

# Q.U.E.S.T.: A Process of Pain Assessment in Children

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## Objectives

After reading the material, the participant will be able to:

1. State ways to deal with children's misconceptions about pain.
2. List myths and facts about children and pain.
3. Recall nonpharmacologic methods of managing children's pain.
4. Identify rating scales that can be used to assess children's pain.
5. List patterns of responses to pain in different age groups.
6. Identify methods to involve parents in children's pain assessment and treatment.
7. List principles of controlling children's pain.

*Q.U.E.S.T. is a process presented to aid nurses in the challenging yet necessary task of assessing pain in children. This article addresses some ways nurses can take advantage of the resources available to them to accurately assess pain in children so that it can be effectively managed. Using Q.U.E.S.T., the nurse questions the child, uses pain rating tools, evaluates behavior, sensitizes parents, and takes action.*

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The assessment of pain in children is one of the greatest challenges faced by nurses. It is difficult to determine the amount of pain a patient is experiencing, especially if the patient is unable to communicate in the manner in which you are accustomed, refuses to tell you the truth about the pain, or displays behavior inconsistent with the behaviors you might expect from an individual in pain. With the increasing demands placed on nursing personnel, something that takes as much attention as pain assessment is sometimes given a low place on the overwhelming list of priorities.

Unfortunately, the absence of pain assessment in children results in minimal, if any, pain management. Clinical observations as well as studies demonstrate that children are consistently undermedicated for pain. In 1977, Eland observed a group of 25 children, investigating the administration of pain medication. Of the 25 children, 12 received a total of 24 doses of analgesics; the 13 remaining children received no pain medication, although it was ordered. However, a matched-pair study of 18 adults who underwent both the same surgeries and were treated by the same nursing staff demonstrated a phenomenal discrepancy in the amount of medication given. They received 372 narcotic analgesics and 299 nonnarcotics, a total number of 671 doses!

A similar study looked at children and adults following open heart surgery. During the first three postopera-

tive days, all of the adults received medication, totaling 564 doses, but only 75% of the children were medicated with a total of 237 doses during the first three postoperative days. On the fifth postoperative day, 83% of the adults continued to receive pain medication, consisting of 136 doses, but only 12% of the children were medicated with a total of 10 doses (Beyer et al., 1983).

Mather and Mackie (1983) studied postoperative pain and discovered that 75% of the children complained of pain on the day of surgery, and if orders for narcotic or nonnarcotic analgesics were written, the nonnarcotic was given exclusively. In looking at the doses ordered, the researchers found that the dosages were usually too small and/or too infrequent to be maximally effective. These rather shocking figures must motivate medical and nursing staffs to develop better skills for assessing and then managing pain in the younger patient population.

In the past, we have relied on our own observation of a pediatric patient to determine whether pain exists and to what degree. However, as adults, we know what communicates pain. If we hurt, we know that one of the most effective ways to make people believe that we are in pain is to verbally complain about the pain, curl up in bed, moan or cry, and hold whatever area is hurting. Children, however, have not been educated in these more convincing techniques for com-



municating pain. In addition, many myths exist that interfere with our understanding of pain in children (see Table 1).

Therefore, when children are sometimes seen playing furiously or sleeping in their bed, it is often assumed that the pain has been controlled or is nonexistent. However, they may be frantically trying to find some type of diversion from the pain, or the pain may have so drained them that they have drifted into an exhausted sleep (Hawley, 1984). Many times after short periods of diversion such as play, the patient experiences an increased awareness of pain as well as fatigue and irritability. Sometimes a child will use diversion successfully, and others will not believe that the child has pain. Therefore, they will not administer pain medication. If this happens, and the child is not feeling any pain relief, the child may be less likely to use diversion (McCaffery, 1979). The child may also feel defeated in trying to participate in the psychologic management of pain.

It is important to identify some of the reasons efforts should be made to assess and control pain. When an individual is experiencing pain, much energy is spent focusing on the pain. If the pain is unexplained, anxiety is increased. Pain impedes healing; it may cause "nausea, inadequate fluid intake, refusal to ambulate, and extreme fatigue," thus retarding progress (McCaffery, 1979).

