



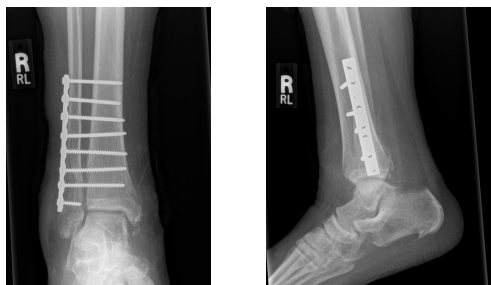
Lightning Round Foot and Ankle Tips and Tricks

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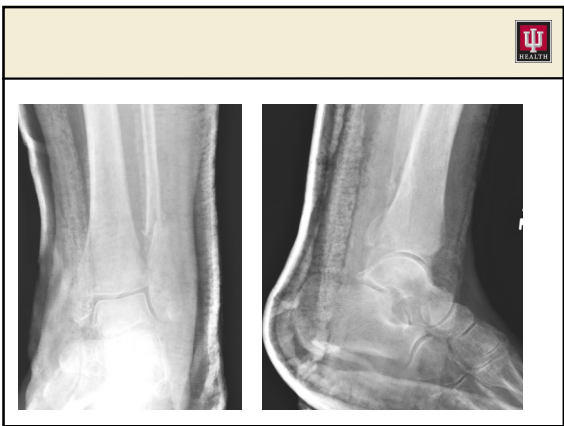
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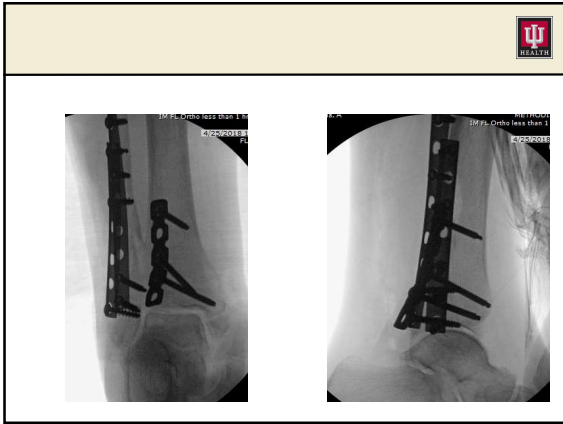
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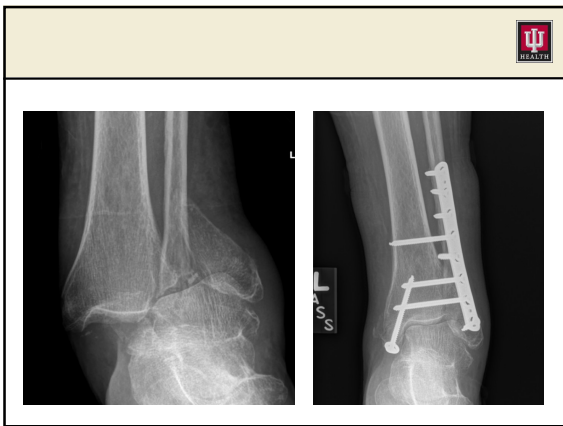
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Indiana University Health

**Early Definitive Fixation
of Pilon Fractures**

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5/1/2018

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The “Gold Standard”



A Staged Protocol for Soft Tissue Management in the Treatment of Complex Pilon Fractures

Seki, Michael, Sanders, Roy, DiPasquale, Thomas, Harscovici, D&R
Journal of Orthopaedic Trauma February 1999 - Volume 13 - Issue 2 - p 79-84
Original Article

- 48 fractures, 29 closed, 19 open
- Ex fix and ORIF fibula
- Closed
 - Mean 12.7 fixator days
 - No wound dehiscence
 - 17% edge necrosis (local care)
 - 1 deep osteo
- Open
 - Mean 14 fixator days
 - 1 wound dehiscence (5%)
 - 2 (11%) deep infection

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Consequences of Immediate Fixation



- Advantages
 - Easier surgery
 - Better reductions
 - Decreased surgery time
 - Avoid ex fix pin contamination
 - Significant cost savings
 - Spanning ex fix costs approx. \$10,000
 - Costs of second surgery/second admission



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What has Changed?



