

Modified Brostrom With and Without Suture Tape Augmentation: A Systematic Review, Piscoya, et al., *Journal of Foot & Ankle Surgery*, Volume 61, Issue 2, March 01, 2022

Level of Evidence: 4

Reviewer: Deep Shah, DPM, MBA

Ankle sprain accounts for the majority of ankle injuries in the United States with an estimated 2 million ankle sprains per year. Approximately 20% of ankle sprains go onto develop chronic ankle instability. Modified-Brostrom has become the gold standard surgical technique to reconstruct the lateral ligament complex. However, biomechanical studies have demonstrated that the repair is less than half the strength of the native anterior talofibular ligament (ATFL) on load to failure testing.

This systemic review (1999 – 2020) of four studies (2 retrospective cohort studies, 2 case series) with 247 patients aims to evaluate the current clinical evidence on lateral ligament reconstruction with traditional MB compared to Modified-Brostrom with suture tape augmentation (MBA) technique with an average follow-up time of 13.8 months. Inclusion criteria included the following: skeletally mature patient with chronic ankle instability, primary studies using either arthroscopic or open MBA with follow-up of at least 6 months. Revision surgery, incomplete data sets, patient with neuromuscular diseases, and concomitant procedures other than simple arthroscopic synovectomy or debridement were excluded. Primary outcome was patient reported outcome scores for suture tape augmentation, and secondary outcomes were recurrent instability, revision rates, comparative outcomes, functional outcomes, and complications.

All studies showed significant improvement (45.1% American Orthopedic Foot and Ankle Society [AOFAS] score) after MBA with 91.7% average decrease in the VAS pain score. Additionally, no patient out of 156 who underwent MBA had subjective recurrent of instability and mean time for return to sport was at or around 12 weeks for open MBA, and arthroscopic MBA. Two studies compared the Modified Brostrom directly with and without augmentation, one of which found a statistically significant difference in the Foot and Ankle Ability Measure in favor of the augmentation group (93.1 vs 90.5, $p = .027$), while AOFAS score was not significantly different ($p > .05$) between the 2 procedures across studies. Moreover, the overall complication rate for MBA was 5.7% with delayed wound healing, and neuritis were most common associated complications. However, there were no significant differences in complications or recurrent instability between techniques. Overall, this systemic review demonstrated that the MBA has excellent clinical outcomes and a low complication rate.



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