Children in pain may become depressed and withdrawn or may be identified as having "behavior problems." For example, a 4-year-old child with a fractured femur whose leg was casted and in traction, was labeled a "behavior problem" because of his almost constant crying, yelling, calling for the nurse, and inability to maintain correct alignment in traction. While the nurses were very concerned about the behavior, they were reluctant to believe that it might be a result of pain. However, because all other attempts to curtail the outburst had been futile, they agreed to administer pain medication around the clock (the physician agreed to write an order for Tylenol® with codeine every 4 hours for a 24-hour trial period). By the next day the child's behavior was dramatically changed; he rarely called out, he slept more, and he was quiet in bed. He told the child-

Table 1. Myths about Children and Pain

Myths	Facts
Children tolerate pain better than adults.	Children's tolerance to pain actually increases with age (Haslam, 1969).
Children cannot tell where they hurt.	Children beyond infancy can accurately point to the body area or mark the site on a drawing (Eland, 1977).
Children always tell the truth about pain.	Children may not admit having pain to avoid an injection; because of constant pain they may not realize how much they are hurting (Eland, 1985).
Children become accustomed to pain or painful procedures.	Children are more likely to become conditioned to the discomfort and to experience <i>increasing</i> , not decreasing, levels of pain (Katz, Kellerman, & Siegel, 1980).
Active children are not in pain.	Increased activity is frequently a sign of pain (Eland, 1985).
Narcotics are dangerous drugs for children and cause addiction.	Narcotics are no more dangerous for children than adults and addiction is extremely rare (Porter & Jick, 1980).

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Table 2. Pain Experience Inventory

Questions for parents	Questions for child
Describe any pain your child has had before.	Tell me what pain is.
How does your child usually react to pain?	Tell me about the hurt you have had before.
Does your child tell you or others when he/she is hurting?	What do you do when you hurt?
How do you know when your child is in pain?	Do you tell others when you hurt?
What do you do for your child when he/she is hurting?	What do you want others to do for you when you hurt?
What does your child do for himself/herself when he/she is hurting?	What don't you want others to do for you when you hurt?
Which of these actions work best to decrease or take away your child's pain?	What helps the most to take away your hurt?
Is there anything special that you would like me to know about your child and pain? (If yes, have parent[s] describe.)	Is there anything special that you want me to know about you when you hurt? (If yes, have child describe.)

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life specialist, "I will be going home today because my leg is well." He explained that this was the first time he had been without pain. However, once the analgesic order expired and pain medication was withdrawn, the same behavior reappeared. Pain relief hastens wellness by taking the patient and health care team's focus off the pain and putting it on methods to facilitate recovery.

Having a working definition of pain is the first step in assessment. McCaffery (1979) defines pain as being "whatever the experiencing person says it is, existing whenever he says it does." Believing this is true, we need to know how we can help children tell us about their pain.

There are many factors that affect pain assessment. Different cultures perceive and respond to pain in a variety of ways. Children tolerate some procedures well one day and may find them more overwhelming the next. Pain assessment is a constant process, or a QUEST, of sensitizing ourselves and parents to the needs of each individual child — assessing and reassessing until pain relief is achieved. The Q.U.E.S.T. for pain relief consists of several components:

- Question the Child
- Use Pain Rating Tools
- Evaluate Behavior
- Sensitize Parents
- Take Action!

### Question the Child

Talking to children about the pain they have gives them several positive messages. They see that you care about what they have to say and that you are counting on them to plan an active and valuable role in their own care. Even preschool children understand when they are told that their help is needed to better understand what is hurting them so that steps can be taken to make them feel better. As part of the nursing admission history, you can ask children specific questions about their understanding of pain and their experiences with it (see Table 2).

It is important to be aware that there are some things that children may misunderstand about pain. For instance, some children see pain as punishment for a wrong they have committed (Eland, 1977; Hart, Reese, & Fearing, 1981). This misconception may need to be recognized and dealt

with before they are able to openly discuss their pain. It is most helpful to avoid any hint that the child is responsible for the hospitalization, need for treatment, or healing progress (or lack of). Instead, commend the ways the child is being brave and assisting the health care team, for example, "You are really helping us by holding still while we draw your blood." Another problem is that children may

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### It cannot be assumed that a child understands the word "pain" or even "discomfort."

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deny their pain, fearing they will be given an injection (Eland, 1977; Hawley, 1984; Whaley & Wong, 1987). It takes many years of cognitive development before a child gets past the fear of an injection and can realize that the medications will ultimately relieve the pain. When a child is denying pain, but observations indicate discomfort, it may help to tell the child that the short discomfort of an injection will take away the bigger pain. The child may then give a more honest appraisal of his pain (Whaley & Wong, 1987). Although there are many alternatives to administering pain medication that are far less threatening than an injection, this method, unfortunately, is still widely used. Therefore the child is less likely to be honest about the pain, making assessment very difficult.

