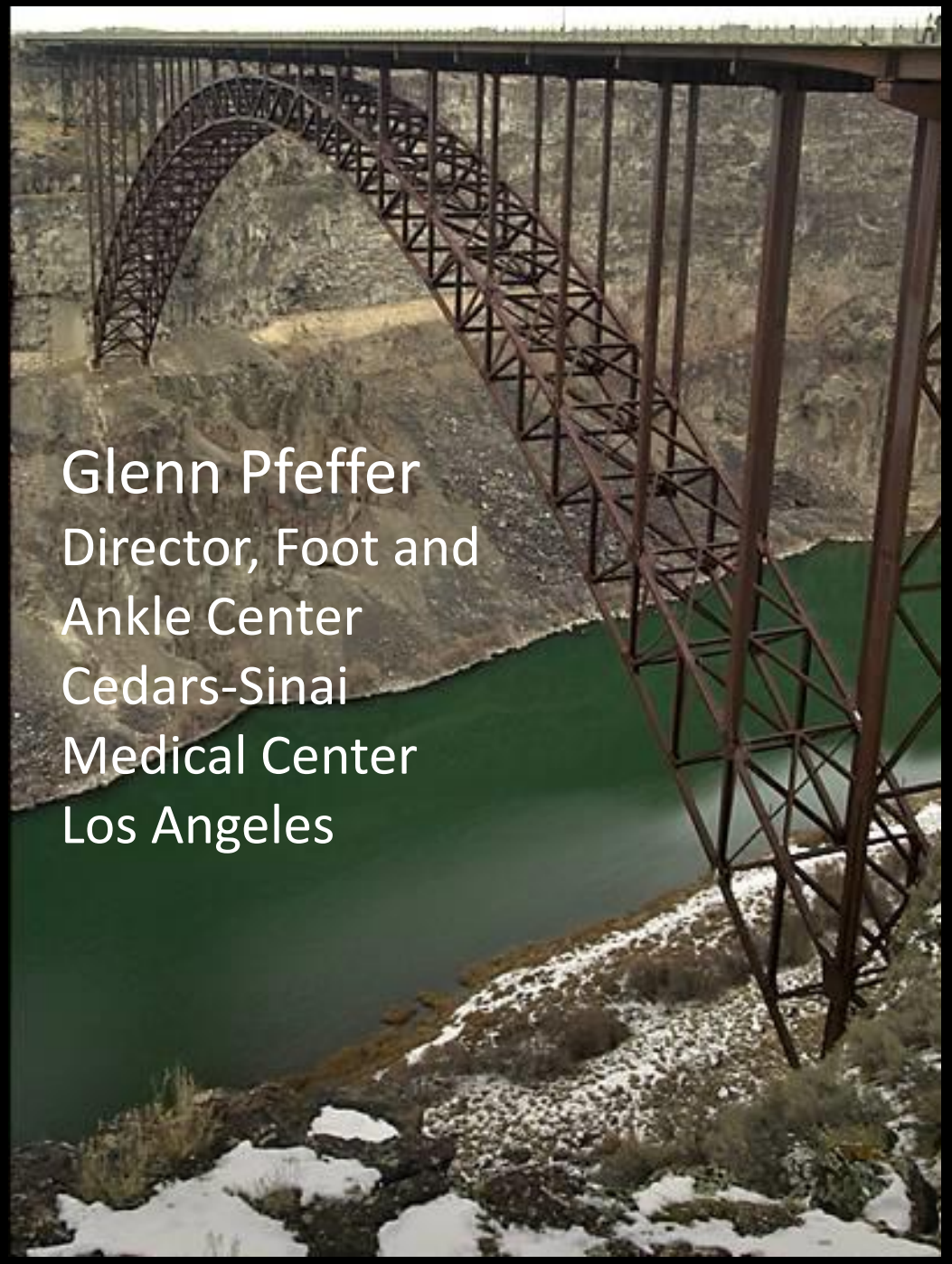
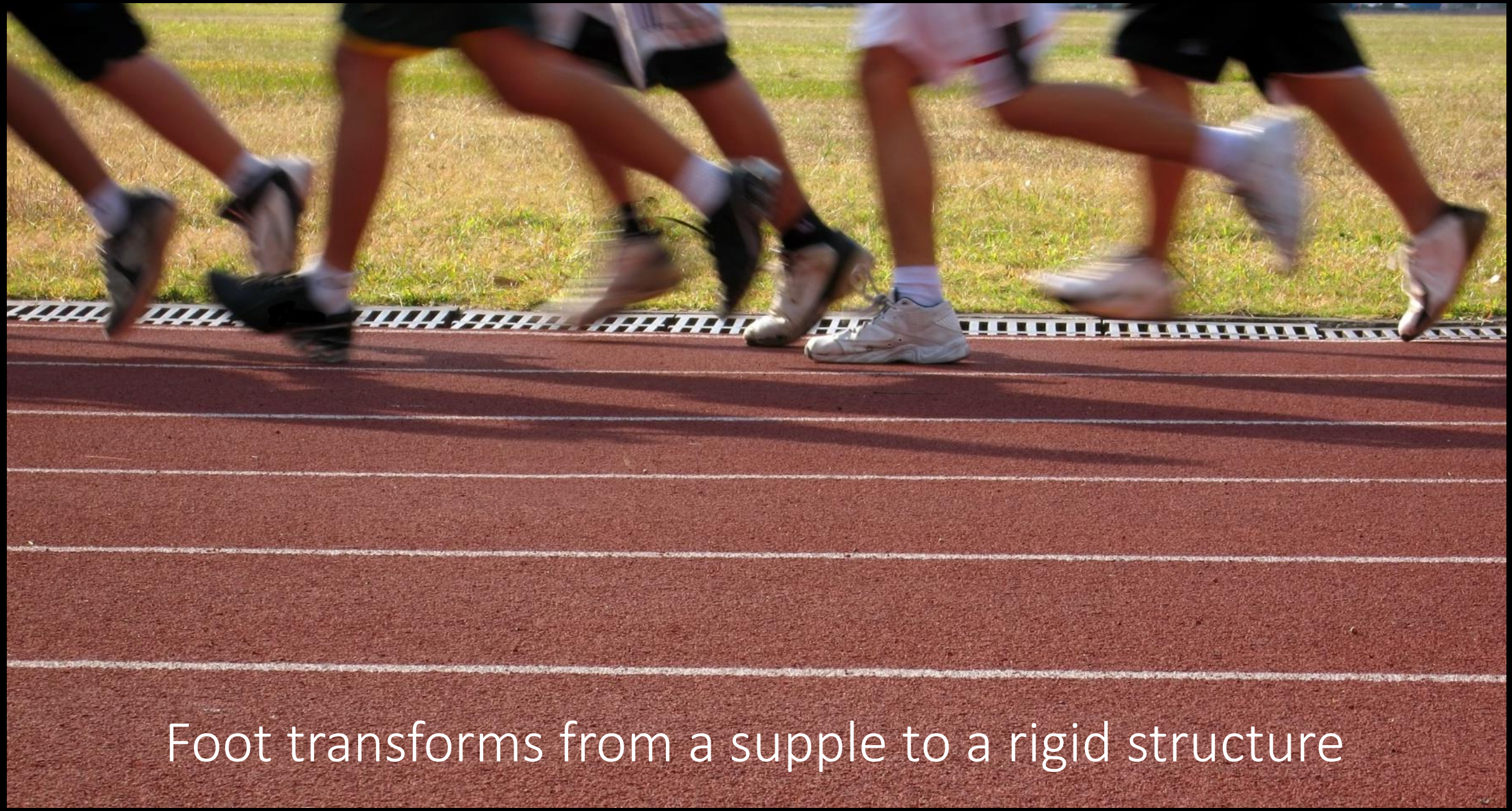
Foot and Ankle Updates

Sonya Ahmed,MD Nic Gay, MD
Glenn Pfeffer, MD David Sitler, MD


Glenn Pfeffer
Director, Foot and
Ankle Center
Cedars-Sinai
Medical Center
Los Angeles

