Severity of Carpal Tunnel

You may be surprised to learn that there is no generally accepted standard used to grade severity of carpal tunnel. The most commonly referenced source to describe severity of carpal tunnel is the AAEM minimonograph on carpal tunnel by Dr. Stevens.

It is not uncommon for us to receive a call from a case manager or adjuster inquiring why our physician did not label the diagnosis of carpal tunnel in their report as mild, moderate and severe.

In minimonograph #26 – The Electrodiagnosis of Carpal Tunnel Syndrome by J. Clarke Stevens. In this publication, Dr. Stevens classifies carpal tunnel as the following:

1. **Mild carpal tunnel** is defined by relative or absolute prolongation of either the sensory or palmar median nerve. Additionally, at times the amplitude of the potential is seen to be slightly diminished.

2. **In moderate carpal tunnel**, both sensory and motor latencies are relatively or absolutely prolonged.

3. **Severe carpal tunnel** is characterized by both motor and sensory latencies being prolonged with either an absent sensory or palmar potential or low amplitude or absent motor potential. Needle EMG, in this case, often reveals increased insertional activity with chronic motor unit changes.

We have seen in both reviewing the work of our providers and outside studies that adherence to these definitions is commonly not seen and, in those cases where different criteria for mild, moderate and severe are used, often the source used for that definition is not provided.

Additionally, it is commonly seen that the physician performing the EMG does not provide a description of severity.

Given the fact that we feel that standardization of severity is required, especially given the deviation in the use of definition, we have embarked upon a study to highlight the confusion created by lack of standards. We hope to present our research at an upcoming national scientific meeting.

It is important that definitions of severity are standardized because the use of terminology of moderate or severe in the report form is used to dictate the treatment approach to the patient.
Nerve Conduction Study Basics

**EMG & NCS (Electromyogram and Nerve Conduction Study)** is a diagnostic test for certain conditions affecting the musculoskeletal and/or nervous system.

The **nerve conduction study** determines the health of the nerves and consists of mild electrical stimulation applied directly over the nerve(s) in increasing strength to elicit a response from the nervous system. A differing technique is applied for examining either the motor nerves controlling muscle movement or the sensory nerves controlling sensation. The results are captured by a recording electrode and appear on the screen of the equipment being used. Recorded values are compared to expected norms for age in order to determine abnormalities.

During the nerve conduction study, there are many measurements. Following the electrical stimulation, a waveform is obtained which displays certain characteristics including its height, which corresponds to the **amplitude** of the nerve response, and the **distal latency**, which is the time it takes for the electrical impulse to generate a response. The speed by which the nerve conducts electricity is described as the **conduction velocity**.

Results are compared to normals for age, determining whether or not the response yields a significant abnormality. If only a single nerve is involved, the condition is described as **mononeuropathy**. If all nerves are involved, then the condition is described as **peripheral neuropathy**.

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The Current Connection and a directory of open EMG states can be viewed at OCM's website: http://www.onecallmedical.com