

Pediatric **PAIN** Management

**Children need a special approach
to help with the hurt.**

By Randall Oliver, MD

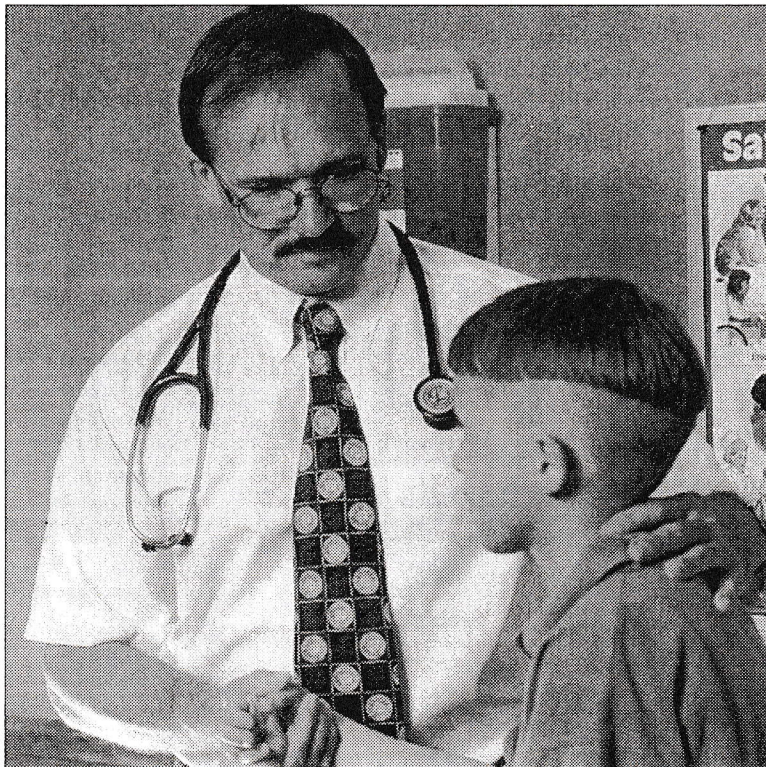
Pain is an important, and sometimes the only, component in the disease process.¹

Sometimes a patient's perception of pain can be the only indicator when all other physical findings and laboratory tests are normal.

Health care professionals have approached pain management in a very simplistic fashion until recently—when it became clear this approach was woefully inadequate and new approaches were necessary.

For the past 20 years, this new direction has resulted in a proliferation of many pain clinics all over the world.² Only within the last decade, however, has the need to find effective pain management for infants and young children become a recognized area for extensive research. The idea that infants and children are incapable of feeling pain because of immature nervous systems and because of the inability to process painful stimuli has been found to be untrue.³

One particular neuroanatomical study discovered that by 29 weeks of gestation, pain pathways and the cortical and sub-cortical centers involved in the perception of pain are well developed, as are the neurologic systems for the transmission and modulation of painful sensations.⁴ In



fact, premature infants undergoing surgery with minimal anesthesia, which was once standard practice, have significantly higher stress responses (by hormonal and metabolic measures) and significantly higher rates of complications and mortality than those given deeper anesthesia.^{5,6}

It comes then as a terrible shock to find out that our ideas about pain management are dominated by the myth that children do not feel pain as intensely as adults and therefore require fewer analgesics or none at all.²

PROPER ASSESSMENT

Inconsistent approaches to pain management have been attributed to lack of knowledge in the concept of pain and the usage of analgesics, as well as the inability to assess children's pain accurately.^{7,8} With a strong knowledge base, appropriate teaching about pain assessment and management can be incorporated into the child's care plan. Teaching should include information about the phenomenon of pain, assessment, and developmentally appropriate interventions.⁹ The participation of the caregiver, as well as the patient and his/her parents, truly benefits a child. A complete assessment to formulate a care plan must include different medicinal, cognitive, and behavioral strategies of pain management.

In the assessment process, it is essential to incorporate a child's pain history to provide an individual framework. It is useful to gather information about the child's perception of pain by asking open-ended questions such as: "Tell me what pain is"; "What helps the most to take the pain away"; and "Tell me the hurt that you have had before."¹⁰

The next step in adequate assessment is the process of quantifying the level of the child's pain. Physiological indicators, sys-

tematic observation of behavior, and self-reporting are the most useful tools.⁹ Even the very youngest of children can feel and express their response to pain in a variety of ways. In cases of infants and preschool children, the caregiver must rely upon facial expression, body movements, and physiological factors to assess pain.¹¹

