Editorial Commentary: Emergency Department Evaluation After Hip Arthroscopy Occurs More than Expected: Here's Where Patient Education and a Multimodal Approach to Pain Management Can Be Helpful

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Abstract: Hip arthroscopy is known to be a relatively safe procedure with a limited and unique set complications and low hospital readmission rates. Many patients, however, may seek emergency department evaluation after surgery for postoperative pain or complaints unrelated to the most commonly cited complications, such as traction neuropraxia. It is important to recognize and understand the reasons why patients seek medical care after surgery because many of these encounters may be preventable with optimization of perioperative multimodal pain control regimens and proper patient education regarding their expected postoperative course. Patients with barriers to health care access, such as Medicare and Medicaid patients, may be at higher risk for emergency department evaluation of their problems after surgery and clinicians should consider providing additional counseling to these patients regarding when and how to seek medical evaluation after surgery.

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Hip arthroscopy is 1 of the fastest growing procedures and has experienced a dramatic increase in volume over the past decade.[1-3] It is a technically challenging procedure associated with a unique set of postoperative complications, which makes it important for surgeons to properly educate patients before surgery. Failure to do so may result in patients seeking evaluation and management of their postoperative concerns outside of the treating surgeon's office and increasing the burden on the health care system.

In their study "Emergency Department Utilization Following Elective Hip Arthroscopy,"[4] Sivasundaram, Trivedi, Kim, Du, Liu, Voos, and Salata used large database registries to investigate the rate at which patients sought medical evaluation in emergency departments (ED) after hip arthroscopy. Prior studies have identified low 30-day readmission rates (0.5%-1.3%) following hip arthroscopy; however, as this study suggests, this may underestimate the rate at which these patients seek outpatient medical attention.[2,5] They identified a 30-day postoperative emergency department evaluation rate of 3.5% along with a 0.13% 30-day readmission rate. The current study provides unique and valuable information regarding the postoperative complications that lead patients to seek medical care after hip arthroscopy.

In this study, the primary reason patients went to the ED after hip arthroscopy was postoperative pain, followed by gastrointestinal, and neurological complaints. Ultimately, all 3 reasons for these ED visits could be explained by opioid use following surgery. Most patients are prescribed at least 1 variety of narcotic for pain management after surgery, which have known side effects of gastrointestinal upset, constipation, headaches, and nausea.[6,7] Prescribing fewer opioid tablets, providing preoperative education regarding appropriate opioid utilization, and using alternative pain control strategies have consistently been found to significantly reduce

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opioid utilization after surgery.[8-11] Supplemental forms of anesthesia before, during, and after certain arthroscopic procedures have also been shown to significantly reduce opioid consumption.[12,13] Given that only 4% of patients in the study required an inpatient admission, many of these ED visits may have been preventable. By enforcing a multimodal approach to pain management and perioperative patient education surrounding narcotic use, the burden on the health care system following hip arthroscopy may be reduced further still.

Interestingly, the most frequently identified reasons for seeking ED care were not consistent with some of the most frequently identified complications following hip arthroscopy: traction neuropraxia and temporary nerve injury related to portal placement.[14] Neurologic complaints represented only 10.5% of 90-day postoperative ED visits in the Sivasundaram et al. study, with only 6.1% of these neurologic complaints being related to cutaneous nerve injuries. Perhaps the assumption that these particular neurologic complaints are not severe enough to warrant emergent attention or that most patients have been educated about this potential risk preoperatively can be made here. Thus, it is important to recognize and address these common reasons for ED visits during preoperative discussions with patients as the most frequently cited complications may not necessarily be the same set of problems patients seek evaluation for postoperatively.

Sivasundaram et al.[4] additionally found that 6.6% of patients sought ED evaluation within 90 days of surgery, with Medicare and Medicaid patients being at particularly high risk for seeking ED care in this timeframe. This highlights an important well-described finding in the literature, that patients with Medicaid are more likely to seek ED care because of numerous social barriers and access to health care.[15] Surgeons and interdisciplinary teams should maintain an awareness to these variables during preoperative discussions and consider providing patients with recommendations regarding how and when to seek medical evaluation after surgery.