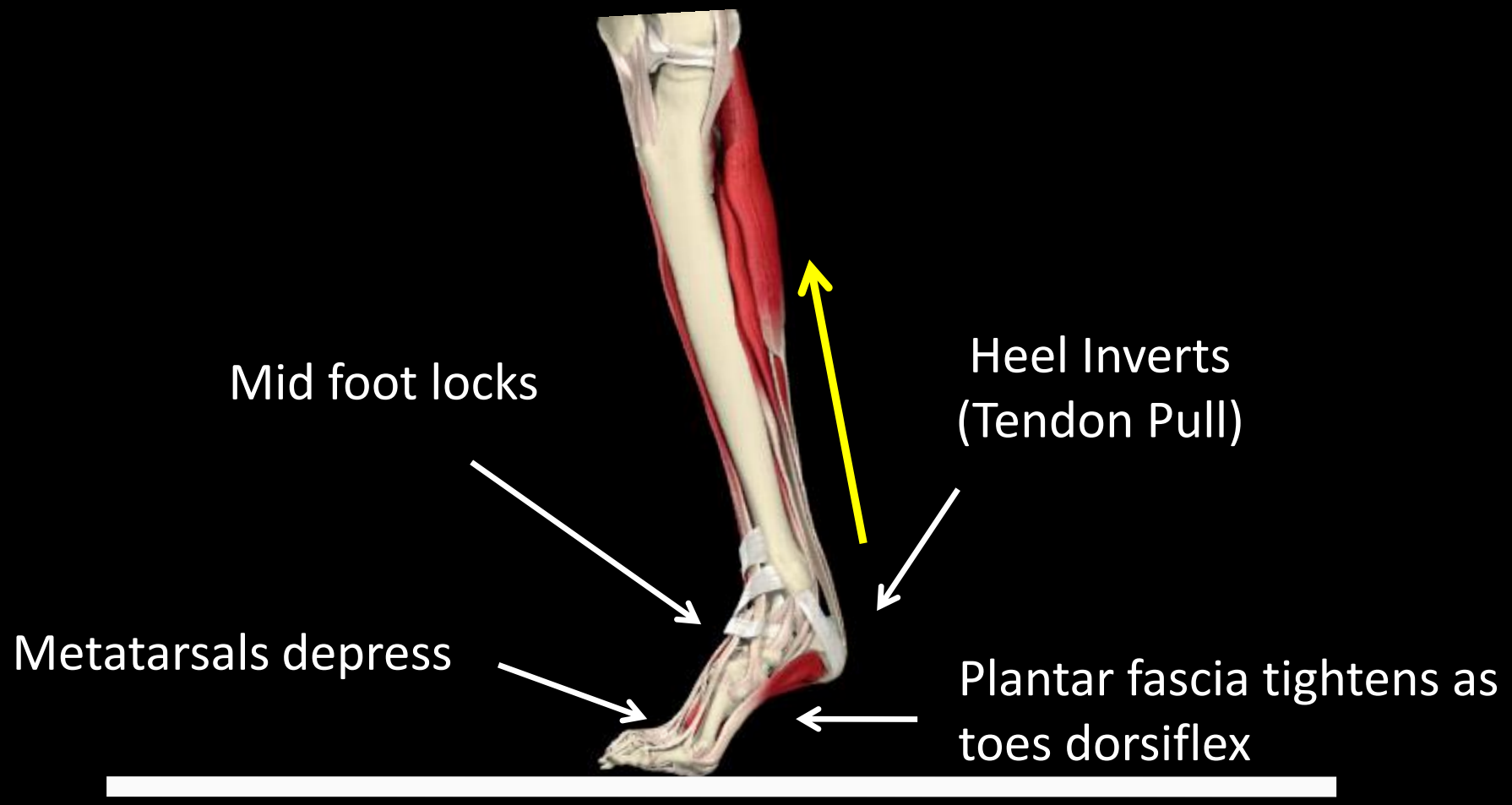
I have nothing to disclose



Foot transforms from a supple to a rigid structure

Provides shock absorption and accommodation to uneven ground

Creates stable structure and rigid lever for propulsion



During Toe Off Foot Forms A Rigid Lever

20%

Mild right heel varus

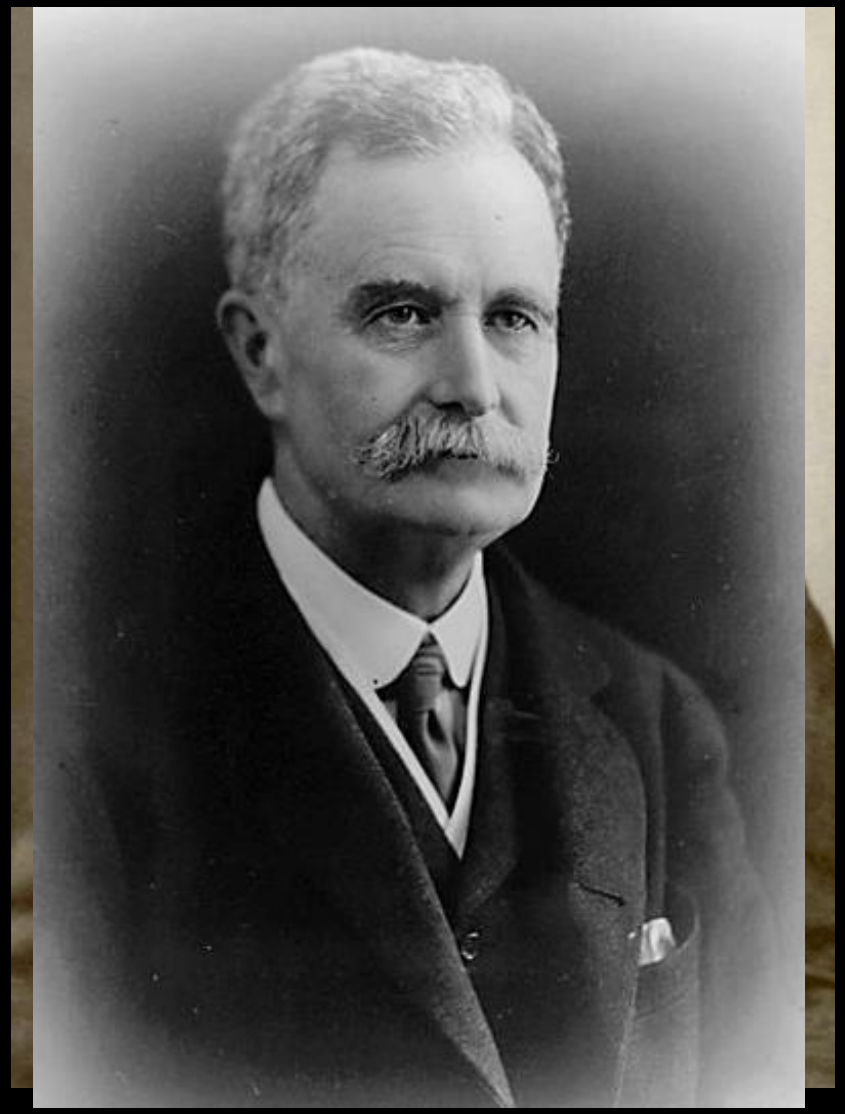
Peek-a-boo heel
Idiopathic

Mild to moderate Cavus

No good evidence that they are more predisposed to ankle sprains, peroneal tears, or ankle arthritis