There are some basic guidelines to remember when talking to a child about pain. It cannot be assumed that a child understands the word "pain" or even "discomfort." It is more effective to use a variety of words such as "hurt" or "owie"; other descriptive words that may be used are "feeling bad, funny, sore, stinging, pushing, hot" (Whaley & Wong, 1987). Listen to the words the child is using and incorporate them in the discussion, remembering that describing pain is usually a very new and difficult experience for the child. There are several pain rating tools that can help the health professional facilitate communication with children in pain.

### Use Pain Rating Tools

It is extremely helpful to have patients quantitatively rate their pain so that the pain can be managed more effectively. This serves many purposes. If the child rates the pain as being a "4" on a scale of 0-5, then medication should be given accordingly. About 30 to 45 minutes later, the nurse can return to have the child again rate the pain. If the pain is rated a "0" or "1," then both the nurse and patient can see that the medication was effective in relieving the pain. If the pain is still highly rated, then measures need to be taken to titrate the analgesic dosage to a more therapeutic level. The rating scales are also useful in understanding the progression of the pain. A pain assessment record, such as the one in Figure 1, can be used with the assessment tools to document the pain and determine the pattern of pain; for instance, a child's pain may be a "4" in the morning, but only a "1" in the evening. In this situation, more pain medication may be needed in the morning or the child should be awakened earlier and given an analgesic to prevent the "peaking" of pain.

As you might guess, getting children to rate their pain is not always as simple as asking them to rate their pain on a scale of 0-5. The authors are currently collecting data for a research project that is designed to compare reliability and validity considerations for six tools used to assess and measure pain in children of ages 3-18. The following paragraphs describe the six tools that are being used.

The *simple descriptive scale* uses descriptive words to denote varying intensities of pain. The child chooses the one word that most nearly describes the pain. Numeric values from 0 to 5 are assigned to the words for rating purposes (see Figure 2).

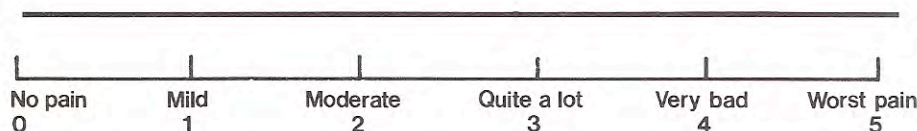
The *numeric scale* uses a straight line with the end points identified as "no pain" and "worst pain" and divisions along the line marked in units from 0 to 10. The child chooses the number that describes the intensity of pain (see Figure 3).

The *faces scale* is an adaptation of the picture projection technique in which six faces are shown to a child. The first picture is a very happy, smiling face and the last is a sad, tearful



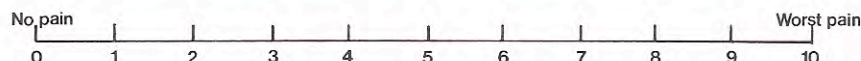






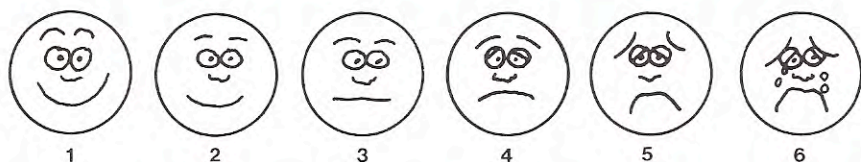
**Figure 2.** Simple Descriptive Scale. Explain to the child that at one end of the line is NO PAIN because the person feels no hurt. At the other end is WORST PAIN because the person feels the worst pain imaginable. The words in between are MILD for just a little pain, MODERATE for a little more, QUITE A LOT for even more, and VERY BAD for a whole lot. Ask the child to choose the word(s) that best describes how he is feeling.

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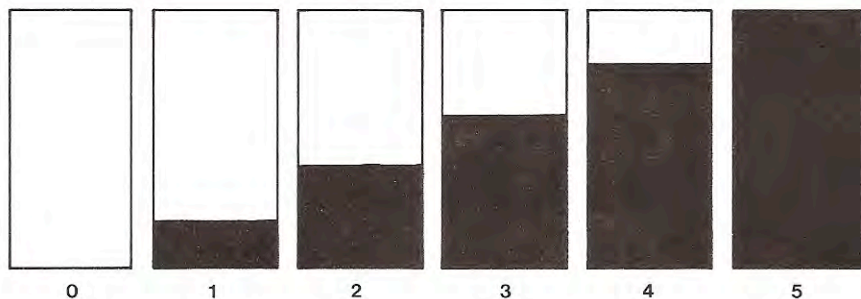
**Figure 3.** Numeric Scale. Explain to the child that at one end of the line is a 1, which means that a person feels no pain (hurt). At the other end is a 10, which means the person feels the worst pain imaginable. The numbers 1 to 9 are for a very little pain to a whole lot. Ask the child to choose the number that best describes how he is feeling. On this scale a 10 is equivalent to a 5 on the other scales.

