STANMORE FOOT AND ANKLE SPECIALISTS

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REPLICATE NHS SERVICE WE ARE ALL PROUD OF, AND ADD THE LEVEL OF SERVICE FOR PRIVATE SECTOR

4 SURGEONS WHO WORK CLOSELY ON COMPLEX (80%) CASES
- COHESIVE
- MDT – WEEKLY FOR BOTH
- JOINT OPERATING

SPECIALIST RADIOLOGISTS.

SPECIALIST ANAESTHETISTS

FIRST CLASS ADMIN TEAM

SAME DAY SCANS

SAME DAY OPA

DAILY ADVICE LINE

PHYSIO, ORTHOTICS

FAST ACCESS TO THEATRES

DAILY CONSULTANT COVER ACROSS SITES.

SEAMLESS COVER FOR ANNUAL AND PROFESSIONAL LEAVE – FOR US AND FOR YOU!

FOREFRONT OF RESEARCH

AIM TO BE THE GO TO UNIT FOR FOOT AND ANKLE IN LONDON DUE TO UNRIVALLED LEVEL OF SERVICE TO PATIENTS AND COLLEAGUES.

Newsweek LOGIN SUBSCRIBE >

Rank	Hospital	Department	City	Country
1	Hospital For Special Surgery	**Orthopedic Care**	New York, NY	United States
2	Mayo Clinic - Rochester	**Department of Orthopedic Surgery**	Rochester, MN	United States
3	Charité - Universitätsmedizin Berlin	**Centrum für Muskuloskeletale Chirurgie**	Berlin	Germany
4	Helios ENDO-Klinik Hamburg	**Orthopädie**	Hamburg	Germany
5	Severance Hospital - Yonsei University	**Department of Orthopedic Surgery**	Seoul	South Korea
6	Schulthess Klinik	**Orthopädie**	Zürich	Switzerland
7	The Johns Hopkins Hospital	**Department of Orthopaedic Surgery**	Baltimore, MD	United States
8	Massachusetts General Hospital	**Department of Orthopaedic Surgery**	Boston, MA	United States
9	The Royal National Orthopaedic Hospital - Stanmore	**Orthopedic Care**	Stanmore	United Kingdom
10	Hospital Universitario La Paz	**Traumatología y Cirugía Ortopédica**	Madrid	Spain
11	Istituto Ortopedico Rizzoli	**Ortopedico**	Bologna	Italy
12	Asan Medical Center	**Department of Orthopedic Surgery**	Seoul	South Korea
13	KyungHee University Medical Center	**Department of Orthopedic Surgery**	Seoul	South Korea
14	Northwestern Memorial Hospital	**Center for Comprehensive Orthopaedic and Spine Care**	Chicago, IL	United States
15	Brigham And Women's Hospital	**Department of Orthopaedic Surgery**	Boston, MA	United States

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ACHILLES TENDONITIS

NON INSERTIONAL VS INSERTIONAL – DOES IT MATTER

WWW.MATTHEWWELCK.COM

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Achilles Tendonitis – Case study

55M. High BMI, DM on metformin.