Cushioned orthotic

Charcot-Marie-Tooth Disease, Frederic's ataxia, polio, stroke



Jean-Martin Charcot

Henry Tooth

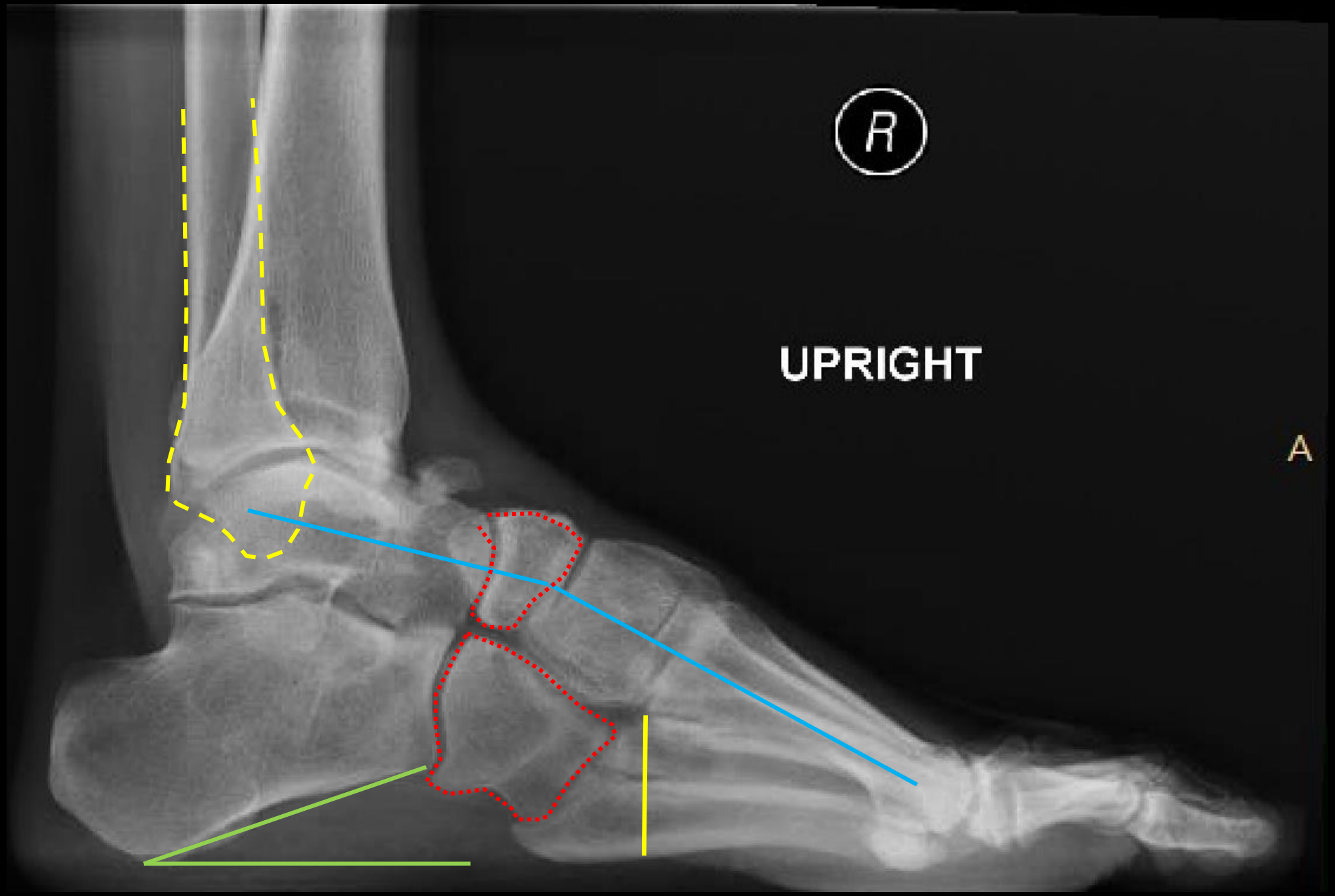
Pierre Marie

Muscle Imbalance of CMT

Hindfoot varus

Muscle Imbalance of CMT

Forefoot valgus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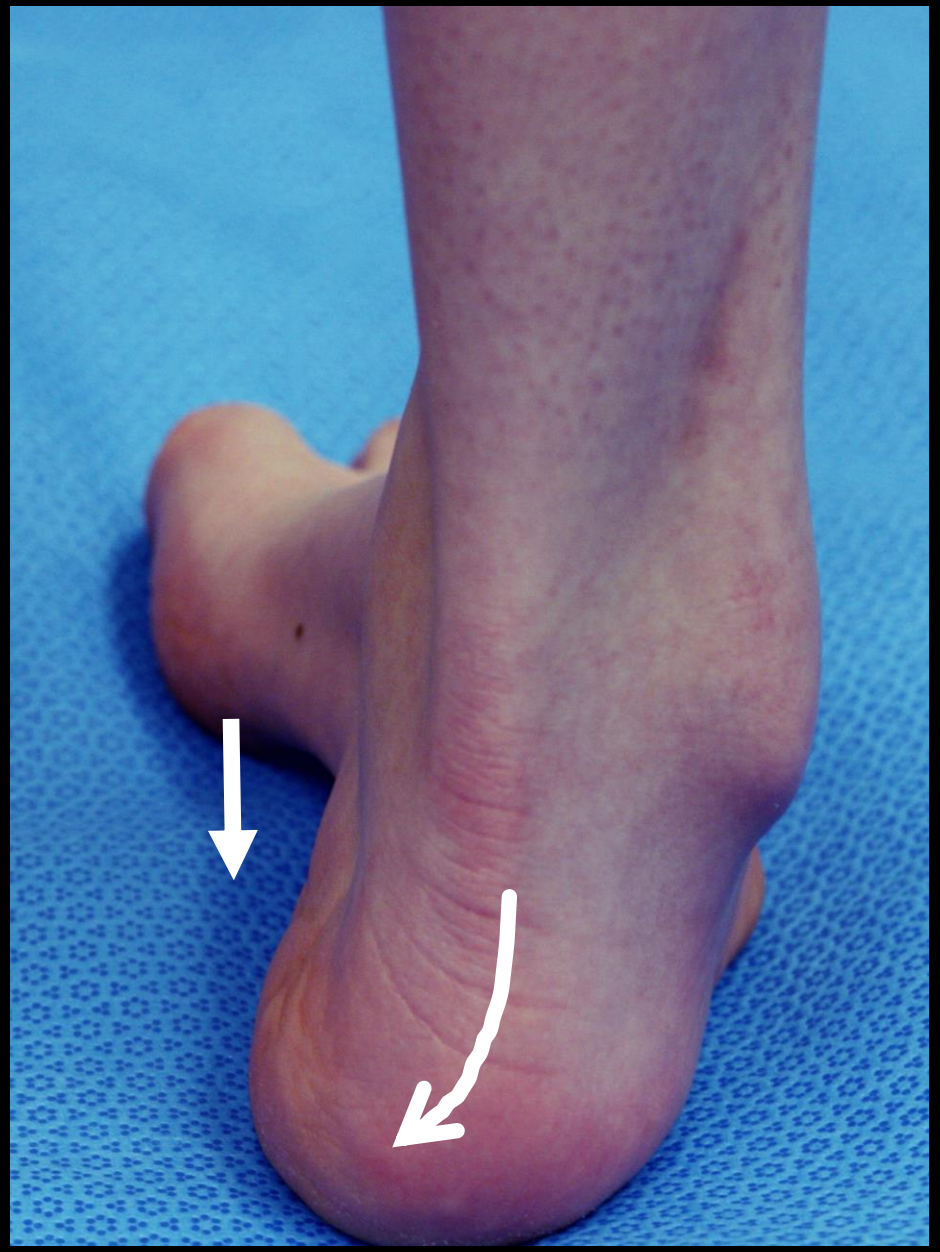

1. Forefoot driven?

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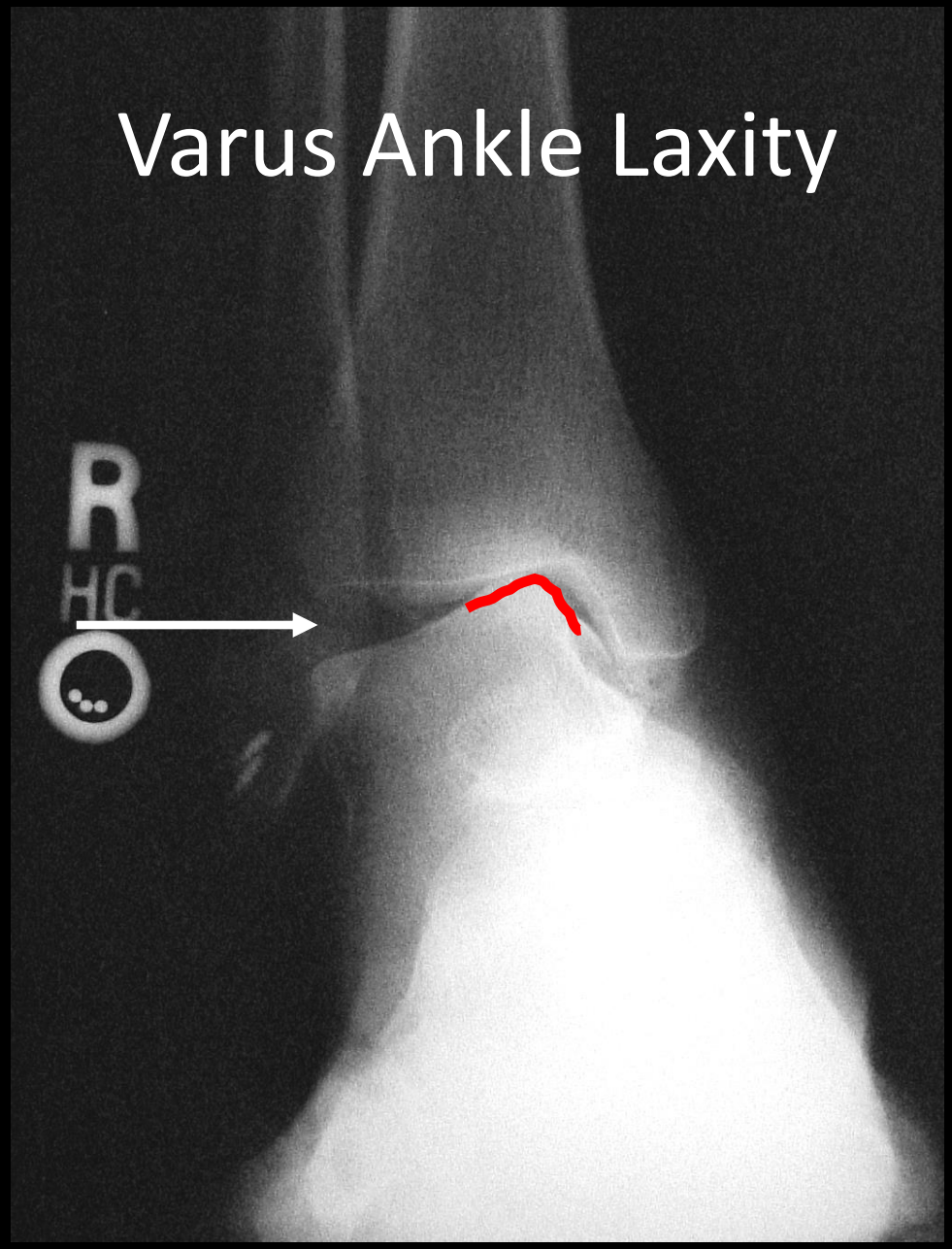
2. Fixed or flexible?
3. Posterior Tibial tendon contracture?
4. Abnormal calcaneal morphology?