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**Figure 4.** Faces Rating Scale. Explain to the child that each face is for a person who feels happy because he has no pain (hurt) or sad because he has some or a lot of pain. Face 1 is very happy because he doesn't hurt at all. Face 2 hurts just a little bit. Face 3 hurts a little more. Face 4 hurts even more. Face 5 hurts a whole lot, but Face 6 hurts as much as you can imagine. Ask the child to choose the face that best describes how he is feeling.

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**Figure 5.** Glasses Rating Scale. Explain to the child that there are 6 glasses with different amounts of pain (hurt) in 5 of them. The empty glass is for no pain. Glass 5 is completely filled with pain; that means it is the worst pain imaginable. The glasses in between have from very little to a whole lot of pain. Ask the child to choose the glass that best describes how he is feeling.

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selected the chips scale, and adolescents 13 to 18 years preferred the color scale. In terms of consistency (how closely the child's ranking of painful events was correlated with the quantity of pain using a rating scale) the chips scale was most consistent, followed by the glasses, simple descriptive, faces, numeric, and color scale. Consequently, the best choice of scales are those that are most preferred and consistent, such as chips, glasses, and faces. To increase the reliability of the rating tools, more than one scale can be used. Ideally the pain assessment tools should be explained to children *before* they are needed, such as part of preoperative teaching.

Although it is difficult to study quantitatively, the use of the human figure drawing has been extremely informative (Hart, Reese, & Fearing, 1981; Eland, 1977) (see Figures 6 and 7) The child is simply asked to show the pain by: (a) making an "X" on the area in pain, (b) using crayons to color the pain, or (c) pointing to the area in pain. One 8-year-old girl used the human figure drawing and colored the pain using different colors to demonstrate varying degrees of pain in different areas of her body. She then used the faces scale to further rate the pain. Combinations of rating scales and other creative approaches, such as drawing, are effective means of evaluating pain.

Another dramatic demonstration was with a 7-year-old Laotian boy who spoke very little English and who had a significant hearing impairment. Although the health care team working with this boy was convinced that he was suffering, it was very difficult to break the communication barrier and assess his pain. During a play session, the child life specialist drew around the boy's body onto a large piece of paper and gave him a variety of colors of magic markers. He used the red marker to vigorously color the abdomen and the black marker to color the chest. The medical residents used these clues to direct them in prescribing tests which found that the child had tuberculosis and parasites.

To help children become even more involved in the rating process, some enjoy making their own faces scale. They are given a piece of paper with six circles and then led to create the faces that best describe the varying



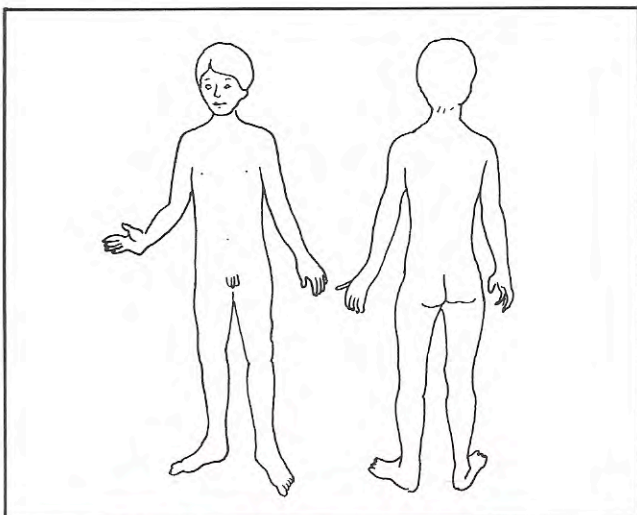


Figure 6. Human figure drawing (boy) for preparing children for procedures and for assessing pain.

Note: From *Handbook of Pediatric Nursing*, 2nd ed., by D. Wong and L. Whaley, 1986, St. Louis; Mosby. Adapted by permission.

