Hindfoot and Midfoot Trauma
Pearls of Treatment

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Calcaneus

• The Debate is about Sinus Tarsi Versus Extensile Lateral Approaches
• In Reality we should be aiming for the least invasive and most stable anatomic reduction
  • Less scaring and infections, and better function

Pearls - the Mini-incision Approaches?

• Medial – Bordeaux, no direct reduction of post facet
• Medial and limited lateral
• Percutaneous Fixation
  • No signif joint displacement
Percutaneous Fixation

What do you think?
Sinus Tarsi Incisions

- Fix Before 14 days
- Medial External fixator first
- Extend incision 1 cm up on fibula
- Dry arthrooscope
- Lag screws – smaller, parallel to joint
- Plate – anterior to posterior

Pearls-Reduction and stabilization of posterior facet

- Lag (2.0 to 3.0mm screws)
- Aim towards sustentaculum
- Scope and films

Contraindications

- Sander’s 3 part fractures with posterior fragments
- You do not think that you can achieve an anatomic reduction
  - Small Incisions with a poor reduction achieve nothing!!!
Fixation Options

Unstable Peroneal Tendons

Technical Pearls - ELA
- Fractures of any complexity
- Operate at the right time
- Modified extensile lateral approach
  - More posterior
- No touch technique
- Independent lag screw first
- Fix anterior to posterior
- Half pin to reduce posterior tuberosity
Similarities

- Must restore –
  - Arthicular alignment
  - Height
  - Axial alignment
  - Width

Get postop CT to learn and get better!!!

Talus Fracture / Dislocation – Technical Trick

1. These must be reduced urgently
2. Closed vs. open
3. ER vs. OR
Surgical Approach

- Always use a dual incision
- Single incision – Risk of malunion
- Extend the incisions proximally to perform the malleolar osteotomies

Technical Pearl – Talar Neck Comminution

- Crushed medial neck
- Fibular graft to correct

Surgical Pearls For Talar Body Fractures

- Radiolucent foot board
- Use distraction –
  - Calcaneal traction - difficult
  - Temporary external fixation
- Arthroscopic assistance is invaluable
- Have all necessary implants –
  - Small K-wires
  - Bioabsorbable pins
  - Minifragment plates and screws (cannulated vs. solid)
- Be biologically friendly
Medial Malleolar Osteotomy
- Oblique
- Do not strip all tissues
- Protect the posterior tibial tendon
- Sagittal saw with saline cooling
- Complete with an osteotome
- ORIF with 2 screws
- Predrill
- Anti-glade plate!

Lateral Malleolar Osteotomy
- Short Oblique
- Leave posterior soft tissues intact – rotate the fibula posteriorly
- Protect the peroneal tendons
- Plate vs screws
- Repair lateral ligaments

Technical Pearl – Avoiding Osteotomies
- Dry Arthroscopy
Lisfranc Injuries –
Weight Bearing Xrays !!!

- 20 y.o. twisting injury
- Moderate midfoot swelling
- Minimal tenderness at the midfoot
- No ecchymosis

Stress Xrays in The Office?

Normal side

Painful Side

Intraop Stress Xrays
Option for a high level athlete

Lisfranc Variants

Treatment
- For Acute injuries –
  - Internal Fixation versus Arthrodesis of joints 1, 2, and 3?
  - I am performing arthrodesis in “almost all” cases.
  - What should we do with the 4th and 5th joints?
    - Arthrodesis – never
    - Fixation only if needed
Lisfranc Injury—

Technique for ORIF/Primary Fusion

Case Study

- 50 y.o. man after car ran over his foot
- Impending skin necrosis from pressure of cunneiform

Case Study

- All Five joints are unstable
- Too swollen for definitive surgery day 1
- Percutaneous reduction and pinning
- Lateral Cunneiform Comminution
Navicular and Cuboid

• First Pearl – Do not miss them
• Second pearl - Cuboid fractures are usually associated with other injuries
• Medial and lateral column distraction helps

Chopart Injuries