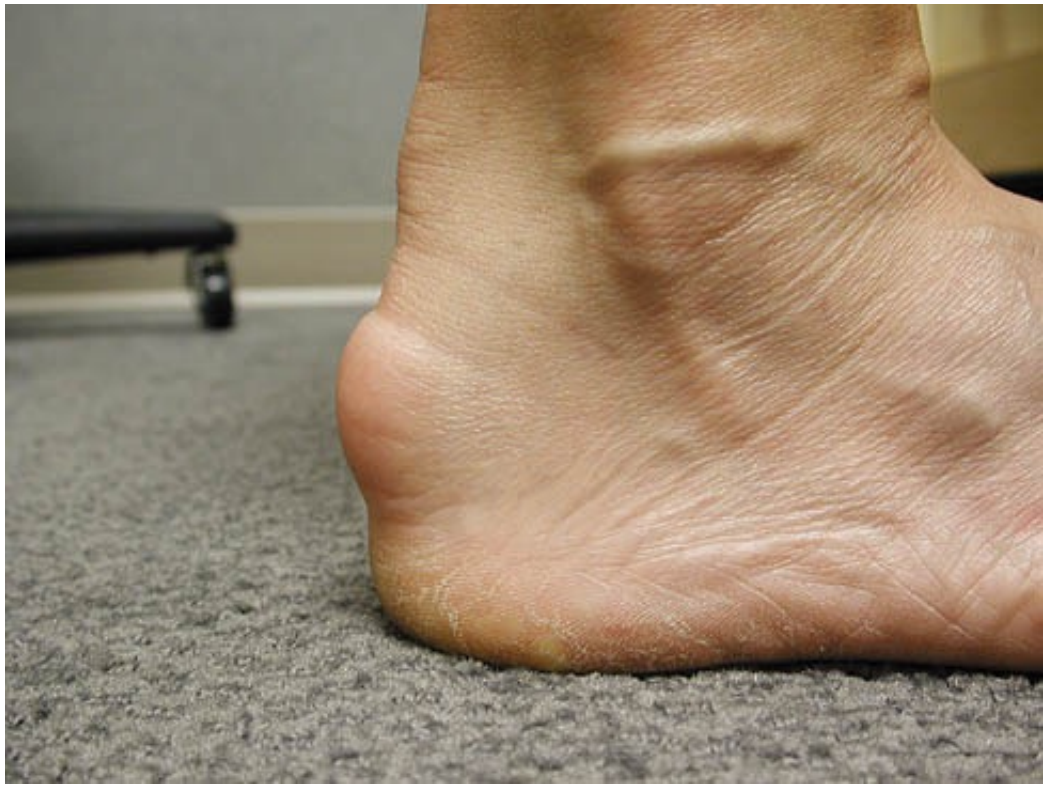
Painful posterior heel 6/12.

Gradually noticed bony bump

Walking and shoes are painful

IX:

RX:



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29M.Keen Runner.

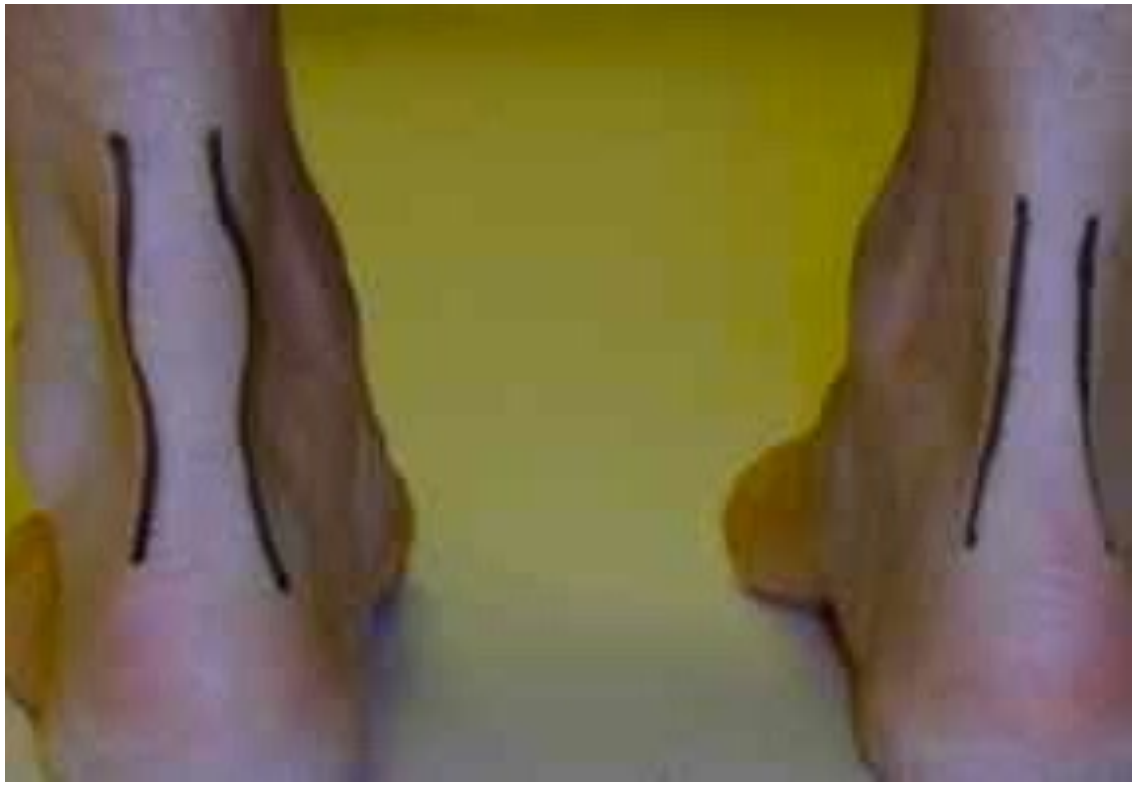
Recently increased distances and changed shoes.

