Implementation of the Riley Comfort Bundle for Needlestick Procedures

Riley Hospital for Children

- Available beds: 314
- Total admissions: 10,000
- Total ambulatory visits: 263,000
- Emergency medicine & trauma visits: 38,110
- Indiana’s only nationally ranked pediatric hospital. Riley Hospital for Children at IU Health is recognized in 9 pediatric specialties by U.S. News & World Report in 2014
- Magnet designation (as a system with IU Health University Hospital and IU Health Methodist Hospital) since 2006
- Level one trauma center designation

Objectives

- Describe the evidence-based elements of the Riley Hospital for Children Comfort Bundle
- Analyze the current practice within their healthcare organization to determine if the elements of the Comfort Bundle are consistently used to control procedural pain.
- Discuss the variables that influence adoption of a comfort bundle within a healthcare organization.
Conflict of Interest Disclosure

• No conflicts of interest to disclose

Needlestick Pain and Distress

• What is known
  – Needlesticks are the biggest fear children have during healthcare encounters
  – Needle procedures cause distress beyond the immediate procedure

• It is estimated that 25% of adults have fear of needles
  • Most of these fears develop in childhood


Consequences of Untreated Pain

• Untreated pain can have long-term consequences
  – Needle fears
  – Anxiety related to procedures
  – Hyperalgesia
  – Avoidance of healthcare including immunizations


Evidence for Management of Procedural Pain

Procedural Pain: Understanding the data

- Telephone follow-up with parents who rated “Would not recommend” and low pain score in 2005 and validation in 2011
  - No families reported inadequate post-op pain management
  - Theme: inconsistent or poor experiences in managing procedural pain
    - “Some of the nurses used the numbing cream. I didn’t like when they didn’t use it because it helped.”
    - “When they explained (in IR) that they couldn’t give a baby pain medicine when they put in a PICC line, I guess I understood.”

Imperative for Change

- We must get to an “always” culture for managing procedural comfort
- We must make transformational changes about how we “always” think and act in managing children’s comfort
- It doesn’t have to hurt
Needlestick Pain and Distress

- What is also known
  - Despite evidence, providers do not consistently adhere to guidelines
    - Provider-centric rather than patient-centric
  - Bundles have emerged as method to ensure adherence to all elements of a best practice
    - Would a comfort bundle be an effective way to hardwire a multimodal approach to needlestick pain?

Evidence Summary—what helps

- Topical anesthetics, sucrose solution for infants
- Non-pharmacological interventions
  - Distraction, combined cognitive-behavioral interventions, and hypnosis
  - Positioning
- Words matter—avoid reassurance, apology, or criticism

Implementation

Is a little like a famous three-hour tour
The Challenge

- Provider-centric approach to needlestick pain
  - Staff did not know about or use comfort positioning
  - Topical anesthetics not used routinely
  - Staff lacked confidence in distraction techniques

Staff Survey
Pilot Surgical Unit-40 RNs, all shifts

What I do when starting an IV (Infant)

Staff Survey
Pilot Surgical Unit-40 RNs, all shifts

What I do when starting an IV (Toddler)
Riley Comfort Bundle

- Would a bundle of comfort interventions for needlestick procedures reduce pain and distress and increase patient/family and staff satisfaction with procedural pain management compared to usual care?
  - 2001 Institute for Healthcare Improvement introduced bundles to reduce variation and increase reliability (Resar, Griffin, Haraden, & Nolan, 2012)
  - Concept that the bundle elements work in a synergistic way to improve outcomes
## Riley Comfort Bundle for Needlestick Procedures

### Pre Procedure
- **Assurance & Education**
  - Prepare the patients verbally to ensure they understand the upcoming procedure.
  - Review pain management techniques and explain the technique to be used.
  - Use various techniques to ensure patient comfort, such as distraction and deep breathing.

### During Procedure
- **Assurance & Education**
  - Provide ongoing verbal reassurance to ensure the patient is feeling comfortable.
  - Use techniques such as deep breathing and visualization to help the patient manage pain.

### Post Procedure
- **Assurance & Education**
  - Follow up with the patient after the procedure to ensure they are comfortable and pain-free.
  - Offer pain management techniques and support the patient through recovery.

