Radiographic Assessment of Medial Cuneiform Opening Wedge Osteotomy for Flatfoot Correction

Presenting Author:
Deborah Ann Castaneda, MD – Los Angeles, California

Additional Authors:
David B. Thordarson, MD
Timothy P. Charlton, MD

Introduction
The purpose of this study was to use a newly described radiographic measurement, the angle formed between the proximal and distal articular surfaces of the medial cuneiform as assessed on lateral foot radiographs, to determine the effectiveness and stability of the forefoot varus correction with plantarflexion opening wedge osteotomy of the medial cuneiform. This study evaluates this measurement in patients post-osteotomy without use of internal fixation.

Methods
Twenty-four feet underwent medial cuneiform opening wedge osteotomies for correction of forefoot varus associated with flatfoot deformity.

Results
The average angle between the proximal and distal articular surfaces of the medial cuneiform on lateral foot radiographs was 1.0 degree pre-operatively (+/-0.8 degrees). The average angle post-osteotomy, pre-weight-bearing, was 8.4 degrees (+/-3.6 degrees) and post-weight-bearing was 7.5 degrees (+/-2.9 degrees). All patients displayed evidence of bony union.

Conclusions
Opening wedge osteotomy of the medial cuneiform is an established effective intervention for correction of forefoot varus in relation to flatfoot deformity. We describe a new radiographic measurement to assess restoration of the medial arch with this plantarflexion osteotomy which is stable without internal fixation and reliably proceeds to union.