Does Revision Hip Arthroscopy with Labral Reconstruction or Repair Show Superior Patient Reported Outcomes? A Systematic Review

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INTRODUCTION: Compromise of the acetabular labrum can lead to pain and loss of critical intra-articular fluid pressure. Revision labral preservation poses unique challenges due to adhesions and compromised tissue quality. The purpose of this study is to compare patient reported outcomes (PROs) in patients undergoing revision hip arthroscopy with either labral reconstruction or repair.

METHODS: A systematic review of the literature was conducted with the following keywords: (revision) AND (hip OR femoroacetabular impingement) AND (arthroscop*) AND (reconstruction OR repair) in PubMed, Cochrane, and Scopus in August 2023 using the Preferred Reporting Items for Systematic Reviews and Meta-analyses (PRISMA) criteria. Only studies comparing PROs between revision labral reconstruction or revision labral repair were included. Background article information was recorded, including article title, author, study design, level of evidence, patient demographics, radiographic information, intraoperative data, PROs, psychometric thresholds, and secondary surgeries were recorded.

RESULTS SECTION: Four studies, including 215 revision labral reconstruction and 115 revision labral repair hips were included in this systematic review. All studies were level III evidence, and study time periods ranged from 2009-2019. The average follow-up for the reconstruction and repair groups ranged from 2.4 to 36.6 and 4.7 to 43.2 months, respectively. Average age for the reconstruction and repair groups varied between 27 to 34.6 years and 27.5 to 30 years, respectively. Average postoperative modified Harris Hip Scores (mHHS) for the reconstruction and repair cohorts ranged from 72.0-81.2 and 70.8-84.1, respectively (I^2=23%). Average Visual Analogue Scale of pain scores for the reconstruction and repair cohorts ranged from 3-3.5 and 2.3-3.89 (I^2=19%). Overall secondary surgery rates ranged from 6.4-26.7% in the labral reconstruction cohort, compared to 10-46.7% in the labral repair cohort (I^2=78%). One study reported superior outcomes in the revision labral repair group, with three studies finding no statistically significant difference in outcomes between the groups.

DISCUSSION: Labral repair and reconstruction both improve PROs in patients undergoing revision hip arthroscopy. While labral reconstruction is performed only in cases of insufficient labral tissue quality, patients who undergo revision labral reconstruction can still have comparable outcomes to revision labral repair patients. The repair group underwent higher rates of secondary surgery.

Limitations of this study include the fact that all studies were level III evidence. Furthermore, the study time periods vary among studies, which may confound results as techniques for labral treatment have improvement over time. Also, the total number of included studies was low, so definitive conclusions cannot be drawn. Finally, two of the studies were performed at the same institution, so there may have been overlap in patients.

SIGNIFICANCE/CLINICAL RELEVANCE: This aggregate of literature has compiled 4 retrospective studies and has demonstrated that patients undergoing revision hip arthroscopy report favorable outcomes with both labral reconstruction and labral repair.

Figure 1. Forest plot of postoperative modified Harris Hip Score (mHHS)

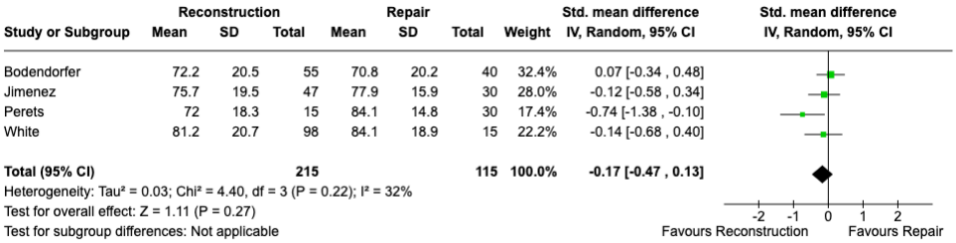

Figure 2. Forest plot of postoperative Visual Analogue Scale (VAS) for pain

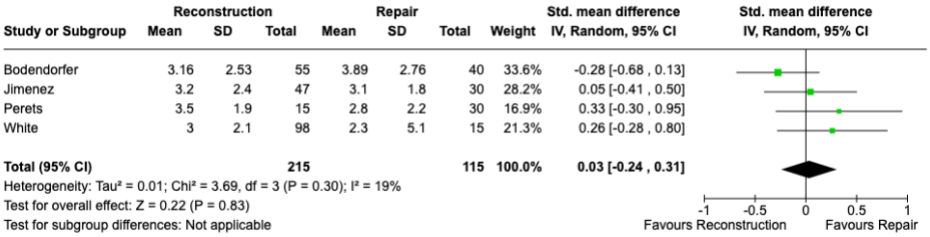

Figure 3. Forest plot of secondary surgery.