

Date: December 22, 2011

Title: Child Life Support During Medical Procedures

Clinical Question:

P (population) Among pediatric patients
I (intervention) does receiving support and/or distraction provided by a Child Life Specialist during medical procedures
C (comparison) compared to not receiving support and/or distraction from a Child Life Specialist during medical procedures
O (outcome) affect the child's anxiety
T (time) during the time of the medical procedure?

Among pediatric patients, does receiving support and/or distraction provided by a Child Life Specialist during medical procedures, compared to not receiving support and/or distraction from Child Life Specialists during medical procedures affect child's anxiety during the time of the procedure?

Definitions:

Support includes facilitating relaxation, comfort holds, verbal and/or tactile support, praise, and coaching.

Distraction includes use of auditory, visual and/or tactile stimulation such as listening to music, bubbles, games, toys, etc.

Target Population:

Children ages 0 – 18 years old receiving medical procedures

Recommendation:

It is recommended that children ages 0-18 years old receive developmentally appropriate preparation and support led by either parents, a Child Life Specialist or nurses for intravenous catheter placement, immunizations and laceration repair, to reduce the amount of procedure related distress and anxiety. (Chambers 2009 [1a], Stevenson 2005 [2a], Cavender 2004 [2b], Gursky 2010 [4a]).

Discussion/Summary of Evidence Related to the Recommendation:

Over the course of reviewing multiple studies, results were consistent in finding developmentally appropriate support and/or coping interventions provided for children during medical procedures having a positive correlation between reduced fear and procedure related distress. These studies highlighted intravenous catheter placement (Stevenson 2005 [2a], Cavender 2004 [2b]), immunizations (Chambers 2009 [1a]), and laceration repair (Gursky 2010 [4a]), with the most significant results to the interventions. These coping interventions can be provided by parents, Child Life Specialists or nurses.

Chambers 2009 (1a) conducted a systematic review of randomized controlled trials that studied the effects of various psychological strategies for reducing pain and distress in infants and children ages 0-11 years old during routine immunizations that required an injection. Strategies included simple psychological interventions such as breathing exercises, child-directed distraction (using age-appropriate music or videotape), parent incorporated psychological

interventions, nurse-led distraction and combined cognitive behavioral interventions to reduce pain and distress, comparing them to control or standard care groups. Overall effect sizes using standardized mean differences for these interventions are as follows: Cognitive behavior therapy (5.37), nurse-led distraction (2.82), breathing exercises (2.5) and child-led distraction (2.22). Parent-led distraction and parent coaching showed significant differences ($p = 0.002$ & $p = 0.02$ respectively) in observer rated distress. Chambers 2009 (1a) noted that the use of these simple psychological strategies significantly reduces immunization pain and distress in children.

Two randomized controlled trials were performed on children in the Emergency Department setting and showed effectiveness for Child Life interventions on reducing distress related to intravenous catheter placement (Stevenson 2005 [2a], Cavender 2004[2b]). Stevenson 2005 (2a) noted that patient’s ages 4-7 years old experienced statistically significant differences for procedure-related distress during the anticipation phase of the procedure. Cavender 2004 (2b) suggested that utilizing parent participation including positioning and distracting of their children ages 4-11 years old during an intravenous catheter placement has the potential to enhance positive clinical outcomes along with a decrease in fear as a primary benefit.

A quasi-experimental study was conducted in the Emergency Department setting children ages 3-13 years of age who were receiving laceration repair, on the differences noted for the impact of psychosocial intervention on procedure related distress throughout the use of preparation and distraction provided by a Child Life Specialist (Gursky 2010 [4a]). The results showed that observed behavioral distress demonstrated by children undergoing medical procedures in the Emergency Department were significantly decreased with the use of psychological interventions involving preparation and distraction ($p = .05$) (Gursky 2010 [4a]).

Dimensions for Judging the Strength of the Recommendation:

Reflecting on your answers to the dimensions below and given that more answers to the left of the scales indicate support for a stronger recommendation, complete one of the sentences above to judge the strength of this recommendation.

(Note that for negative recommendations, the left/right logic may be reversed for one or more dimensions.)

