## Functional Results of Percutaneous Reduction of Calcaneal Fractures and Posterior Arthroscopic Subtalar Arthrodesis (C-PASTA)

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INTRODUCTION:

Displaced intra-articular calcaneal fractures of Sanders III and IV are associated with high rates of post-traumatic arthritis. Traditionally, severe subtalar arthritis has often been managed through primary, open subtalar fusion. However, these approaches have yielded suboptimal results, with revision surgery rates reported as high as 60%. Previously, percutaneous calcaneal reduction and posterior arthroscopic subtalar arthrodesis (C-PASTA) has been established as a means of management of non-acute post-traumatic arthritis, resulting in a significant decrease in time to union, return to sport, and revision. Our hypothesis was that the use of C-PASTA for acute Sanders type III and IV would yield favorable results.

METHODS: Twenty-two patients with acute Sanders III (27%) and IV (73%) calcaneus fractures repaired with a C-PASTA were evaluated at 3, 6, and 12 months, with a one-year X-Ray. Nicotine and illegal drug use, tourniquet time, functional outcomes including Foot and Ankle Disability Index (FADI), visual analog scale (VAS), functional status at one year, and CT union rate were recorded

RESULTS: In our cohort of twenty-two patients, mean age was 51 years (range, 25-82) with a mean return for follow-up of 11.6 months. The mean FADI score improved from 70.3 at 3 months to 83 and 93.8 at 6 and 12 months (P < .0001), with ten patients (45%) obtaining a score greater than 90. The mean VAS scores were 1.9 at 3 months to 1.5 and 1.1 at 6 and 12 months showing no difference (P > 0.05). The mean tourniquet time was 103.3 ± 20.0 minutes. Post-operative CT scans demonstrated twenty-one (95%) of the patients showing a high rate of fusion without complications at 3 months with one non-union. Nicotine and illegal drug use did not impact results.

DISCUSSION AND CONCLUSION: These findings suggest that C-PASTA is a promising technique for the management of acute Sanders III and IV calcaneus fractures, potentially enhancing successful union rates, reducing the risk of posttraumatic arthritis. and improving patients' guality of life.





