Assessment of Nociceptive versus Neuropathic Pain in Older Adults

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WHY: Many older adults have severe or ongoing pain. Distinguishing nociceptive from neuropathic has important implications for diagnostic, lifestyle and treatment decisions. Nociceptive pain signals an active illness, injury and/or inflammatory process associated with actual or potential tissue damage; whereas neuropathic pain involves these problems within the nervous system. There is overlap whereby some people have a mixed pain that has features of both these types. These designations are useful in diagnosis, care planning and guiding treatment decisions. High impact chronic pain that is severe and persistent enough to impair activities of daily living has been linked to a loss of brain mass. Older adults are at greater risk for developing neuropathic pain because of a greater vulnerability to degenerative effects and slower regenerative properties of nerves. For example, postherpetic neuralgia is uncommon in younger adults, yet afflicts 75% of those over age 70 following shingles.

BEST TOOLS: Several tools are available to distinguish nociceptive from neuropathic pain. Tools that combine self-report and physical examination are more precise than self-report alone. The two best tools have been validated in studies that included older adults. The Leeds Assessment of Neuropathic Symptoms and Signs (LANSS) was the first tool to be developed; and has now been validated in several languages, including a self-report version (S-LANSS). The self-report nature of the S-LANSS makes it suitable for surveys or screening (mail or phone) certain populations. If screening is positive, a clinical exam follows. The Douleur Neuropathique en 4 questions (DN4) was developed in French and translated into English (the Neuropathic Pain Diagnostic Questionnaire or DN4). The DN4 may be easiest to use and score in clinical settings.

TARGET POPULATION: Older adults with pain from an uncertain or suspected neurological source, that persists despite treatment.

VALIDITY AND RELIABILITY: These three tools described have demonstrated good validity (face, discriminant, content, construct) and reliability (internal consistency, test-retest, interrater). The LANSS Pain Scale has seven items (5 symptoms and 2 physical exam findings) to determine if pain is nociceptive or neuropathic. After its original validation with 100 patients, it has been tested and used on thousands of people, including a valid self-completed S-LANSS epidemiological tool accurate in 75-80% of cases (sensitivity 85%, specificity 80%). The DN4 was validated in French and translated into English using appropriate procedures. It is comprised of 10 items (7 symptoms and 3 clinical examinations) and is easy to score with each item equally weighted with a score of 4 or more classifying the pain as neuropathic. The DN4 has a higher sensitivity (83%) and specificity (90%) than the other tools described. Other validated tools are available but may be cumbersome to use in clinical settings. A definitive diagnosis of neuropathic pain requires further specialty testing. In general, positive findings such as (1) heightened pain sensitivity (allodynia); (2) a burning, shooting, tingling, or pins and needles quality; or (3) diminished perception of touch, cold or pinprick, support the need to screen for neuropathic pain and refer for additional assessment and treatment.

STRENGTHS AND LIMITATIONS: Among the tools available to distinguish nociceptive from neuropathic pain, the LANSS and DN4 are preferred because of their brevity and physical exam integration with self-report.

FOLLOW-UP:
These tools are generally used once to screen for possible neuropathic pain. As needed, patients are then referred for further assessment, testing and/or specific treatment. Nurses should discuss their findings with interdisciplinary team members to help guide therapy that is more likely to respond to the patient's specific type of pain. Distinguishing pain types by linking signs, symptoms and responses remains an active area of research. As underlying mechanisms of pain are better understood, targeted therapies are being developed to minimize treatment failures and expedite relief, especially for those with neuropathic pain.

MORE ON THE TOPIC:

Best practice information on care of older adults: http://consultgeri.org/.

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LANSS Pain Scale

Symptom / Sign	Score for "yes"
Does the pain feel like strange unpleasant sensations? (e.g. pricking, tingling, pins/needles)	5
Do painful areas look different? (e.g. mottled, more red/pink than usual)	5
Is the area abnormally sensitive to touch? (e.g. lightly stroked, tight clothes)	3
Do you have sudden unexplained bursts of pain? (e.g. electric shocks, 'jumping')	2
Does the skin temperature in the painful area feel abnormal? (e.g. hot, burning)	1
Exam: Does stroking the affected area of skin with cotton produce pain?	5
Exam: Does a pinprick (23 GA) at the affected area feel sharper or duller when	
compared to an area of normal skin?	3
0 - 12 = likely nociceptive, Score > 12 likely neuropathic	Total:

Adapted from: Bennett, M.I. (2001). The LANSS Pain Scale: The Leeds assessment of neuropathic symptoms and signs. *Pain, 92*(1-2), 147–157. Appendices A and B, pp. 156-157.
Note: This is a smaller sample of the actual scale. For further instructions on the correct use of the scale please contact the International Association for the Study of Pain ®; iaspdesk@iasp-pain.org.

DN4 Questionnaire

Symptom / Sign		No = 0 / Yes = 1
Does the pain have the following characteristic?	Burning?	
Does the pain have the following characteristic?	Painful cold?	
Does the pain have the following characteristic?	Electric shocks?	
Does the area of pain also have the following?	Tingling?	
Does the area of pain also have the following?	Pins & needles?	
Does the area of pain also have the following?	Numbness?	
Does the area of pain also have the following?	Itching?	
Exam: Decrease in touch sensation (soft brush)?		
Exam: Decrease in prick sensation (von Frey hair #13)?		
Exam: Does movement of a soft brush in the area cause or increase pain?		
0 – 3 = likely nociceptive pain ≥4 = likely neuropathic pain		Total:

Adapted from: Bouhassira, D., Attal, N., Alchaar, H., et al. (2005). Comparison of pain syndromes associated with nervous or somatic lesions and development of a new neuropathic pain diagnostic questionnaire (DN4). *Pain, 114*(1-2), 29-36. Appendix B, p. 36.
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