California Orthopedic Association

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Disclosures

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The Lisfranc Injury-Oh the Controversies...

- Which one?
  - Subtle
  - Traumatic
- Fix?
- Fuse?
- Suture button?
- Plates?
- Screws-cannulated/solid?
- Bridge Plates?
- Remove?
- Keep?
The intricacies that make it difficult...

- No 1st/2nd intermetatarsal ligament
- 3 bundles of different importance
- “Non”-essential joints
- The Keystone
- Subtle instability/multiplanar
What we know...

- Meta-Analysis-PRISMA guidelines
- Risk Ratio for HWR: > for ORIF than fusion
- Risk Ratio for ORIF favoring revision surgery: Neither
- Risk Ratio for patient reported outcomes: Neither
- Risk of non-atomic alignment: Neither

- Concluded: increased risk of HWR with its morbidity when doing ORIF

Not all athletes are the same...

- Intolerant of intra-articular screw fixation
- Post traumatic arthritis
- "Career Ending"
- Thought of restoration of motion with suture button
- 7 dancers/high level athletes
- Late presentation
- 15 mo f/u
- AOFAS scores 65-97

Not all athletes are the same...

- NFL players 2000-2010
- Time to return to competition, total games played after injury, total yards, touchdowns, total tackles, sacks and interceptions
- 28
- 11 off
- 17 def
- 2/28 never returned (7.1%)
- 26 returned (92.9%) medial 11.1 months; missed avg 8.5 games
- No statistically significant difference in career length compared with controls

- Outcomes of lisfranc injuries in the NFL. AJSM. Vol 44. Issue 7, 2016
Plate, screw or combo?

- Transarticular screws, dorsal plating or combo
- 50 patients over 6 years-retrospectively reviewed
- Trans articular screw alone, dorsal bridge plate alone, combo
- AOFAS midfoot score and FFI
- BEST predictor of functional outcome=quality anatomical reduction
- Open exposure=more soft tissue compex
- No significant diff in HW failure or HWR
- Open vs closed not assoc with any fixation group

- Functional outcomes post lisfranc injury-Transarticular screws, dorsal bridge plating or combination treatment. JOT. 2017
How we got to fusion

- 41 patients
- ORIF vs Fusion
- Primary ligamentous lisfranc
- f/u 42.5 mo
- 20 ORIF; 21 primary arthrodesis
- ORIF AOFAS midfoot score=68.6
- Arthrodesis AOFAS score=88
- 5 in ORIF went on to fusion
- ORIF 65% activity pre-injury
- Fusion 92% activity pre-injury

Treatment of primarily ligamentous lisfranc joint injuries: primary arthrodesis compared with ORIF. A prospective randomized study. JBJS Am. 2006 Mar;88(3):514-520
Suture button?

- 14 fresh frozen cadaveric feet
- Registration marker and digitizer
- Before and after cutting Lisfranc ligament
- Suture button or cannulated screw
- Loading with cut ligament significant difference = 1.2 mm disp w/screw
- Suture button = 1.0 mm
- No significant difference b/w specimens fixed with screw or suture button

JBJS Am. 2009 May;91(5):1143-8
My thoughts..

- The subtle injury???
- Solid screws
- No transarticular screws
- Bridge plate
- Fuse high energy (medial/mid column)
- Pin lateral column
- ORIF lower energy
- ORIF young
- Offer removal if no fusion
- Backfill with suture button?
Thank you!

- Questions?