LISFRANC: TO FIX OR TO FUSE?
AND DOES IT MATTER?

John Ketz, M.D.
CSOT 2018

Introduction
- Uncommon Injuries
- Highly Variable Injuries
  - Trauma
  - Sports
- Associated with other injuries
Impact of Injury
• Diagnosis is missed or delayed in up to 20% of cases
• It’s a Lisfranc until proven otherwise

Imaging of Lisfranc Injuries
• Weight Bearing
• Contralateral views
• Stress
• CT/MRI

Role of MRI?
Hardware Removal and When?

- Controversial
- Timing?
  - >4-6 mo
- Intraop stress

Rationale for ORIF

- Preserve the joints at all costs
- Do not eliminate a motion segment of the foot
- Hard to make the multiple fractures and a fusion heal
- Traditional treatment

Results of ORIF

- Good to Fair Results

- Most Important Parameter was Anatomic Reduction

Arms et al. JHS 1988
Kuo et al. JHS 2000
Rajapakse et al. Injury 2006
Teng et al. JHS 2002
Case – 50 yo M fall from roof
Substance abuse, Hepatitis C, Bipolar disorder, smoker

Closed Reduction
- Urgent if tenting the skin
- Can be blocked by tendons, ligaments, bone

Operative Technique
- Incisions
Hardware

- What to use?
  - Screws
    - 3.5mm or 4.0mm cortical
  - Cannulated screws
  - Spanning Plates
    - comminution
  - Endobutton
Rationale for Fusion

- Medial column of the midfoot functions rigidly during gait for stability
- Lateral column (4th, 5th mts-cuboid) is the mobile midfoot segment
- One operation, one recovery period
- Eliminates need for hardware removal
- Fusion is more forgiving
- Fusion is not time sensitive

Post-Op

- NWB Short leg cast X 6-8 weeks
- Remove K wires at 4 weeks
- Boot, gradual WB at 8-10 weeks
- PT or HEP

Complications

- Pain/neuritis
- Wound Problems
  - Should be less than ORIF
- ORIF - Post-Traumatic Arthritis
- Fusion - Nonunion
Primary Arthrodesis (PA) vs ORIF

- **Mulier et al FAI 2002**
  - Advocated for partial primary arthrodesis for medial column

- **Ly & Coetzee JBJS 2006**
  - Randomized prospective study, improved results in PA vs ORIF for ligamentous injuries

- **Henning et al FAI 2009**
  - Less secondary procedures and trends towards better outcomes in PA vs ORIF

Case – 43 yo M s/p twisting injury

- Happened 6 wks ago doing a tough mudder

Case
Case – 1 yr

Case
- 17 yo High School quarterback
Introduction

• "I always do ORIF, and then I take out my screws"

• "I always fuse"

• "I always do ORIF, but I leave my screws in"
My Practice

ORIF PRIMARY FUSION

- Low Energy
- Young
- Agility Athletes

- High Energy
- Older, Low Demand
- BMI Champions
- Work Comp

Summary

- Complex injuries with potential for poor outcomes
- Do not miss subtle injuries
- Listen to the soft tissues
- Literature leans towards primary fusion
- Goal of fixation → Stable plantigrade foot

Thank You