EARLY WEIGHT BEARING OF ACUTE JONES FRACTURES
Geoffrey Marecek, MD
University of Southern California

Disclosures
- Globus Medical – Consulting
- ETEX – Consulting

Objectives
- Review anatomy of 5th metatarsal
- Understand historical rationale for modern dogma
- Identify patients who may benefit from early weightbearing
- Review modern literature
Fifth Metatarsal

Lawrence and Botte Foot & Ankle 1993
Jones Fracture

- 20 – 28% nonunion
- 20 – 59% delayed union
- Watershed area?

Fifth Metatarsal

- 46 fractures
  - 25 acute
  - 15 acute treated with NWB in cast
  - 14 healed
  - 10 treated with immobilization and WBAT
    - 4 delayed union
    - 4 symptomatic delayed union
    - 2 symptomatic nonunion

- Lawrence and Botte Foot & Ankle 1993
- Torg JBJS 1984
NWB

The Cure is Worse than the Disease?
- Worse functional outcomes
- Muscle atrophy
- Decreased bone mineral density
- Ankle stiffness
- OR...
- Operative treatment

Operative Treatment
- Medullary screw
- Tension Band
- Surgery is surgery...
  - Refracture
  - Infection
  - Sural nerve injury
Torg JBJS 1984

- Acute fractures
- Sharp fracture lines
- No medullary sclerosis

Fifth Metatarsal

- Acute
  - No prodrome
  - Twisting or inversion
  - No medullary sclerosis
  - No cortical beaking

- Stress
  - Prodromal pain
  - Cortical hypertrophy and beaking
  - Medullary sclerosis
  - Cavovarus deformity
  - Repetitive activity

Location may not matter as much as chronicity

Stress Fractures

- Mechanobiologic imbalance
- Remove stress
  - NWB
  - Correct foot alignment
- Correct metabolic abnormalities
Acute Fractures

- Provide appropriate mechanical environment

Weightbearing As Tolerated

- Acute Fracture
- No prodrome
- No cavus
- Nicotine cessation

- If it doesn’t work…operative treatment

Treatment of Acute Jones Fractures Without Weightbearing Restriction

<table>
<thead>
<tr>
<th>Variable</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Patients</td>
<td>27 (96)</td>
</tr>
<tr>
<td>Female gender</td>
<td>21 (76)</td>
</tr>
<tr>
<td>Right foot</td>
<td>18 (67)</td>
</tr>
<tr>
<td>Age (y)</td>
<td>40</td>
</tr>
<tr>
<td>Range</td>
<td>25 to 89</td>
</tr>
<tr>
<td>Mean body mass index (kg/m²)</td>
<td>27.6 ± 4.1</td>
</tr>
<tr>
<td>Weight loss</td>
<td>1 (3.7)</td>
</tr>
<tr>
<td>Tobacco use</td>
<td>1 (3.7)</td>
</tr>
<tr>
<td>Diabetes mellitus</td>
<td>0</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Variable</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Clinical union</td>
<td>24 (89)</td>
</tr>
<tr>
<td>Mean time to union (wk)</td>
<td>3.0 ± 2.6</td>
</tr>
<tr>
<td>Nemintrum</td>
<td>4 (4)</td>
</tr>
</tbody>
</table>

Marecek JFA 2016
Summary

- Notorious for delayed or non-union

- Dogma is dangerous

- Jones fractures can be treated without weightbearing restriction if:
  - Acute
  - No cavus

- Case series show favorable results

Thank You