# Peripheral neuropathy - status

**Important note: This is an archived metadata standard from the AIHW Knowledgebase. For current metadata standards and related information please access METeOR, the AIHW's Metadata Online Registry at http://meteor.aihw.gov.au**

## *Identifying and Definitional Attributes*

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|---|---|---|---|
| Data Dictionary: | NHDD | | |
| Knowledgebase ID: | 000839 | Version number: | 1 |
| Metadata type: | DATA ELEMENT | | |
| Registration Authority: | NHIMG | Admin status: | SUPERSEDED |
| | | Effective date: | 01-MAR-05 |
| Definition: | The outcome of assessment for the presence of peripheral neuropathy. | | |
| Context: | Public health, health care and clinical settings. | | |

## *Relational and Representational Attributes*

| | | |
|---|---|---|
| Datatype: | Numeric | |
| Representational form: | CODE | |
| Representation layout: | N | |
| Minimum Size: | 1 | |
| Maximum Size: | 1 | |
| Data Domain: | 1 | Yes- peripheral neuropathy is present |
| | 2 | No- peripheral neuropathy is not present |
| | 9 | Not stated / inadequately described |

Guide For Use: Record whether or not peripheral neuropathy is present determined by clinical judgement following assessment using pinprick and vibration (using perhaps a Biosthesiometer) or Monofilament.

Collection Methods: The preferred assessment methods are monofilament and biosthesiometer. These two non-invasive tests provide more objective and repeatable results than testing sensation with pinprick or a tuning fork, which are very difficult to standardise.

1 The "Touch- Test" Sensory Evaluation (Semmens-Weinstein Monofilaments) application guidelines:
-Occlude the patient's vision by using a shield or by having the patient look away or close his or her eyes.
-Instruct the patient to respond when a stimulus is felt by saying

"touch" or "yes".
-Prepare to administer the stimulus to the foot (dorsal or plantar surface).
-Press the filament of the Touch
-Test at a 90 degree angle against the skin until it bows. Hold in place for approximately 1.5 seconds and then remove.

To assure the validity of the sensory test findings:
-The patient must not be able to view the administration of the stimuli so that false indications are avoided.
-The nylon filament must be applied at a 90 degree angle against the skin until it bows for approximately 1.5 second before removing.
-If the patient does not feel the filament, then protective pain sensation has been lost.

2 Testing vibration sensation with a biothesiometer - application guidelines:
-The biothesiometer has readings from 0 to 50 volts. It can be made to vibrate at increasing intensity by turning a dial.
-A probe is applied to part of the foot, usually on the big toe.
-The person being tested indicates as soon as he/she can feel the vibration and the reading on the dial at that point is recorded.
The reading is low in young normal individuals (ie. they are very sensitive to vibration). In older individuals, the biothesiometer reading becomes progressively higher. From experience, it is known that the risk of developing a neuropathic ulcer is much higher if a person has a biothesiometer reading greater than 30 - 40 volts.

Related metadata: relates to the data element Foot deformity version 1
relates to the data element Foot lesion - active version 1
relates to the data element Foot ulcer - current version 1
relates to the data element Foot ulcer - history version 1
relates to the data element Lower limb amputation due to vascular disease version 1
relates to the data element Peripheral vascular disease in feet - status version 1
relates to the data element Health professionals attended - diabetes mellitus version 1

## *Administrative Attributes*

Source Document: National Diabetes Outcomes Quality Review Initiative (NDOQRIN) data dictionary.

Source Organisation: National Diabetes Data Working Group

Comments: Peripheral neuropathy is a general term indicating peripheral nerve disorders of any cause.

The most important aspect of grading diabetic neuropathy from a foot ulceration point of view is to assess the degree of loss of sensation in the feet.

Examine for neuropathy by testing reflexes and sensation preferably using tuning fork (Standard vibration fork 128 hz), pinprick, 10g monofilament and / or biothesiometer.

Diabetic neuropathy tends to occur in the setting of long-standing hyperglycaemia.

Peripheral neuropathy, which affects about 30% of people with either type 1 or type 2diabetes, is the major predisposing disorder for diabetic foot disease. Peripheral neuropathy in feet results in loss of sensation and autonomic dysfunction. Neuropathy can occur either alone (neuropathic feet) or in combination with peripheral vascular disease causing ischaemia (neuro-ischaemic feet). Purely ischaemic feet are unusual, but are managed in the same way as neuro-ischaemic feet (see Australian Diabetes Society - Position Statement - The Lower Limb in People With Diabetes).

As stated by Duffy and others, the rate of lower extremity amputations can be reduced by 50% by the institution of monofilament testing in a preventive care program.

Diabetes polyneuropathy is frequently asymptomatic but may be associated with numbness, tingling and paraesthesia in the extremities, and less often with hyperesthesias. The most common form is a distal, symmetric, predominantly sensory polyneuropathy, which begins and is usually most marked in the feet and legs.

If symptomatic neuropathy is present consult with endocrinologist or physician specialising in diabetes care since options are available for the relief of symptoms.

Peripheral nerve function should be checked at least yearly in the patient with diabetes.

References:
1997 North Coast Medical, INC. San Jose, CA 95125; 800 821 - 9319.

Duffy MD, John C and Patout MD, Charles A. 1990. "Management of the Insensitive Foot in Diabetes: Lessons from Hansen's Disease". Military Medicine, 155:575-579.

Bell- Krotovski OTR, FAOT, FAOTA, Judith and Elizabeth Tomancik LOTR. 1987.The Repeatability of testing with Semmens-Weinstein Monofilaments. "The Journal of Hand Surgery," 12A: 155 - 161.

Edmonds M, Boulton A, Buckenham T, et al. Report of the Diabetic Foot and Amputation Group. Diabet Med 1996; 13: S27 - 42.

Foot Examination -an interactive guide; Aust Prescr 2002; 25:8 - 10.

## *Data Element Links*

### *Information Model Entities linked to this Data Element*

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|---|---|
| NHIM | Physical wellbeing |

### *Data Agreements which include this Data Element*

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| DSS - Diabetes (clinical) | From 01-Jan-03 to |