

# Editorial Commentary: Hip Labral Reconstruction: A Necessary Skill for Hip Arthroscopy Surgeons



Alexander R. Vap, M.D., Editorial Board

**Abstract:** The surgical treatment of labral deficiency has generated a tremendous amount of discussion and controversy among hip arthroscopists. The surgical reconstruction of the labrum has been viewed as the natural next step, after debridement and repair, in the advancement of our ability to treat patients with hip labral pathology. However, the indications for labral replacement and the profile of patients who would benefit from this complex intervention are still under debate. Every hip arthroscopist must have the technical ability to perform reconstruction when indicated. Repair or debridement does not always achieve best patient outcome.

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The treatment of hip labral pathology has seen a rapid transformation over the past 2 decades. As surgeons, we first moved from open treatment requiring surgical hip dislocation to the current gold standard of hip arthroscopy.<sup>1,2</sup> From that stage, we came to recognize the importance of labral preservation with repair versus debridement.<sup>3-7</sup> A large part of that recognition has come from our biomechanical understanding of the role of the labrum with regard to joint seal and fluid pressurization.<sup>8-11</sup> Concurrent with this evolution in treatment techniques, there has been an increase in the number of hip arthroscopies performed for labral tears, with 1 study showing a quadrupled rate per 100,000 patients in less than a decade in the United States.<sup>12-14</sup> With a rate of revision hip arthroscopy after arthroscopic repair reported to be from 2.5% to 6.3%, the reality is that arthroscopic hip surgeons will be facing a growing burden of revision cases.<sup>15-17</sup> Labral reconstruction has been shown to be an important weapon in our armamentarium for patients in those revision settings that have inadequate labral tissue remaining.<sup>18-20</sup> It is of great importance that we continue to better define when labral reconstruction is indicated and determine

what reconstruction is best in the long term for our patients from a biomechanical perspective.

I read the article by Suppaksorn, Beck, Chahla, Cancienne, Krivicich, Rasio, Shewman, and Nho, entitled "Comparison of Suction Seal and Contact Pressures Between 270 Degree Labral Reconstruction, Labral Repair, and the Intact Labrum," with significant interest.<sup>21</sup> This was a cadaveric biomechanical study of 8 hemipelvis specimens that underwent electromechanical testing. The primary objective was to biomechanically compare the suction seal, contact area, contact pressures, and peak forces of 1) intact labrum, 2) labral tear, 3) labral repair between 12 and 3 o'clock, and 4) 270° labral reconstruction using iliotibial band (IBA) allograft. Although it is a cadaveric study with limited direct clinical translation, the authors have given us a valuable biomechanical study showing that a 270° labral reconstruction does not restore the suction seal and decreases the intraarticular contact area compared with a labral repair. This study builds on the foundation from earlier cadaveric studies, which documented the effect of a disrupted labrum on the force required to break the hip seal.<sup>10</sup> The suction seal has been shown to regulate synovial fluid circulation, which is important for joint health.<sup>11</sup> These results do raise a concern, at least from biomechanical perspective, that a 270° labral reconstruction does not recreate the suction seal.

The authors discuss how their study might apply to the heavily debated topic of whether labral reconstruction should be indicated in the primary setting or reserved only for revision cases. Some surgeons have advocated for primary reconstruction and have published results to

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support that approach,<sup>22-24</sup> whereas other studies have showed lower outcome scores for reconstruction but a statistical equivalence to repair.<sup>25,26</sup>

Whether one believes in primary reconstruction or not, in my opinion, this study highlights the importance of the native labrum and the challenges we face with reconstructing it. From my perspective, intraoperative management of labral tissue from joint entry to preparation for pincer resection is extremely important and, if done poorly, can have long-term negative consequences for a patient. It is in these primary cases that viability of the native labrum rests in the hands of the surgeon. However, there are instances in which a patient's labrum simply is not salvageable and reconstruction is needed. It is paramount that as hip arthroscopists, we can recognize the differences and act accordingly.

Hip arthroscopy is a highly technical procedure and is often referred to as having a steep learning curve.<sup>27-29</sup> By increasing early exposure to hip arthroscopy during residency programs, and by expanding the number of fellowships available that offer significant hip arthroscopy experiences, I believe we will improve training and surgical outcome in hip arthroscopy. As individual surgeons already in practice, it is our responsibility to continue to advance our technical skill so that we can comprehensively care for our patients. Labral reconstruction is an essential skill for hip arthroscopists, and we need to continue to improve it.

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