



Do referring physicians understand our EMG reports?

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Financial Disclosure

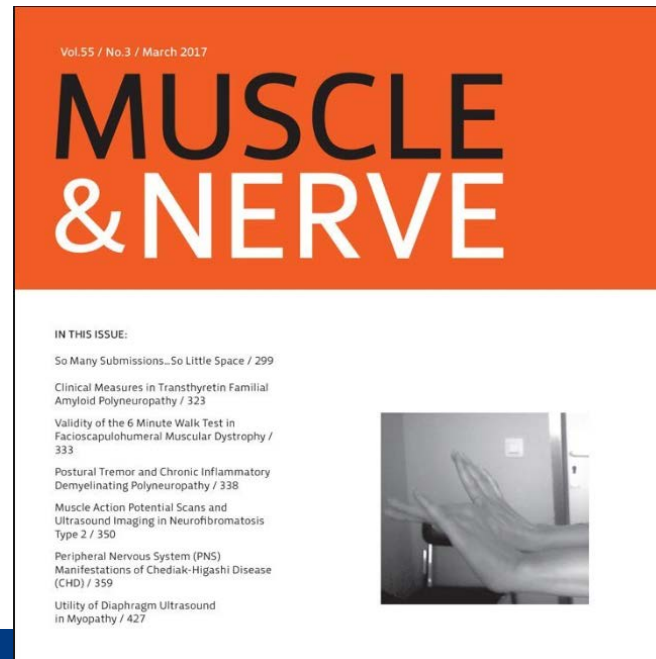
- *Nothing to disclose*

IMPROVING REFERRING PHYSICIANS' UNDERSTANDING OF ELECTROMYOGRAPHY REPORTS WHEN QUALIFYING RADICULOPATHIES: A NEED FOR STANDARDIZED TERMINOLOGY

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What words do **YOU** commonly use to describe radiculopathies in your EMG report?

Background

- EMG reporting of radiculopathies is NOT standardized
- Terms used to describe radiculopathies can be confusing to referring physicians
 - *Chronic* vs *Old*
 - *Uncompensated denervation*
 - *Incomplete reinnervation*
 - *Ongoing denervation*

Goals

1. Assess referring physician *understanding* of EMG reporting of radiculopathies
2. Identify areas of *confusion*
3. *Simplify* and *standardize* EMG reports
4. Improve referring physician *satisfaction* with EMG reports
5. Improve overall *quality* of patient care

Methods

- Email survey sent to 87 referring Mayo Clinic physicians
- Survey contained 6 sample EMG reports to be interpreted
- Areas of confusion identified
- Standardized terminology proposed based on findings

Survey Questions

Interpret descriptions of an S1 radiculopathy:

- Acute, active
- Chronic, active
- Chronic, inactive
- Old
- Chronic
- Old with uncompensated denervation in distal muscles

Survey Answer Choices

The radiculopathy has been present for:

- A. ...**days–weeks** and there **IS** currently a process injuring the S1 root.
- B. ...**days–weeks** and there **IS NOT** currently a process injuring the S1 root.
- C. ...**months–years** and there **IS** currently a process injuring the S1 root.
- D. ... **months–years** and there **IS NOT** a process injuring the S1 root.
- E. I have difficulty understanding what the terminology used in the report means.

Survey Results

- 45/87 physicians completed survey
 - Specialties included:
 - *Internal medicine*
 - *Rheumatology*
 - *Pain management*
 - *Neurology*
 - *PMR*
 - *Neurosurgery*
 - *Orthopedics*
 - *Interventional Radiology*

Survey Results

Table 1. Percent of responders selecting listed interpretations of EMG reports.

Interpretation	EMG report radiculopathy qualifiers					
	Acute, active	Chronic, active	Chronic, inactive	Old	Chronic	Old, uncompensated denervation
“Days–weeks,” there IS currently a process involving root	95%					
“Days–weeks,” there IS NOT currently a process involving root	5%	2%				
“Months–years,” there IS currently a process involving root		81%	2%		26%	37%
“Months–years,” there IS NOT currently a process involving root		16%	98%	84%	37%	39%
Difficulty understanding terminology				16%	37%	24%

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Proposed Guidelines

Specify the **TIME FRAME** for nerve root injury:

- **ACUTE:** (<7 days)
 - Normal MUP, reduced recruitment, no fibs
- **SUBACUTE:** (weeks)
 - Polyphasic, varying MUP, +/- fibs
- **CHRONIC:** (months to years)
 - Long duration MUP +/- polyphasia

Proposed Guidelines

Specify whether there is **ONGOING NERVE ROOT INJURY:**

- Active
- Likely Active
- Inactive
- It is unclear whether there is ongoing nerve root injury on the basis of the EMG findings

“Active”

- = Ongoing nerve root injury
- Evidenced by fibrillation potentials in more than one muscle innervated by the particular root.
 - Ideally:
 - proximal and distal muscle should be affected
 - or paraspinals and a proximal muscle (subacute)

“Likely Active”

- Clinical features are strongly suggestive of an ongoing process involving the root but the fibrillation potentials are not in both distal and proximal muscles
- Example:
 - ongoing radicular leg pain and numbness
 - long duration MUP in all L5 muscles
 - fibrillations only in the TFL

“Inactive”

- = Absence of ongoing nerve root injury
- Evidenced by
 - lack of any fibrillation potentials in muscles innervated by the particular nerve root
 - or in a patient with a remote process that has a few fibrillation potentials in distal muscles that are clearly the residua of an old process in which reinnervation has not completely developed
 - Example:
History of low back pain, radiculopathy and foot drop 20 years ago without ongoing pain or progression
Long duration MUP in all L5 muscles
Scattered fibs in anterior tibialis only

Unclear

- **“It is unclear whether there is ongoing nerve root injury on the basis of the EMG findings”**
 - Pattern of fibrillation potentials makes it difficult to determine active vs. inactive
 - Ex. patient with ongoing leg pain and numbness who has fibs in distal L5 muscles but not proximal muscles and who has had prior lumbar surgery
 - Ex. diabetic patient with PN and leg pain who has fibs in distal leg muscles and the paraspinals, long duration MUP in L5 muscles, but no fibs in TFL or gluteus medius

Proposed Guidelines

SEVERITY:

- o Not necessary to include unless findings are strikingly mild or severe

Summary

- There is confusion in meaning behind EMG reporting of radiculopathies
- Clarity is important because may affect patient care and decisions regarding intervention
- Better standardization is needed

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