1. Grade of the Body of Evidence	<input type="checkbox"/> High	<input checked="" type="checkbox"/> Moderate	<input type="checkbox"/> Low
<i>Comments:</i>			
2. Safety / Harm (Side Effects and Risks)	<input checked="" type="checkbox"/> Minimal	<input type="checkbox"/> Moderate	<input type="checkbox"/> Serious
<i>Comments:</i>			
3. Health benefit to patient	<input type="checkbox"/> Significant	<input checked="" type="checkbox"/> Moderate	<input type="checkbox"/> Minimal
<i>Comments: Undergoing immunizations, IV starts & laceration repair is considered stressful for any child. Interventions such as age and developmentally appropriate preparation, distraction & positioning can reduce this stress. (Chambers 2009 [1a], Stevenson 2005 [2a], Cavender 2004 [2b], Gursky 2010 [4a]).</i>			
4. Burden on patient to adhere to recommendation	<input checked="" type="checkbox"/> Low	<input type="checkbox"/> Unable to determine	<input type="checkbox"/> High
<i>Comments:</i>			
5. Cost-effectiveness to healthcare system	<input checked="" type="checkbox"/> Cost-effective	<input type="checkbox"/> Inconclusive	<input type="checkbox"/> Not cost-effective
<i>Comments: Preparation can be provided by a Child Life Specialist or a nurse. Distraction, positioning and support can be provided by a parent, Child Life Specialist or a nurse (Chambers 2009 [1a]).</i>			
6. Directness of the evidence for this target population	<input checked="" type="checkbox"/> Directly relates	<input type="checkbox"/> Some concern of directness	<input type="checkbox"/> Indirectly relates
<i>Comments:</i>			
7. Impact on morbidity/mortality or quality of life	<input type="checkbox"/> High	<input checked="" type="checkbox"/> Medium	<input type="checkbox"/> Low
<i>Comments: The purpose of these interventions is to reduce stress and anxiety which leads to a higher quality of life (Chambers 2009 [1a], Stevenson 2005 [2a], Cavender 2004 [2b], Gursky 2010 [4a]).</i>			

Reference List *(Evidence Level in []; See Table of Evidence Levels following references)*

Cavender,K., Goff, M., Hollon, E., & Guzzetta, C. (2004) Parents’ positioning and distracting children during venipuncture: effects on children’s pain, fear, and distress. *Journal of Holistic Nursing*, 22, 32-56 [2b].

- Chambers, C. T., Taddio, A., Uman, L.S., & McMurtry, C.M. (2009) Psychological interventions for reducing pain and distress during routine childhood immunizations: A systematic review. *Clinical Therapeutics/ 31, (Supplement B). 77-103.* [1a].
- Cincinnati Children's Hospital Medical Center 2007, Division of Child Life, Mission Statement <http://centerlink.cchmc.org/portal/desktopdefault.aspx?l=4636> [5].
- Gursky, B., Kestler, L.P., & Lewis, M. (2010) Psychosocial intervention on procedure-related distress in children being treated for laceration repair. *Journal of Developmental and Behavioral Pediatrics, 31, 217-222.* [4a].
- Stevenson, M.D., Bivins, C.M., O'Brien, K., & Gonzalez del Ray, J.A. (2005) Child life intervention during angiocatheter insertion in the pediatric emergency department. *Pediatric Emergency Care, 21 (11), 712-718.* [2a].

SUPPORTING INFORMATION

Background/Purpose of BEST Development:

Nursing staff noted that children seemed to benefit when Child Life was available for procedures. Child Life often provides preparation but was not always available for support during procedures. To support the Division of Child Life's mission statement "Child Life is committed to the practice of family centered care by promoting play, education, developmental and psychosocial support. This commitment is enriched through research and education of professionals and the community" (CCHMC Child Life Mission Statement, 2007) [5].

Applicability Issues:

Preparation for patients and families for medical procedures can be completed during the time patients & families wait in the exam room. This also aids in focusing on the patient during the anticipation phase prior to a procedure. During preparation the Child Life Specialist creates a support plan to be implemented during the procedure. In the creation of this plan, the Child Life Specialist assesses the patient and parents' level of anxiety and their ability to carry out the plan. Parents can provide the support and distraction for their child which is also a cost effective measure. At times it may be necessary for the Child Life Specialist to offer support of the patient and parent during the procedure.

