

Origination Date: 5/07	Revision Date(s): 5/08
Developed By: Medical Criteria Committee	

Csaba Mera M.D.

Approved: Csaba Mera, MD

Date: 5/06/08

Description:

Nerve conduction studies (NCS) can be used to evaluate patients with suspected disorders of the peripheral nervous system. NCS are often performed in conjunction with needle electromyogram (EMG). These electrodiagnostic studies measure the conduction velocity, latency, amplitude, as well as the shape of the response following electrical stimulation of a peripheral nerve through the skin and underlying tissue. This testing is important in diagnosing myopathies, radiculopathies, plexopathies, neuropathies, neuromuscular junction disorders, and nerve compression syndromes. When performed by a properly trained provider, NCS and EMG are considered the gold standard of electrodiagnostic testing.

Portable NCS devices have been developed to provide point-of-care nerve conduction studies. These devices are handheld and provide automated, non-invasive nerve conduction that can be conducted in various settings without the need for specialized training or equipment. An example of a portable NCS device is NeuroMetrix's NC-stat system.

Criteria:

Nerve conduction studies will be covered to plan limitations for **any** of the following conditions:

1. Carpal tunnel syndrome
2. Diabetic neuropathy
3. Disorders of the peripheral nervous system
4. Disturbance of skin sensation
5. Fasciculation Joint pain
6. Muscle weakness
7. Myopathy
8. Myositis
9. Nerve root compression
10. Neuritis
11. Neuropathy
12. Neuromuscular conditions
13. Pain in limb
14. Plexopathy
15. Radiculopathy
16. Spinal cord injury
17. Trauma to nerves

Nerve conduction studies performed for a diagnosis that is not listed above may be reviewed for medical necessity.

Not Covered:

ODS considers automated, handheld, non-invasive nerve conduction tests (i.e. NC-stat, the Brevio NCS monitor, or other similar devices) investigational. There is insufficient evidence and peer reviewed medical literature to establish the efficacy of these devices.

Information to be Submitted with Pre-Authorization Request:

- Records from the ordering physician documenting patient's symptoms and/or condition.

Origination Date: 5/07	Revision Date(s): 5/08
Developed By: Medical Criteria Committee	

References:

- Vinik AI, Kong X, Megerian JT, et al. Diabetic nerve conduction abnormalities in the primary care setting. *Diabetes Technol Ther.* 2006 Dec;8(6):654-62.
- Katz RT. NC-stat as a screening tool for carpal tunnel syndrome in industrial workers. *J Occup Environ Med.* 2006 Apr;48(8):755-6
- NeuroMetrix NC-stat product information
- Morse J. NC-stat Sytem, NeuroMetrix Inc. (Nerve Conduction Testing System). Technology Assessment. Olympia, WA: Office of the Medical Director, Washington State Department of Labor and Industries; June 8, 2006. Available at: <http://www.Ini.wa.gov/ClaimsIns/Providers/Treatment/SpecCovDec/NCstat.asp>.
- American Association of Neuromuscular & Electrodiagnostic Medicine. Position Statement: Who is qualified to practice electrodiagnostic medicine? May 1999. Available at: http://www.aanem.org/practice_issues/positionstatements/Who's_Qualified.cfm.
- Weiskopf R. Electrophysiologic testing for the diagnosis of peripheral nerve injuries. *Anesthesiology.* 2004;100:1298-303.
- Physician Advisors