### Evidence-based
- Use evidence-based practices for needlestick procedures, including the use of local anesthetics and other pain management techniques.

### Pharmacology
- Consider the pharmacological effects of local anesthetics and other pain management medications.

### Therapeutic
- Engage patients in the procedure to help them cope with pain and anxiety.

### PARiHS Framework

**EVIDENCE**
- Research, clinical & patient experience, local data

**CONTEXT**
- Culture, leadership, evaluation

**FACILITATION**
- Purpose, role, skills & attributes

### PARiHS Framework Description

**High**
- Evidence close to practice, local data

**Medium**
- Summary evidence, organizational data

**Low**
- Evidence further from practice, organizational data

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**Comfort Bundle for Children’s Needlestick Procedures Logic Model**

**Inputs**
- Pain
- Fear
- Distraction
- Education

**Activities**
- Develop comfort promoting techniques for patients
- Provide pain management strategies
- Engage family in the process

**Outputs**
- Decrease pain
- Increase comfort
- Improve family involvement

**Intermediate Outcomes**
- Increase patient satisfaction
- Improved outcomes of pain management techniques

**Long-term Outcomes**
- Increase in satisfaction with needlestick procedures
- Improved outcomes of pain management techniques
- Increase in patient satisfaction
Comfort Positioning

- Evidence
  - Research guidelines
  - Clinical Experience Child Life Specialist consensus
  - Patient Preferences strong family-centered care
- Context
  - Culture learning organization
  - Leadership effective & supportive
  - Evaluation audit feedback processes
  - Resources

Facilitation

- Characteristics of the facilitator
  - Champions and Train the Trainer Model
  - Local experts
  - Role clear roles
  - Style consistent and flexible

Kotter’s “Leading Change”

- Create a sense of urgency
- Develop a Vision and Strategy
- Communicate the Vision
- Empower the front-line staff
- Celebrate short-term wins
- Embed the change


Create a Sense of Urgency

- Patient satisfaction with pain key driver for overall satisfaction
- Family rounds validated importance of procedural pain management
- Utilized lean tools to map current and future state
Develop a Vision and Strategy

- Organizational experience with CLABSI and CAUTI bundles
- Nurses engaged in auditing of bundles and improvement activities
- Nurses and PCA staff invested in providing quality care and having high patient/family satisfaction
- Leadership aligned and supportive

Market the Message

![Comfort Positioning](comfort_positioning.jpg)

Develop a Vision and Strategy
Empower the Front-line staff

Empower Parents/Caregivers

Evaluate the Change

- IRB approved study
- Convenience sample on surgical inpatient unit:
  - N=35
  - Age, mean (range), 5.9 (1 month-21 years)
  - Male, no (%) 18 (51%)

- Reason for Needlestick
  - Lab draw 18 (51%)
  - IV start 15 (43%)
  - IM vaccine 2 (6%)

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<tr>
<th></th>
<th>RN</th>
<th>Child</th>
<th>Parent</th>
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<tbody>
<tr>
<td>Pre-procedure pain rating (0-10)</td>
<td>0.83</td>
<td>1.27</td>
<td>1.2</td>
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<tr>
<td>Post-procedure pain rating (0-50)</td>
<td>1.3</td>
<td>1.64</td>
<td>2.25</td>
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SHORT-TERM OUTCOMES

• Comfort standard of care for needlesticks
• Increase in procedures using comfort positioning
• Increase in procedures using age-appropriate distraction
• Increase in child/parent satisfaction
• Continue to spread and sustain
• Topical anesthetic usage remains low

SHORT-TERM OUTCOMES

• Gaps
  – Topical anesthetic usage remains low
  • Accountability
  – Collaboration with families in choosing interventions for Comfort Menu
  • Need to start Comfort Menu at point of entry
<table>
<thead>
<tr>
<th>Lessons Learned</th>
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<tr>
<td>- Changing culture requires time, leadership alignment and commitment</td>
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<td>- Use an implementation framework to assess evidence, context and facilitation and leverage strengths and close gaps</td>
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<tr>
<td>- Empower, increase participation, support, share information—develop champion model</td>
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<td>- Use storytelling and hoopla to communicate and celebrate</td>
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