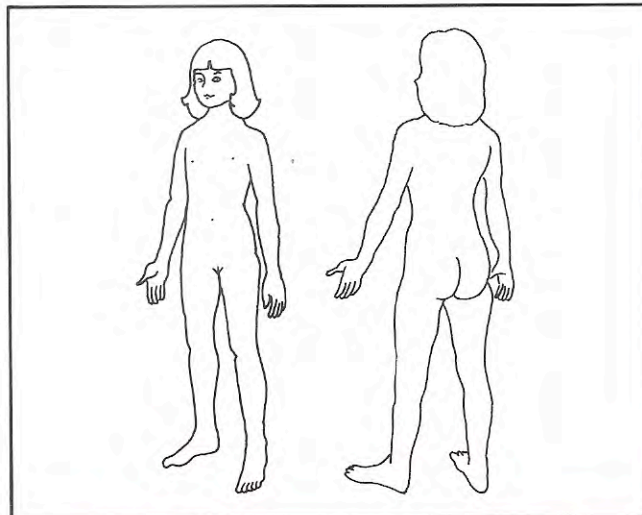


Figure 7. Human figure drawing (girl) for preparing children for procedures and for assessing pain.

Note: From *Handbook of Pediatric Nursing*, 2nd ed., by D. Wong and L. Whaley, 1986, St. Louis; Mosby. Adapted by permission.

degrees of pain. These faces are often very creative with elaborate detail and may be more meaningful to the child. A 7-year-old girl with a brain tumor used the faces she drew in the hospital and continued to use them with her mother at home. During her last hospitalization, she was too sick to talk, but she was able to point to the faces taped to the side of her bed, continuing to play an instrumental role in her pain assessment.

#### Evaluate Behavior

A valuable tool in assessing pain is observation of behavioral changes and physiologic responses. Behavioral changes are common indicators of pain in children, particularly in preverbal youngsters and those with mental retardation or sensory/communication deficits. These include irritability, lethargy, loss of appetite, unusual quietness, disturbed sleep patterns, voluntary resting, increased restless movement or rigid posturing, flat affect, or anger. Specific reactions often indicate discomfort in localized body regions, such as rolling the head from side to side or pulling the ears from an earache, lying on the side with legs flexed on the abdomen for abdominal pain, or favoring a body part during usual activity. However, behavioral manifestations of pain vary widely and some children with more severe pain may show fewer facial and body movements than those with less pain (Hester, 1979).

The child's response to medication is another valuable indicator of pain. For example, in preverbal children who communicate a wide variety of emotions through behavior, obvious change in behavior following administration of an analgesic is evidence of existing pain. This knowledge can help in determining the cause of behaviors suggestive of pain,

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### **If the child's behavior changes after one dose of an analgesic, it is likely that the cause was pain . . .**

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such as crying or restlessness. If the child's behavior changes after one dose of an analgesic, it is likely that the cause was pain, which requires further relief (Whaley & Wong, 1987).

Unfortunately, one of the most common indicators that nurses use in pain assessment is the presence of physiologic responses, such as flushing of the skin, increase in sweating, blood pressure, pulse and respiration, restlessness, and dilation of the pupils. While these signs are present in acute pain, the body begins to adapt and there is a decrease in these

responses. For example, a child with a fractured femur is likely to display these signs during the initial hospitalization, but after the leg is casted or placed in traction, the acute signs of pain will disappear, despite the fact that even severe pain may be present. In addition, these signs may be produced by emotions, such as fear, anger, or anxiety. If nurses rely on observing these physiologic indications before believing that pain exists, many instances of pain will be unrecognized.

In addition to these general suggestions, nurses need to be aware of the variety of ways children respond to pain in different developmental groups as well as being sensitive to the individuality of those responses. Assessment would be so much easier if human beings responded to the noxious stimuli in the exact same way. Unfortunately this is not the case, but patterns of responses are evident in different age groups.

#### *Infants*

It is a myth that young children tolerate pain better than adults, and that newborns do not respond to painful stimuli because their nervous systems are immature. In fact, a newborn's general reaction to painful stimuli is body movement, such as immediate withdrawal of both the affected and unaffected leg, movement of other extremities, facial grimacing, and brief, loud crying (Franck, 1986;



Owens & Todt, 1984). Physiologic indications of pain include palm sweating (Harpin & Rutter, 1982), increased heart rate, and decreased blood oxygenation (Williamson & Williamson, 1983).

An infant's response to pain after the neonatal period is quite similar to the earlier reactions, although there is marked variability in measures of distress, especially initial cry and heart rate. The most consistent indicators of distress are a facial expression of discomfort and body movements consist initially of rigidity of the extremities followed by thrashing (Johnston & Strada, 1986).

