

LISFRANC FRACTURES DISLOCATIONS

ORIF vs. Fusion

John Ketz, M.D.
CSOT Tampa 2017


Introduction

- Uncommon Injuries
- Highly Variable Injuries
 - Trauma
 - Sports
- Associated with other injuries



11/28/2017 2

Introduction



11/28/2017 3

Introduction

- “I always do ORIF, and then I take out my screws
- “I always do ORIF, but I leave my screws in”
- “I always fuse”

11/28/2017 4

Impact of Injury

- Diagnosis is missed or delayed in up to 20% of cases
- It's a Lisfranc until proven otherwise



11/28/2017 5

Case 17 yo F Rugby Injury



11/28/2017 6

Case Next step?

POLL OPEN

- 1 Weightbearing xrays 0%
- 2 MRI 0%
- 3 Proceed to ORIF 0%
- 4 Proceed to Fusion 0%

11/28/2017 7

Case

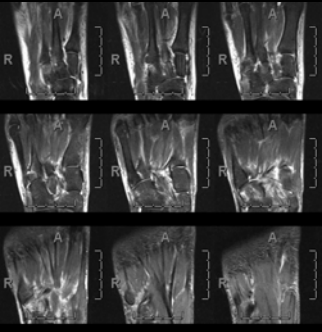
11/28/2017 8

Imaging of Lisfranc Injuries

- Weight Bearing
- Contralateral views
- Stress
- CT/MRI

11/28/2017 9

Role of MRI?




11/28/2017

10


UNIVERSITY OF ROCHESTER MEDICAL CENTER

Case- Operative Procedure?

POLL OPEN



1 ORIF	0%
2 Primary Fusion	0%
3 PT/Conservative care	0%



11/28/2017

11

UNIVERSITY OF ROCHESTER MEDICAL CENTER

Case



11/28/2017


12

UNIVERSITY OF ROCHESTER MEDICAL CENTER

Hardware Removal and When?

POLL OPEN

1 No	0%
2 Only if symptomatic	0%
3 Yes 6-12 weeks	0%
4 Yes >4-6 mo	0%



11/28/2017 13

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

11/28/2017 14

Results of ORIF

- Good to Fair Results
- Most Important Parameter was Anatomic Reduction

Arnitz et al. JBJS 1988
Kuo et al. JBJS 2000
Rajapakse et al. Injury 2006
Teng et al. FAI 2002

11/28/2017 15

Case – 50 yo M fall from roof

Substance abuse, Hepatitis C, Bipolar disorder, smoker



11/28/2017 16

Closed Reduction

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



11/28/2017 17

Case -Operative Procedure?

POLL OPEN

1 ORIF	0%
2 Primary Fusion	0%
3 PT/Conservative care	0%

11/28/2017 18

Operative Technique

- Incisions



11/28/2017 19

UNIVERSITY OF ROCHESTER MEDICAL CENTER

Case



06-17-2011 09-21-2011

11/28/2017 20

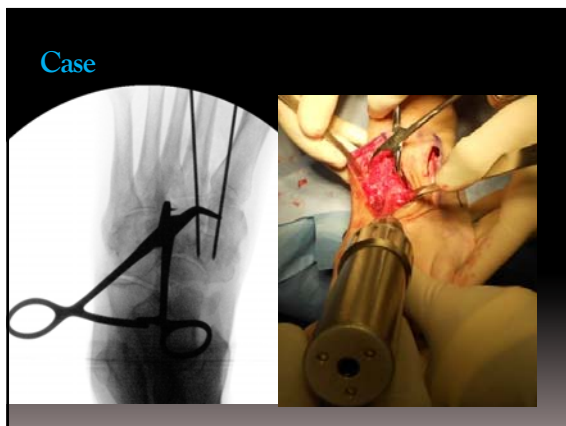
UNIVERSITY OF ROCHESTER MEDICAL CENTER

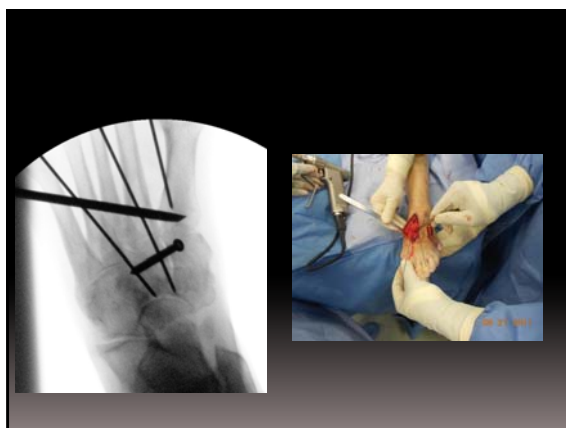
Case



11/28/2017 21

UNIVERSITY OF ROCHESTER MEDICAL CENTER











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

11/28/2017 27

UNIVERSITY OF ROCHESTER MEDICAL CENTER

Hardware

- What to use?
 - Screws
 - 3.5mm or 4.0mm cortical
 - Cannulated screws
 - Spanning Plates
 - comminution
 - Suture Bridge?

11/28/2017 28

Screws



11/28/2017

Plates



11/28/2017

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

11/28/2017 31

Complications

- Pain/neuritis
- Wound Problems
 - Should be less than ORIF
- Post-Traumatic Arthritis? - NO!
- **Nonunion**



11/28/2017 32

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

11/28/2017 33

Case – 43 yo M s/p twisting injury

- Happened 6 wks ago doing a tough mudder

11/28/2017 34

Case

11/28/2017 35

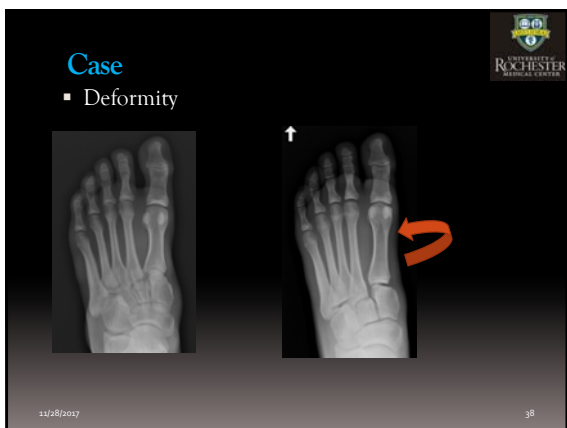
Case -Operative Procedure?

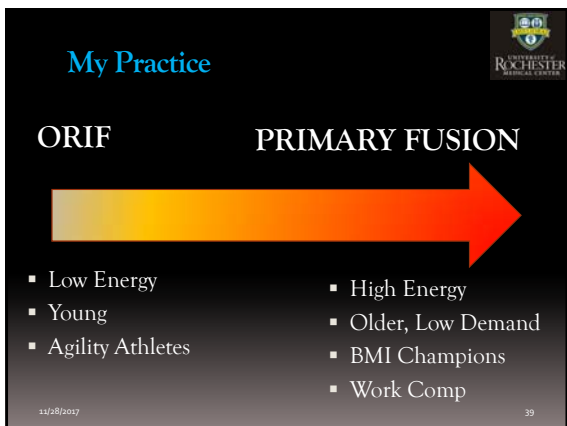
POLL OPEN

- 1 ORIF 0%
- 2 Primary Fusion 0%
- 3 PT/Conservative care 0%

11/28/2017 36








Summary

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

11/28/2017 40



Thank You

11/28/2017 41