In addition, vital information may be gathered from the child's parents because of their inherent knowledge of their child's behavior. Changes in motor activity, sleep, or normal behavior patterns may be indicative of pain. From the age of 5, a child's ability to report his/her own pain experience using various age-appropriate assessment tools has proven reliable. If a child's report of pain differs from that of the physician's or parent's observation, it is best to recognize and treat according to the child's perspective.¹²

SELF-REPORTING OF PAIN

Self-reports are sometimes seen as a cry for attention and not as a true indicator of pain. There is also a mistaken notion that there is a "correct" amount of pain to any given pathophysiological condition.¹³

As a result, many caregivers continue to ignore the individual child, but rather base their treatment on their idea of the "appropriate" child.¹⁴ Therefore, it is the primary goal of caregivers to assess the child's condition objectively. Then they are able to make optimal use of available strategies to observe the child's sensitivity and treat his/her pain effectively.

Even if a child's self-reported pain is accepted as reality, the question is whether the harm of the unrelieved pain outweighs the risk of pain relief.¹⁵ Until recently, clinicians who choose to use analgesia to ease a child's pain during procedures have had few rational choices available to them. The traditional approach to manage post-operative pain involved the parenteral administration of opioids such as morphine, codeine, methadone, and meperidine given intramuscularly. Among young children, the fear of injections often causes substantial anxiety and stress.

FEAR OF THE NEEDLE

In 1983, McGrath and Unruh¹⁶ found

that children may deny, or at least fail to report, pain because they know that doing so will result in a needle stick. This fear of the needle may cause reluctance from both the physician and nursing personnel, resulting in the decision to withhold potent analgesics. Walco, Cassidy, and Schlechter¹⁵ suggest that the ideal situation is administering opioids orally. If this is not indicated, venous access can be utilized. Through the use of analgesic creams, this approach can be virtually painless. The option of a continuous infusion or bolus dose of the potent opioids can then be administered. Children as young as 6 years of age have used patient-controlled analgesia resulting in satisfaction for both the patients and their parents.¹⁷

Some providers are still reluctant to use these narcotic analgesics because of their association with addiction or respiratory depression. Although the potential of these difficulties is not disputed, there is currently no data to support the notion that children are more susceptible to respiratory depression than adults.¹⁸ With adequate monitoring and adherence to appropriate guidelines for dosages, respiratory depression should be considered a rarity in children.¹⁹

OPIOIDS PROVIDE RELIEF

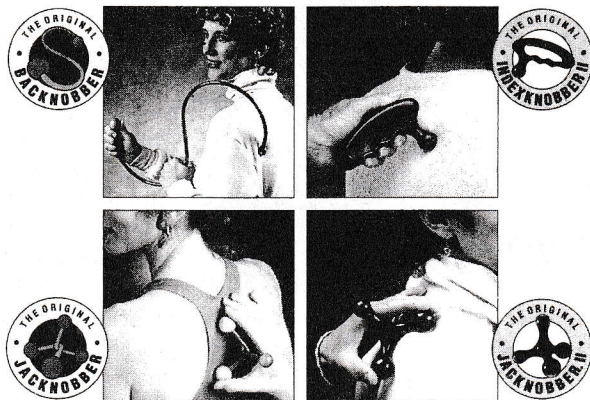
Likewise, studies clearly indicate that the appropriate use of opioids for post-operative pain does not produce narcotic addiction. It is the interaction of complex psychological, social, and biological factors within a person that is the precursor to addiction, not the judicious use of analgesics.³ Research has prompted a broader understanding of the pharmacokinetics of analgesics.

Recent technological advances such as the fentanyl citrate lollipop have allowed for administration of a potent opioid through the oral mucosa in a familiar, painless manner resulting in adequate sedation.²⁰ Schlechter et al explain that the transmucosal route of delivery allows rapid onset of action because of direct absorption into the systemic circulation, avoiding first-pass metabolism by the liver. They further suggest that transdermal and epidural routes of administration can also be used.

The child's distress has been drastically reduced due to these innovations that have diminished the need for the repetition of injections. Regardless of the risks, physicians should, under all

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ing as simple as counting tiles on the ceiling can serve as distracting devices. Music and television can be successful distractions, but are generally more effective in older children.

Adolescents' need for control makes them excellent candidates for behavior interventions. The use of play or modeling provides two examples. Modeling occurs when an adolescent sees how his

peers react to the same situation. When another child is observed undergoing the same procedure, the child can then learn about the impending experience. Any preconceived fears concerning the procedure are quickly dispelled. Play is also an effective means of desensitizing a child before a painful event.

Demonstration by the health care worker of how a procedure is performed can

allow the child to become familiarized with both the surroundings and the various equipment used. While health care workers are able to convey methods and implications of procedures, it is important to recognize the importance of the parents' role. Parents can be most effective in translating the caregiver's instructions or predicting how their children will respond. Used by themselves or in conjunction with cognitive strategies, behavioral techniques can give children a feeling of power over their own pain. This in turn will increase self-esteem, while decreasing anxiety that may be associated with painful procedures.

