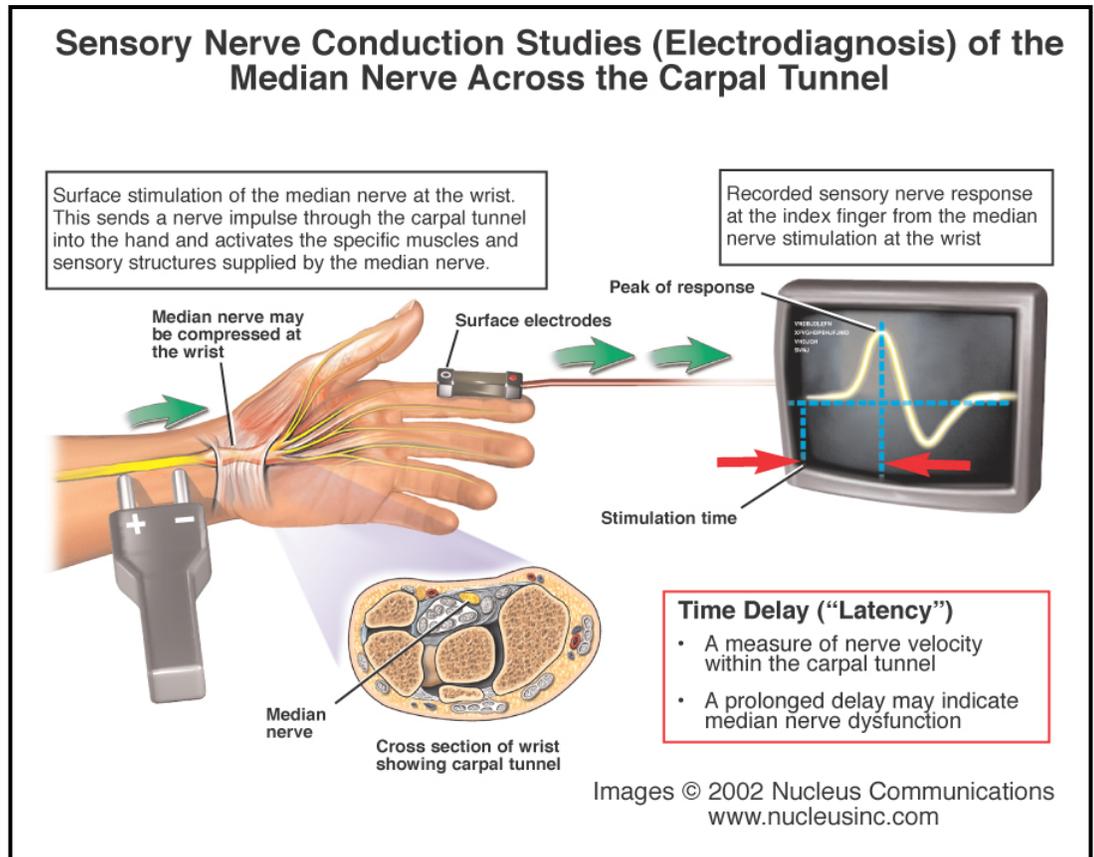
SEATTLE SPINE & SPORTS MEDICINE

ELECTROMYOGRAPHY & NERVE CONDUCTION STUDIES

Nerve conduction studies (NCS) and electromyography (EMG) help verify if your symptoms stem from a nerve or muscle injury.

WHAT IS NCS?

- Nerve Conduction Studies (NCS) measure how fast nerve impulses travel within your body. A blockage may indicate nerve injury. This diagram shows the NCS procedure for detecting carpal tunnel syndrome.
- The doctor presses a surface electrical stimulator on your skin overlying a specific nerve and then stimulates the nerve with a brief electrical pulse.
- Surface electrodes are placed over a muscle or patch of skin (supplied by the nerve) to detect the response.



WHAT IS AN EMG?

- Electromyography (EMG) translates to "the writing down of the electrical activity of muscle." It is similar to the electrocardiography (EKG) for the heart.
- To sample muscle electrical activity, a small needle electrode—much smaller than a standard needle for drawing blood—is inserted into a muscle. You may be asked to contract the muscle. This procedure may be repeated for a few or for a number of your muscles.
- The electrode is connected to a computer for analysis.

WHAT SHOULD YOU EXPECT FROM THE PROCEDURES?

- Prior to the test you can eat and take your usual medications.
- With NCS, you may feel sensations similar to static electricity as well as twitching of muscles. Most patients have good tolerance of these sensations.
- For the EMG, some patients have no discomfort, while others may have some level of pain when the electrode is placed within the muscle. **If you're anxious about this procedure, call our office and we may be able to pre-medicate and help sedate you. You must be accompanied by a designated companion and driver.**
- When the examination is over, there is usually no further discomfort. Afterwards, we generate a typed report. Your doctor uses this report with other information to help decide a treatment plan.

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