Non-Pharmacologic Pain Management With Pediatric Lower Extremity Trauma

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Background

• Prescription drug overdoses in Ohio are climbing, which has led to restrictions on opioid prescribing 1-6
• Peri-operative anxiety increases post-operative pain and can lead to prolonged hospitalization and increased risk for complications and use of opioids7-10
• Non-pharmacologic pain resources are a viable adjunct for pain and anxiety management and can minimize opioid use11
• Certified Child Life Specialists (CCLS) are trained to provide non-pharmacologic pain management and normalize the hospital experience12-19

Purpose

• Increase the use of non-pharmacologic pain management resources for children with unplanned hospitalizations due to lower extremity trauma
• Implement a routine CCLS consult for non-pharmacologic pain and anxiety management for patients admitted to the orthopaedic service with lower extremity trauma to decrease overall use of opioid pain medications

Methods

Procedure:

• Admission order set edited to include CCLS consult within 24 hours of admission
• Routine CCLS consult includes:
  • assessment of psychosocial needs
  • debriefing and preparation for procedures
  • collaboration with physical therapy (PT)
• 3 month prospective chart review (Sept-Nov 2018)

Results

<table>
<thead>
<tr>
<th>Procedure/CCLS Order Set</th>
<th>Mean</th>
<th>Range</th>
</tr>
</thead>
<tbody>
<tr>
<td>Age*</td>
<td>14</td>
<td>8-18</td>
</tr>
<tr>
<td>Female*</td>
<td>10</td>
<td>30.3</td>
</tr>
<tr>
<td>Anatomical Location of Injury</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Hip</td>
<td>5</td>
<td>15.2</td>
</tr>
<tr>
<td>Knee</td>
<td>7</td>
<td>21.1</td>
</tr>
<tr>
<td>Tibia</td>
<td>4</td>
<td>13.1</td>
</tr>
<tr>
<td>Fibula/Fibula</td>
<td>11</td>
<td>33.3</td>
</tr>
<tr>
<td>Payor Source*</td>
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<td>3</td>
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<tr>
<td>Commercial Other</td>
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<td>66.6</td>
</tr>
</tbody>
</table>

*Groups not significantly different

Outcome Measures:

• Retrospective (June-Aug 2018) vs. prospective chart review
• Demographics
• Average pain score over admission (NRS-11 and FACES tools)20,21
• Number of pain medication doses
• Number of PT attempts
• Length of stay (LOS)

Discussion

• Routine CCLS consult:
  • decreased daily average pain rating score
  • decreased number of opioid and non-opioid pain medication doses over admission period
  • LOS and PT attempts remained similar, may be attributable to various factors
• Opioid crisis demands creative pain management
• Routine CCLS consult may reduce pain medication use and can provide children with pain and anxiety management resources and coping skills for future needs

Recommendations

• Adopt routine CCLS consult for all patients admitted for trauma or unplanned admissions
• Expand CCLS consult utilization to include other services and patients
• Encourage non-pharmacologic pain and anxiety management for all admitted patients in order to decrease the use of opioid pain medications

References

1Rudd et al., 2016; 2Seth et al., 2018; 3Winstanley et al., 2012; 4OAC, 2018; 5OBP, 2017; 6ODH, 2016; 7Chng et al., 2014; 8Chng et al., 2015; 9He et al., 2015; 10Kain et al., 2006; 11Ali et al., 2010; 12Beickert et al., 2017; 13Brewer et al., 2006; 14Hylland et al., 2015; 15Koller, 2007; 16Li et al., 2007; 17Lookabaugh et al., 2018; 18Schlechter et al., 2017; 19Tyson et al., 2014; 20Castafiore et al., 2017; 21Le May et al., 2018

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TH-16 Title: Non-Pharmacologic Pain Management for Children After Lower Extremity Trauma

Background: Peri-operative anxiety increases post-operative pain and increases the risk for complications in hospitalized children. Non-pharmacologic pain resources provided by Certified Child Life Specialists (CCLS) are a viable adjunct for pain management and can minimize opioid use.

Purpose: The purpose of this evidence-based practice change was to implement a routine CCLS consult for children with lower extremity trauma at the time of admission prior to surgery. The intended outcomes of this practice change were improved pain management and decreased amount of opioid pain medications administered.

Methods: The practice change for pediatric patients with lower extremity injuries was to implement a routine CCLS consult with the goal of improving pain management. Every child admitted to the Orthopaedic service with a lower extremity injury would automatically have a CCLS consult placed. This consult was included in the orthopaedic admission order set that was pre-selected so as to not miss any potential patients. Routine CCLS consult includes: assessment of psychosocial needs, debriefing and preparation for procedures, and collaboration with physical therapy (PT). The routine CCLS consult began September 2018 and was compared to patients admitted January 2018-August 2018.

Outcomes: The outcomes that were measured in this evidence-based practice quality improvement (QI) project were length of stay (LOS), pain rating scores, and number of doses of opioid and non-opioid pain medications given during the hospitalization, and number of PT attempts. Routine CCLS consult: decreased daily average pain rating scores and number of opioid and non-opioid pain medication doses over admission period. LOS and PT attempts remained similar, may be attributable to various factors.

Discussion: It is recommended that this routine CCLS consult be adopted for all patients admitted to the Orthopaedic service for trauma or unplanned admissions. It is also recommended that non-pharmacologic pain and anxiety management be utilized for all admitted patients to decrease the use of opioid pain medications.

Publication in a peer-reviewed journal and presentations at national conferences are anticipated to disseminate the results and impact of this QI project. This information is intended to reach a national audience in the hopes of improving patient care and collaboration across specialties to provide the best care for all patients.

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No funding was received for this project. It was deemed a quality improvement project by the institution and IRB approval was not required.