

Editorial Commentary: Readmission Rate After Hip Arthroscopy: Is There a Cause for Concern?



Ajay Malviya, Ph.D., F.R.C.S T&O, M.Sc., M.S., M.R.C.S.Ed

Abstract: Readmission after hip arthroscopic surgery is an undesired and unusual event. The causes may range from wound-related issues, deep infection, increasing pain, complications of surgery, to medical events. It adds to the economic burden of the procedure and causes unnecessary anguish to the patients and indeed clinicians. It is also one of the less-studied areas of hip arthroscopic surgery because of its rarity. There would be benefit in being able to identify the risk factors of readmission such that pre-emptive measures can be put in place to prevent or indeed counsel the patients before the surgery. In certain cases, readmission may remain an unpreventable event. In our experience, the readmission rate after hip arthroscopy is 0.5%, whereas patients with elevated body mass index are at greater risk.

See related article on page 3271

As a young adult hip specialist, I would be interested to know what the rate of readmission after hip arthroscopy is, the reasons for the readmission, and the predictors. In the paper “Unplanned Admissions Following Hip Arthroscopy: Incidence and Risk Factors” Du, Knaip, Trivedi, Sivasundaram, Mather, Nho, and Salata¹ have attempted to answer these key questions. They have interrogated the American College of Surgeons National Surgical Quality Improvement Program (NSQIP) database, which collects information from 693 participating hospitals. In this retrospective review of prospectively collected data, the authors identified 18 unplanned readmissions (0.9%) within 30 days in a cohort of 1931 cases of hip arthroscopy. The median time for readmission was 14.5 days, 11 of 18 readmissions (61%) were related to the surgical procedure, whereas a large proportion (39%) were admitted for unrelated reasons; however, 4 patients (22%) required a reoperation. High body mass index (BMI), chronic steroid use, and perioperative blood transfusion were identified as independent risk factors in a multivariate analysis.

During the same time frame as the current study (2011-2016), the NSQIP database has recorded 99,410 arthroscopic procedures for all joints with a seemingly high overall readmission rate of 2.6%.² If one looks at knee arthroscopies in comparison, the 30-day readmission rate is 0.92% which is very similar to the rate reported after hip arthroscopic procedures.³ The global view of this is not clear, but we have looked at the readmission rate after hip arthroscopy in the English National Health Service⁴ in a group of 6395 patients and reported a readmission rate of 0.5%, not dissimilar to that found in the United States. For a predominantly young population, even this figure appears to be high but contrasts favorably with the overall readmission rate of 5.4% after orthopaedic surgery.⁵

The NSQIP database has been explored previously by Cvetanovich et al.⁶ and very recently by Hartwell et al.⁷ to examine 30-day postoperative complications following hip arthroscopy. Cvetanovich et al.⁶ looked at a cohort of 1338 hip arthroscopic procedures recorded in the database from 2006 to 2013 and reported a return to theater of 0.3%, superficial infection rate of 0.2%, deep venous thrombosis 0.1%, and death 0.1%. They did not report on the readmission rate. Hartwell et al.⁷ seem to have covered a similar period as the current study from 2012 to 2016 in their publication earlier this year and reported a slightly greater readmission rate of 1.3% in a group of 1493 patients. They identified bleeding (n = 12, 0.8%), superficial infection (n = 5, 0.3%), and return to operating room (n = 4,

Newcastle University

The author reports no conflicts of interest in the authorship and publication of this article. Full ICMJE author disclosure forms are available for this article online, as [supplementary material](#).

© 2019 by the Arthroscopy Association of North America
0749-8063/19993/\$36.00

<https://doi.org/10.1016/j.arthro.2019.08.024>

0.3%) as the most common events. Similarly, in the English National Health Service,⁴ we found that of the 0.5% readmissions after hip arthroscopy 0.22% were because of wound-related issues, with return to theater of 0.06%; 0.19% were because of pain.

The other aspect of interest would be the predictors for readmission. Chronic steroid or immunosuppressant use is consistently reported^{1,7} as a predictor, although in my experience very few patients undergoing arthroscopic surgery will be on these. The other variable found in this study is increasing BMI, and in a recent study, Gabriel et al.² recommend that only patients with BMI greater than 50 should be excluded whereas the ones with BMI less than 50 should not be denied the procedure. In clinical practice, it would be extremely rare for clinicians to be offering potentially hip-preserving surgery for patients with such a high BMI, given the outcomes of interest in terms of improvement in pain and function are universally not consistent. Degen et al.,⁸ while reporting a rate of 0.5%, have noted that the readmission rate depends on surgeon volume, with surgeons performing fewer than 102 cases having a significantly greater 90-day readmission rate compared with those doing more than 163 a year.

There are a couple of limitations of the study that need to be highlighted, one being its similarity to the work by Hartwell et al.⁷ using the same database; unsurprisingly, the conclusions are not very different. It must be admitted that the focus of the study by Hartwell et al.⁷ was the 30-day complication rate and they attempted to determine its association with several surgical factors; in contrast, the current study has explored the medical associations at length and the authors should be congratulated for their attempt. It can also be critiqued that for a study including data from 693 participating hospitals, one would expect a larger cohort of patients, which is perhaps even more valuable if the incidence of the complications is very small.

On the positive, the study corroborates our clinical experience of a very low readmission rate after hip arthroscopy and provides valuable evidence to support an informed discussion with the patients; in particular, ones with greater BMI need to be warned of a higher complication rate, which may require further admissions. It paves the way for larger collaboration to further explore the topic to provide vital and more meaningful modifiable predictors.

References

1. Du JY, Derrick MK, Trivedi NN, et al. Unplanned admissions following hip arthroscopy: Incidence and risk factors. *Arthroscopy* 2019;35:3271-3277.
2. Gabriel RA, Burton BN, Ingrande J, et al. The association of body mass index with same-day hospital admission, post-operative complications, and 30-day readmission following day-case eligible joint arthroscopy: A national registry analysis. *J Clin Anesth* 2019;59:26-31.
3. Hartwell MJ, Morgan AM, Johnson DJ, et al. Risk factors for 30-day readmission following knee arthroscopy [published online July 3, 2019]. *J Knee Surg*. doi:10.1055/s-0039-1692631.
4. Malviya A, Raza A, Jameson S, James P, Reed MR, Partington PF. Complications and survival analyses of hip arthroscopies performed in the National Health Service in England: A review of 6,395 cases. *Arthroscopy* 2015;31:836-842.
5. Bernatz JT, Tueting JL, Anderson PA. Thirty-day readmission rates in orthopedics: A systematic review and meta-analysis. *PLoS One* 2015;10:e0123593.
6. Cvetanovich GL, Chalmers PN, Levy DM, et al. Hip arthroscopy surgical volume trends and 30-day post-operative complications. *Arthroscopy* 2016;32:1286-1292.
7. 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:10.1007/s00167-019-05415-4.
8. 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.