# Measure #2: Distal Symmetric Polyneuropathy (DSP) Diagnosis Criteria-Electrodiagnostic Studies

**Distal Symmetric Polyneuropathy**

## Measure Description
Percentage of patients age 18 years and older with a diagnosis of distal symmetric polyneuropathy who had electrodiagnostic studies (EDX) conducted, documented and reviewed within 6 months of initial evaluation for distal symmetric polyneuropathy.

## Measure Components

| Numerator Statement | Patients who had electrodiagnostic (EDX) studies conducted, documented, and reviewed within 6 months of initial evaluation for distal symmetric polyneuropathy.  
| Note: It may be necessary to look for findings in the patient medical record or request studies previously conducted from another physician office which may require additional time. Another electrodiagnostic study should not be performed if a satisfactory study has already been done and can be reviewed. |
|---------------------|---------------------------------------------------------------|

### Denominator Statement
All patients age 18 years and older with a diagnosis of distal symmetric polyneuropathy.

### Denominator Exceptions
- Documentation of a medical reason for not conducting, documenting and reviewing EDX studies (eg patient has a skin conditions which contraindicates EDX)  
- Documentation of a patient reason for not conducting, documenting and reviewing EDX studies (eg patient declines to undergo testing)  
- Documentation of a system reason for not conducting, documenting and reviewing EDX studies (eg patient does not have insurance to pay for the testing)

### Supporting Guideline & Other References
The following evidence statements are quoted verbatim from the referenced clinical guidelines or consensus papers:
- The combination of neuropathic symptoms, signs, and abnormal electrodiagnostic studies provides the most accurate diagnosis of distal symmetric polyneuropathy. (Formal Consensus)\(^{23}\)
- Electrodiagnostic studies are recommended as part of the clinical research case definition since they are objective and validated tests of peripheral nerve function. Abnormal electrodiagnostic studies increase the likelihood of the presence of distal symmetric polyneuropathy and provide a higher level of specificity to the case definition. Electrodiagnostic studies should not be used alone to make the diagnosis since their sensitivity and specificity are not perfect. (Formal Consensus).\(^{23}\)
- The simplified minimal requirements for Nerve Conduction Study (NCS) protocol is as follows:  
  1. Sural sensory and peroneal motor NCSs are performed in one lower extremity. Taken together, these NCSs are the most sensitive for detecting a distal symmetric polyneuropathy. If both studies are normal, there is no evidence of typical distal symmetric polyneuropathy. In such a situation, no further NCSs are necessary. (Formal Consensus)\(^{23}\)  
  2. If sural sensory or peroneal motor NCSs are abnormal, the performance of additional NCSs is recommended. This should include NCS of at least the ulnar sensory, median sensory, and ulnar motor nerves in one upper extremity. A contralateral sural sensory and one tibial motor NCS may also be performed according to the discretion of the examiner. Caution is warranted when interpreting median and ulnar studies since there is a
possibility of abnormality due to compression of these nerves at the wrist or ulnar neuropathy at the elbow. (Formal Consensus)²³
3. If a response is absent for any of the nerves studied (sensory or motor, a NCS of the contralateral nerve should be performed. (Formal Consensus)²³
4. If a peroneal motor response is absent, an ipsilateral tibial motor NCS should be performed. (Formal Consensus)²³

- Electrodiagnostic studies are not required for field or epidemiologic studies, but the likelihood of diagnosis must be downgraded accordingly. (Formal Consensus)²³

### Measure Importance

**Relationship to desired outcome**

Appropriate diagnosis is critical to ensuring that the patient receives the best possible treatment. Electrodiagnostic studies are one of the three main criteria used for the most accurate diagnosis of distal symmetric polyneuropathy. Electrodiagnostic studies provide a higher level of specificity for the diagnosis.³⁶⁻³⁹ Electrodiagnostic studies are sensitive, specific, and validated measures of the presence of polyneuropathy.²³

**Opportunity for Improvement**

Gorson and Ropper⁴⁰ found that electrodiagnostic studies, specifically, nerve conduction studies showed a distal, axonal loss pattern affecting predominantly sensory fibers in the majority of patients studied. However, nine of 98 patients (9%) had three or more demyelinating features, and 6% had conduction block. These findings are virtually identical to a previous study of diabetic polyneuropathy,⁴¹ but lower compared to another study (17%).⁴² This discrepancy may be related to patient selection. In the latter study patients were selected from electrodiagnostic records without considering the clinical phenotype.¹⁶ Nonetheless, because some patients may have an immune demyelinating neuropathy detected only by electrodiagnostic evaluation²⁴,⁴³, electrodiagnostic studies remain an integral element of the evaluation of diabetic patients with DSP.