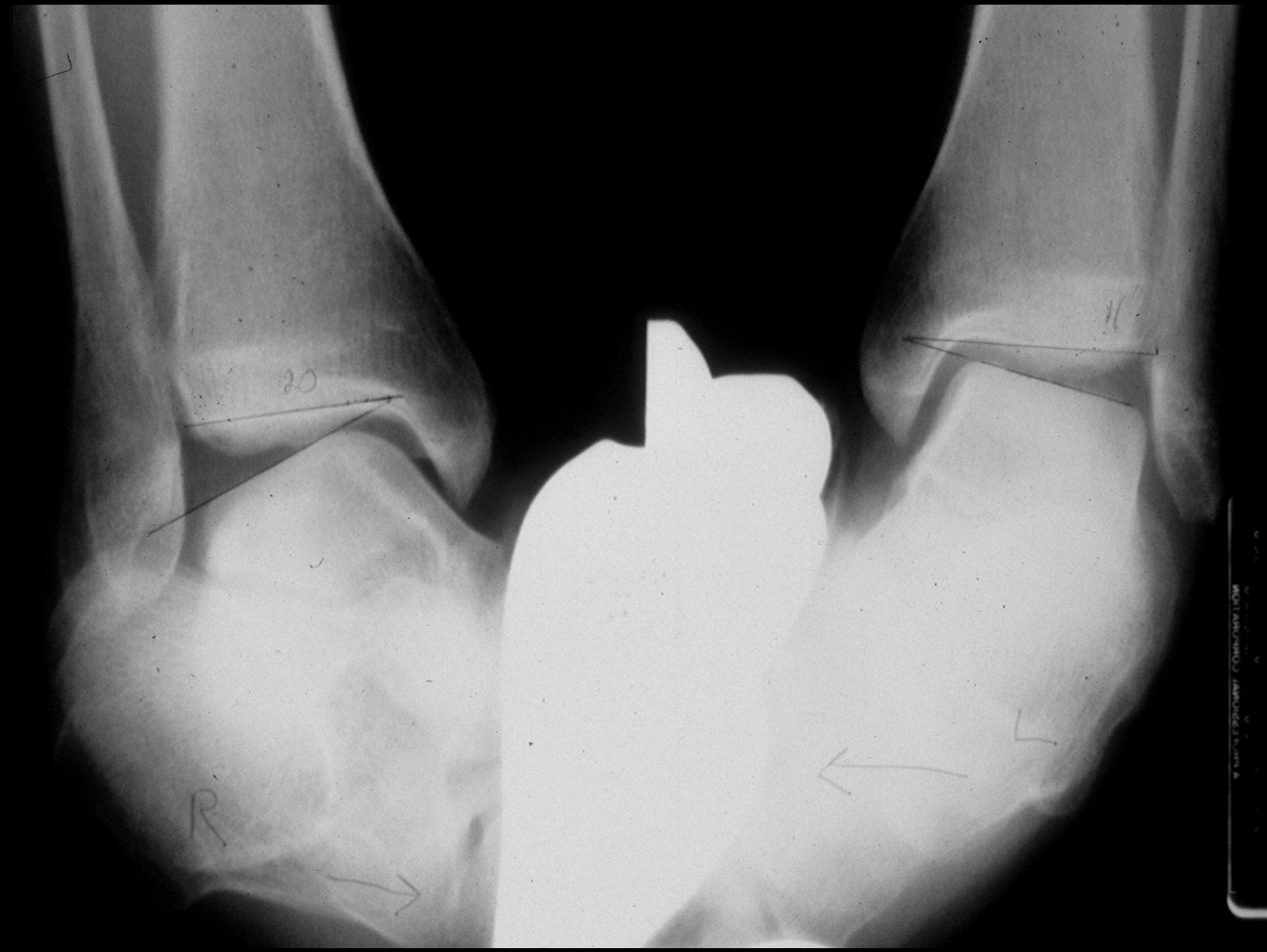
Stress Fractures

Varus Ankle Laxity



100,000 pounds of
stress on a normal foot
in one mile of walking

Surgical Treatment Options for mild heel varus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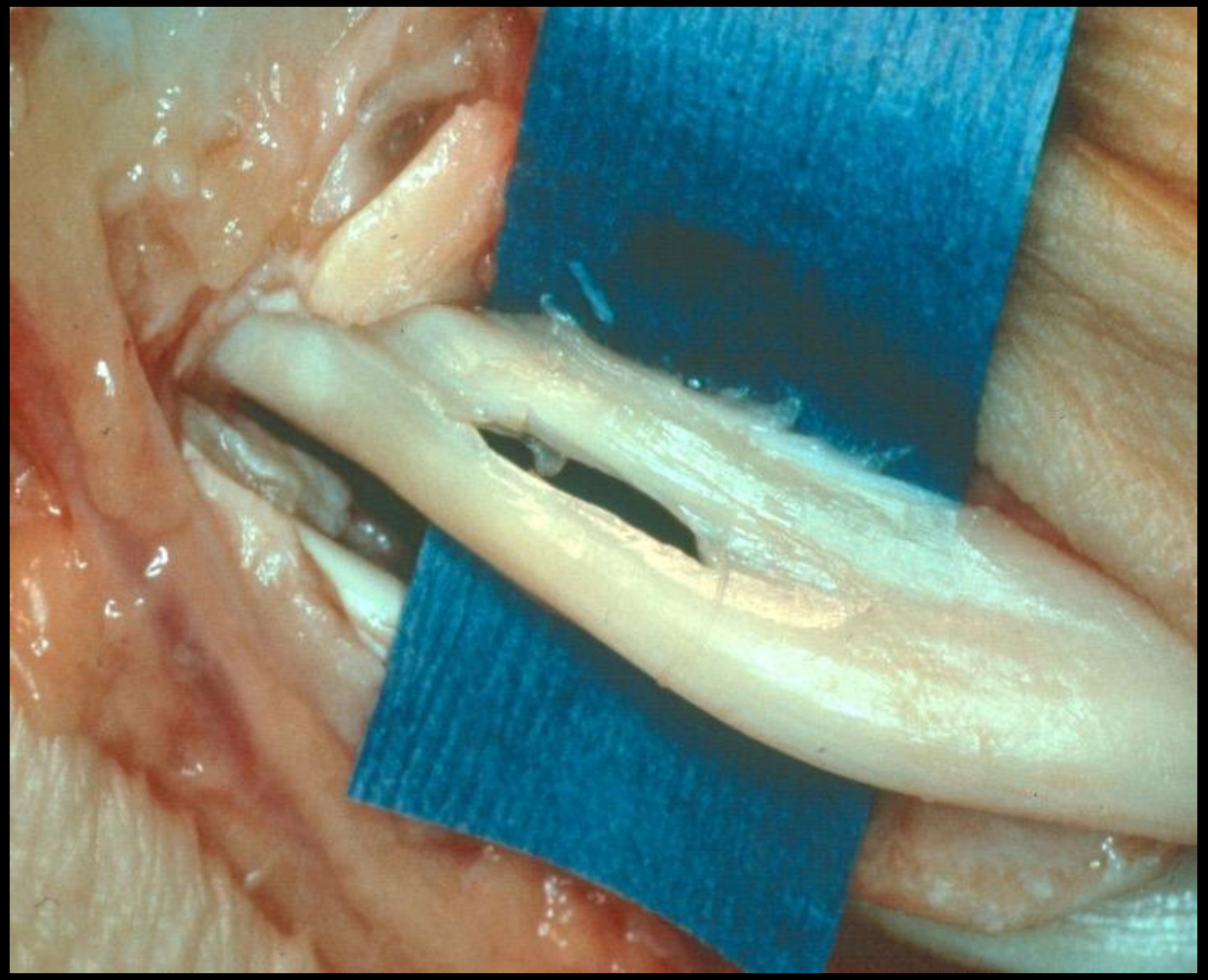
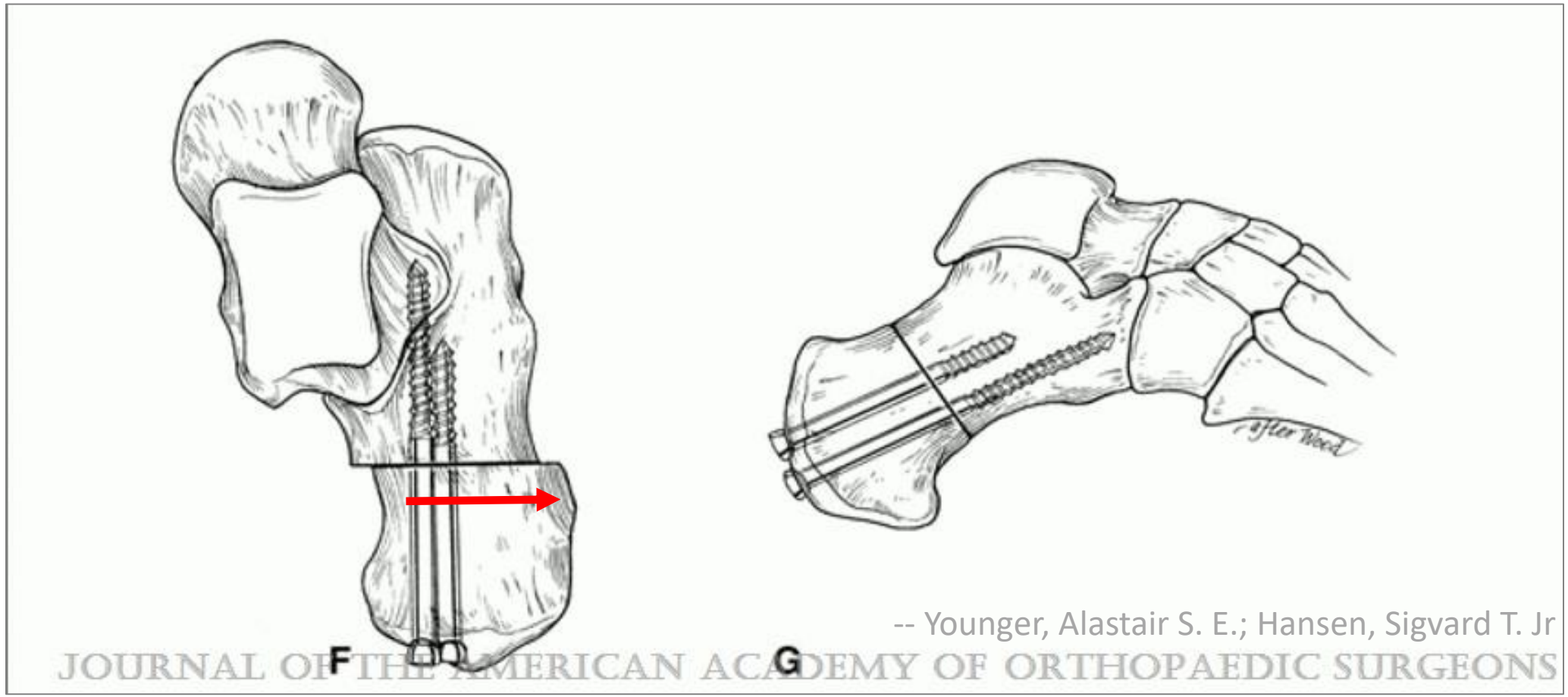


