## Development of Occupational Therapy Pain Management For Patients with Obstetric Brachial Plexus Palsy

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### BACKGROUND
- Obstetric brachial plexus palsy (OBPP) impacts 1.5 infants per 1000 live births (Chauhan, Blackwell, & Ananth, 2014).
- OBPP is classified using Narakas levels, based on the nerve roots involved in the injury (Al-Qattan et al., 2009).

### METHODS

#### A literature search was completed using MedLine, CINAHL, PsychINFO, and PubMed databases
- Search terms for the literature search related to obstetric brachial plexus palsy, occupational therapy intervention, and the management of pain
- The final literature search included 23 articles that could be used to further inform program development

#### From the literature search, 15 articles were selected to provide evidence-based information for OT management of pain in the SCH BPC
- Critically Appraised Topic (CAT) paper was written utilizing the evidence table

#### CAT was utilized to provide evidence-based during formation of initial OT procedures to manage pain for patients at the SCH BPC
- CAT informed the initial draft of a home exercise program to provide to patients and families at SCH BPC

### RESULTS
- Currently, there is not a standard for measuring pediatric pain in patients with brachial plexus palsy, iPluto is working to standardize the assessment of pain for this population (Pondaag & Malley, 2018).
- Pain in obstetric brachial plexus palsy can present with symptoms of both musculoskeletal pain and neuropathic pain (Ho, Curtis, & Clarke, 2015).
- Children with OBPP may not identify the pain as neuropathic or chronic (Ho, Curtis, & Clarke, 2015).
- Those who undergo microsurgery to return function to the extremity more often experience pain (Ho, Curtis, & Clarke, 2015).
- Pain can cause people to refrain from participating in meaningful activities (Robinson, Kennedy, & Harmon, 2011)
- Occupational therapy should be considered for patients with OBPP as it can help to maintain functional ability of the affected UE, prescribe splints, and provide adaptive techniques to complete ADLs and IADLs when necessary.

### FOCUSED QUESTION

What is evidence for the effect of occupational therapy interventions to manage pain associated with brachial plexus injury in patients with birth-related brachial plexus injury throughout development?

### PROGRAM DETAILS

#### This is not the creation of an entirely new program but rather an enhancement in occupational therapy based on current evidence-based knowledge and management of pain for children with obstetric brachial plexus palsy at Seattle Children’s Hospital in the Brachial Plexus Clinic
- There are 4 key components that were found in the evidence-based literature that were presented to the clinic for implementation:

### BOTTOM LINE FOR OT

Early and ongoing evidence-based multidisciplinary treatment of OBPP is paramount to promote optimal patient development and function of the affected upper extremity. Currently, occupational therapy’s role in treatment is to track patient function, provide patient education, provide intervention to maintain patient ROM, maintain patient functional ability of the affected UE, prescribe splints, and provide adaptive techniques to complete ADLs and IADLs when necessary.

### REFERENCES

The first proposed item to be implemented at SCH in the BPC for the occupational therapy management of pain in patients with OBPP is the use of the Adolescent Pediatric Pain Tool (CITE) during BPC visits. This tool has the child use a body outline to identify exactly where they experience pain on their own body. The APPT also uses a visual analogue scale to have the child identify the intensity of the pain. Lastly, the APPT provides a list of 67 words and phrases that describe pain for the child to utilize to identify their experience of pain (CITE).