

Clinical Outcomes of Open Versus Arthroscopic Broström Procedure for Lateral Ankle Instability: A Meta-analysis, Moorthy, et al., *The Journal of Foot & Ankle Surgery*, Volume 60, Issue 3, May-June, 2021

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Level of Evidence: 3

Reviewer:

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Most inversion injuries of the ankle involve the anterior tibiofibular ligament (ATFL). The majority of ATFL injuries can be managed conservatively, but 5-20% of patients go on to experience lateral ankle instability requiring surgical correction. The gold standard for lateral ankle ligament repair is the modified Broström procedure. However, recent advances in arthroscopic surgery have led to its increased popularity in the surgical management of lateral ankle instability. Nevertheless, recent studies demonstrate conflicting findings regarding patient outcomes between the open and arthroscopic ATFL repair.

This meta-analysis (2010-2020) of six studies aims to compare the clinical outcomes of open and arthroscopic Broström surgery. Inclusion criteria included the following: adult human patients undergoing open or arthroscopic Broström procedure, clinical study directly comparing open and arthroscopic Broström, full report of complications and/or functional outcomes, prospective/retrospective clinical studies or trials, level of evidence I-III, and written in the English language. Animal or cadaveric studies, other surgical techniques for chronic ankle instability, nonclinical or in vitro studies, and poor-quality studies were excluded. Exclusion criteria also includes purely laboratory, biomechanical or radiological outcomes in addition to case reports, review articles, editorials, technique guides, and commentaries. Primary outcomes include the American Orthopaedic Foot and Ankle Society (AOFAS) score, Karlsson score, Visual Analogue Scale (VAS) pain score, anterior displacement of talus, and talar tilt angle. Secondary outcomes considered in the study were overall complication rates, wound-related complication rates, reoperation rates, and other specific complications.

Four studies reported postoperative AOFAS and Karlsson scores that suggest the arthroscopic group has significantly higher postoperative AOFAS and higher Karlsson scores than the open group. Pooled results from three studies found the arthroscopic group to have significantly lower postoperative VAS pain scores than the open group. Three studies reported postoperative anterior drawer test and talar tilt of which the overall pooled results display comparable data between the arthroscopic and open groups.

Pooled results from six studies reported postoperative complication rates that suggest comparable overall complication rates between the arthroscopic and open groups. Although, the odds of wound-related complications occurring in arthroscopic Broström procedures were significantly lower than in open Broström procedures as found in the pooled results from four studies. Overall, the evidence suggests that arthroscopic Broström repairs have comparable clinical outcomes and fewer wound-related complications when compared to the traditional open Broström repair.



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