Infants less than 6 months old seem to have no memory of previous painful experiences and react to a potentially stressful situation with less apprehension and fear than older children. However, after this time, children's response to pain is influenced by their recall of prior painful experiences and the emotional reaction of parents during the procedure (Watson, 1976). Infants react intensely with physical resistance and uncooperativeness. They may refuse to lie still, attempt to push the person away, or crawl to safety.

#### *Toddlers*

The toddler's concept of body image, particularly the definition of body boundaries, is very poorly developed. Intrusive experiences, such as examining the ears or mouth or taking a rectal temperature, or unfamiliar noises, such as the sound of a cast cutter are very anxiety producing. Toddlers may react to such painless procedures as intensely as they do to painful ones.

A toddler's reactions to pain are similar to those seen during infancy, except that the number of variables influencing the individual response is highly complex and varied. Memory, physical restraint, parent separation, emotional reactions of others, and lack of preparation partially determine the intensity of the behavioral response. In general, children in this age group continue to react with intense emotional upset and physical resistance to any actual or perceived painful experience. Behaviors indicating pain include grimacing, clenching their teeth or lips, opening their eyes wide, rocking, rubbing, overactivity, and aggressiveness, such as biting,

kicking, hitting, or running away. By the end of this age period, toddlers usually are able to communicate about their pain. A helpful suggestion is to ask, "If Mommy or Daddy were to put a bandaid on the hurt, where would she or he put it?" (Whaley & Wong, 1987).

#### *Preschoolers*

Intrusive procedures, whether painful or painless, are threatening to preschoolers, whose concept of body integrity is still poorly developed. It is not uncommon for preschoolers to react to an injection with as much concern for withdrawal of the needle as for the actual pain. They fear that the needle puncture will not reclose and that their "insides" will leak out. Punishment is frequently associated with painful events. For example, the child with a broken leg who is undergoing surgery or traction may consider the pain punishment for falling and not being careful as his parent warned.

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### **Children will often reveal how they feel to parents because their parents are safe and trusted.**

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Reactions to pain change during this age period. Although crying, moaning, whining, trying to escape, and verbal attacks, such as "Get out of here" or "I hate you" are common, by the end of the fourth year, many preschoolers exhibit an increasing degree of self-control while experiencing pain. Cultural expectations may be evident, such as the stereotyped sex role of "brave men don't cry," that is often seen in young boys who attempt to be courageous and, if they fail, feel guilty and ashamed.

#### *School-Age Children*

By the age of 9 or 10 years, most school-age children show less fright or overt resistance to pain than younger children. They generally have learned passive methods of dealing with discomfort, such as holding rigidly still, clenching their fists or teeth, or trying to act brave by the

"grin and bear it" routine. If they do display signs of overt resistance such as biting, kicking, pulling away, trying to escape, crying, or plea bargaining, they may deny such reactions later, especially to their peers, for fear of embarrassment (Whaley & Wong, 1987).

School-age children verbally communicate about their pain in respect to its location, intensity, and description. Unlike younger children who have difficulty choosing words to describe pain, children 9 years and above use a wide variety of words and phrases, such as throbbing, piercing, bad, terrible, awful or "like a torture treatment" (Savendra et al., 1982).

School-age children also use words as a means of controlling their reactions to pain. For example, these children may ask the nurse to talk to them during a procedure. Some prefer to participate in a procedure, whereas others choose to distance themselves by not looking at what is happening. Most appreciate an explanation of the procedure and seem less fearful when they know what to expect. Others try to gain control by attempting to postpone the event. A typical request is "Give me the shot when I am finished with this." Although the ability to make decisions does increase their sense of control, unlimited procrastination results in heightened anxiety. When choices are allowed, such as selection of the injection site, it is best to structure the number of possible sites and to limit the number of "procrastination" techniques.

#### *Adolescents*

Adolescents react to pain with much self-control. Physical resistance and aggression are less likely at this age, unless the adolescents are totally unprepared for a procedure. Like older school-age children they are very concerned with remaining composed and feel embarrassed and ashamed of losing control. Fear can be a major component of the pain experience, especially if they consider an illness/procedure a threat to their physical integrity. They are able to describe their pain experience and to use any of the pain assessment tools developed for adults, but are often reluctant to disclose their pain unless the nurse is willing to listen closely



and observe physical indications, such as limited movement, excessive quiet, or irritability.

### Sensitize Parents

Parents are a valuable, but sometimes overlooked, resource for better understanding a child's pain. Generally speaking, parents know their children better than anyone. Who would be more effective in helping to assess the child's pain?

