Symposiums: Pediatric Pain Management in Unique Populations and Settings

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We have no conflicts or disclosures.
The purpose of this presentation is to discuss research outcomes and clinical implications for pain management in children at risk for untreated pain.
Predicting Child Risk for Distress with a Painful Procedure

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Most children experience painful medical procedures, such as needle sticks.
Our research team has over 20 years of experience with procedural pain in children.

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Vision: To help healthcare professionals, parents, and children by providing research based tools that help reduce the distress experienced during painful procedures.
C-PaD matches up a child’s risk for distress and resources to help with distraction.

Feasibility study:
Step 1: Build it
Step 2: Test it in practice
C-PaD uses predictive modeling and decision support to help parents and providers.

**Parents**

- Parent Questions
- Video Teaching Distraction
- Predicted child’s risk for distress
- Individualized tips
- Links to book and games

**Healthcare Providers (HCP)**

- Predicted child’s risk for distress
- Child distress profile
- Quick tips for healthcare provider
1) What is your relationship to the child? (Person completing this form)
- Mother
- Father
- Other

2) Child's ethnicity
- Hispanic or Latino
- Not Hispanic or Latino
- Prefers not to answer

3) Child's race
- American Indian or Alaska Native
- Asian
- Black or African American
- Native Hawaiian or Other Pacific Islander
- White
Helping Your Child During Medical Procedures

Distracting children during medical procedures, Part 3: Tips for parents
Risk for Distress Behavior

Who will provide distraction?
<table>
<thead>
<tr>
<th>App</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Angry Birds 2</td>
<td>The survival of the Angry Birds is at stake. Dist our revenge on the greedy pigs who stole their eggs. Use the unique powers of each bird to destroy the pigs' defenses.</td>
</tr>
<tr>
<td>Balloonimals</td>
<td>Blow into the microphone to blow up the balloon and then shake the phone to see a balloonimal come to life before your eyes</td>
</tr>
<tr>
<td>Bubbles</td>
<td>Toddlers can touch the bubbles to make them pop on the screen</td>
</tr>
<tr>
<td>Cut the rope 2 free</td>
<td>Cut the rope to feed candy to little monster</td>
</tr>
<tr>
<td>Easy Bake Oven</td>
<td>Decorate cupcakes and pretend to eat</td>
</tr>
</tbody>
</table>
The purpose of this study was to test the functionality and feasibility of using the C-PaD in practice.

What are parents’ and HCP experiences with using C-PaD?

- 20 parents of children ages 4-10 having a needle stick
- Healthcare providers in the Emergency Department or phlebotomy lab
Most children had a needle stick for labs.

6.8
Mean years of age
Range 4-10
Twenty parents of children having a needle stick participated in the study.
Parents thought C-PaD was easy to use, they understood it, and thought it helped.
Parents thought distraction helped and the C-PaD experience was positive.

- Did the games help? 
- Did games hold your child's attention? 
- Did using distraction help? 
- Was the prediction accurate? 
- Did it help you to participate? 
- Was C-PAD positive experience?

n = 19
Parents recognize distraction works, but is impacted by other factors.

Previous experiences are mixed, and they matter.

Some children were not distractable.

Distraction Works!

HCP may interfere with distraction.

Trained professional free parents up for other support.
HCP thought distraction and meters helpful, but the delay in workflow was meaningful.
HCP see the benefits of risk assessment and distraction, and adjust their workflow.

It helped to know the child’s risk for distress.

Distraction Works!

Needle stick goes better with distraction.

It depends....

We can adjust the workflow

We want a tablet!
Parent prediction of distress and C-PaD predictions correlate.

Parent prediction and C-PaD with parent or professional distraction ($r = 0.92, 0.97$)
Parent and HCP report of distress were consistent.

\[ n = 12, \text{Pearson's } r = 0.93 \]
When parent distraction provided, C-PaD predicted risk and reported distress correlate.

C-PaD prediction for parent provided distraction with parent report and HCP report ($r = 0.91, 0.96, n = 5, 4$).
When professional distraction provided, C-PaD predicted risk and reported distress not related.

C-PaD prediction for professional provided distraction with parent report and HCP report ($r = 0.34, 0.46, n = 14, 9$).
Parent and HCP experienced C-PaD to be feasible and helpful for children having needle sticks.

Distraction works!

Use of C-Pad in a real world clinical setting was feasible.

Parent app is ready for market.

Provider app needs further research.

Knowing the child’s risk for distress is helpful

Watch for our website and Distraction in Action!

Questions?

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Ben Miller
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ED staff
Phlebotomy staff

Part 1: HCP as distraction coaches
https://www.youtube.com/watch?v=m7GG9fXSKbc

Part 2: HCP including parents in distraction
https://www.youtube.com/watch?v=lcg_BDwL9Oc

Part 3: Teaching parents to use distraction
https://www.youtube.com/watch?v=DYX4BinDEj4
SELECTED REFERENCES


