

## Distraction for Painful Procedures in Pediatric Patients

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### Clinical Question:

In pediatric patients, does the use of distraction techniques decrease pain and anxiety during acute painful procedures?

### Source of Evidence:

- Al-Yateem, N., Brenner, M., Shorrab, A. A., & Docherty, C. (2016). Play distraction versus pharmacological treatment to reduce anxiety levels in children undergoing day surgery: a randomized controlled non-inferiority trial. *Child: Care, Health & Development*, 42 (4), 572-581. doi:10.1111/cch.12343
- Matziou, V., Chrysostomou, A., Vlahioti, E., & Perdikaris, P. (2013). Parental presence and distraction during painful childhood procedures. *British Journal of Nursing*, 22 (8), 470-475
- Oommen, S., Kathuria, O. K., & Mathur, R. G. (2014). Effectiveness of the distraction technique on pain & behavioral distress during invasive pediatric procedure among school age children. *International Journal of Nursing Education*, 6(2), 159-164. doi:10.5958/0974-9357.2014.00626.6
- Rezai, M. S., Goudarzian, A. H., Jafari-Koulaee, A., & Bagheri-Nesami, M. (2017). The effect of distraction techniques on the pain of venipuncture in children: A systematic review. *Journal of Pediatrics Review*, 1-11. doi:10.17795/jpr-9459

### Synthesis of Evidence:

There were four articles included in our report. A systematic review of randomized controlled studies and review articles, and three random controlled trials.

Al-Yateem et al. (2016) conducted a randomized non-inferiority controlled trial to determine if storytelling, picture, and coloring would reduce pre-operative distress in 168 pediatric children scheduled for surgery. Interventions included exploring the effect of storytelling, pictures, and coloring to reduce pre-operative anxiety. They used three different pain instruments. They found that the interventions of storytelling, pictures, and coloring of decrease pain and anxiety

Matziou, (2014) conducted a randomized control trial on 130 patient ages 7-10. The purpose was to determine if parental presence and the use a a kaleidoscope toy would decrease procedural pain. The 130 patients were divided into 3 groups. One group had parental presence, one group had the toy, and the final group had nothing. The verbal rating scale of pain, the assessment of vital signs before and after the procedure and the State-Trait Anxiety Inventory for Children were used. The intensity of painful stimulus that was perceptible to the child decreased not only when a parent was present, but also when the kaleidoscope (toy) was used. Scores on the stress scale decreased when parents were present, and when the toy was used. Older children conceived less pain than the younger children. The stress score was also less in older children than younger. The toy was less effective than parental presence for stress, and for pain. In conclusion, the study indicated that parental presence can cause a reduction in the stress and pain experienced by children during an invasive procedure.

Oomen et al. (2014) conducted a random control trial with 60 children ages 6-12. One group of 30 children received a kaleidoscope for distraction during a painful invasive procedure the other group of 30 did not receive a kaleidoscope. Study findings showed that the group that received the kaleidoscope as a form of distraction during the invasive procedure decreased the pain and distress on the children. Allowed help with answering our PICO question because it showed that by using distraction of a kaleidoscope, children had a decrease pain perception during their procedure.

Mohammand (2016) conducted a systematic review. There were 31 randomized control studies and 2 review articles. The study findings showed that various distraction techniques can reduce the pain experienced by children during venipuncture, the effect is even more effective when the techniques are geared toward the child's age and mental and physical conditions.

### **Conclusions:**

The studies support the use of distraction techniques to reduce the pain experienced by pediatric patients during acute procedures. It was suggested that the techniques used will be more effective if the developmental age of the child is taken into account and the techniques used are specified towards them. It was also found that when looking at the age of children and the amount of pain experienced, younger children felt more pain and experienced more distress than older children did. Finally, while the effects of all techniques studied, such as a kaleidoscope, play, music, and bubbles for example, helped to decrease pain, parental involvement was found to be the most effective form of distraction technique. For this reason, it is our recommendation that parental involvement should be encouraged during acute painful procedures and they should help to distract their child with any of the given techniques.

### **Implications for Nursing Practice:**

There is evidence to suggest that distraction techniques help to reduce the pain experienced by pediatric patients. These techniques could help to reduce pain, and anxiety experienced by pediatric patients. The outcomes would be very beneficial for the children, and any future visits that they might have.