2/12 pain and swelling achilles.

Worse in morning

IX ?

RX?



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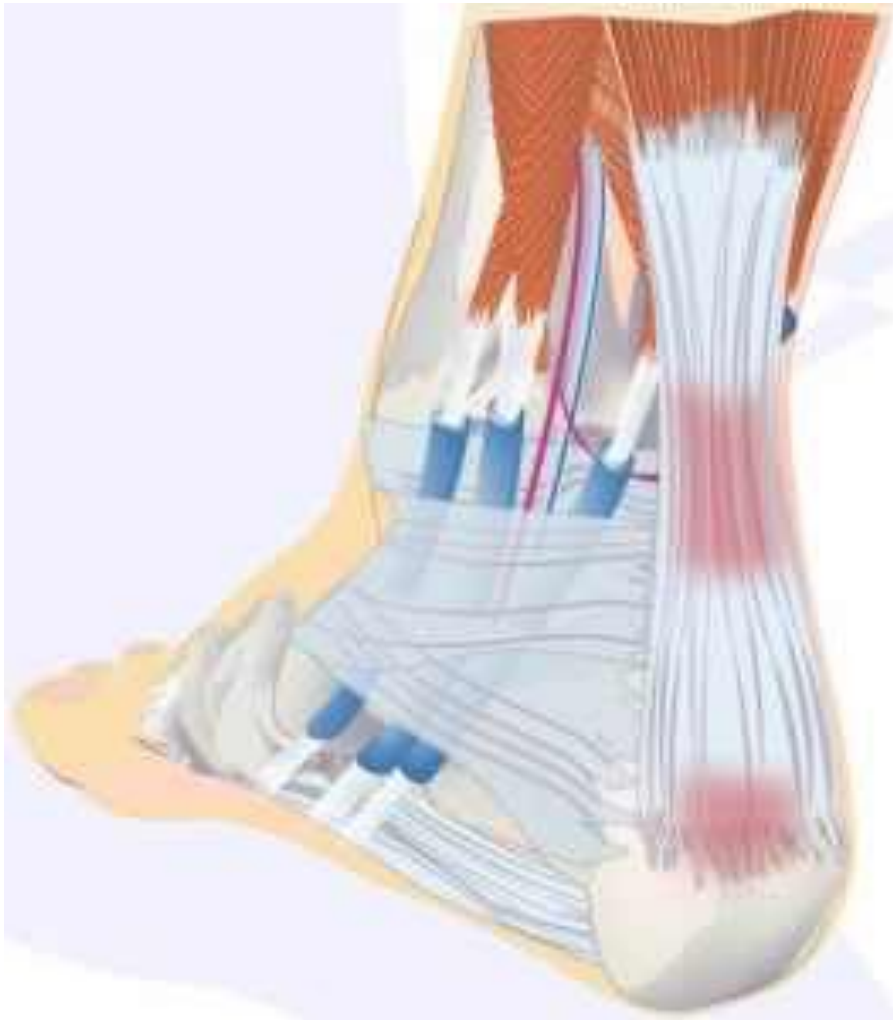