Peroneus Brevis

Right Heel

Right Heel



-- Younger, Alastair S. E.; Hansen, Sigvard T. Jr

JOURNAL OF THE AMERICAN ACADEMY OF ORTHOPAEDIC SURGEONS

The goal of surgery is to lateralize both the weight bearing access of the heel and the pull of the Achilles

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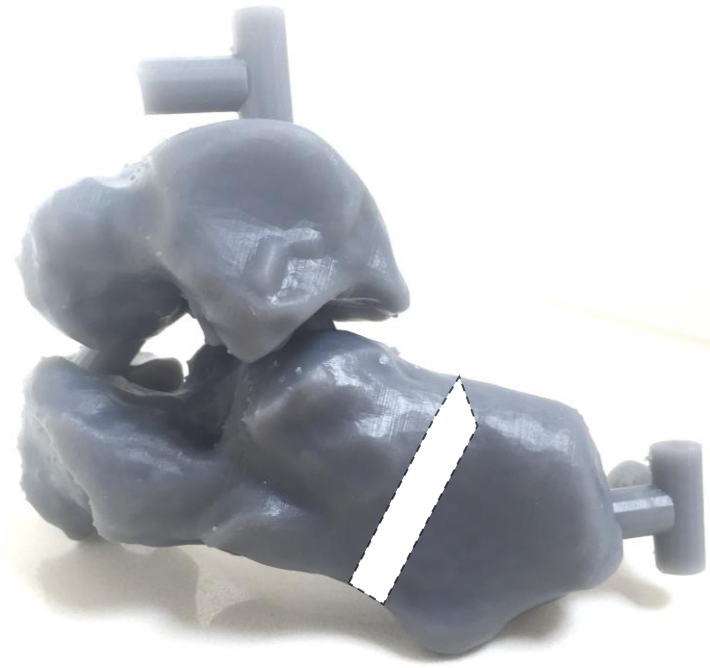
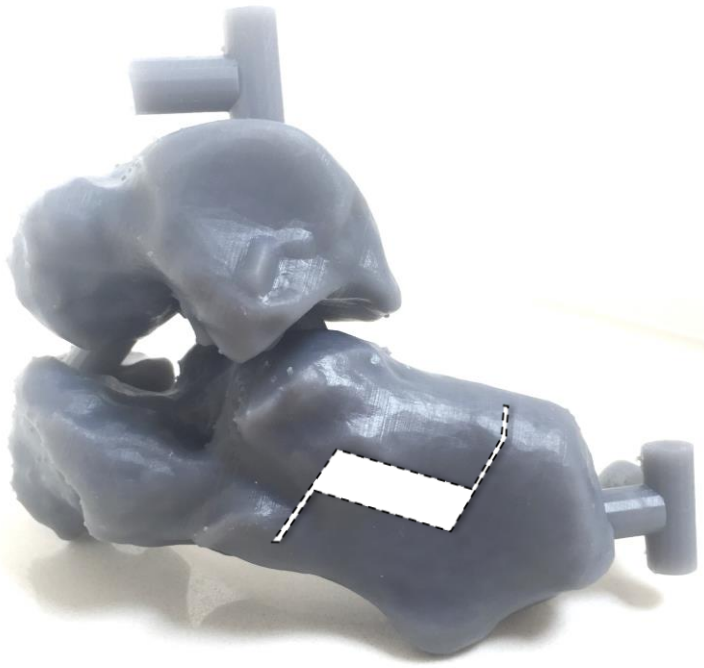
Materials and Methods – 3D Printed Models

Left Calcaneus, Talus and Cuboid

Materials and Methods

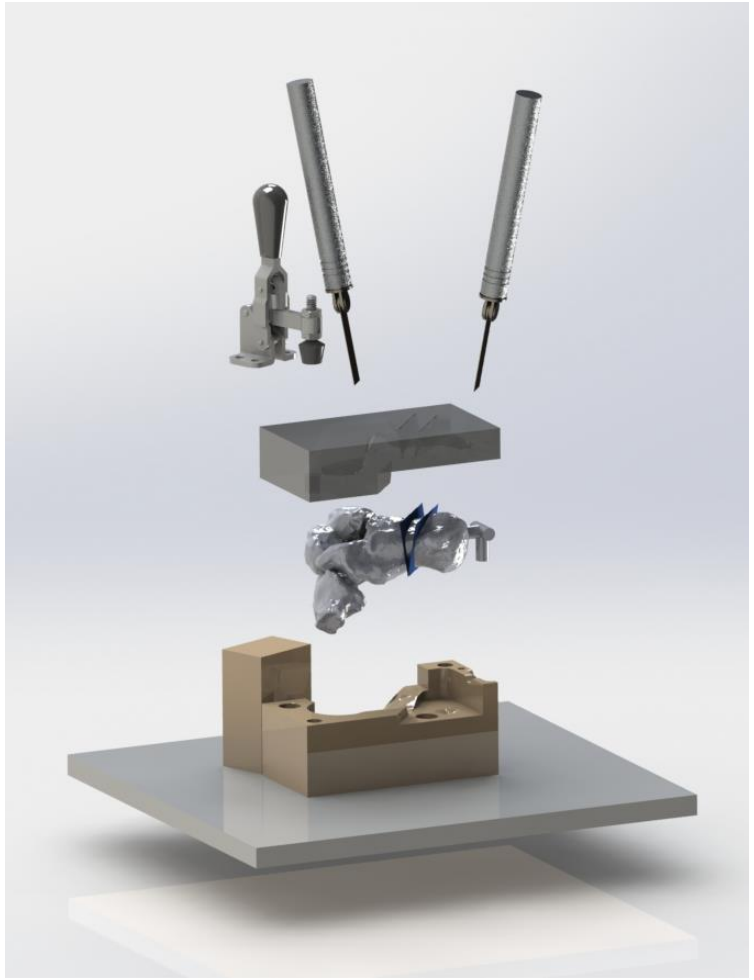


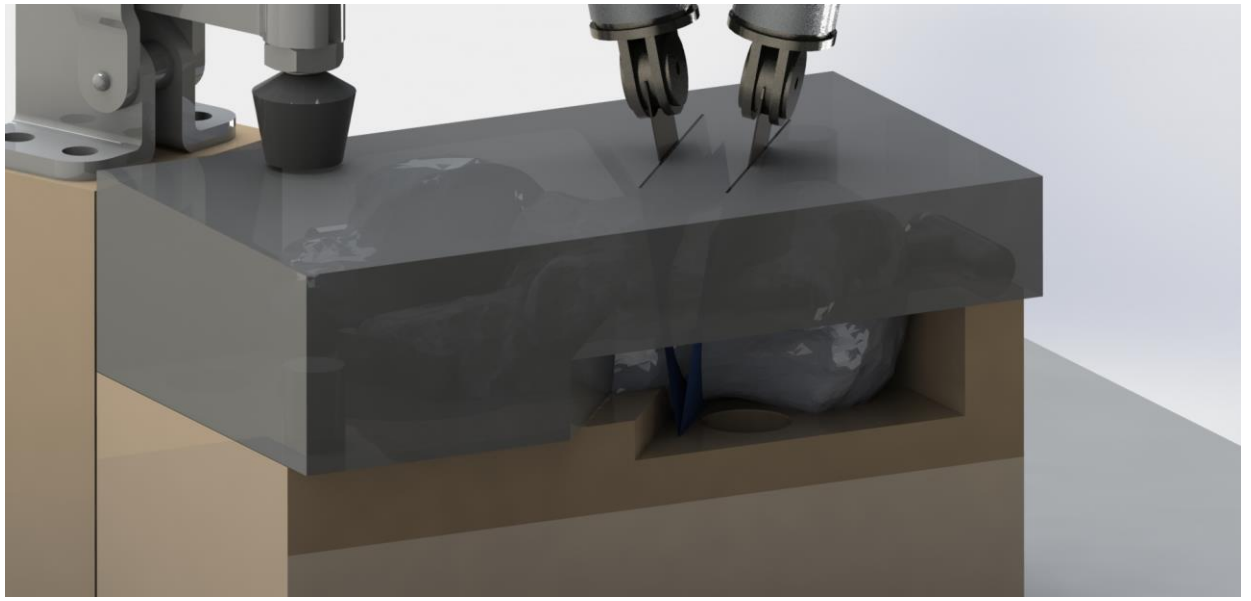


CT scans were obtained before and after the 1 cm osteotomies

- Dwyer
- Oblique
- Z
- (Krackow)

