Assessing Lateral Ankle Instability Following Modified Brostrom Procedure

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Introduction/Purpose: The modified Brostrom procedure obtained excellent to good results in 80% of patients treated for lateral ankle instability, making it one of the most common procedures for the treatment of this injury. In patients with a gastrocnemius contracture, however, the modified Brostrom repair leaves the narrower posterior talar dome held within the mortise. This decreased bony contact reduces stability and may be perceived by patients as continued instability post-operatively. The purpose of this study is to demonstrate that performing a gastrocnemius recession in conjunction with a modified Brostrom will increase the degree of stability of the ankle. This is the first study of its kind to our knowledge and hopes to further our knowledge of the functional improvements in the treatment of lateral ankle instability.

Methods: This was a retrospective chart review with patients from the Orthopedic Associates of Michigan. 414 total patients in total with 82 who received gastrocnemius recession in conjunction with modified Brostrom were evaluated for the purposes of this study. All patients were at least 14 years of age. Patients must have undergone a modified Brostrom procedure at a Spectrum Health or Metro Health facility from 1/1/2002 – 12/31/12 by performed Drs. Anderson, Bohay, or Maskill.

Results: The mean age of all of the patients was 34.98 years (range 14-79). Pre-operatively, average AOFAS pain score for patients receiving modified Brostrom in isolation was 20.33, patients receiving concomitant gastrocnemius recession was 17.07. Post-operatively, average AOFAS pain score for patients receiving modified Brostrom in isolation was 32.29, patients receiving concomitant gastrocnemius recession was 32.44. Pre-operatively, proportion of patients meeting AOFAS stability criteria for those receiving modified Brostrom in isolation was 9.8%, those receiving concomitant gastrocnemius recession was 13.4%. Post-operatively, proportion of patients meeting AOFAS stability criteria for those receiving modified Brostrom in isolation was 76.8%, those receiving concomitant gastrocnemius recession was 86.6%.

Conclusion: Patients receiving a concomitant gastrocnemius recession in addition to their modified Brostrom had increased pain pre-operatively but equivalent pain levels post-operatively compared to those who received a modified Brostrom in isolation. Additionally, there was a clinically significant increase in the percentage of patients with post-operative stability in those who received the gastrocnemius recession.