- Specialist surgeons
- Anterolateral approach
- Locking implants
- Dual incisions
- VAC dressings
- Increasing cost considerations



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Literature Support for Early Fixation



- Vancouver Study
 - JOT, 2010
 - 95 patients with "C" pilons
 - 1 year fu
 - 4/127 pilons treated with ex fix. 2 comminuted open fracture, 2 circumferential hemorrhagic blisters
 - 75% 7am-5pm, 25% other
 - 95% closed primarily, 5% delayed skin graft
 - 71% <24 hours, 88% < 48 hours
- 6% deep infection or wound revision (2 closed, 4 IIIA)
- 6% delayed or nonunion requiring reoperation
- 90% anatomic reductions

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Decision Making Factors



- Skin tension
- Serous blisters
- Hemorrhagic blisters
- Blister location
- Open fractures
 - Need for second washout?
- Host factors
 - DM
 - ESRD
 - Smoking
- Surgeon psychology



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Process Specifics



- Aggressive ice and elevation pre and post op
- VAC prn- mental piece of mind
 - Stannard, et al, JOT, 2012
- Soft tissue friendly technique
 - Nylon closure
- Minimal use of medial extensile incisions

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21 yo MVC



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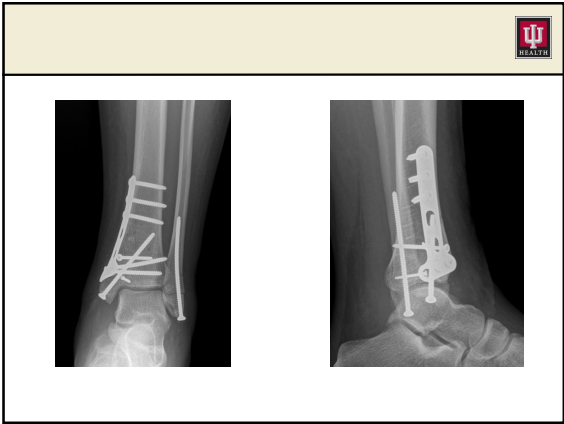


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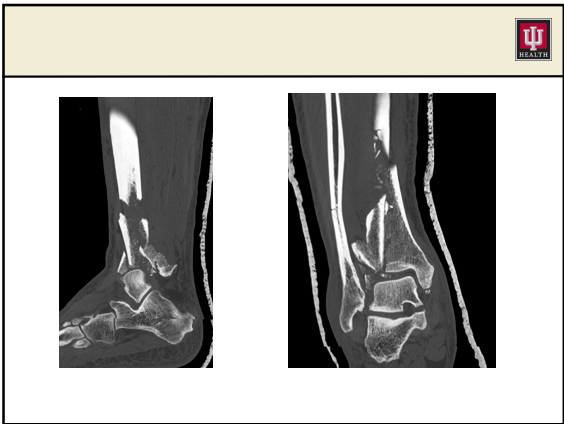
2 weeks post op



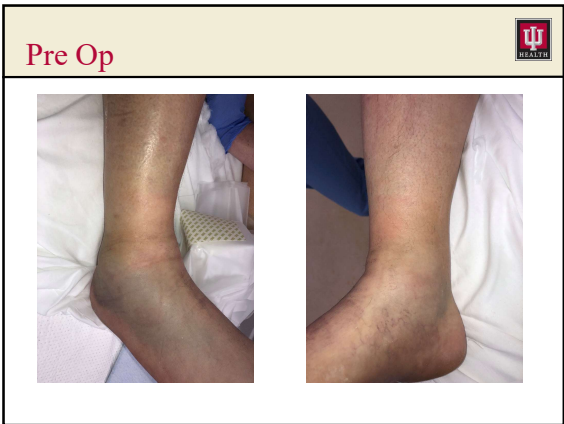
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2 weeks post op

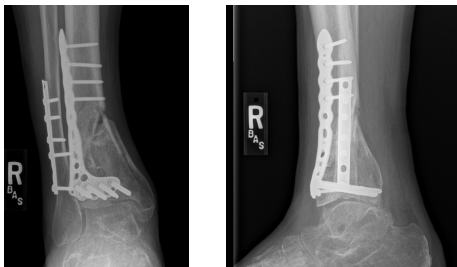


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51 yo fall off ladder, 2mm skin hole



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Personal Experience (Level 9 Evidence)



- Personal criteria- no hemorrhagic blisters and no blisters in incision
- Would be OK with small blisters away from incision
- Wrinkles is “no brainer” to proceed regardless of “how bad the injury”
- No issues with “shiny skin” to this point

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Personal Experience (Level 9 Evidence)



- Have not seen a case with more swelling during closure than there was at incision
 - Release of hematoma?
 - Bone stability?
 - Alignment of fragments

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Personal Experience (Level 9 Evidence)



- Psychology at play
 - Pilonis will have wound complications
 - Complications in acute cases will likely come with guilt
- Definitive data not coming soon
 - 500 patients for PRCT

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Take Home Message



- Not all pilons need staged treatment

But

- Not all pilons should be fixed acutely