The study by Sivasundaram et al.[4] had several important limitations to recognize and consider. First, the databases used in the study were limited to hospital-based ED visits and therefore excluded occasions where patients sought medical care with their surgeon in an outpatient clinic, urgent care facility, or with their primary care physicians. Additionally, the authors noted an inability to comment on the effect of individual surgeon volume on ED utilization. Hip arthroscopy remains a technically challenging procedure and prior studies have identified lower volume surgeons (<102 cases/year) as having a significantly higher 90-day readmission rate compared to higher volume surgeons (>163 cases/year).[2] Thus, it is important for clinicians to understand these limitations as they apply to their own practice and have well-informed preoperative discussions with their patients.

In conclusion, this study highlights how perioperative patient education, a multimodal approach to pain management, and patient selection can provide more comprehensive care and reduce the burden on health care environment after hip arthroscopy.

References

1. Bonazza NA, Homcha B, Liu G, Leslie DL, Dhawan A. Surgical trends in arthroscopic hip surgery using a large national database. *Arthroscopy* 2018;34:1825-1830.
2. Degen RM, Bernard JA, Pan TJ, et al. Hip arthroscopy utilization and associated complications: a population-based analysis. *J Hip Preserv Surg* 2017;4:240-249.
3. Cvetanovich GL, Chalmers PN, Levy DM, et al. Hip arthroscopy surgical volume trends and 30-day postoperative complications. *Arthroscopy* 2016;32:1286-1292.
4. Sivasundaram L, Trivedi NN, Kim C-Y, et al. Emergency department utilization following elective hip arthroscopy. *Arthroscopy* 2020;36:1575-1583.
5. Hartwell MJ, Morgan AM, Johnson DJ, et al. Risk factors for 30-day readmission following hip arthroscopy [published online February 27, 2019]. *Knee Surg Sports Traumatol Arthrosc.* doi:10.1055/s-0039-1692631.
6. Megale RZ, Deveza LA, Blyth FM, et al. Efficacy and safety of oral and transdermal opioid analgesics for musculoskeletal pain in older adults: a systematic review of randomized, placebo-controlled trials. *J Pain* 2018;19:475.
7. Bech NH, Hulst AH, Spuijbroek JA, van Leuken LLA, Haverkamp D. Perioperative pain management in hip arthroscopy; what options are there? *J Hip Preserv Surg* 2016;3:181-189.
8. Farley KX, Anastasio AT, Kumar A, Premkumar A, Gottschalk MB, Xerogeanes J. Association between quantity of opioids prescribed after surgery or preoperative opioid use education with opioid consumption. *JAMA* 2019;321:2465-2467.
9. Syed UAM, Aleem AW, Wowkanech C, et al. Neer Award 2018: the effect of preoperative education on opioid consumption in patients undergoing arthroscopic rotator cuff repair: a prospective, randomized clinical trial. *J Shoulder Elbow Surg* 2018;27:962-967.
10. Hajewski CJ, Westermann RW, Holte A, Shamrock A, Bollier M, Wolf BR. Impact of a standardized multimodal analgesia protocol on opioid prescriptions after common arthroscopic procedures. *Orthop J Sports Med* 2019;7:2325967119870753.
11. Lovecchio F, Premkumar A, Stepan JG, Albert TJ. Fighting back: institutional strategies to combat the opioid epidemic: a systematic review. *HSS J* 2019;15:66-71.
12. Kahlenberg CA, Patel RM, Knesek M, Tjong VK, Sonn K, Terry MA. Efficacy of celecoxib for early postoperative pain management in hip arthroscopy: a prospective

randomized placebo-controlled study. *Arthroscopy* 2017;33:1180-1185.
13. Cogan CJ, Knesek M, Tjong VK, et al. Assessment of intraoperative intra-articular morphine and clonidine injection in the acute postoperative period after hip arthroscopy. *Orthop J Sports Med* 2016;4:23259671 16631335.
14. Harris JD, McCormick FM, Abrams GD, et al. Complications and reoperations during and after hip arthroscopy: a systematic review of 92 studies and more than 6,000 patients. *Arthroscopy* 2013;29:589-595.
15. Cheung PT, Wiler JL, Ginde AA. Changes in barriers to primary care and emergency department utilization. *Arch Intern Med* 2011;171:1397-1399.