Reducing Opioid Use after Hand Surgery

Study offers recommendations, but notes that potential for abuse remains

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The use of written guidelines and educational handouts can lead to a significant reduction in the quantity of opioids prescribed, while maintaining high patient satisfaction and a low refill rate, according to study data presented at the annual meeting of the American Society for Surgery of the Hand.

“Opioid abuse has become a recognized national epidemic in recent years,” noted C. Liam Dwyer, MD. “Previous studies have found that approximately two-thirds of prescribed opioids remain unconsumed after general hand surgery cases, and therefore remain available for potential diversion and abuse. In addition, studies have shown that the prescribing behavior of hand surgeons can change by adopting written guidelines, with prescription sizes reduced by up to 48 percent.

“Our goals were to combine these ideas and look at the most commonly performed soft-tissue procedures and bony procedures in our practice: carpal tunnel release (CTR) and volar locked plating (VLP) for distal radius fractures,” he continued. “We collected daily pain diaries and investigated the influence of pain catastrophizing.”

Recommendations and education

Dr. Dwyer and his colleagues gathered prospective data on all patients who met inclusion criteria and who underwent isolated CTR or distal radius VLP performed by one of four fellowship-trained hand surgeons at a single group practice over a 6-month period. Exclusion criteria included patient age younger than 18 years, open fracture, and chronic opioid use or abuse. Overall, 121 patients were included in the CTR cohort and 24 patients were included in the VLP cohort.

“Based on written guidelines determined from a study of prescribing habits conducted the previous year, surgeons could prescribe opioids at their discretion,” explained Dr. Dwyer. “The recommendations were 10 to 15 pills for patients who had undergone CTR procedures and 20 to 30 pills for patients who had undergone VLP procedures (Table 1).

“All patients received a postoperative educational handout focused on opioid use, safety, and disposal. We also provided them with pain diaries to document daily pain visual analog scale scores and the number of opioid and over-the-counter (OTC) analgesic pills they consumed. Patients were also asked to complete a Pain Catastrophizing Scale (PCS) questionnaire,” he said. “We then compared the data against our retrospective cohort study from one year earlier that involved the same surgeons, procedures, and time period.”

In the CTR cohort, the average quantity fell from 22 opioid pills prescribed prior to intervention to 10 pills. Average consumption was three opioid pills, supplemented with 11 OTC pills. Similarly, in the VLP cohort, the average prescription size fell from 39 opioid pills prior to intervention to 29 pills. Average consumption was 16 opioid pills, supplemented with 20 OTC pills.

“Only two of 121 patients in the CTR group requested refills, and patient satisfaction was 96 percent,” noted Dr. Dwyer. “In the VLP group, six of 24 patients requested refills, and patient satisfaction was 88 percent.”

However, the researchers found that 55 percent (1,000 of 1,795) of total prescribed pills went unconsumed. Moreover, only 9 percent of patients reported appropriate disposal by the time of their first postoperative visit.

High satisfaction

“Using a written guideline and patient handouts we were able to significantly reduce the number of prescription opioid pills by 35 percent to 55 percent, while maintaining high patient satisfaction and a low refill rate,” said Dr. Dwyer. “Based on our data, we recommend prescribing five to 10 opioid pills per CTR, and 20 to 30 pills for VLP procedures. Unfortunately, despite these interventions, the potential for opioid abuse and diversion may still persist.”

The researchers also found that patients with high PCS scores required a significantly higher number of opioid pills across both study arms. Specifically, patients with a PCS >10 used more than twice as many opioid pills as patients with lower scores. The researchers suggest that pain catastrophizing assessment may help identify those patients needing additional support.

Dr. Dwyer also noted several limitations of the study, including reporting bias based on patient surveys of pain scores, pill consumption, and disposal. “In addition, our study was powered for reduced prescription size without specific attention to refill rate. Patient satisfaction was not compared prior to intervention. Finally, we utilized pill counts instead of equianalgesic doses, although prior studies have demonstrated them to be comparable.”

Dr. C. Liam Dwyer’s coauthors of “Prospective Evaluation of an Opioid Reduction Protocol in Hand Surgery” are Maximillian C. Soong, MD; Alice A. Hunter, MD; Jesse Dashe, MD; Eric T. Tolo, MD; and N. George Kasparyan, MD.

References for the studies cited may be found in the online version of this article, available at www.aaos.org/aaosnow/17014.

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TABLE 1: PRESCRIBING RECOMMENDATIONS

<table>
<thead>
<tr>
<th>Procedure</th>
<th>Prescribing Recommendations</th>
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<tbody>
<tr>
<td>Carpal tunnel release</td>
<td>Age ≤ 65 years: 10 pills, 1 tablet q.4-6 hours PRN</td>
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<tr>
<td></td>
<td>Age ≤ 65 years: 15 pills, 1-2 tablets q.4-6 hours PRN</td>
</tr>
<tr>
<td>Volar locked plating</td>
<td>Age &gt; 65 years: 30 pills, 1-2 tablets q.4-6 hrs PRN</td>
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Bottom Line

- In this study, researchers found that written guidelines and educational handouts significantly reduced the quantity of opioid pills prescribed by 35 percent to 55 percent, with high patient satisfaction and a low refill rate.
- Pain catastrophizing was associated with greater opioid consumption, and pain catastrophizing assessment may help identify patients who need additional support.
- The authors recommend prescriptions of five to 10 opioid pills for patients who undergo CTR, 20 to 30 opioid pills for patients who undergo distal radius VLP, and use of OTC analgesics in both groups.
- Potential for opioid abuse and diversion remains despite prescription guidelines and patient education.