Significant Variability in Opioid Prescribing Practices after Common Orthopaedic Procedures

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Surgeons learn much of their prescribing habits while in residency, and these habits are then perpetuated from generation to generation of surgical trainees.

The tendency to overprescribe is magnified by (1) tying patient satisfaction scores to pain control, (2) the inconvenience of having the patient return for a handwritten opioid prescription should they run out, and (3) the mistaken but previously accepted notion that opioids are rarely addictive.

Therefore, the purpose of this study is to describe regional and national variations in opioid prescribing practices for opioid naïve patients after 10 common orthopaedic procedures.
Hypothesis

Significant regional variability exists in postoperative prescribing practices following common orthopaedic procedures.
Methods

• This was a retrospective analysis of claims data from Truven Health MarketScan® database for 2015 & 2016.

• Patients were identified by CPT codes for 10 of the most common orthopaedic procedures:
  1. Carpal tunnel release (29848 and 64721)
  2. ACL reconstruction (29888)
  3. Arthroscopic meniscectomy (29880 and 29881)
  4. Bimalleolar ankle fracture ORIF (27814)
  5. Distal radius fracture ORIF (25607, 25608, 25609)
  6. Arthroscopic rotator cuff repair (RCR) (29827)
  7. Single-level ACDF (22551)
  8. Primary total shoulder arthroplasty (23472)
  9. Primary total hip arthroplasty (27130)
 10. Primary total knee arthroplasty (27447)
Methods

• Inclusion criteria: only opioid-naïve patients

• Exclusion criteria: Any patient who underwent an additional procedure within the postoperative period

• Prescriptions were converted into oral morphine equivalents (OME) and inter-quartile ranges (IQR) were compared.

• Initial prescription and 90-day totals were calculated and reported by procedure & region.
Results

Table 1. While the median OME was relatively consistent between regions for patients undergoing procedures such as single-level ACDF, arthroscopic meniscectomy, and THA, there were wide IQRs for all of the procedures.
Results

Table 2. Inter-regional variability and IQRs increased when examining 90-day totals. Significant variability in prescriptions were observed for all procedures excluding total joint arthroplasty.
Results

Table 3. Patients undergoing carpal tunnel release required the fewest number of refills compared to those undergoing TKA who required the greatest number of refills.

<table>
<thead>
<tr>
<th>Procedure Type</th>
<th>Refills</th>
</tr>
</thead>
<tbody>
<tr>
<td>TOTAL KNEE ARTHROPLASTY</td>
<td>57.3%</td>
</tr>
<tr>
<td>ROTATOR CUFF REPAIR</td>
<td>36.7%</td>
</tr>
<tr>
<td>TOTAL HIP ARTHROPLASTY</td>
<td>36.1%</td>
</tr>
<tr>
<td>TOTAL SHOULDER ARTHROPLASTY</td>
<td>32.8%</td>
</tr>
<tr>
<td>BIMAL ANKLE FRACTURE ORIF</td>
<td>32.3%</td>
</tr>
<tr>
<td>ACL RECONSTRUCTION</td>
<td>29.0%</td>
</tr>
<tr>
<td>ACDF (SINGLE-LEVEL)</td>
<td>26.2%</td>
</tr>
<tr>
<td>DISTAL RADIUS FIXATION</td>
<td>19.9%</td>
</tr>
<tr>
<td>ARTHROSCOPIC MENISCETOMY</td>
<td>10.7%</td>
</tr>
<tr>
<td>CARPAL TUNNEL RELEASE</td>
<td>8.5%</td>
</tr>
</tbody>
</table>
Conclusions

• This demonstrates that significant inter- and intra-regional variability exists in opioid prescribing patterns for common orthopaedic procedures.

• Furthermore, initial- and 90-day prescriptions varied significantly depending on the type of surgery and prescriptions were smallest in the region most affected by the opioid epidemic when compared to CDC data.

• This can be used to re-evaluate recommendations, serve as a benchmark for surgeons, and develop institutional and quality improvement guidelines to reduce excess postoperative opioid prescriptions.
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