Pain Assessment: Using the Numeric Pain Rating Scale

What is Pain Assessment Using the Numeric Pain Rating Scale for Pain Assessment?

› The development of pain is associated with many disease states, including cancer; pain is generally categorized as acute or chronic. (For information on pain, see the series of related Quick Lessons and Evidence-Based Care Sheets)

• **What:** The Numeric Pain Rating Scale (NPRS) is a one-dimensional patient-rated tool based on an 11-point numeric scale that is used to measure intensity of pain in adults. An alternative version of the NPRS is available using a numeric scale of 0–100; information in this Nursing Practice & Skill focuses on the use of the NPRS based on an 11-point numeric scale, which is widely administered for the assessment of pain because it is short and easy to administer in a variety of clinical settings. The 11-point numeric scale of 0–10 contains the following anchors:
  
  - 0 = no pain
  - 10 = worst possible pain

• **How:** Patients are verbally or graphically (i.e., showing the patient a printed numeric scale) asked to choose the correlating number on the NPRS of 0–10 that most closely represents their perception of their current level of pain in response to the following question: “On a scale of 0–10, in which 0 indicates no pain and 10 indicates the most severe pain you can possibly imagine, what number would you give your pain at this moment?” The question can be modified if measuring the patient’s average level of pain over the past 24 hours is desired, and the NPRS can be administered serially to assess for changes in level of pain over time. In all cases, higher numbers indicate greater pain intensity

• **Where:** The NPRS is administered and interpreted in all healthcare settings, including inpatient, outpatient, and community or home care settings. The NPRS can also be administered verbally over the telephone

• **Who:** Nurses, primary care providers, and acute and specialty care providers can administer and interpret the NPRS for patients with suspected or diagnosed acute or chronic pain. Use of the NPRS should not be delegated to non-licensed assistive personnel; however, non-licensed assistive personnel may communicate observational information to the nurse that prompts initiation of pain assessment using the NPRS

What is the Desired Outcome of Using the Numeric Pain Rating Scale for Pain Assessment?

› The NPRS will result in an accurate assessment of the patient’s pain intensity such that appropriate analgesia can be administered to relieve pain and improve quality of life (QOL)

Why is Using the Numeric Pain Rating Scale for Pain Assessment Important?

› Pain is multi-dimensional and affects a patient’s sensory and emotional experience; acute and chronic pain is associated with
  
  • actual or potential tissue damage
  • decreased quality of life
• decreased level of functioning
• disability

The Joint Commission (TJC) requires all accredited hospitals, ambulatory care facilities, office-based surgery practices, long-term care providers, and outpatient clinics to routinely assess patients for pain.

Inadequate assessment of pain is a barrier to pain management and relief. Effective analgesic management of pain requires an evaluation with a reliable and valid measurement tool to translate subjective information into objective measures in both clinical practice and research settings. The NPRS is a simple tool with demonstrated validity and reliability in measuring pain intensity.

Facts and Figures


› Investigators report that the NPRS is modestly accurate for identifying patients with clinically important pain (such as pain that interferes with function or that is the main reason for the patient’s healthcare visit) in an academic primary care setting and recommend further research regarding the accuracy of the NPRS as a screening test in primary care settings (Hussain, 2018).

› Patients with chronic cancer-associated pain prefer using the NPRS over the visual analog scale due to ease of completion and comprehensibility, but researchers suggest additional research be performed to further evaluate factors contributing to this preference (Firdous et al., 2017).

What You Need to Know Before Using the Numeric Pain Rating Scale for Pain Assessment

› The NPRS is typically utilized for assessing a patient’s current level of pain and as a recall of pain during the last 24-hour period to assess “average” pain intensity; it can also be serially utilized to detect changes in level of pain over time.

› Administration time is < 1 minute to completion and the NPRS is easy to administer.

› Preliminary steps that should be performed before using the NPRS include the following:
  • Review the facility/unit specific protocol for administering the NPRS, if one is available.
  • Review the treating clinician’s order for administering the NPRS, if available, although administering the NPRS does not require a written or verbal order and is encompassed as a part of standard nursing care.
  • Review the patient’s medical history/medical record for—any medication orders, including analgesic regimens
  —any allergies (e.g., to latex, medications, or other substances); use alternative materials, as appropriate.

› Gather the supplies and equipment that are typically used during the assessment of pain by administration of the NPRS, including
  • the NPRS tool
  • a pen for manual documentation, or the patient’s electronic medical record
  • personal protective equipment (PPE; e.g., gloves), if applicable; additional PPE (e.g., gown, mask, eye protection) may be needed if exposure to body fluids is anticipated
  • prescribed medications (e.g., analgesia, anxiolytic, sedative, topical anesthesia) for subsequent administration after completion of the NPRS, if appropriate, and supplies for medication administration
  • equipment for taking vital signs (e.g., stethoscope, blood pressure cuff, thermometer), if necessary.

How to Use the Numeric Pain Rating Scale for Pain Assessment

› Perform hand hygiene and don PPE, if applicable.

› Identify the patient according to facility protocol.

› If in the inpatient healthcare setting, establish privacy by closing the door to the patient’s room and/or drawing the curtain surrounding the patient’s bed. If in the outpatient or community setting, establish privacy by closing the door to the room where the patient is being evaluated or allowing for an appropriate distance between the patient and others in an open area such that administering the NPRS will not be observed by others and discussion regarding its interpretation will not be overheard.