Parents are sensitive to changes in behavior. Frequently, they are aware that the behavior signals pain because the child has acted similarly during previous painful events. Children will often reveal how they feel to parents because their parents are safe and trusted. It is not unusual for a child who has been quiet to start crying when the parent visits, complaining of pain. Nurses sometimes erroneously judge this behavior as seeking attention, when it is actually a demonstration of the child's true feelings. The parents may feel their child acts "worse" when they are present and need to understand that the child feels safe with them. When talking to the parent, it is sometimes helpful to remind them that they do know their child best.

Let them know that their expertise is valued and necessary in enhancing the child's care. Parents sometimes tend to leave the assessment of pain solely up to the nurses because the nurses are more "experienced" with pain. While this may be true, the parent's familiarity with the child and the nurse's experience should be combined for maximum results. Many parents need to be sensitized to the behaviors in their child that may indicate that pain exists. One mother who appeared to be very aware of her child's needs said, when interviewed, that despite the seven major surgeries her 2-year-old child had experienced, the child had never needed any pain medication. She knew this, she said, because the doctor had told her that young children do not experience pain. When asked how her son behaved following the surgery, she described that he would not move his head, that he was irritable and difficult to console. She reasoned that he was just hungry and tired. Although it cannot be assumed that even the most "experienced" parents are able to accurately assess their child's pain,

**Table 3. Guidelines for Converting From IV or IM to PO Analgesics**

Convert half the IV or IM dose to a PO dose, using equianalgesic charts. For example: 10 mg MS, IV $\frac{1}{2}$ of 10 mg = 5 mg MS, IV = 30 mg MS, PO (1:6 parenteral to oral ratio)
Administer half the IV dose and the PO dose. For example: 5 mg MS, IV + 30 mg MS, PO
Continue this schedule to ensure that the patient is comfortable.
Gradually decrease the PO dose while maintaining $\frac{1}{2}$ IV dose if sedation is occurring. For example: 5 mg MS, IV + 25 mg MS, PO
When IV and PO dose cause analgesia without unwanted sedation, discontinue IV dose and double the PO dose. For example: 50 mg MS, PO

\*The exact IM to PO ratio dosage for morphine is controversial. (Kaiko, 1986)

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**Table 4. Pediatric Dosages of Selected Narcotic Analgesics**

Drug	Dosage (IM)*	Equianalgesia	
		IM (mg)	PO (mg)
Codeine	Newborn — not established Infants and children — 0.5 mg per kg q 4 to 6 hours	130	200
Meperidine (Demerol)	1.1 to 1.6 mg per kg q 2 to 4 hours	75	300
Methadone	Children under 6 yrs. — 0.1 to .7 mg/24 hours Children over 6 hrs. — 2.5 mg/24 hours†	10	20
Morphine	0.1 to 0.2 mg per kg q 4 to 6 hours Rectal suppositories — dose not established but 5 mg suppository approximately equal in analgesia to 5 mg morphine IM	10	60‡

\* IV dose is half IM dose, given very slowly.

† In clinical practice a higher dose than that recommended has been found necessary to achieve analgesia. The dose ranged from 25 to 40 mg q 4 to 12 hours with a "typical dose" being 5 to 10 mg q 6 to 8 hours. (Martinson, L. and others: Nursing care in childhood cancer: Methadone. *AJN*, 82(3):432-435, 1982.)

‡ For relief of chronic pain, the parenteral oral ratio decreases to 1:2 or 1:3.

Note: Research has not proven that the above recommended doses are effective in relieving pain. Rather, clinical experience has shown that these doses are safe for most children.

Children metabolize narcotics faster than adults. Therefore doses need to be given more frequently for optimum pain control. Long-acting drugs such as methadone are preferable in treating prolonged pain.

Note: From *Handbook of Pediatric Nursing*, 2nd ed., D. Wong and L. Whaley, 1986, St. Louis: Mosby. Reprinted by permission.



interviewing the parent and recruiting them to observe their child's behavior is an excellent opportunity for building rapport and encouraging the parents to take an active role in their child's health care. The questions in Table 2 can help facilitate this process.

### Take Action!

When pain has been identified, appropriate steps need to be taken to manage the pain. Generally, administering pain medication is the first step and is based on two principles: (a) titrate the dosage and (b) schedule the medication to *prevent* pain. Titrating the dosage necessitates knowledge of the correct dosage per body weight or body surface area and beginning with this dosage. Using the pain assessment record, evaluate the child's response and either increase or decrease the dose as needed — increase the dose for more pain relief or decrease the dose if the child is too sedated.

