Assessing Pain in the Critically Ill Adult

Scope and Impact of the Problem

Many critically ill adult patients experience significant pain during hospitalization. In the intensive care unit (ICU), for example, more than 30% have significant pain at rest, and more than 50% have significant pain during routine care, such as turning, endotracheal suctioning, and wound care.\textsuperscript{1-2}

Untreated pain can result in negative consequences, including multisystemic complications and the development of chronic disabling pain. These results, in turn, may seriously impact the patient’s functioning, quality of life, and well-being.\textsuperscript{3-5} Furthermore, the absence of pain assessment or an incomplete assessment has been associated with death in the ICU.\textsuperscript{6}

Since pain is multidimensional and subjective,\textsuperscript{7} the patient’s self-report is the gold standard for assessment. However, many adult patients in the ICU cannot self-report pain as a result of an altered level of consciousness, the administration of sedative agents, and/or mechanical ventilation.\textsuperscript{8} The lack of self-reporting makes assessing pain in critically ill patients a challenge for nurses, who should consider use of alternatives such as observational pain assessment tools.\textsuperscript{9-10}

Expected Practice and Nursing Actions*

1. \textit{Attempt to obtain the patient’s self-report of pain using validated pain assessment tools or simple questions.} (Level B)
   - Ensure your unit has implemented a pain assessment policy for all critically ill adults, using validated tools that are appropriate to each patient’s capacity to communicate.
   - Teach patients to use self-report pain scales and communicate in verbal and nonverbal ways, such as numerical rating scales, pointing, and head nodding.
   - Perform and document pain assessments routinely, including a baseline evaluation at the beginning of shifts, evaluations during activities or procedures known to be painful, and before and after administration of analgesics. Communicate assessments during patient handoffs.

2. \textit{Perform a pain assessment for critically ill adults who are unable to self-report, using a validated behavioral pain scale, such as the Behavioral Pain Scale (BPS) or the Critical-Care Pain Observation Tool (CPOT).} (Level B)
   - Ensure that your unit provides education and clinical support on the use of behavioral pain scales and interpretation of the scores.
   - Develop a pain management protocol that includes appropriate use of pharmacologic and nonpharmacologic strategies according to pain assessment findings.

3. \textit{Avoid referring primarily to vital signs for pain assessment of critically ill adult patients.} (Level C)
   - Perform pain assessment with validated tools when significant fluctuations in vital signs are noted.
4. Consider, as a proxy, asking someone who knows the patient well to identify behavior that may indicate pain. (Level C)
   - Encourage comprehensive pain assessments that combine different strategies, such as behavioral pain scales and proxy reporting by family members or caregivers.

Supporting Evidence

**Attempt to obtain the patient’s self-report using valid tools.**

The patient’s self-report remains the gold standard for pain assessment based on the universal definition of pain. Obtaining a patient’s self-report should be based on current practice guidelines from the American Society for Pain Management Nursing and the Society of Critical Care Medicine.9

Validated pain assessment tools should be used as standard practice when caring for critically ill adult patients. Among pain intensity scales, patients prefer the 0-10 Numeric Rating Scale in vertical and enlarged format (NRS-V); it is usually the best discriminative tool for use in the adult ICU.11 Similarly, the 0-10 Faces Pain Thermometer shows reliable and valid results in adult patients in a postoperative ICU.12

When a patient cannot concentrate on a pain intensity scale, ask a simple question about the presence of pain. A “yes” or “no” answer, indicated by head nodding, head shaking, or other signs, should be considered a valid self-report of pain. In more unstable, critically ill adults, a self-report on the presence of pain is easier to obtain than a self-report on the intensity of pain.

**Use valid behavioral scales for patients unable to self-report.**

Behavioral pain scales should be used routinely to assess pain in critically ill adults who are unable to self-report. The BPS (scale of 3-12) and the CPOT (scale of 0-8) are considered the most valid and reliable tools for use with adults in medical, surgical, and trauma ICUs. Both scales were tested on more than 500 adult patients in the ICU, with good inter-rater reliability and discriminant validation (ie, both scales discriminated between painful and nonpainful procedures). BPS and CPOT scores also have been positively correlated with patients’ self-reports of pain, supporting criterion validation of their use.

Cutoff scores for the presence of pain were established for the BPS (>5) and the CPOT (>2). A CPOT cutoff score >2 yielded sensitivity of 86% and specificity of 78%. Behavioral pain scales are useful in detecting the presence of pain, but not the intensity. A recent study showed that the behavioral cutoff score (with the CPOT) was effective in detecting moderate-to-severe pain, but it could not detect mild levels of pain. Therefore, a behavioral score should not be considered equivalent to a self-report of pain intensity.

Studies using the BPS and the CPOT in ICUs showed improved routine assessments of pain and better use of analgesic agents and sedatives, as well as a decrease in the duration of mechanical ventilation and the number of nosocomial infections. These behavioral pain scales can be implemented with minimal standardized training.
Avoid the use of vital signs as a primary assessment for pain.

Vital signs (eg, blood pressure, heart rate, respiratory rate) should never be used as the sole indicator of pain; rather, they should be considered cues to begin further pain assessment and avoid potential adverse effects of untreated pain.9-10

Vital signs are easily accessible in ICUs, and nurses consider them important in pain assessment. (A large Canadian survey reported that more than 70% of ICU nurses used vital signs to assess pain.36) However, current evidence does not support the validity of vital signs to detect pain in critically ill adults. Values of vital signs were found to increase, decrease, or remain stable during painful procedures.14,21,31-34 Moreover, correlations of vital sign fluctuations with behavioral pain scores and self-reports of pain were weak or absent.13,19,21,35

Ask someone who knows the patient well about pain behavior.

Proxy reports by someone who knows a patient well can assist nurses in identifying less obvious changes in behavior that may indicate the presence of pain.10 However, family members tend to overestimate pain intensity when compared with patients’ self-reports.36-37 Proxy assessments of pain should be combined with other evidence, including direct observation with the support of validated behavioral pain scales, and the presence of known or potentially painful conditions.10

*AACN Levels of Evidence*

Level A  Meta-analysis of quantitative studies or meta-synthesis of qualitative studies with results that consistently support a specific action, intervention, or treatment (including systematic review of randomized controlled trials)

Level B  Well-designed, controlled studies with results that consistently support a specific action, intervention, or treatment

Level C  Evidence from qualitative, systematic reviews of qualitative, descriptive or correlational studies, or randomized controlled trials with inconsistent results

Level D  Peer-reviewed professional organizational standards with clinical studies to support recommendations

Level E  Multiple case reports, theory-based evidence from expert opinions, or peer-reviewed professional organizational standards without clinical studies to support recommendations

Level M  Manufacturer’s recommendations only

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References


