

February 2019

Vol. 21 No. 1

[www.childpain.org/ppl](http://www.childpain.org/ppl)

Editor: Deirdre E. Logan, PhD, [deirdre.logan@childrens.harvard.edu](mailto:deirdre.logan@childrens.harvard.edu)

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## Commentary

# The importance of pictures to communicate pain location in children

Phyllis J. Mesko and Jennifer L. Clark

*An Erratum to this commentary is available in Vol. 21 No. 2.*

Picture communication tools to assess pain location are one method used to identify pain in children too young or unable to speak. Recent literature has confirmed the value and efficacy of pictures as a method of pain location (Hamill et al., 2014). Augmentative and Alternative Communication (AAC) using pictures is one accepted method of communicating often used by speech pathologists in schools to identify children's wants and needs (Kent-Walsh et al., 2008). This commentary is a reflection on how this approach has been adapted for use with children who are too young or otherwise unable to express verbally the location(s) of their pain.

### Personal history

Interest in picture communication started when my five-year-old nonverbal son with Autism Spectrum Disorder prompted me to photograph everyday items adding pictures of him. Using pictures became our mode of communication, once alerting me to a wrist fracture he was unable to verbalize. Thus, my approach to using pictures in my professional practice as a postanesthesia care nurse with patients unable to communicate materialized, prompting research with patients aged three to nine years undergoing a tonsillectomy and adenoidectomy (Mesko et al., 2011). This provided insight into how a pain location tool could help developmentally atypical children and patients too young to communicate pain location.

### Evolution of pain location tools

The assessment of pediatric pain location presented in the literature indicates an evolution in the understanding of children's communication about pain. Since the conception of pain location research, clinicians and researchers challenged the belief that "unless the child is able to accurately identify and label pain location, their pain may be nonexistent" (Eland & Anderson, 1977). The primitive body outline is one of the first known tools used where children marked where they hurt (Eland, 1974). O'Donnell conducted a study with subjects aged 4.5 to 14 years examining a nonverbal method of reporting pain location with validity judged against anticipated symptoms (O'Donnell & Curley, 1985). O'Donnell employed two methods to identify pain location by marking a body outline of a boy/girl and verbal response. This approach, based on earlier work by Tesler and colleagues (1983), required marking the body outline where the patient hurt indicating the exact location of pain. Comparing this nonverbal approach to children's verbal report of pain location allows clinicians to judge the relationship of children's reports to expected symptoms. Results validated that the drawing technique was a better tool for pain location than verbal response. Savedra and colleagues (1989) demonstrated the utility of using a body outline marking tool with school-aged children and adolescents for assessing pain location,

but validity and reliability of this approach in younger children remained undetermined.

In the use of visual tools to report pain location, several shortcomings have been noted in the literature. A topical review by von Baeyer states that subjects aged 8 years or older can complete a multidimensional pediatric pain questionnaire with no assistance but children younger than 8 years require assistance (von Baeyer et al., 2011). von Baeyer also suggests that multiple locations of pain may be overlooked since clinicians whose practice is restricted to a specific body location may not inquire about other pain locations, leading to restricted assessments of pain location (von Baeyer et al., 2011).

To address these shortcomings, Mesko (2011) demonstrated that using AAC picture communication is a useful strategy in the identification of pain location in young children undergoing tonsillectomy and adenoidectomy who are unable or unwilling to speak due to disability, facial trauma, language barrier or the specifics of the surgical setting (Mesko, 2010). The term AAC describes any means of communication excluding traditional speech, including the use of pictures, sign language, computers, and gestures. This approach allows for the identification of multiple areas of pain. Determining the efficacy of using picture communication to assess pain location may address a gap in pain assessment for pediatric postoperative patients (Mesko et al., 2011).

### **Validity of picture communication tools for assessing postoperative pain in children**

The sample of postoperative patients aged 3 to 9 years was selected as pictures and photographs are a suggested mode of communication for preschool (3-5 years) and school age (6-11 years) children. Preschool-aged children best understand a situation if concrete objects or visual examples are used (Piaget, 1977).

A study was conducted by Mesko and Eliades (2018) using the Pain Area Locator (PAL) tool, a picture communication aid with 12 body and medical equipment icons to identify pain location in children (aged 3 to 9 years). The study assessed

discrepancies between the PAL tool and nurses' assessments of pain location in a variety of pediatric surgical procedures (see Figure 1). The PAL tool is developmentally appropriate for children as young as 3 years and can give the child one method to identify pain locations in areas other than their surgical site, allowing the need for further assessment of postoperative pain. Previously the clinician's scope of pain assessment was limited to the areas relative to the specific procedure. Findings of this study are in agreement with the pain location research conducted by Eland and Anderson (1977), Mesko et al. (2011), von Baeyer et al. (2011), and Hamill et al. (2014) reporting that children can use pain location tools to more accurately identify pain location.