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INDIVIDUAL COPING STRATEGIES

A child's individual coping method must be taken into consideration when formulating a coping strategy. Experimentation may be necessary to find a coping strategy suitable for the child and the caregiver. A successful approach is then one that is learned easily by both. Aside from the psychological benefits, incorporating cognitive and behavioral approaches into a management strategy is inexpensive and saves time.²³

Physicians, nurses, social workers, PTs, and OTs should be at the forefront in learning these techniques. When other health care workers observe how effective these strategies can be, they too can play a role in their implementation.

The assessment and treatment of pain are integral parts of pediatrics. If a physician's medical responsibility is "do no harm," then educating parents and other health care providers about the many multidisciplinary approaches to pain management coincides with a physician's mission to alleviate a patient's discomfort.¹⁵ Together, health care organizations can provide a much needed pain-controlled environment for children that satisfies patients, parents, and providers. □

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circumstances, make the parents aware of opioid-related side effects. In addition, the parents should be present during the administration of any intravenous drug that causes sedation. Physicians and parents must consider the benefit of adequately controlled pain as opposed to uncontrolled pain. The psychological status of the child and the nature of the disease are contributing factors to this decision.²¹

COGNITIVE AND BEHAVIORAL PAIN MANAGEMENT

Along with the medicinal management of a child's pain, cognitive and behavioral methods of management may be incorporated into the treatment plan. This by no means suggests that medicinal pain management should be replaced in serious cases; however, when used in combination, all methods can enhance each other's effectiveness. Cognitive approaches such as guided imagery, distraction, and relaxation are common methods used as an attempt to alter a child's level of consciousness.²²

The "pain switch" is an example of such an approach. In this technique, children are asked to visualize a switch, such as a light switch, that is capable of turning off their pain in a particular area. For the creative child, storytelling may be beneficial. The use of storytelling takes children to a different place, distracting them from the uncomfortable environment around them.

Yet another cognitive pain management approach is the "magic glove." In this technique, a magical hand is laid upon the painful area of the child. Vivid imagination can allow the youth to believe that the glove is capable of taking away any painful sensation.

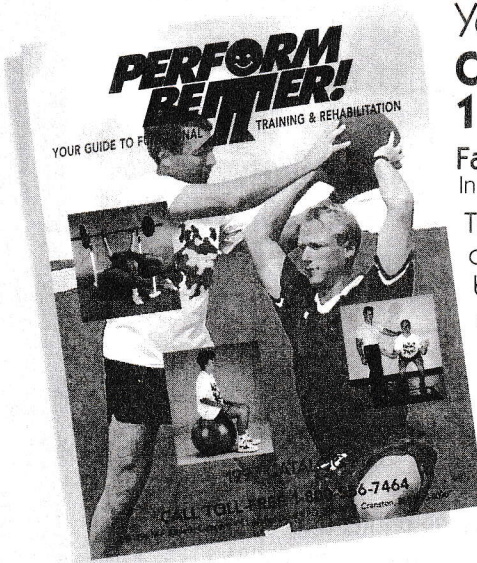
The child's age will inevitably determine the effectiveness of cognitive techniques. The open mind of a preschooler is more susceptible to tricks using magic and storytelling, while school-age children are more likely to put faith in their favorite superhero.

This example of emotive therapy has even been found to help older children cope with pain as well. A child's favorite superhero may be weaved into a story as a source of strength and control over his/her pain sensation.

Distraction, either passive or aggressive, can be an effective tool as well. Using a pacifier for infants, or even some-

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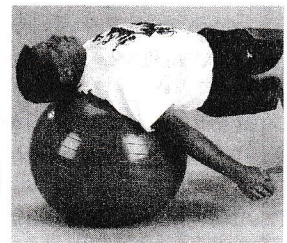
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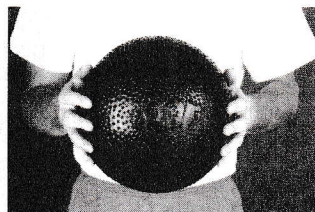
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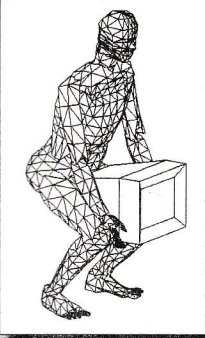
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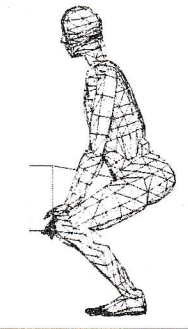
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