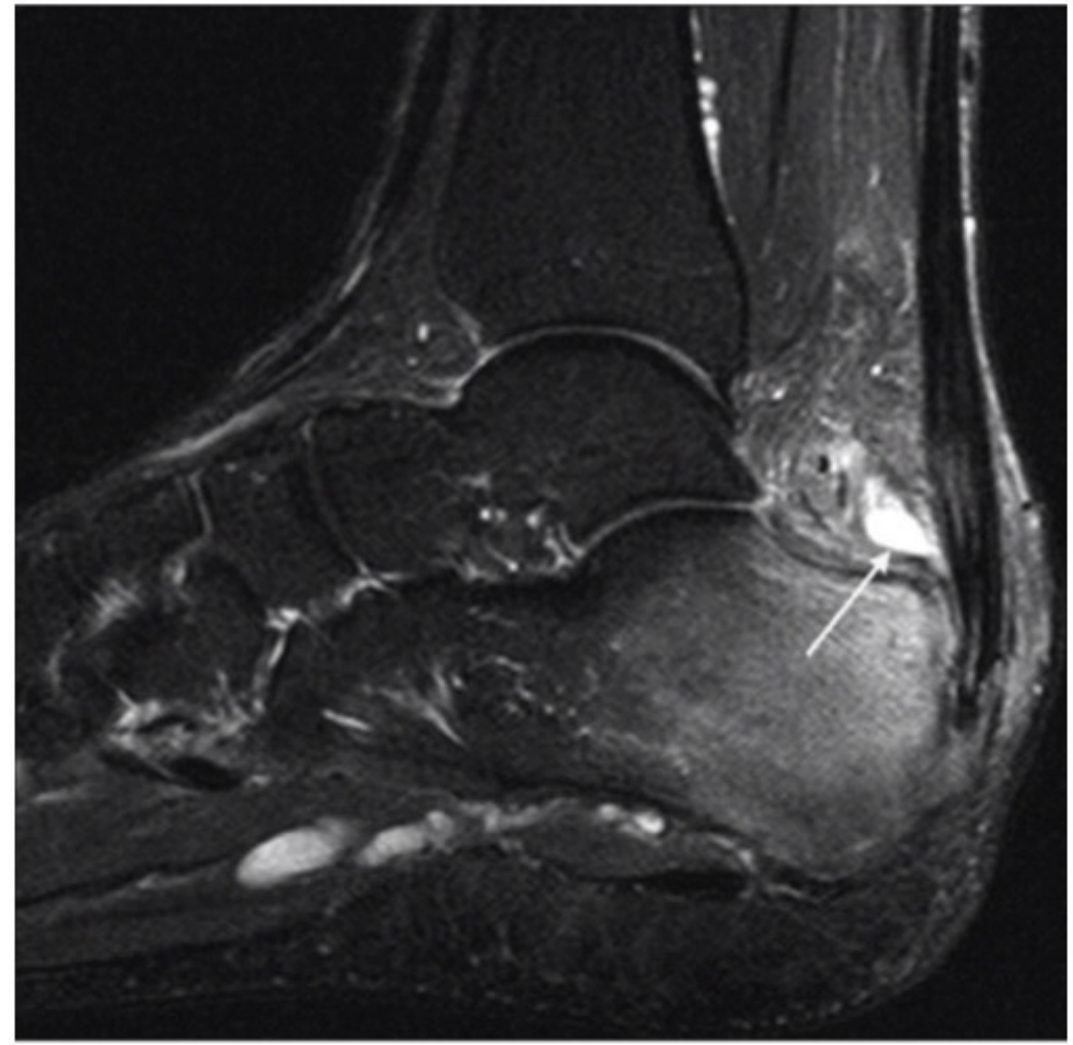

O/E - both

Look: Hindfoot alignment: Cavus or planus *

- Where is lump (proximal or distal).
- Erythema: Esp with RC bursitis.

Feel: Along Achilles and insertion – tender, firm.

- Plantar Fascia

Move: Achilles tightness (or laxity…)

- Silvferskiold test

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Xray

Insertional: Haglunds, ossification of insertion.

Less useful non insertional.

USS

Useful for both. Can also see neovascularisation.