### **Discussion**

Reviewing literature using picture communication tools to assess pain location identified a long-standing gap in medical literature, namely that there are insufficient pain location assessment tools for younger children, especially for children with multiple pain locations. Of note, neither study by Mesko and colleagues (Mesko et al., 2011; Mesko & Eliades, 2018) included developmentally disabled children in their samples, suggesting additional research needs to be done with not only typical children but also to explore the use of this tool for developmentally atypical children.

### **Future research**

Conducting a larger multisite study of the PAL tool would provide larger sample sizes for analysis of psychometric properties, and exploration of the earliest age that pediatric pain location can be identified. The PAL tool has promise as a tool for assessing pain location encompassing the nonverbal patient or one unwilling to speak and possibly the child younger than 3 years of age. Future research is needed to assess implications for these vulnerable populations to utilize pain location tools, allowing clinicians to more accurately understand the child's pain experience.

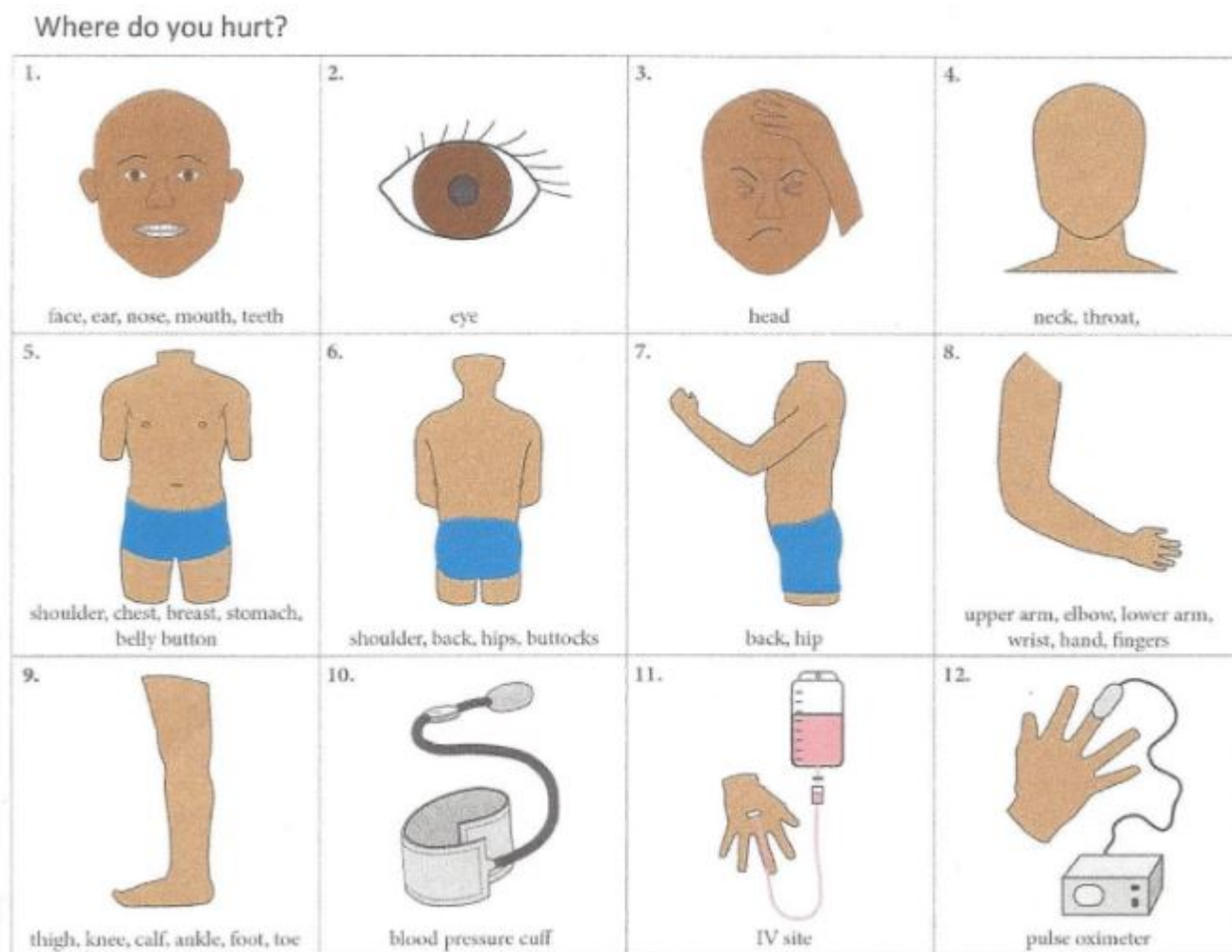


Figure 1. Mesko-Eliades Pain Area Locator (PAL)

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Phyllis J. Mesko, RN, CPN  
 Perioperative Unit, Akron Children's Hospital,  
 Akron, OH, USA  
 email: pmesko@akronchildrens.org

Jennifer L. Clark, MA  
 Akron Children's Hospital, Akron, OH, USA

### Acknowledgement

The authors gratefully acknowledge the feedback from Dr. Carl von Baeyer.

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