Open Treatment and Internal Fixation of Displaced Intra-articular Calcaneal Fractures in High-Risk Patients Utilizing the Sinus Tarsi Approach

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Our disclosure is in the Final AOFAS Program Book.

We have a potential conflict with this presentation due to:

Smith/Nephew

Greg E. Gaski, MD: Nothing to Disclose
Overview

• Evaluate results utilizing a sinus tarsi approach for intra-articular calcaneal fractures in a population of patients considered at high risk for wound issues

• High-risk patients: smokers, diabetics, immunocompromised patients, patients with open fractures, or any combination of these factors

• Comparison of wound complication and infection rates with the traditional lateral extensile approach
Methods

- 76 patients, who sustained a displaced intra-articular calcaneal fracture, were treated at two centers.
- 41 patients were included in the high-risk group.
- A sinus tarsi approach was used on all patients.
- Dry arthroscopy was used to assist with reduction.
- All patients were followed for an average of 8.1 months postop.
- Wound healing problems and infections were assessed.
- Any additional surgeries or post-operative complications were recorded.
Pre-Op Imaging
Intra-Op imaging
Post-Op Imaging
Sinus Tarsi Approach

Approach

Closure
The lateral extensile approach

Basic Facts:

- Most common approach utilized to fix intra-articular calcaneal fractures
- Requires development of a large soft tissue flap
- Usually requires a lengthy time between injury and surgery secondary to swelling

Concerns:

- Review of the literature reveals a wound complication rate of 6-33%.
- The tenuous soft tissue envelope leaves few options if wound complications occur
Results of sinus tarsi approach in high-risk group

Data:
- 41 patients Defined as high-risk
- Sinus Tarsi approach used in all cases
- Follow-up - average of 8.1 months post operative

Complications:
- 3 patients had delayed wound healing
  - All healed with local care
- 8 patients required hardware removal
- 1 wound complication / Deep Infection:
  - Patient with a history of an open fracture treated initially with an external fixator prior to plating
  - Required surgical debridement, hardware removal, long-term antibiotics
  - Healed with a wound VAC, Infection resolved, adequate function at long term follow-up
Selected References


