The Impact of a Standardized Multimodal Analgesia Protocol on Opioid Prescriptions after Common Arthroscopic Procedures

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The United States is in the midst of an epidemic of opioid drug (narcotic drug) use, misuse, and abuse. To address this critical public health issue, all physicians and orthopaedic surgeons must be accountable for their direct or indirect contributions to the epidemic and should responsibly develop solutions to effectively treat this epidemic.
Orthopaedic Surgeons #3 most common type of MD to prescribe opioids
Volkow et al. 2009

Manchikanti et al. 2008
Challenges

- Balance adequate pain control after surgery and avoid excessive prescription of opioids
- Appropriate amount of opioids poorly defined
Multimodal Analgesia Protocol

- Developed with our pharmacy team
- Goals
  - Reduce amount of opioids dispensed
  - Still provide adequate post op pain relief
- Pre-op counseling by the care team

<table>
<thead>
<tr>
<th>Scheduled</th>
<th>Acetaminophen 650 mg q4H</th>
<th>14 days</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Meloxicam 15 mg daily</td>
<td>14 days</td>
</tr>
<tr>
<td></td>
<td>Gabapentin 300 mg TID</td>
<td>14 days</td>
</tr>
<tr>
<td></td>
<td>Aspirin 325 mg daily</td>
<td>14 days</td>
</tr>
</tbody>
</table>

| PRN                | Oxycodone 5 mg q4H PRN   | 20 tabs for no repair |
|--------------------|--------------------------| 40 tabs for repair    |
Methods

• Retrospective chart review of patients who underwent meniscectomy, ACL, RCR

• 1 year prior to and 6 mos after protocol change
  – Demographic data
  – Amount of opioids prescribed at time of surgery
  – Amount and frequency of opioid refills
  – Call ins regarding pain medication or side effects
## Patient Demographics

<table>
<thead>
<tr>
<th>Procedure</th>
<th>Pre-protocol</th>
<th>Post-protocol</th>
<th>p-value</th>
<th>Pre-protocol</th>
<th>Post-protocol</th>
<th>p-value</th>
<th>Pre-protocol</th>
<th>Post-protocol</th>
<th>p-value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Meniscectomy</td>
<td>283</td>
<td>126</td>
<td>0.324</td>
<td>301</td>
<td>31.6</td>
<td>0.294</td>
<td>43.1</td>
<td>36.5</td>
<td>0.21</td>
</tr>
<tr>
<td>ACL</td>
<td>199</td>
<td>105</td>
<td>0.246</td>
<td>27</td>
<td>27.7</td>
<td>0.274</td>
<td>41.2</td>
<td>42.9</td>
<td>0.781</td>
</tr>
<tr>
<td>RCR</td>
<td>184</td>
<td>115</td>
<td>0.954</td>
<td>31</td>
<td>31.7</td>
<td>0.524</td>
<td>34.8</td>
<td>35.7</td>
<td>0.878</td>
</tr>
</tbody>
</table>
Results: Average prescribed

- Significant decrease in amount of opioid pills dispensed at the time of surgery
  - 63.2 to 22.2 (64%) meniscectomy (p < 0.0001)
  - 73.1 to 39.7 (45%) for ACL (p < 0.0001)
  - 75.6 to 39.8 (47%) for RCR (p < 0.0001)
Results: Refills

- Significant decrease in number of patients receiving refill
  - 13.1 to 4.0% for meniscectomy (p = 0.005)
  - 29.2 to 11.4% for ACL (p = 0.0005)
  - 47.3 to 24.4% for RCR (p < 0.0001)
Results: Call Ins

- No significant difference
  - 3.5% vs. 4.0 % for meniscectomy, $p = 0.783$
  - 19.6 vs 14.3% for ACL, $p = 0.249$
  - 10.9% vs 5.2% for RCR, $p = 0.091$
Conclusions

• Implementing a standardized multimodal analgesia protocol significantly decreased the amount of opioids dispensed
• Limitation did not result in increased refills
• Adequate opioid amounts
  – 20 for meniscectomy
  – 40 for ACL and RCR
• Example of how to decrease opioids dispensed while providing alternative pain relief
References