Materials and Methods – Custom Jig



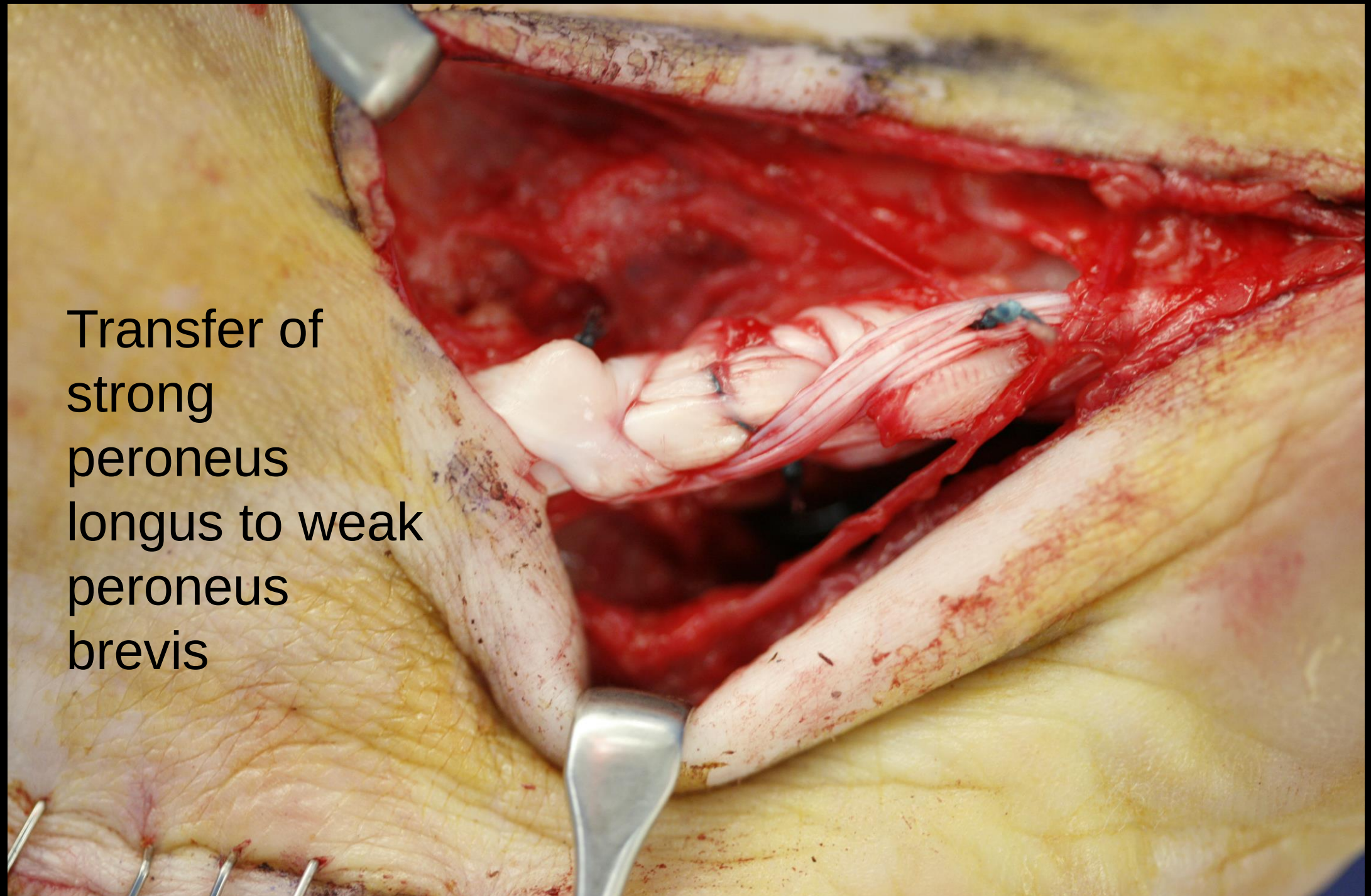


DICOM files were used to create a custom cutting jig for a micro-sagittal saw

Inadequate correction of the deformity

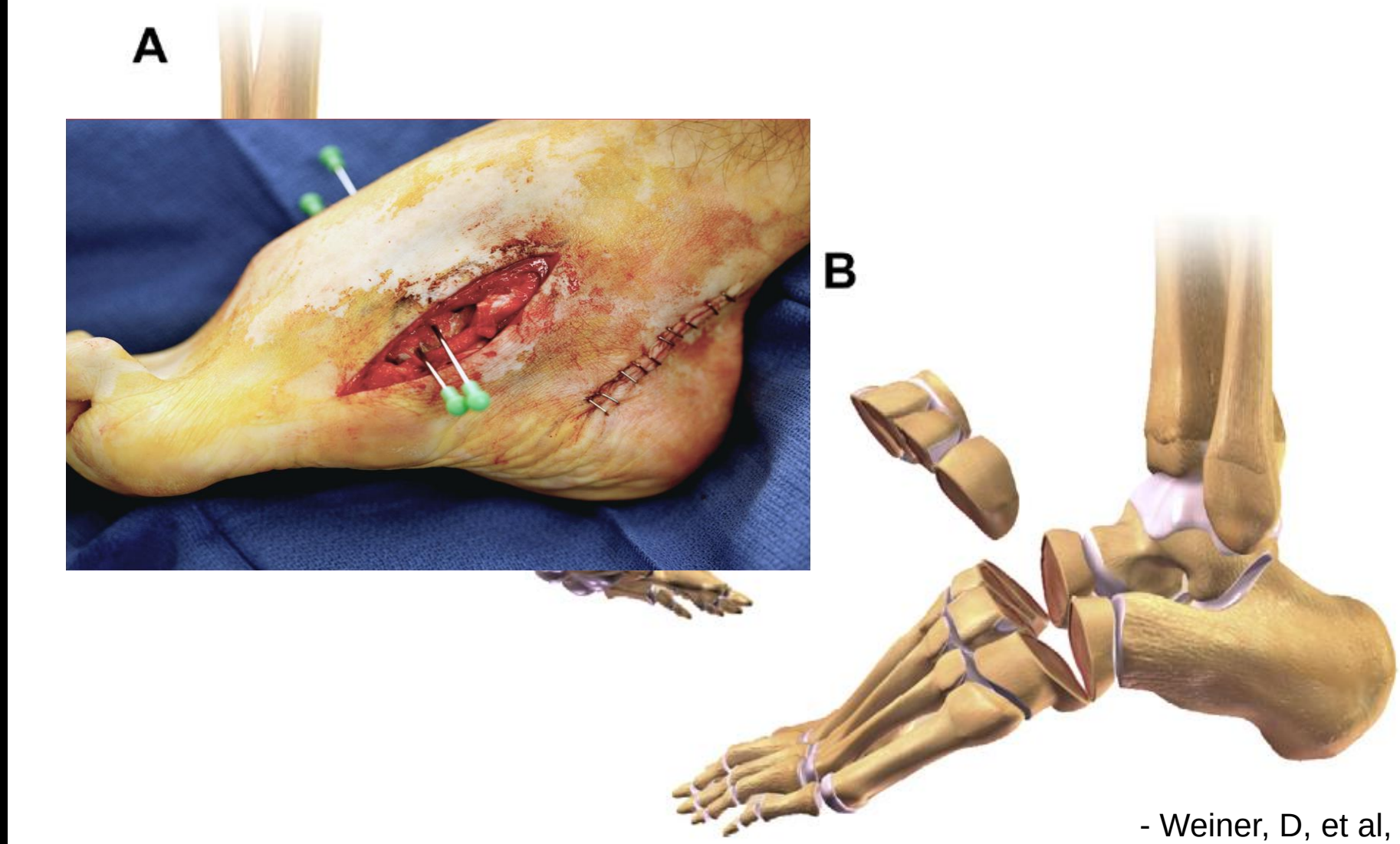
A three dimensional deformity of the calcaneus cannot be corrected with a single plane osteotomy

Tri-plane derotational calcaneal osteotomy


Transfer of strong peroneus longus to weak peroneus brevis

Posterior tibial tendon through interosseous membrane into middle cuneiform

Lossy
Study Des



- Weiner, D, et al, *FAC*

Cole Trapezoidal Osteotomy

Post-op
Post-op

Cedars-Sinai Foot and Ankle Center
Los Angeles, California

Rapid Fire Cases

- 60 year old man
- Normal weight
- No serious medical problems
- Severe chronic ankle pain
- Failed all conservative care
- Perfect subtalar motion with no arthritic changes there by MRI

