

Procedure: Motor Nerve Conduction Studies

Equipment Used: Xcel Neuromax 1002 or Xcel Neuromax 1000

Technique / Procedure:

- Pre-test documentation – Appropriate historical findings of numbness, tingling, pain, and/or weakness. Also, appropriate findings on physical examination of decreased sensation, reflex abnormalities, weakness, and or atrophy.
- Skin preparation – no specific skin preparation is usually needed (patient's are requested not to put on lotions or creams on body areas to be tested). In rare case an alcohol swab may need to be used to degrease an area to allow better tape adherence.
- Electrode Placement – Standard distance of 8 cm is used unless specific study has different requirements. Electrode placement is consistent and reproducible and followed guidelines in references listed below. Stimulation is performed on at least 2 separate points along the nerve, and the motor nerve conduction velocity is then calculated using the distance(s) between the points.
- Recording – Measurements are made with cursor on onset of negative phase of evoked motor response/CMAP. Techniques for recording are as per guidelines and texts listed above for electrode placement. All final waveforms recorded are printed out and included in EDX Medicine Consultation report sent to referring provider and are kept in the patient's medical record in my office.
- Temperature – temperature of palm/hand, foot, or other involved area is assessed using a RayTek minitemp non-contact infrared thermometer model MT4. Warming of the limb or area is performed as needed using hydrocollator pack wrapped in a towel.
- Amplifier Settings for Motor NCS (unless specific study is different)
 - Frequency – 2 to 10K Hz
 - Gain – 5mv / division
 - Sweep speed – 2 msec / division
 - 60 Hz Notch Filter utilized

Special Precaution: As per AANEM guidelines special consideration is necessary for patients with pacemakers.

Normative Values: See provided normative values 10.5 of the application

References:

- *Electrodiagnostic Medicine* – Daniel Dumitru, MD
- *Practical Electromyography* – Ernest W. Johnson, MD
- *Electrodiagnosis in Diseases of Nerve and Muscle* – Jun Kimura, MD
- Minimonographs, Course Handbooks, Workshop Handouts, and other Materials from the American Association of Neuromuscular and Electrodiagnostic Medicine