Letter to the Editor Regarding "Comparison of Suction Seal and Contact Pressures Between 270° Labral Reconstruction, Labral Repair, and the Intact Labrum"

We read with great interest and enthusiasm the recent article published in *Arthroscopy* titled "Comparison of Suction Seal and Contact Pressures Between 270° Labral Reconstruction, Labral Repair, and the Intact Labrum."[1] Suppauksorn et al. conducted a biomechanical comparison of suction seal, contact area, contact pressures, and peak forces of the native labrum, torn labrum, labral repair, and 270° labral reconstruction. They found that the 270° labral reconstruction resulted in decreased intra-articular contact area and loss of suction seal when compared with labral repair. This is the first study published in the literature on the biomechanical properties of 270° labral reconstruction, and we commend the authors on a well-written and original article. The article was scientific yet elegant in its approach, and it paves the way for future research.

A key question in the article was the performance of the authors' labral reconstruction technique in re-establishing the suction seal.[1] The labrum plays a critical role in establishing a suction seal within the hip joint.[2,3] Prior literature has compared the biomechanical profiles of labral repair and segmental reconstruction and found that segmental labral reconstruction was able to significantly improve pressurization to levels similar to the intact state.[4,5] The article by Suppauksorn et al.[1] builds on this prior work and is trailblazing in its biomechanical evaluation of circumferential labral reconstruction. The authors feature a simple and qualitative evaluation of the suction seal, which is well demonstrated in their supplementary video.

This article sets the stage for further investigation and refinement of labral reconstruction techniques. In this study, Suppauksorn et al.[1] used the well-described front-to-back fixation technique with iliotibial band allograft.[6] Further work to describe the biomechanical performance of other commonly used techniques such as the kite and knotless pull-through techniques will build on the data this article provides.[7,8] Describing the effect of modifications in graft selection, rim preparation, and fixation methods on biomechanical performance will be vital in refining circumferential labral reconstruction techniques. We applaud Suppauksorn et al. on their study evaluating the biomechanical properties of 270° labral reconstruction and for opening the door to future biomechanical studies to refine labral reconstruction techniques.

Andrew E. Jimenez, M.D.
Ajay C. Lall, M.D.
Benjamin G. Domb, M.D.
American Hip Institute, Des Plaines, Illinois, U.S.A.

Note: The authors report no conflicts of interest in the authorship and publication of this letter. Full ICMJE author disclosure forms are available for this letter online, as supplementary material.

https://doi.org/10.1016/j.arthro.2020.10.008

References

1. Suppauksorn S, Beck EC, Chahla J, et al. Comparison of suction seal and contact pressures between 270° labral reconstruction, labral repair, and the intact labrum. *Arthroscopy* 2020;36:2433-2442.
2. Ferguson SJ, Bryant JT, Ganz R, Ito K. An in vitro investigation of the acetabular labral seal in hip joint mechanics. *J Biomech* 2003;36:171-178.
3. Dwyer MK, Jones HL, Hogan MG, Field RE, McCarthy JC, Noble PC. The acetabular labrum regulates fluid circulation of the hip joint during functional activities. *Am J Sports Med* 2014;42:812-819.
4. Philippon MJ, Nepple JJ, Campbell KJ, et al. The hip fluid seal—Part I: The effect of an acetabular labral tear, repair, resection, and reconstruction on hip fluid pressurization. *Knee Surg Sports Traumatol Arthrosc* 2014;22:722-729.
5. Nepple JJ, Philippon MJ, Campbell KJ, et al. The hip fluid seal—Part II: The effect of an acetabular labral tear, repair, resection, and reconstruction on hip stability to distraction. *Knee Surg Sports Traumatol Arthrosc* 2014;22:730-736.
6. White BJ, Herzog MM. Arthroscopic labral reconstruction of the hip using iliotibial band allograft and front-to-back fixation technique. *Arthrosc Tech* 2016;5:e89-e97.
7. Bhatia S, Chahla J, Dean CS, Ellman MB. Hip labral reconstruction: The "kite technique" for improved efficiency and graft control. *Arthrosc Tech* 2016;5:e337-e342.
8. Perets I, Hartigan DE, Chaharbakhshi EO, Walsh JP, Close MR, Domb BG. Circumferential labral reconstruction using the knotless pull-through technique—Surgical technique. *Arthrosc Tech* 2017;6:e695-e698.