



The Children's Corner: Perspectives on Supportive Care

Jessika Boles, PhD, CCLS

The Powerful Practice of Distraction

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Conducting a literature search on “pain” is both an overwhelming and counterintuitive experience. As thousands upon thousands of articles, chapters, and scholarly sources appear, each reminds us of the same conceptual limitation of pain research: pain is a highly subjective, multi-dimensional construct that cannot be entirely or universally defined. There is some level of agreement on the structures and processes involved in a pain experience; however, because of its perceptual nature, there is no one-size-fits-all approach to the identification, diagnosis, and management of pain.

It is no secret that pain is not yet well controlled in pediatric patients (Stevens et al., 2012), especially those undergoing painful medical procedures (Taylor, Boyer, & Campbell, 2008). Some of these difficulties can be attributed to staff distress, practitioner competence, and barriers to resources or education (Olmstead, Scott, Mayan, Koop, & Reid, 2014). Yet other challenging factors may include systematic issues in health care or larger cultural philosophies about pain and suffering.

Melzack's (1999) gate control theory of pain is the most commonly studied theory in contemporary healthcare practice. According to gate control theory, pain signals must pass through a variety of control centers, or gates, in their journey to be interpreted and then felt as pain. However, each “gate” along the pathway can be opened or closed by other types of stimuli as well – not just pain. When these gates are closed by, for instance, focusing your thoughts on a different stimulus (i.e., your favorite song playing on the radio, reminding yourself to take deep breaths, or even composing your weekly grocery list), fewer pathways can be accessed by pain signals (Melzack, 1999). This is the power of distraction.

Distraction has recently become a popular non-pharmacological pain management technique in children's health care. Sometimes referred to as volition or alternative focus, distraction in this sense refers to “a relatively simple, yet

effective, intervention for pain and distress associated with procedures that involves drawing attention away from the painful stimulus and onto a pleasurable diversion” (McCarthy et al., 2014, p. 398). Distraction can be delineated into active or passive types, depending on the level of engagement of the child. Active techniques require the child's cooperative involvement, whether by making choices, participating in conversation, or directing the distraction activity chosen. Passive techniques, on the other hand, may include listening to music, watching a video, or other distraction tools that need only passive engagement to function. Within each of these categories, there can be an endless supply of materials used; however, some have been more heavily researched than others.

Distraction Techniques in the Literature

Most studies on distraction have addressed the impact of distraction on children's pain and anxiety scores during needlestick, while others have instead focused on day surgery procedures, wound dressing changes, or intravenous catheter insertion. No matter the healthcare environment or procedure at hand, the literature clearly identifies several key points, which are outlined below.

Distraction During Procedures Decreases Children's Pain and Anxiety

Distraction and hypnosis are the most consistently documented nonpharmacological interventions for reducing pain and distress in children undergoing needle sticks (Birnie et al., 2014). This holds true whether children are rating their own pain and anxiety, or whether parents are reporting for them; for example, Shahid, Benedict, Mishra, Mulye, and Guo (2015) found that parents perceived the use of distraction to reduce anxiety, crying, and the need to be held in their young children receiving immunizations. Further, distraction has shown to be just as effective in reducing pre-operative anxiety as anxiolytic medications in children ages 5 to 8 years undergoing day surgery (Al-Yateem, Brenner, Shorrab, & Docherty, 2016).

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The Children's Corner: Perspectives on Supportive Care focuses on exploring ways to support children undergoing healthcare experiences. Drawing on the documented thoughts and perspectives of children in the research literature, **The Children's Corner** aims to provide practitioners with high-quality evidence-based care practices that also promote the coping and development of children of all ages and their families.

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Table 1.
Age-Appropriate Distraction Suggestions

Infants (ages birth to 1 year)	<ul style="list-style-type: none"> • Parental presence (touch, soft voice) • Swaddling • Pacifier • Feeding (breast or bottle) • Music • Rattles • Mobile or crib soother
Toddlers (ages 1 to 3 years)	<ul style="list-style-type: none"> • Books with lights/sounds • Toys that light up or play music • Buttons/switches that cause interesting effects • Blowing bubbles • Sensory toys (such as Play Doh, balls with interesting textures, glitter wands, rain sticks) • Musical instruments (shakers, tambourines, etc.)
Preschoolers (ages 3 to 5 years)	<ul style="list-style-type: none"> • First I-spy or find-it books • Electronic tablet applications or games • Blowing bubbles • Sensory toys (see above) • Familiar movies/TV shows • Musical instruments
School-Age Children (ages 6 to 12 years)	<ul style="list-style-type: none"> • Virtual reality • Electronic tablet applications or games • Familiar movies/TV shows • Brain teasers or puzzles • Fidget items • I-spy books • Guided imagery • Purposeful movements/exercises
Adolescents and Young Adults (ages 13 years and up)	<ul style="list-style-type: none"> • Virtual reality • Electronic tablet applications or games • Familiar movies/TV shows • Web surfing/social media/online videos • Talking/texting with friends or family • Guided imagery or relaxation • Trivia games or brain teasers • Fidget items

Active Distraction Techniques Are Typically Most Effective

When active strategies, such as distraction cards, playing a cellphone game, or viewing a kaleidoscope, are used, children report a more significant decrease in pain and anxiety, as compared to passive distraction techniques (Hussein, 2015; Karakaya & Gözen, 2016; Sahiner & Bal, 2016). In the past five years, a wealth of literature has emerged specifically addressing the role of virtual reality interventions on pain and anxiety in children's health care. Findings of these studies also support the power of active distraction. For instance, virtual reality interventions decreased pain and anxiety scores in children undergoing wound dressing changes (Hua, Qiu, Yao, Zhang, & Chen, 2015) or cold pressor trials (Sil et al., 2014); Hua and colleagues (2015) also found that implementing virtual reality decreased the duration of dressing change procedures.

