

Pain Assessment in Children

What We Know

- › Many children experience unrelieved pain, and assessment of pediatric pain is often inconsistent and guided by intuition rather than research-based evidence^(1,2)
 - Assessing and managing pain in children is complicated and challenging for numerous reasons, including the inherent difficulty of assessing pain in infants, preverbal children, and children with intellectual disabilities; the varying cognitive stages of development that affect a child's ability to report pain; the lack of clinician training in child pain assessment and management; the difficult decision of which analgesics and dosages to administer in children; and clinician practice traditions, personal biases, and misconceptions about pain (e.g., the assumption that babies do not feel pain due to their immature nervous systems)^(1,2,6)
 - Investigators who studied and analyzed pain assessment practices and pain intensity scores in 14 Italian pediatric hospitals, and five pediatric emergency rooms in general hospitals reported that⁽³⁾
 - a total of 470 children aged 4–14 years were admitted with the chief complaint of headache
 - approximately 80% of the children were identified as non-urgent during the triage process
 - at triage, a standardized pain scale was used to assess 41.5% of cases, whereas the assessment of 15.5% was based on questioning the child and/or parents, and the healthcare providers' judgment
 - approximately 54% of the children were symptomatic (e.g., pain, fever) for more than 24 hours
 - only 32.1% of the patients were medicated with analgesic therapy during their stay in the emergency departments, compared to 66.6% during hospital stay
 - almost 44% of the patients underwent at least one assessment using pain scale during hospital stay, 13.8% had two assessments, and 8.5% had three assessments
- › Adequate assessment and treatment of pain in children can be achieved only through consistent use of validated tools that are designed to ask children to report the intensity of their pain (the self-report method) or tools that are designed for systematic observation of behavioral and physiological signs of pain^(2,9,12)
 - The self-report method is the preferred method for assessing pain. Failure of clinicians to ask children to self-report pain can lead to an underestimation of the intensity of a child's pain⁽¹²⁾
 - It is crucial that the pain rating scale or measurement tool be appropriate for the age and developmental stage of the child^(2,12)
 - Self-assessment scales are typically reliable only in children aged > 6 years. When assessing pain by self-report in children aged 4–6 years, multiple tools should be used^(2,16)
 - Self-report tools can be in the form of structured interviews, verbal or nonverbal scales, and diaries.^(15,16,17) Self-report scales appropriate for use in children include the

ICD-9
780.96

ICD-10
R52

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- Visual Analog Scale (VAS), which consists of a straight line that represents a continuum between “no pain” and “worst pain;” the vertical version of the VAS is more reliable than the horizontal version when used in children^(2,8)
- Verbal numerical rating scale (vNRS), an 11-point self-report pain assessment scale that asks the child to assign a number to the intensity of the pain; the vNRS can only be used in children who are able to count^(2,16,17)
- Researchers in a recent study including 760 children determined that the vNRS is valid and reliable for use in assessing acute pain in children aged 6–17 years⁽¹⁶⁾
- Wong-Baker FACES scale (FACES scale), which consists of five faces that represent five levels of pain⁽²⁾
- Self-report tools should be carefully and thoroughly explained to the child prior to use^(15,16,17)
 - It is best to first introduce a self-report tool when the child is not having pain and let the child practice using the tool by discussing (or allowing the child to imagine) hypothetical situations in which they might experience pain^(15,17)
- There are multiple limitations to the self-report method of pain assessment when used in younger children or children with neurologic impairment^(6,9)
 - Younger children and children with neurologic impairment can lack the developmental, cognitive, or verbal ability to report their pain accurately^(6,9)
 - Children who do not understand the pain assessment tool might construct an answer to please the clinician instead of acknowledging their lack of understanding⁽¹¹⁾
 - Children might offer any answer that allows them to avoid an injection or other perceived negative consequence associated with medical care (e.g., sense of danger, loss of control over their body). Younger children (e.g., < 5 years of age) might view gradient pain scales as dichotomous, recognizing only the two extremes on the scale (e.g., no pain and worst pain), and not realize the interpretation of intermediate gradations⁽¹¹⁾
- Most older children and adolescents are highly capable of self-reporting their pain when assessed by clinicians and are capable of self-reporting the pain they experience while at home using a diary^(14,15)
 - Older children are particularly adept at self-reporting the intensity of their pain using electronic diaries, but must be encouraged to document their pain daily. Children and adolescents who save their responses for documentation at a later time inaccurately recall their pain, and often report a greater intensity of pain than what was actually experienced^(11,14)
- › Accurate pain assessment can be especially challenging when caring for infants, preverbal children, and children with intellectual disabilities. When children are too young or too cognitively underdeveloped to self-report their pain, systematic observation of behavioral and physiological signs of pain should be used as an adjunct or alternative to self-reporting^(2,6,10,18)
 - Behavioral pain assessments usually require more time than self-report measures and it can be difficult to discern between pain and hunger, anxiety, and other types of discomfort. Behavioral pain assessments are less reliable in children with chronic pain and are typically used in infants and in children who are up to 4–6 years of age^(10,18)
 - For preverbal/nonverbal children, systematic observation is the best technique for inferring the presence of pain^(2,8,12)
 - Atypical behaviors (e.g., laughing, clapping hands, head banging) are actions that can be associated with or provoked by pain in children who are neurologically impaired. Parental observation of changes in their child’s vocalizations, social behaviors, and facial expressions are commonly identified as pain descriptors in children with intellectual disabilities and such pain descriptors can vary with severity^(9,12)
 - Researchers in a study of 96 patients with cerebral palsy—45 of whom were communicative and 51 of whom were not—found that parents and physical therapists were able to recognize pain behaviors regardless of the patient’s ability to communicate⁽¹³⁾
 - Observational tools that can be used to assess for pain in nonverbal children and those with severe intellectual disabilities include
 - the Non-communicating Children’s Pain Checklist (NCCPC), which was the first pain scale developed for use in detecting pain in children aged > 3 years with severe intellectual disability. Clinicians and caregivers can use the 30-item NCCPC to estimate the patient’s level of pain based on specific physiologic changes and behavioral indicators.⁽²⁾ (For more information, see *Evidence-Based Care Sheet: Non-communicating Children’s Pain Checklist*)
 - Additional versions of the NCCPC include the Non-communicating Children’s Pain Checklist-Postoperative Version (NCCPC-PV), which is three items shorter than the original NCCPC and is validated for use in a postoperative setting^(2,6)