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Ankle fusion

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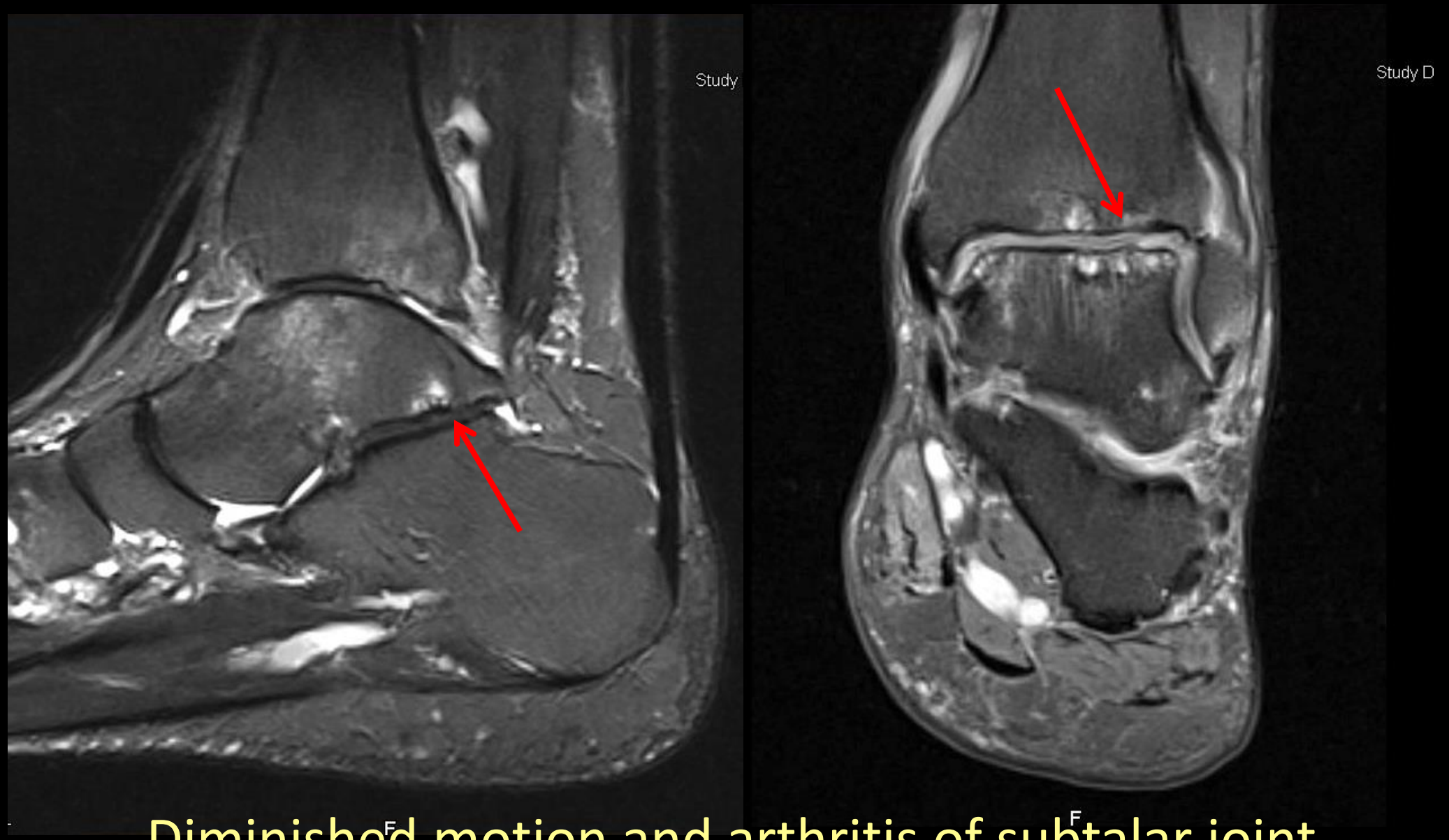
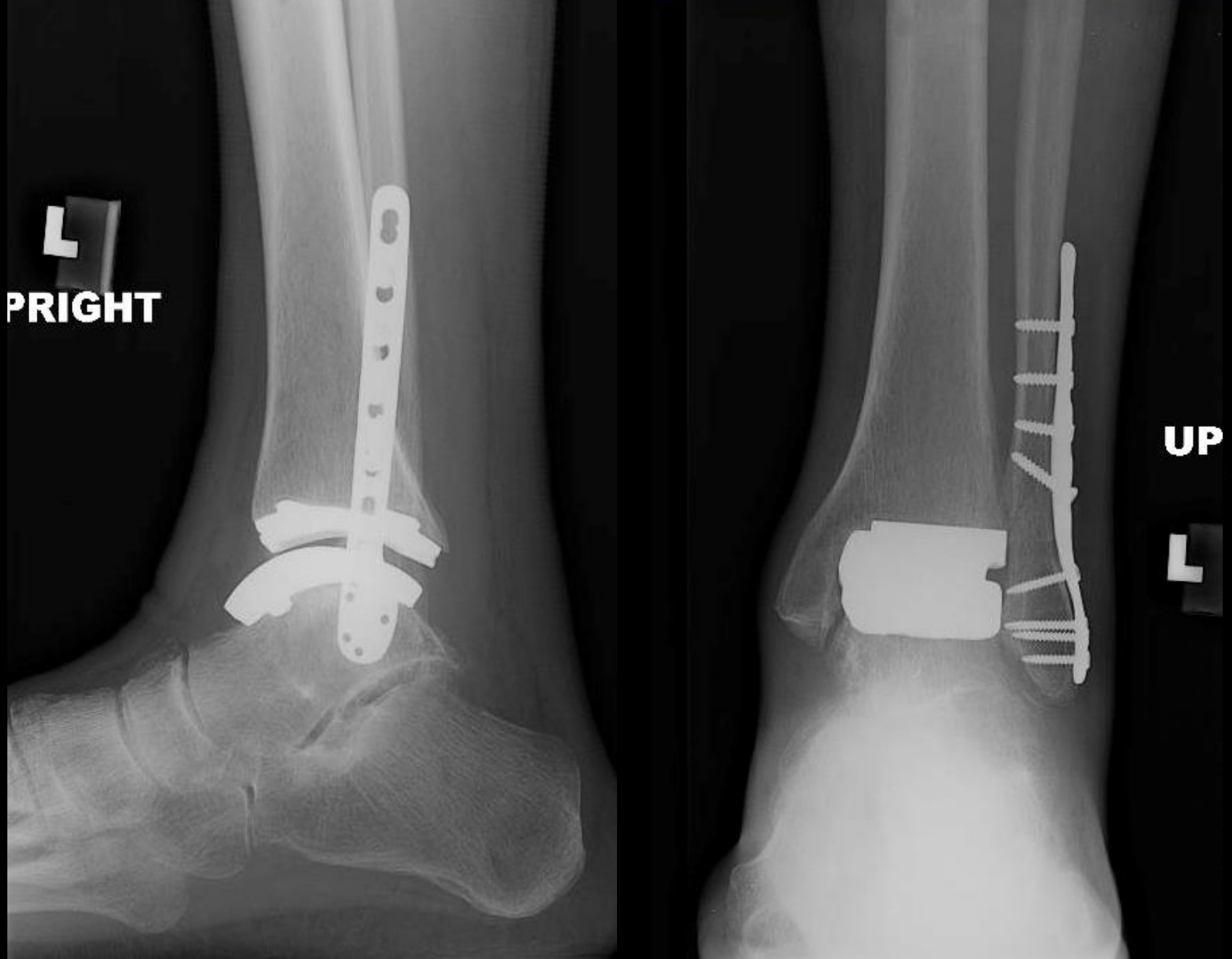


