The Medial Double Arthrodesis with Lateral Column Sparing and Arthrodiastasis: A Radiographic and Chart Review

Foot & Ankle Category: Hindfoot

Author(s):
Scott R. Ekroth, MD
Gregory C. Berlet, MD
Christopher F. Hyer, DPM, MS
Ryan T. Scott, DPM
Melissa M. Galli, DPM, MHA

Introduction
Correction of valgus hindfoot via the medial approach allows the surgeon to accomplish a reproducible outcome without violating the lateral hindfoot structures required in the triple arthrodesis. This is advantageous as it maintains a mobile lateral column, which may allow for accommodation to uneven ground better than a triple. The lateral column, particularly the calcaneal cuboid joint (CCJ), is often noted to distract and decompress as a result of the medial double fusion. The primary goal of this retrospective study was to identify the frequency of CCJ decompression, the measure the radiographic changes at the CCJ and evaluate flatfoot correction via this operative approach.

Methods
A chart and radiographic review of consecutive patients who underwent medial double hindfoot arthrodesis with a minimum of 6 months follow-up was performed. IRB approval was obtained for this retrospective clinical chart and radiograph review. Identification of potential subjects was via CPT codes (STJ arthrodesis, TNJ arthrodesis). All the radiographs were reviewed by two blinded fellowship trained foot and ankle surgeons.

Results
Forty six patients (47 feet) were identified as possible subjects. Twenty patients (20 feet) with mean follow-up of 9.2 +/- 4.1 months (6 to 21) met our inclusion criteria. Distraction of the CCJ joint with the medial double correction resulted in an increased joint space and an improvement in at least one grade of arthritis in 50% of patients. In the cases of severe CCJ arthrosis improvement was less predictable with only 20% showing radiographic improvement. Correction of the flatfoot as measured by standard radiographic angles showed excellent results. Arthrosis of the CCJ improved in patients with mild to moderate arthritis as the result of distraction arthrodiastaxis whereas severe pre-operative CCJ showed less predictable improvement.

Conclusion
Medial double arthrodesis for severe flatfoot deformity provides predictable correction of the deformity and improvement in CCJ arthritis when the pre operative arthritis of the CCJ is mild to moderate.