Passive Distraction Is More Effective than No Distraction

Passive entertainment-based distractions, such as watching a movie or a cartoon on a portable DVD player, correlate with decreased pain and anxiety scores in children undergoing venipuncture (Bergomi, Scudeller, Pintaldi, & Dal Molin, 2018; Oliveira, Santos, & Linhares, 2017). Thermomechanical stimulation, which administers cooling and vibration to the skin simultaneously, is also an effective passive physiological distraction mechanism. When compared with other distraction types, Buzzy Bee (a thermomechanical device) was found to be more effective than no distraction on reducing pain during venipuncture and IV insertion (Bergomi et al., 2018; Inal & Kelleci, 2017; Moadad, Kozman, Shahine, Ohanian, & Badr, 2016).

Like Pain Perceptions, Distraction Preferences Differ Based on the Child's Unique Characteristics

According to research by McCarthy and colleagues (2014), it is essential that clinicians match approaches to distraction with the child's risk of distress. More specifically, children who are considered "high risk" for procedural distress are best served when distraction is facilitated by a trained professional; however, children who present as moderately at risk or low-risk can benefit from parent-led distraction (McCarthy et al., 2014). Although few overt differences have been documented across genders or age groups, different groups of children under similar conditions have demonstrated conflicting responses to various distraction techniques. This suggests that just as pain is a highly individualized and context-specific phenomenon, so is a child's experience with distraction during procedures. Therefore, it is important to allow children the opportunity to develop a distraction plan during preparation for any medical procedure.

Practicing Distraction in Pediatrics

Given this evidence, as a child life specialist, I rely on two questions to inform my assessment and help me determine the best potential distraction tools. First, I ask the parent and patient to tell me about the types of activities the child typically enjoys at home. This helps me gauge how the child prefers to direct his or her attention when given the choice and can help me identify toys or games that may be of interest. For instance, I once had a school-age boy who loved collecting and memorizing baseball card statistics. During his central line removal, we used an application on my electronic tablet to design a baseball card with his treatment and coping statistics – in the end, he proudly showed me his creation that not only held his attention during the procedure, but helped him document the 4 seconds it took for his line to come out, the 5 minutes of pressure applied to the site, and the end of approximately 104 dressing changes that he endured throughout his course of cancer treatment.

In addition to the child's preferred activities, I also inquire about his or her reaction to new experiences: does the child enjoy experiencing new and novel stimuli, or is he or she the kind of child who prefers to return to familiar things and surroundings? This question helps me assess the child's coping preferences in the face of stress; some children view new and never-before-seen distraction tools as exciting and stimulating (and thus, effectively distracting), whereas others experience these new things as additional sources of sensory stress during an already tense situation. For example, I once worked with a 4-year-old girl over the course of two years who preferred to cope using the same light-up piano keyboard during every needlestick and dressing change. Her parents invested in not one, but two of these devices (and a bag of extra batteries) to keep with them during her hospital stays so they were always prepared to help her by providing this familiar – and effectively distracting – tool. Additional examples of potential distraction tools for each age group can be found in Table 1; however, this is by no means an exhaustive list.

Conclusions

When a child directs his or her focus away from a stress-

ful or painful event and onto a competing sensory stimulus (such as a video, interactive game, virtual reality, squeeze ball, etc.), the nervous system's resources are also redirected, resulting in decreased pain and anxiety. Although each child experiences pain differently based on his or her development, previous experiences, and sociocultural beliefs, distraction is a universal cognitive concept. Therefore, it can be effective for most any population and in most any setting; however, much like parenting outcomes, what is most important is the goodness of fit between the child and the type of distraction used. Nurses, child life specialists, and other practitioners are in a unique position to not only provide distraction opportunities during painful procedures, but to also educate and coach parents on the value of these techniques. Parents can then incorporate these strategies not only into the child's current plan of care, but future procedures and potentially stressful experiences.

In addition to its long-term and family-centered benefits, distraction is a cost-effective and accessible intervention available to most anyone. Although some distraction materials can be quite expensive (electronic tablets), other strategies (watching a video, answering questions, blowing up a balloon, and other affordable options) are just as effective. Further, it does not take a specific certification or degree to be qualified for providing distraction. Rather, we are all responsible for ensuring adequate pain control in pediatric patients, whether by educating staff and families, guiding the child's focus away from the procedure, or remaining open to the power of distraction in decreasing pain and anxiety. ■

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