Diminished motion and arthritis of subtalar joint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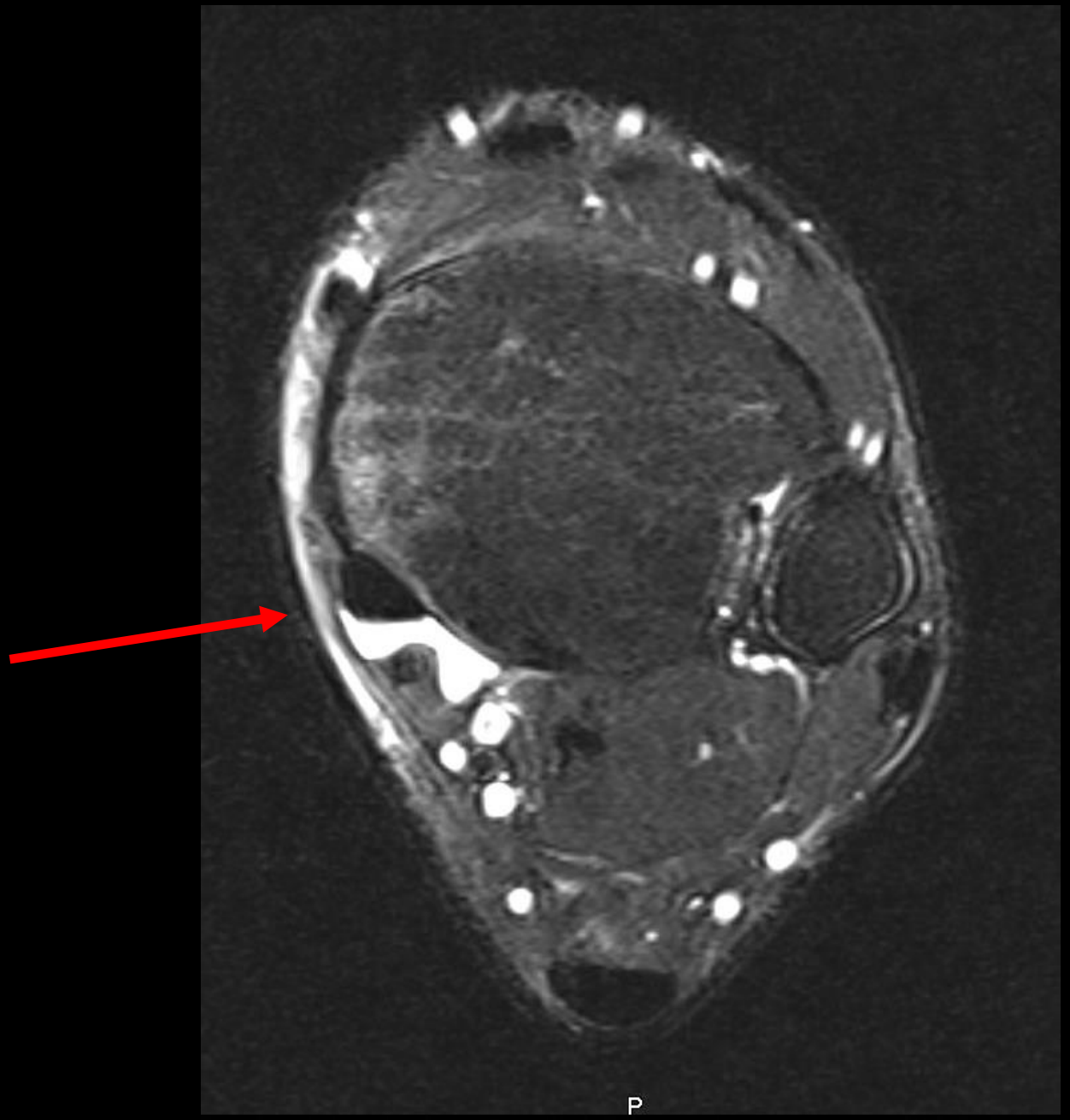
Medial pain over the PT tendon
Radiographs normal

- 34 year old man
- 9 months of medial ankle pain
- Often Limps.
- Overall in good health
- Trainer at health club
- Some aches and pains.
- No trauma history
- Unable to perform single leg toe rise
- Failed all conservative care

T2 weighted MRI of SI joints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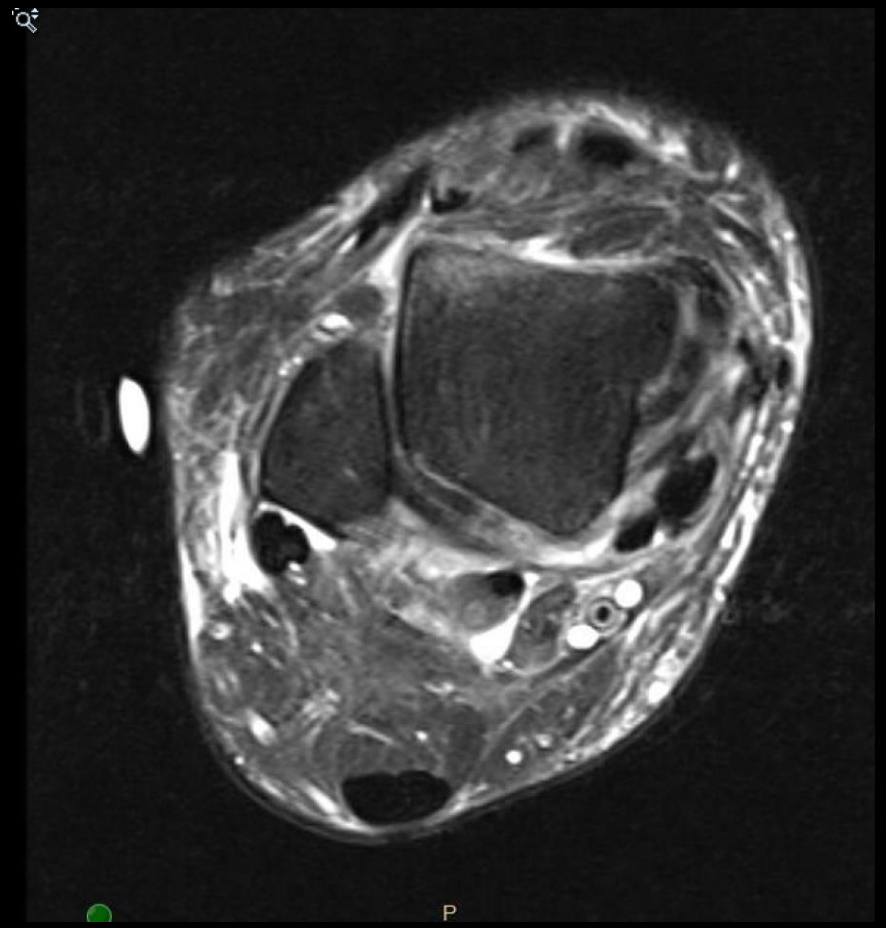
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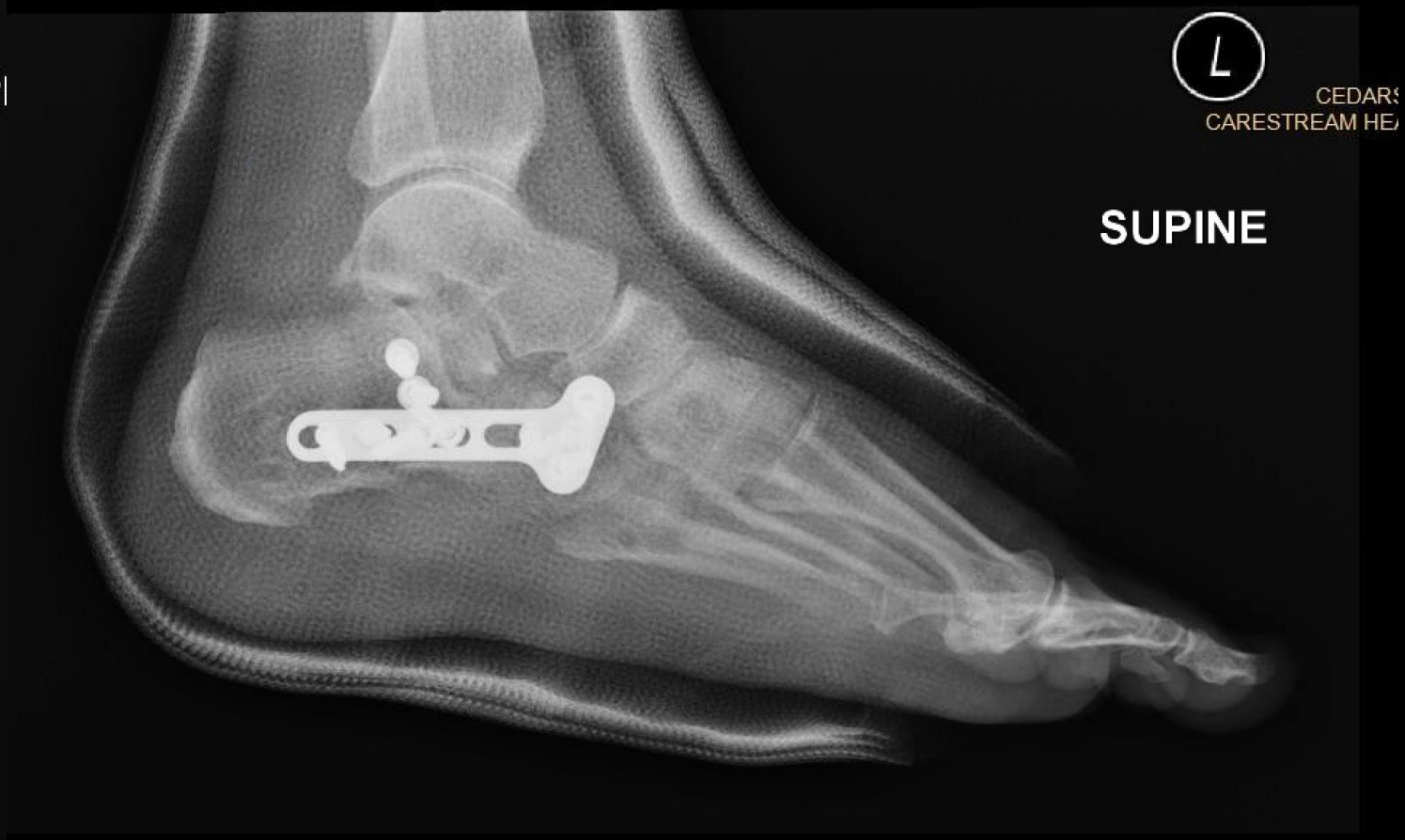
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