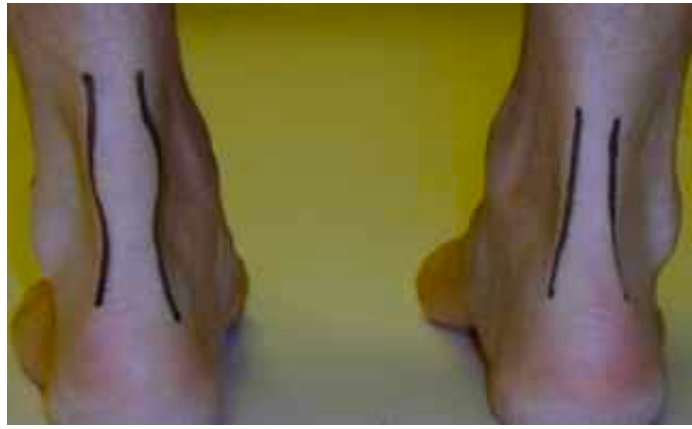
MRI

Tendon, bursa

US or MRI?

Both equally useful.

Rx – Non insertional



Rest/Activity Modification.

Analgesia: NSAID, cold compress

Self Physio: If tight. ECCENTRIC. 12 weeks *.

Orthotics – change trainers

Primary care

refer

Formal Physio – kinesiotape, deep frictional massage?