The most successful approach for administering medication when pain is predictable, such as after surgery, is around the clock (ATC) not as needed (prn). ATC administration keeps pain under control without the peaks between doses that make patients "clock watchers" for the next dose. Contrary to the belief that ATC scheduling increases the total daily dosage, this method of administration usually allows for better pain control with *fewer* analgesics.

Because children dislike injections, every effort is made to avoid intramuscular or subcutaneous administration of analgesics. Immediately postoperatively, most children have an intravenous infusion, which is an excellent vehicle for pain medication. As soon as possible, use the oral route. In switching from the parenteral to oral route, you must make dosage adjustments for the different preparations of the same or a different drug by using "equianalgesia" charts. For example, an equivalent oral dose of meperidine (Demerol), 75 mg, IM, is 300 mg or four times the IM dose (see Tables 3 and 4 for guidelines in dosing and converting from IV or IM to PO analgesics).

To supplement pharmacologic pain management, several psychologic strategies can be used. Remember that they should not be viewed as substitutes for analgesics because they take energy that the sick child may not

**Table 5. Suggestions for Nonpharmacologic Management of Pain**

1. Prepare children in advance of potentially painful procedures but avoid "planting" the idea of pain. For example, instead of saying, "This is going to (or may) hurt," say "Sometimes this feels like pushing, sticking, or pinching, and sometimes it doesn't bother people. You tell me what it feels like to you." This allows for variation in sensory perception, avoids suggesting pain, and gives the child control in describing his reactions.
2. Avoid evaluative statements or descriptions, such as "This is a terrible procedure," or "It really will hurt a lot."
3. Stay with the child during a painful procedure; parents are often a neglected source of support for the child and can be involved in distracting him.
4. Use the power of positive suggestion by saying, "I am giving you a medicine that *will* take the hurt away."
5. Reinforce the effect of the analgesic by telling the child that he will begin to feel better in \_\_\_\_\_ amount of time (according to drug use). A clock or timer can be used to measure the onset of relief with the child. By reinforcing the cause and effect of pain and analgesic, the child becomes conditioned to *expecting* relief.
6. Avoid saying, "I'm going to give you a shot for pain," since this adds one pain to existing pain; if the child refuses the shot, explain that the little hurt from the shot will take away the bigger hurt for a long time.
7. Give the child control whenever possible, for example, choosing which leg for a shot, taking bandages off, holding the tape or other equipment.
8. For long-term pain control give the child a doll that becomes "his patient" and allow him to do everything to the doll that is done to him. Pain control can be emphasized through the doll by stating, "Dolly feels better after her medicine."
9. Use distraction as much as possible (involve the parent and child in identifying strong distractions).
  - a. Involve the child in play; use a radio, tape recorder, record player; or have him sing or use rhythmic breathing.
  - b. Have the child concentrate on yelling or saying "ouch" by focusing on "yelling loud or soft as you feel it hurt, that way I know what's happening."
10. Use relaxation techniques. Teaching the child to relax may decrease painful stimuli (e.g., release tension on abdominal incision) or may act as distraction.
  - a. Ask the child to take a deep breath and "go limp as a rag doll" as he exhales slowly. Then ask the child to yawn.
  - b. Help the child assume a comfortable position (e.g., place a pillow under neck and knees).
  - c. Hold infant or small child closely, rock him, and repeat a few words softly.
11. Use cutaneous stimulation such as simple rhythmic rubbing; use of pressure; use of electric vibrator; massage with hand lotion, powder, or methol cream; application of heat or cold, such as ice cube on site before giving injection. Stimulation is most effective if rhythmic or constant and moderate in intensity.

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have. However, they are valuable adjuncts as they can lessen the need for additional medication, and can reduce distress during brief procedures, such as venipunctures, when analgesics are not given. Since fear is so often a part of the pain experience, everything that you can do to decrease fear, such as explaining a procedure or having the parent stay with the child, will also decrease the overall distress. It is often therapeutic to explain the etiology of the pain to the child. Children have such vivid imaginations that they may expect that the

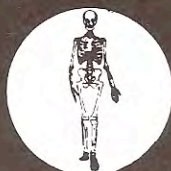
pain means their condition is worsening. An appropriate explanation can decrease their anxieties and help them to better understand their progress. Other general and specific nonpharmacologic strategies are listed in Table 5.

The assessment and management of pain takes a great deal of commitment on the part of nursing. With the Q.U.E.S.T. approach, nurses can maximize their efforts by using the valuable resources available to them, namely the patients and their parents. □



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