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Retrospective Review of Tibiofibular Fusions as a Salvage Procedure for Chronic Syndesmotic Injuries
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Precis/Summary:
This study reviewed results of tibiofibular fusions performed after chronic syndesmotic injuries. Radiographic parameters of ankle alignment and functional outcomes were significantly improved.

Abstract:
Background:
Previous authors have demonstrated that failure to stabilize syndesmotic injuries associated with ankle fractures lead to poor functional outcomes. The treatment of these chronic deformities remains unclear. This retrospective study investigated the radiographic and clinical outcomes of these injuries treated with tibiofibular syndesmotic fusions as a salvage procedure.

Methods:
The initial and most recent post-operative radiographs of ten ankle syndesmotic fusions were examined by three observers. Six radiographic parameters of ankle and syndesmotic radiographic measurements were evaluated. AOFAS scores pre-operatively and post-operatively were compared. The results were analyzed using paired student’s t-test and chi-squared analyses (p<0.05).

Results:
The average age of the ten patients, with a mean follow-up of 41 months (range 29-54 months), was 54yrs (range 40-63yrs). The average total AOFAS score significantly improved from 37 (range 16-62) to 85 (range 70-100). The pain subset of the AOFAS score significantly improved (p<0.001). The average medial clear space, talo-crural angle, and talar tilt significantly improved from 5.87mm to 2.58mm, 6.3° to 8.7°, and 9.2° to 5.9°, respectively. There was no clinically relevant progression of arthritis based on the Kellgren score. Two patients underwent removal of hardware and one underwent an ankle arthroscopy. All patients reported they would repeat the surgery. None of the patients have necessitated an ankle fusion.

Conclusions:
Radiographic and clinic parameters in this retrospective series have shown promising early outcomes. Based on these findings, we conclude that a salvage procedure with a tibiofibular fusion is a viable alternative to ankle arthrodesis for a chronically, unstable ankle.