› Introduce yourself to the patient and family member(s), if present, and explain your clinical role in administering the NPRS. Assess for knowledge deficits and anxiety regarding the NPRS.
• Determine if the patient/family requires special considerations regarding communication (e.g., due to illiteracy, language barriers, or deafness); make arrangements to meet these needs if they are present
  – Follow facility protocols for using professional certified medical interpreters, either in person or via phone, when language barriers exist
  – Explain what to expect during administration of the NPRS, including its purpose and administration time; answer any questions and provide emotional support as needed
  
  Assess the patient’s vital signs, cognitive status, and for objective and subjective symptoms of pain (e.g., restlessness, crying, agitation); (for more information, see Red Flags, below)
  
  Obtain verbal consent, as appropriate, and administer the NPRS
  
  Ask the patient to choose a number on a scale of 0–10 in response to the following question: “On a scale of 0–10, in which 0 is no pain and 10 is the most severe pain you can possibly imagine, what number would you give your pain at this moment?”
  
  • As appropriate, ask the same question regarding choosing a number that best represents the patient’s average pain intensity during the past 24 hours or another specific period of time (e.g., during the last week)
  
  • In the outpatient setting, consider using additional versions of the same question, including:
    – “On a scale of 0–10, in which 0 is no pain and 10 is the most severe pain you can possibly imagine, how would you rate your usual level of pain over the last week?”
    – “On a scale of 0–10, in which 0 is no pain and 10 is the most severe pain you can possibly imagine, how would you rate your best level of pain over the last week?”
    – “On a scale of 0–10, in which 0 is no pain and 10 is the most severe pain you can possibly imagine, how would you rate your worst level of pain over the last week?”
  
  • If appropriate, administer the NPRS in writing by showing the patient a printed version of the scale and instructing him/her to circle the number on a scale of 0–10 that best represents his/her current level of pain and/or recent average level of pain
  
  Allow enough time for the patient to consider his/her response and reply, and record his/her exact response
  
  • Interpret the patient’s pain intensity
    • 0 = no pain
    • 1–3 = mild pain
    • 4–6 = moderate pain
    • 7–9 = severe pain
    • 10 = most severe pain imaginable
  
  • As appropriate, educate the patient regarding interpretation of his/her choice of the number indicating his/her level of pain and initiate discussion regarding how successful he/she believes the current treatment regimen is for reducing pain
  
  • In order to help set a realistic initial goal for reducing pain, ask the patient what pain rating would be acceptable or satisfactory to him/her. Educate the patient that once the initial goal is met, additional pain relief can then be considered
  
  • Explain to the patient that satisfactory pain relief is a level of pain that is not distressing, and one that enables the patient to sleep, eat, and perform other required physical activities
  
  • Based on the NPRS results, administer analgesia according to the treating clinician’s orders, if appropriate
  
  • Dispose of PPE and used equipment (e.g., a pill cup) according to facility protocols, as appropriate
  
  • Perform hand hygiene
  
  • Collaborate with the treating clinician for initiating changes to the plan of care for pain management, as appropriate
  
  • Provide patient/family member education regarding any revisions to the plan of care for pain relief
  
  Update the patient’s plan of care and document the following information in the patient’s medical record:
  • Date and time the NPRS was administered
  • Scoring and interpretation of the NPRS
  • Patient assessment information, including
    – patient’s response to the NPRS (e.g., ability to respond)
    – details of vital signs
    – revisions to the plan of care, including revision to prescribed pharmacologic pain interventions
  • Any unexpected patient events (e.g., inability to respond to administration of the NPRS), interventions performed, whether or not the treating clinician was notified, and patient outcome
  • Barriers to communication and techniques that promoted successful communication
  • All patient/family education, including
    – revisions to pharmacologic pain interventions
Other Tests, Treatments, or Procedures That May be Necessary Before or After Using the Numeric Pain Rating Scale for Pain Assessment

› In some cases, revision to the plan of care for prescribed pharmacologic agents is necessary after administering the NPRS in order to provide effective pain management

What to Expect After Using the Numeric Pain Rating Scale for Pain Assessment

› The NPRS will provide an accurate assessment of the intensity of pain. The patient’s prescribed regimen for pain will be reviewed and revised as appropriate in order to provide adequate pain relief, improve pain relief, and increase QOL

Red Flags

› The NPRS is limited because it only measures pain intensity on a quantitative numeric scale; it does not assess for distinctive experiences regarding the nature of pain (e.g., burning, stinging, aching), differentiate among different sources of pain, or assess improvement as a result of symptom variations (e.g., due to pain etiology, duration, and type)
› Persons with cognitive deficits can have difficulty interpreting the question, words, and/or numbers that are involved in administration of the NPRS

What Do I Need to Tell the Patient/Patient’s Family?

› Explain to the patient that the purpose of the NPRS is to measure the intensity of his/her pain in order to improve pain management
› Encourage the patient to immediately communicate regarding pain symptoms and when he/she experiences relief of pain.
› Explain that though caregivers will ask about pain regularly, they do not know when the patient has new pain unless the patient reports it
› Educate that revisions to the treatment plan for analgesia and other pain relief strategies may be necessary

References