Developing and Testing an Innovative Picture Tool to Assess Pain Location in Children Phyllis J. Mesko, RN, CPN, Post Anesthesia Care Unit and Aris Beoglos Eliades, PhD, RN, CNS, Rebecca D. Considine Research Institute

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Background:

•Pediatric patients are at special risk for substandard pain control (Scalford, et al. 2013) •Pain location is an integral part of pain assessment for all phases of post-operative care prior to surgery with postoperative pain an utmost concern (ASPAN, 2003)

•Another way to communicate with a child unable to self-report pain following a surgical procedure due to a temporary inability to speak must be found (Mesko, 2010; Mesko, Eliades, Libertin & Shelstak, 2011)

•A gap was identified in the literature on effective tools to identify pain location in the pediatric post-anesthesia patient (Hamill, Lundon, Hill & Liley, 2014)

Developing a Program of Research:

Purpose

•Assess efficacy of picture communication aids to assess pain location in postoperative pediatric patients

•Develop a reliable and valid tool to assess pain location in children

Setting

•PACU of a Magnet[®] recognized free-standing pediatric hospital in northeast Ohio

Sample

- •Convenience sample
- •Recruited patients ages three to nine under-going same day surgeries (Figure 1)

Figure 1- Study Samples

Study 1	Study 2	
Tonsillectomy & Adenoidectomy patients with known reluctance to communicate	Expanded to patients undergoing broad range of same-day surgical procedures	Subset of s and validity
33 Children	41 Children	
22 Male, 11 Female	19 Male, 22 Female	

Design

•Quantitative, comparative design

Methodology

Study Recruitment

-OR schedule reviewed daily for prospective patients meeting study criteria •PACU nurse completed:

-Standard pain assessment including location of pain

-Pain level >0 required to proceed

-Notified data collector of prospective subject within 15 minutes of patient being awake •Data collector:

-In Study 1,2 and 3:

-Explained study to parents

-Obtained consent

-Assessed child's pain location using the PAL tool (Figure 2)

-Collected data from electronic medical record

-In Study 3:

-Child pointed to where they hurt (Figure 3)

- -Pertinent medical history
- -Surgical site

Study 3			
jects to establish preliminar			
26 Children			

13 Male, 13 Female

Figure 2- Child Pointing To Pain Location On PAL Tool



Instruments AAC picture communication aid -Study 1 •Mesko-Eliades Pain Area Locator (PAL) tool

-Study 2 and 3 -12 pictures communication icons of the body and medical equipment (Figure 5)

Figure 4- Instrument Study 1



Findings: Location of Pain: Study 1

•38% inconsistency between nurse's documentation and child's location of pain •81% of the time nurses cited operative site as location of pain compared to 20% by the child

Study 2

•41 participants with at least one pain assessment by the nurse and data collector

•83% of cases pain location not documented and child indicated pain location using PAL

•17% cases nurse documented a pain location with 100% agreement of pain location child indicated using the PAL and pain location documented

Study 3

•Preliminary reliability of PAL with parallel forms testing (Figure 6)

Figure 6- Parallel Forms Testing Results

Instrument	Intraclass Correlation Coefficient (ICC)	Level of Significance	Percent Agreement
Nurse's assessment to PAL	Weak, ICC=0.105	p=0.234	19%
Nurse's assessment to child pointing	Weak, ICC=0.085	p=0.286	15%
PAL to child pointing	Strong, ICC=0.821	p=0.000	65%



- -Body outline front and back with 6 picture communication icons of the body (Figure 4)
- -Created using pictures from Boardmaker graphic software (Dynavox, Mayer-Johnson, Pittsburgh, PA)

Figure 5- Instrument Study 2 and 3



•Validity of PAL

- -Content and face validity established by:
- -Speech therapist
- -Nurse specialist
- -Six pediatric nurses
- -Nurse researcher
- -Nurse statistician

Discussion:

•Study results indicated -Pain location often not documented

Implication:

Perianesthesia clinical practice standards are advanced by findings that patients' undergoing a variety of pediatric surgical procedures effectively used the PAL post-operatively to identify location of pain.

Future Research:

- •Establish usability of PAL in practice
- •Single and multi-site studies
- •Expand ages and sites beyond pediatrics

Conclusions:

- •Findings

- regarding pain location
- pain location

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-Validity of PAL as an accurate assessment of pain location by the post-operative children who comprise a key stakeholder' group

-Pediatric postoperative patients are able to identify pain location using PAL tool -Children experience pain at other areas other than the surgical site

•Comparison of pain intervention in patients where the PAL was and was not used

-Provide strong evidence PAL is effective tool -Consistent with literature that nurses often fail to document pain location -Advance perianesthesia clinical practice standards and pain management care -Provide evidence to support incorporating the PAL to identify their child's postoperative

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