- the Pediatric Pain Profile, a 20-item scale that can be used by clinicians and caregivers to assess pain in children aged 1–18 years^(2,2)
 - the Faces, Legs, Activity, Cry, and Consolability (FLACC) tool, which is validated for use in children between the ages of 6 months and 5 years^(2,8)
 - the Revised FLACC (r-FLACC), which was recently validated for use in children with cognitive disabilities^(2,9)
 - These scales can be individualized by identifying behaviors specific to each child, particularly when assessing a child who exhibits atypical pain behavior (e.g., laughing, lack of facial expression)⁽⁹⁾
- › Clinicians have a responsibility to not only assess for and manage pain while the child is in the inpatient setting, but also to instruct parents on how to assess for and manage their child’s pain at home^(7,12)
- Parents often fail to adequately assess for or medicate their children for pain at home.^(4,5,7) Methods to improve parental assessment and management of their child’s pain include the following:
 - Providing parents with sufficient information about the level of pain their child could experience following surgery, physical therapy, or other medical procedure^(5,7)
 - 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. Use a professional certified medical interpreter when a communication barrier exists^(5,7)
 - Educating parents that the best way to control post-procedural or chronic pain is to administer analgesic medication on a regular schedule. Many parents erroneously believe that pain medication works best when administered less often and do not understand the importance of maintaining a therapeutic level of analgesia⁽⁴⁾
 - Reassuring parents that they will not overmedicate their child if they follow the clinician’s instructions for administering analgesia and monitor their child during treatment⁽⁴⁾
 - Educating parents about nonpharmacologic methods of alleviating pain (e.g., using toys, gentle rocking, listening to music, or other forms of distraction)⁽⁷⁾
 - Providing parents with a validated pain assessment tool designed specifically for their use (e.g., the Parents’ Post-Operative Pain Measure [PPPM])⁽⁴⁾

What We Can Do

- › Learn about assessment of pain in children and how to utilize various methods of pain assessment in this population; share this knowledge with your colleagues
- › Routinely assess for and manage your pediatric patients’ pain. When using a pain assessment tool, verify that it is age or developmentally appropriate. Note that the self-report method is the best method for assessing pain in children, but that systematic observation can be used for children who are intellectually disabled and/or preverbal
- › Provide parents with the tools necessary to effectively manage their child’s pain at home, including education about administration of analgesic medications, nonpharmacologic pain management strategies, the intensity of pain that can be expected, and use of a validated pain assessment tool

Coding Matrix

References are rated using the following codes, listed in order of strength:

M Published meta-analysis	RV Published review of the literature	PP Policies, procedures, protocols
SR Published systematic or integrative literature review	RU Published research utilization report	X Practice exemplars, stories, opinions
RCT Published research (randomized controlled trial)	QI Published quality improvement report	GI General or background information/texts/reports
R Published research (not randomized controlled trial)	L Legislation	U Unpublished research, reviews, poster presentations or other such materials
C Case histories, case studies	PGR Published government report	CP Conference proceedings, abstracts, presentation
G Published guidelines	PFR Published funded report	

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