Approximately 55% of patients have a potential for other causes of DSP with 9% having 3 or more demyelinating features found on an EMG study.³²

### IOM Domains of Health Care Quality Addressed

- Safe
- Effective
- Efficient

### Exception Justification

If patients have a severe neuropathy clinically in the presence of an apparent cause, the electrodiagnostic studies may not add additional information (medical exception). The patients have the right to refuse any testing (patient exception) or decline the testing for financial or other related reasons (system exception).

### Harmonization with Existing Measures

There are no other measures currently available that are similar to this measure or need to be harmonized with this measure.

### Measure Designation

**Measure purpose**

- Quality improvement
- Accountability

**Type of measure**

- Process

**Level of Measurement**

- Individual practitioner

**Care setting**

- Ambulatory care

**Data source**

- Electronic health record (EHR) data
Administrative claims data collection requires users to identify the eligible population (denominator) and numerator using codes recorded on claims or billing forms (electronic or paper). Users report a rate based on all patients in a given practice for whom data are available and who meet the eligible population/denominator criteria.

The specifications listed below are those needed for performance calculation. Additional CPT II codes may be required depending on how measures are implemented in reporting programs versus performance assessment programs.

### Denominator (Eligible Population)
All patients age 18 years and older with a diagnosis of distal symmetric polyneuropathy.

**ICD-9 –CM Diagnosis Codes:**
250.60, 250.61, 250.62, 250.63, 356.4, 356.8, 356.9, 357.1, 357.2, 357.3, 357.4, 357.5, 357.6, 357.7, 357.8, 357.89, 357.9
AND

**CPT E/M Service Code:**
99201, 99202, 99203, 99204, 99205 (office-new patient),
99211, 99212, 99213, 99214, 99215 (office-established patient),
99241, 99242, 99243, 99244, 99245 (outpatient consult),
99304, 99305, 99306, 99307, 99308, 99309, 99310 (nursing facility),
99324, 99325, 99326, 99327, 99328, 99334, 99335, 99336, 99337 (domiciliary),
99341, 99342, 99343, 99344, 99345, 99347, 99348, 99349, 99350 (home visit)

### Numerator
Patients who had electrodiagnostic (EDX) studies conducted, documented, and reviewed within 6 months of initial evaluation for distal symmetric polyneuropathy

Note: It may be necessary to look for findings in the patient medical record or request studies previously conducted from another physician office which may require additional time. Another electrodiagnostic study should not be performed if a satisfactory study has already been done and can be reviewed.

**Reporting Instructions:**

- For all patients meeting the denominator criteria, report either 3XXXXF1, Electrodiagnostic studies for distal symmetric polyneuropathy conducted (or requested), documented, and reviewed within 6 months of initial evaluation for condition or 3 XXXXF2
  Electrodiagnostic studies for distal symmetric polyneuropathy not conducted (or requested), documented, or reviewed within 6 months of initial evaluation for condition or 3XXXF3,
  Patient has clear clinical symptoms and signs that are highly suggestive of neuropathy AND cannot be attributed to another condition, AND has an obvious cause for the neuropathy

3751F Electrodiagnostic studies for distal symmetric polyneuropathy conducted (or requested), documented, and reviewed within 6 months of initial evaluation for condition
3752F Electrodiagnostic studies for distal symmetric polyneuropathy not conducted (or requested), documented, or reviewed within 6 months of initial evaluation for condition
3753F Patient has clear clinical symptoms and signs that are highly suggestive of neuropathy AND cannot be attributed to another condition, AND has an obvious cause for the neuropathy
Denominator Exceptions

All patients age 18 years and older with a diagnosis of distal symmetric polyneuropathy

- Documentation of a medical reason for not conducting, documenting and reviewing EDX studies (eg patient has clear clinical symptoms and signs that are highly suggestive of neuropathy AND cannot be attributed to another condition, AND has an obvious cause for the neuropathy; OR has skin conditions which contraindicate EDX)
  - Append modifier to CPT II code: 3751F-1P
- Documentation of a patient reason for not conducting, documenting and reviewing EDX studies (eg patient declines to undergo testing)
  - Append modifier to CPT II code: 3751F-2P
- Documentation of a system reason for not conducting, documenting and reviewing EDX studies (eg patient does not have insurance to pay for the testing)
  - Append modifier to CPT II code: 3751F-3P