

## Ten Things Physicians and Patients Should Question

1

### **Don't do a needle electromyography (EMG) test for isolated neck or back pain after a motor vehicle accident, as a needle EMG is unlikely to be helpful.**

Needle EMG for neck pain without arm pain, arm tingling, arm weakness, or arm numbness does not improve outcomes but does increase costs. The same is true of needle EMG for back pain without lower limb pain, lower limb tingling, lower limb weakness, or lower limb numbness. Neck and back pain are both common reasons for physician visits.

2

### **Don't perform dermatomal somatosensory evoked potentials (SEPs) for a pinched nerve in the neck or back, as they are an unproven diagnostic procedure.**

Although techniques such as needle EMG and nerve conduction studies can be helpful to diagnose pinched nerve in the neck (cervical radiculopathy) or back (lumbar radiculopathy), dermatomal SEP is of unproven worth for this purpose but does increase costs. There are a number of causes of neck, shoulder, and upper limb pain besides cervical radiculopathy. There are also a number of causes of back, hip, thigh, and lower limb pain besides lumbar radiculopathy.

3

### **Don't do a four limb needle EMG/nerve conduction study (NCS) testing for isolated neck and back pain after trauma.**

Although techniques such as needle EMG and NCS can be helpful to diagnose pinched nerve in the neck or back (cervical or lumbar radiculopathy), four limb needle EMG/NCS is not needed and is not considered appropriate testing but does increase costs. Four limb needle EMG/NCS is, however, rarely needed to evaluate patients for ALS, polyradiculoneuropathy, or multiple mononeuropathies.

4

### **Don't do nerve conduction studies without also doing a needle EMG for testing for radiculopathy, a pinched nerve in the neck or back.**

For diagnosis of a pinched nerve in the neck or back, nerve conduction studies alone cannot make the diagnosis. Needle EMG is necessary to identify and characterize the disease process.

5

### **Don't do a magnetic resonance imaging (MRI) scan of the spine or brain for patients with only peripheral neuropathy (without signs or symptoms suggesting a brain or spine disorder).**

Because the vast majority of people with peripheral neuropathy (also called polyneuropathy) have the longest nerves of the body primarily affected (mostly in the toes and feet but sometimes also in the hands), there is essentially no justification for MRI imaging of the brain or spine in these cases.

**6****Don't use intravenous immunoglobulin (IVIG) in the treatment of idiopathic length dependent axonal polyneuropathy.**

IVIG is an expensive therapy with side effects that may include severe allergic reactions, headaches and blood clots. It is recommended for use in Guillain-Barre Syndrome, chronic inflammatory demyelinating polyradiculoneuropathy and multifocal motor neuropathy, but not other polyneuropathies.

**7****Don't routinely use B vitamin supplements for the treatment of polyneuropathy or neuropathic pain unless a deficiency exists.**

There is no indication for supplementing with B vitamins in patients with polyneuropathy unless a deficiency has been detected or is highly likely secondary to other medical factors (e.g., gastric bypass surgery). In addition to being an unnecessary expense, excessive vitamin B-6 can lead to toxicity and cause worsening neuropathy.

**8****Don't perform nerve conduction studies or electromyography for muscle pain in the absence of other abnormalities on examination or laboratory testing.**

Muscle pain or myalgias are common. The likelihood of finding a muscle disease in an individual with muscle pain who has a normal neurologic exam and laboratory tests is quite low.

**9****Don't choose opioids or narcotics as the first choice of treatment for neuropathic pain.**

Opioids and narcotics include drugs such as hydrocodone, oxycodone, fentanyl and others. Risks related to the use of these drugs include uncontrollable sleepiness and slow or stopped breathing. They are a leading cause of addiction and avoidable death. Opioids may be less risky when used for a short time after some surgeries or when used for pain related to deadly cancers. There are many effective, safer options for neuropathic pain.

**10****Don't have genetic testing for nerve and muscle diseases prior to having a discussion with your physician or a genetics professional.**

Genetic testing is now widely available and can be ordered directly by patients from home. Due to the potential implications of test results and the complexity of testing, patients are advised to speak with their physician or genetic counselor prior to having testing performed. Pre-testing counseling will help patients select appropriate testing, understand the limitations of testing, potential out-of-pocket costs and the effect that positive test results may have on the patient and their family.

# How This List Was Created

The Professional Practice Committee (PPC) of the American Association of Neuromuscular & Electrodiagnostic Medicine (AANEM) developed this list of recommendations. The PPC includes both neurologists and physical medicine and rehabilitation (PMR) physicians who come from varying practice settings and also includes the AANEM's representatives to the American Medical Association (AMA) Current Procedural Terminology Panel and Relative Value Update Committee. The PPC members identified areas to be included on this list based on the greatest potential for overuse/misuse, quality improvement and availability of strong evidence-based research/support in the literature. The committee's recommendations were discussed at an AANEM Board meeting that included chairs from AANEM committees. The PPC reviewed the feedback from this group and voted on the final Top Ten recommendations. These were then approved by the AANEM Board of Directors.

AANEM's disclosure and conflict of interest policy can be found at [www.aanem.org](http://www.aanem.org).

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