

## TRANSLATION AND VALIDATION: SWEDISH LANSS (SPINAL CORD INJURY)

### LEEDS ASSESSMENT OF NEUROPATHIC SYMPTOMS AND SIGNS (LANSS)

#### SWEDISH TRANSLATION (tested in spinal cord injury patients)

##### **Bibliographic information for original (English) questionnaire**

Bennett M. The LANSS pain scale: the Leeds assessment of neuropathic symptoms and signs. *Pain* 92: 147-157, 2001.

PubMed identifier (PMID): <http://www.ncbi.nlm.nih.gov/pubmed/11323136>

##### **Bibliographic information for translated (Swedish) questionnaire**

###### *Reference*

Hallstrom H, Norrbrink C. Screening tools for neuropathic pain: Can they be of use in individuals with spinal cord injury? *Pain* 152: 772-779, 2011.

PMID: <http://www.ncbi.nlm.nih.gov/pubmed/21272997>

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##### **Properties of the translated questionnaire**

###### *Purpose*

Diagnostic/screening: To identify whether pain is likely to be neuropathic in origin in patients with spinal cord injury.

###### *Language*

Swedish

###### *Translation process:*

Duplicate forward and reverse translation, with consensus discussions after each phase of translation. Forward translation from the original French version of the DN4 was by two native Swedish speaking translators, one of whom was aware of the objective and concept of the tool and the study. Reverse translation was by two native French speaking translators.

###### *Changes from original questionnaire:*

None

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### *Assessment*

#### SYMPTOMS:

Five items addressing pain quality and pain triggers

#### SIGNS:

Two sensory function tests (requires a suitably trained person to administer the instrument)

- Dynamic mechanical allodynia (light brushing)
- Altered pin-prick threshold

### *Scoring system*

Responses to all seven items (five symptoms and two signs) are binary ('yes' or 'no'). Responses are weighted according to the odds ratio of each item when predicting whether a pain is neuropathic in origin (based on the original LANSS validation by Bennet et al. Pain 92: 147-157, 2001). Weighted scores for the five symptom items and two sensory tests are summed, giving a total score from 0 to 24.

### *Scoring direction*

Score < 12 indicates that the pain is unlikely to be neuropathic in origin

Score ≥ 12 indicate that the pain is likely to be neuropathic in origin

### *Validation population*

Forty (40) Swedish-speaking spinal cord injury patients (of at least one year), who had pain for at least six months, and the pain was at least 3 on a 0-10 numerical pain rating scale were recruited to the study. Pain was clinically diagnosed as being neuropathic in 28 patients and non-neuropathic in 12 patients. Participants were assessed twice using the tool, by independent assessors.

### *Psychometric properties*

**Diagnostic validity** (using a threshold score ≥ 12)

Sensitivity: 35.7%

Specificity: 100%

Agreement with clinical diagnosis: 55%

Receiver-operating characteristic (ROC): Area under the curve (AUC) = 0.78

Explorative analysis identified that a threshold score of ≥ 4 yielded specificity of 85.7%, sensitivity of 50% and an agreement with clinical diagnosis of 75%.

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### **Construct validity**

No questionnaire items were associated with a clinical diagnosis of neuropathic pain

### **Convergent/criterion validity**

Not assessed

### **Reliability**

Test-retest reliability: Very good (Cohen's kappa coefficient = 1)

*Validation studies of translated questionnaire for specific pain conditions*

n/a

*Additional information*

n/a