Outcome or Process Measures:

A process measure would include identifying children who receive medical procedures and tracking the numbers of preparation and supports given by parents, Child Life Specialists and/or nurses. An outcome measure of the preparation, support and/or distraction provided would be the tolerance of the procedure by the patient. Another process measure would include the documentation of previous support measures for medical procedures in the electronic medical record.

Search Strategy:

Filters: English
Limits: None
Date Ranges: All dates included
Date of last search: 04/05/2011

Search Terms:

Pediatric patients, supporting pediatric patients during medical procedures, anticipatory anxiety, anxiety, Child Life Specialist, child medical procedures, minimally invasive procedures, support, sensory Information, sensory support, psychological Interventions

Databases: Pub Med, Medline, CINAHL

Relevant CCHMC Evidence-Based Documents:

None were found

Group/Team Members:

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Conflicts of Interest Were Declared for Each Team Member:

- No financial conflicts of interest were found.
- The following financial conflicts of interest were disclosed:

Note: Full tables of evidence grading system available in separate document:

- [Table of Evidence Levels of Individual Studies by Domain, Study Design, & Quality](#) (abbreviated table below)
- [Grading a Body of Evidence to Answer a Clinical Question](#)
- [Judging the Strength of a Recommendation](#) (abbreviated table below, dimensions table above)

Table of Evidence Levels (see note above)

Quality level	Definition
1a† or 1b†	Systematic review, meta-analysis, or meta-synthesis of multiple studies
2a or 2b	Best study design for domain
3a or 3b	Fair study design for domain
4a or 4b	Weak study design for domain
5a or 5b	General review, expert opinion, case report, consensus report, or guideline
5	Local Consensus

†a = good quality study; b = lesser quality study

Table of Recommendation Strength (see note above)

Strength	Definition
It is strongly recommended that... It is strongly recommended that... not...	There is consensus that benefits clearly outweigh risks and burdens (or visa-versa for negative recommendations).
It is recommended that... It is recommended that... not...	There is consensus that benefits are closely balanced with risks and burdens.
There is insufficient evidence and a lack of consensus to make a recommendation...	

Copies of this Best Evidence Statement (BEST) and related tools (if applicable, e.g., screening tools, algorithms, etc.) are available online and may be distributed by any organization for the global purpose of improving child health outcomes.

Website address: <http://www.cincinnatichildrens.org/svc/alpha/h/health-policy/best.htm>

Examples of approved uses of the BEST include the following:

- copies may be provided to anyone involved in the organization’s process for developing and implementing evidence-based care;
- hyperlinks to the CCHMC website may be placed on the organization’s website;
- the BEST may be adopted or adapted for use within the organization, provided that CCHMC receives appropriate attribution on all written or electronic documents; and
- copies may be provided to patients and the clinicians who manage their care.

Notification of CCHMC at EBDMinfo@cchmc.org for any BEST adopted, adapted, implemented, or hyperlinked by the organization is appreciated.

Please cite as: Cincinnati Children's Hospital Medical Center: Best Evidence Statement Child Life Support During Medical Procedures, <http://www.cincinnatichildrens.org/svc/alpha/h/health-policy/best.htm>, BEST 120, pages 1-5, 12/22/2011.

This Best Evidence Statement has been reviewed against quality criteria by 2 independent reviewers from the CCHMC Evidence Collaboration.

For more information about CCHMC Best Evidence Statements and the development process, contact the Evidence Collaboration at EBDMinfo@cchmc.org.

Note:

This Best Evidence Statement addresses only key points of care for the target population; it is not intended to be a comprehensive practice guideline. These recommendations result from review of literature and practices current at the time of their formulation. This Best Evidence Statement does not preclude using care modalities proven efficacious in studies published subsequent to the current revision of this document. This document is not intended to impose standards of care preventing selective variances from the recommendations to meet the specific and unique requirements of individual patients. Adherence to this Statement is voluntary. The clinician in light of the individual circumstances presented by the patient must make the ultimate judgment regarding the priority of any specific procedure.