

**Evidence Based Practice Day**  
Department of Rehabilitation Sciences, Recreation Therapy Program  
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**The Impact of Play and Recreation on Reported Pain Levels in Children with Cancer**

**Search Terms:** children with cancer, cancer, oncology, pediatrics, play, recreation, activities, distraction, pain levels, pain management

**Years:** 2003-2012

**Databases:** Academic Search Premier, CINAHL, ERIC, MEDLINE, PsycARTICLES, Psychology and Behavioral Sciences Collection, SPORTDiscus

**Number of Articles:** 7

Summary of Research Findings:

Children diagnosed with cancer have benefited from advances in treatment during recent years. However, the pain that often accompanies these treatments can negatively impact a child's quality of life and well-being. Therefore, pain management should also be addressed by health care professionals involved in the treatment of children with cancer (Windich- Biermeier, Sjoberg, Dale, Eshelman, & Guzzetta, 2007).

Since pain has been positively correlated with fear, and fear has been positively correlated with anxiety and distress (Windich-Biermeier et al., 2007), these symptoms are often evaluated collectively in the literature. One of the most commonly cited approaches for addressing pain, anxiety, fear & distress in children undergoing painful cancer treatments is distraction (Windich- Biermeier et al., 2007). Although a variety of interventions have been used for distraction, those most commonly identified are recreation focused (Gershon, Zimand, Lemos, Rohbaum & Hodges, 2003; Nguyen, Nilsson, Hellstrom & Bengtson, 2010; Windich-Biermeier et al., 2007).

Regardless of the intervention selected, patient education about how to use the intervention plays an important role in its effectiveness as does the child's ability to choose the activity (Nguyen et. al., 2007; Windich-Biermeier et al., 2007). It is interesting to note that many of the studies reviewed involved the parents of the children in the intervention and commented on the important role they play in decreasing fear, anxiety, pain and distress during medical treatments for cancer (Gershon et al., 2003, Molassiotis & Cubbin, 2004; Windich- Biermeier et al., 2007).

Despite promising results regarding the impact of play and recreation on pain in children with cancer, more research is needed.

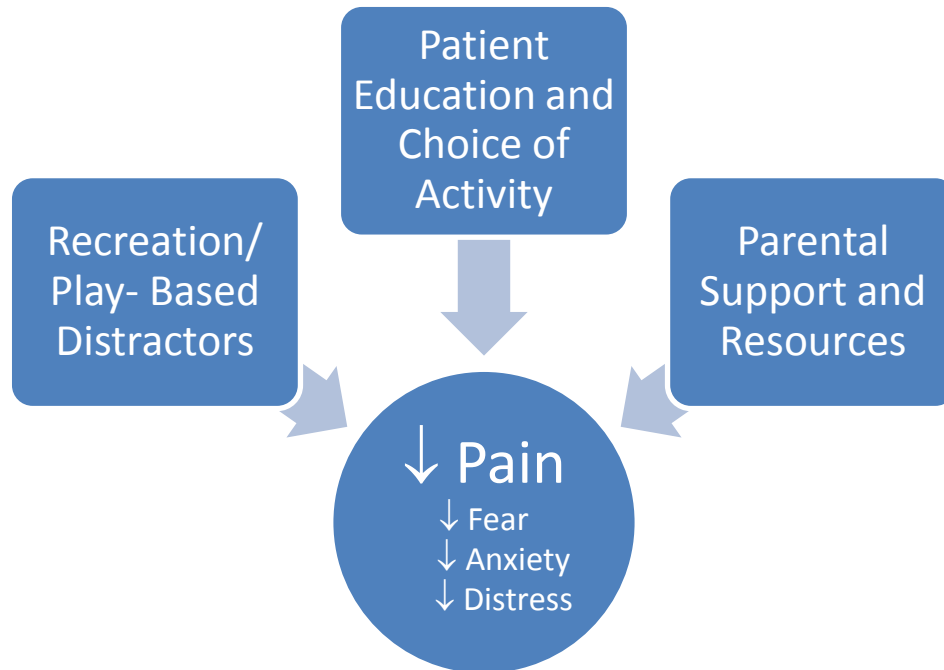
Knowledge Translation Plan:

Certified Therapeutic Recreation Specialists (CTRS's) can play an important role in managing the pain of children with cancer by providing recreation based distraction interventions during pharmacologic/medical cancer treatments that may result in pain, fear, anxiety and distress. Allowing the child to select an activity of interest will promote independence and emphasize an internal locus of control (Windich- Biermeier et al., 2007). However, the therapist should also educate the child on how to properly use the activity during the cancer treatment for maximum benefit. The modality chosen should be age- appropriate, immersive and engaging, in order to keep the child's attention away from the painful procedure (Gershon et al., 2003). There is evidence to support the use of a variety of interventions as distractors for pain management. These are activities and modalities typically used by CTRS's including: bubbles (Windich-Biermeier et al., 2007), virtual reality and video games (Gerson, et. al, 2003; Rheingans, 2007; Windich-Biermeier et al., 2007), books (Windich-Biermeier et al, 2007), music (Nguyen et al., 2011; Windich-Bieremeier et al., 2007), progressive muscle relaxation (Rheingans, 2007),

guided imagery (Rheingans, 2007), humor/laughter (Molassiotis & Cubbin, 2004) and animal facilitated therapy (Urbanski & Lazenby, 2012) .

The CTRS should also recognize that parents play a vital role in the child's life, so may want to involve them in the distraction intervention in some way, such as encouraging the child during play or participating in the activity with them. The CTRS may also be able to provide resources and educate the parents on how they can use play and recreation for distraction during other times when the child is experiencing pain.

Given the need for additional research in this area, practitioners should not only be promoting the use of distraction techniques that have shown promising results but also aim to gather data on the effectiveness of additional interventions they use for pain management in children with cancer.



#### References:

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