

Distraction in Action: Helping Children during Medical Procedure in Community and Public Health Settings

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Introduction

Young children have painful medical procedures in community and public health settings, in addition to hospitals. The long term consequences of untreated pain in children may include increased pain sensitivity, avoiding healthcare, and changes in neurodevelopment [1-4]. Our team conducts research to develop evidence-based interventions to decrease children's pain, anxiety and distress related to medical procedures [5,6].

Distraction, that is drawing the child's attention away from a painful stimulus and focusing it on play, is a practical evidence-based intervention that can be used with or without pharmacological intervention in any setting. We found that quality distraction coaching decreases child distress and that most parents can be quickly trained to provide distraction coaching for their child. We developed Distraction in Action[®], a collection of tools and resources for children, parents, and clinicians that can be used in any setting where children experience painful procedures. A key component of this collection of tools and resources is the Distraction in Action Tool (DAT[®]). A guardian or parent and the child, when possible, answer some simple questions on this web-based app. The DAT uses the parent's and child's answers to identify the child's predicted level of distress (DistrEstimate[®]) during the upcoming procedure. Predictions are based on data from over 1,000 children having a planned IV insertion in an ambulatory hospital setting. Ideally, the child's parent and nurse would look at the DistrEstimate together and discuss who would be the best person to take of the role of distraction coach. The DAT includes a short video designed to teach parents or guardians how to be a successful distraction coach and individualized tailored instructions for how to help the child during the procedure. The following case study illustrates how the DAT could be helpful.

A father comes into the local community hospital ED with his 6-year-old son Rowan. Rowan fell from the climbing wall at the playground. He is not in pain, but will need an IV for diagnostic testing. Rowan has never been to the ED before, and has never had an IV. He appears to be calm, but clings to his father as the nurse approaches.

The nurse applies a topical anesthetic to the IV site. At first glance, she thinks that Rowan will be just fine having his father provide distraction during the IV insertion by reading or talking to him. To assess his potential for distress with an evidence-based tool, the nurse asks Rowan and his father to complete the DAT questions and watch the distraction coach training video on a handheld tablet.

Using the answers that Rowan and his father provided, the DistrEstimate predicts that Rowan is at high risk for distress during the IV insertion even if the father provides distraction. The father watches the distraction training video, but is not feeling confident about being the distraction coach. With that information, the nurse suggests that a staff member with distraction training and experience be brought in to help Rowan through the IV insertion. The nurse suggests that the father stand close to Rowan and provide support through touch and calm presence.

The ED Medical Assistant (MA), who was trained to provide distraction for children during procedures, takes on the role of distraction coach for Rowan. From the tailored information and instructions provided in the DAT, the MA knows that Rowan doesn't want to watch the IV procedure, and would be most comfortable with electronic games to pull his attention away from the IV procedure. The MA helps Rowan select a couple of games to use during the procedure, props up a pillow to shield Rowan's view of the procedure and positions herself next to him before the IV procedure begins. Throughout the IV procedure she encourages Rowan's involvement with the games and brings his attention back to the games if his attention is lost. Rowan's father is at his side, holding his hand and providing quiet support. The nurse is able to focus on the IV insertion and Rowan tolerates the procedure with minimal distress.

We recently published results of a small mixed-methods feasibility and usability study of DAT in a hospital setting [7]. Twenty parents of children having needle stick procedures and 13 clinicians performing the procedures participated. Parents were predominately mothers (80%) and children were 11 boys and 9 girls, 4-10 yrs of age (mean 6.8 yrs). After using the DAT, five of the 20 parents chose to provide distraction for their child. Parents found DAT was easy to use (84.2%), understandable (100%), and had a positive experience (89.5%). Clinicians thought DAT was useful (100%), and did not cause a meaningful delay in workflow (92%). Brief interviews with parents and clinicians confirmed the distraction "worked", helped the needle stick procedure to go better, and it was helpful to know the child's DistrEstimate. Further testing of usability and feasibility in other locations such as community health settings is needed.

DAT is a web-based computer application that is available at no cost anywhere the internet can be accessed. Although the DAT was developed using data from research with children 4-10 yrs of age in ambulatory settings, it can be used with children in a wider age and intellectual ability range. Resources in the Distraction in Action collection provide additional information on using distraction with infants, toddlers, and older school aged children.

Children's hospitals and ambulatory clinics often have Child Life Specialists available to provide expert distraction during painful procedures.

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However, in many settings or during later hours, trained distraction coaches are not available to help. Particularly in settings with few resources, parents are an important part of care, and DAT is an ideal tool for them to partner with clinicians. For example, DAT could be used in a public health clinic, where parents complete questions and watch the teaching video on a cell phone while waiting for the child to be seen. Parents want to help and may need to be the distraction coach in situations where other help is not available. A screen shot of the child's DistEstimate could be shared with the clinician and then used to determine the best use of resources. Apps recommended could be loaded on the phone for the coach to use for distracting the child. Successful strategies could be adapted for use at home or school. Training videos and other resources might also be used to teach volunteers to use distraction in settings without internet access, such as for immunization clinics.

Key resources in the Distraction in Action collection are short videos for teaching parents to use distraction during medical procedures (recently revised) and two videos for teaching healthcare providers about distraction (currently being revised). We are interested in how you use DAT with varying populations and how it performs in community and public health settings. Feedback about how these could be adapted and used outside of hospitals is welcome. We invite readers of the *Journal of Community and Public Health Nursing* to explore and report the use of Distraction in Action tools and resources in community and public health settings.

Distraction in Action and the DAT can be accessed at <https://uichildrens.org/distraction-in-action>. Contact the authors at distraction-in-action@uiowa.edu.

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