Fractures of The Calcaneus

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A Changing Paradigm?

Historically
- DEBATED
  - Operative vs Non-Operative
  - Elderly
  - Diabetics
  - Smoker

  • Operative
    - Delayed surgery
    - Extensile lateral exposure

Currently
- DEBATED
  - Operative vs Non-Operative
  - Elderly
  - Diabetics
  - Smoker

  • Operative
    - Early surgery
    - Percutaneous, Limited or Sinus Tarsi Approach

PubMed search on calcaneal fracture fixation sinus tarsi:
1997-2012  59 hits
2013-2017  65 hits

CASE # 1

18 YO MALE - FALL FROM 20 FT
ISOLATED CALCANEAL FRACTURE
- SIGNIFICANT SWELLING
- CLOSED
- NVI
THE GREATEST IMMEDIATE RISK TO THIS PATIENT IS:

1. DVT/PE
2. SKIN COMPROMISE
3. TRAUMATIC ARTHRITIS
4. COMPLICATIONS WITH EARLY SURGICAL INTERVENTION

SKIN COMPROMISE

TONGUE TYPE

PRIMARY FRACTURE LINE
SECONDARY FRACTURE LINE
PERCUTANEOUS TECHNIQUE WAS ATTEMPTED. THE NEXT STEP SHOULD BE:

1. ACCEPT THE REDUCTION AND MOVE ON
2. PROVISIONALLY FIX AND WHEN SWELLING KLOWS
3. LIMITED INCISION ORIF VIA SINUS TARSI APPROACH
4. EITHER 2 OR 3 IS RESONABLE

STA WAS PERFORMED

NO MEANING FULL ACCESS
CASE #2
FALL FROM LADDER

65 YO MALE – RETIRED MILITARY
SMOKER
TYPE 2 DIABETIC
VERY ACTIVE

FLAT SOHLENS ANGLE

JOINT DEPRESSION TYPE CALCANEAL FRACTURE

COMMINUTED POSTERIOR FACET (SANDERS IIIb)
PERONEAL SHEATH AVULSION
CONSTANT FRAGMENT
LATERAL WALL
PRESENTS TO OFFICE 3 WEEKS OUT FROM:

**TREATMENT SHOULD BE:**

1. NWB, REMOVABLE SPLINT WITH EARLY ROM
2. PERCUTANEOUS REDUCTION AND FIXATION
3. ORIF WITH EXTENSILE LATERAL EXPOSURE
4. ORIF WITH LIMITED SINUS TARSAL EXPOSURE

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1. NWB, REMOVABLE SPLINT WITH EARLY ROM

**SUBTALAR ARTHRITIS**

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1. NWB, REMOVABLE SPLINT WITH EARLY ROM

**LATERAL EXOSTOSIS**
PERONEAL DISLOCATION

1. NWB, REMOVABLE SPLINT WITH EARLY ROM

SHORT HEEL

1. NWB, REMOVABLE SPLINT WITH EARLY ROM

WIDE HEEL

1. NWB, REMOVABLE SPLINT WITH EARLY ROM
AN ACTIVE INDIVIDUAL THIS PUSHED ME TO FAVOR SURGERY

A LIMITED SINUS Tarsi APPROACH WAS SELECTED
THE REDUCTION MANEUVERS AND SURGICAL GOALS ARE DIFFERENT THAN WITH AN EXTENSILE LATERAL

1. TRUE
2. FALSE

JOINT ELEVATION
MEDIAL WALL REDUCTION

JOINT REDUCTION

SPANNING FIXATION

ARTICULAR LAG SCREW

RESTORED BOHLER'S ANGLE

CONGRUENT POSTERIOR FACET

RESTORED HINDFOOT VALGUS
1 YEAR

Comparing the extensile lateral and sinus tarsi exposures, the true statement below is:

1. Radiographic fracture reduction is better with the extensile lateral exposure.
2. There is no difference in outcomes between surgical techniques.
3. Sinus tarsi exposure has provided inferior clinical outcomes.
4. The extensile lateral has a significantly higher wound complication rate.

Similar anatomical reduction and lower complication rates with sinus tarsi approach compared with the extended lateral approach in displaced intra-articular calcaneal fractures.
META-ANALYSIS OF TWO SURGICAL APPROACHES FOR CALCANEAL SINUS TARSIS VERSUS EXTENSILE LATERAL APPROACH

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- LOWER OVERALL AND WOUND HEALING COMPLICATIONS
- NO DIFFERENCE
  - ANATOMICAL REDUCTION
  - FUNCTIONAL SCORES

EXISTING EVIDENCE SUPPORTS STA TO BE A BETTER APPROACH FOR TREATING CALCANEAL SINUS TARSIS.