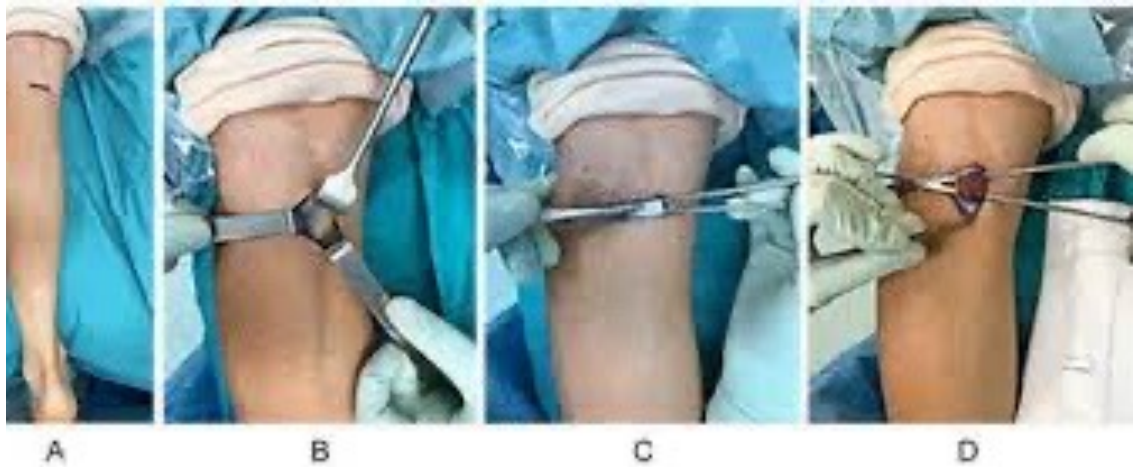
Shock wave

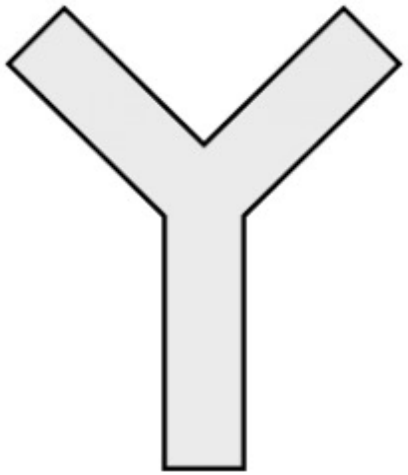
Injections

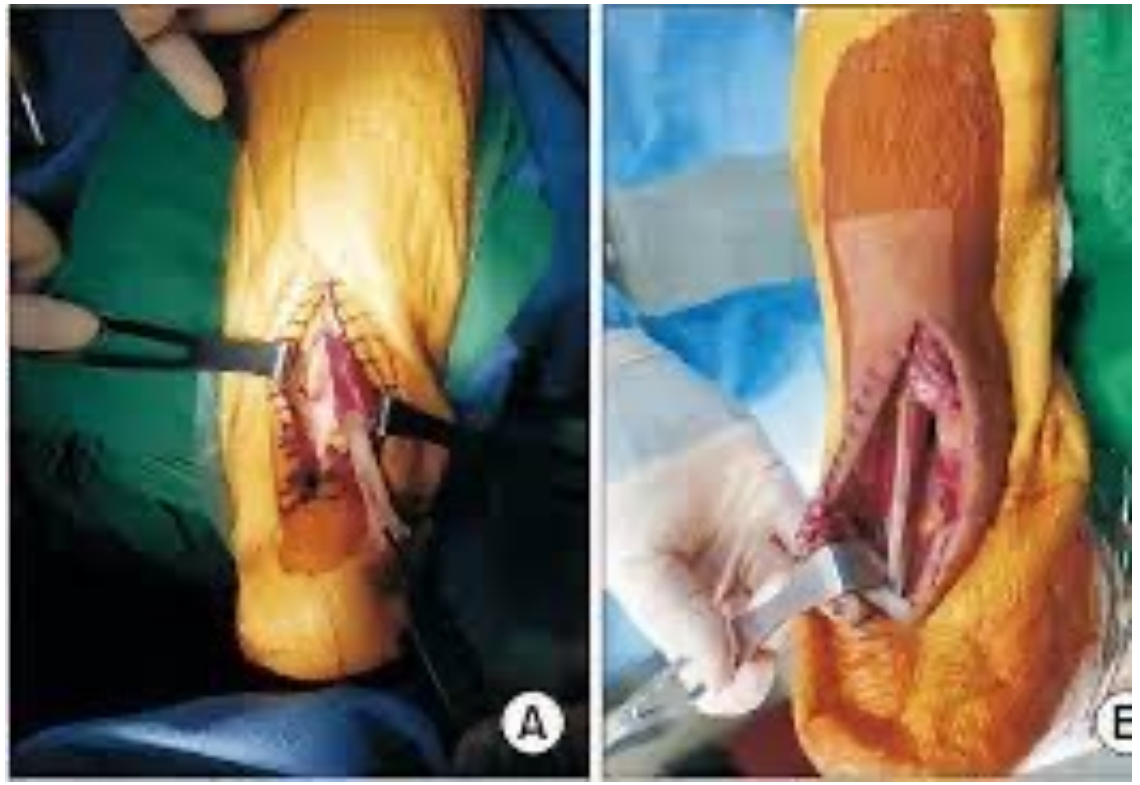
Night splints?

Gastroc release

Tendon Debridement +/- FHL transfer







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Rx – Insertional.

Rest/Activity Modification. BOOT 6 weeks.

Analgesia: NSAID, cold compress

Self Physio: Eccentric. LESS EFFECTIVE (90 vs 30%)

Orthotics - heel lift.

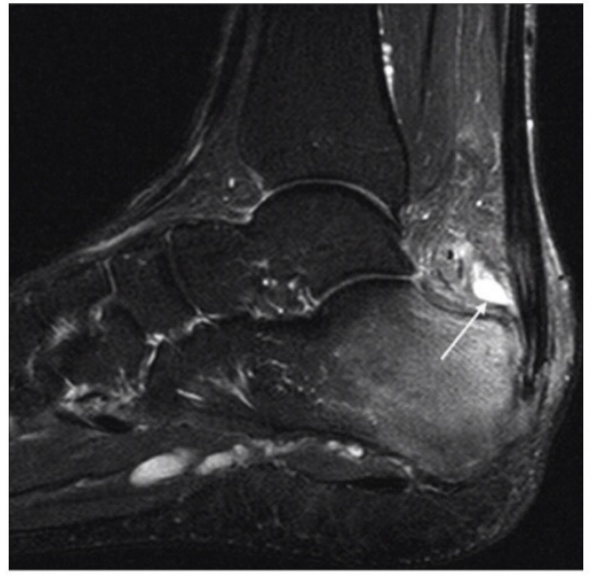
Formal Physio

Shock wave – LESS but still EFFECTIVE

Injections?

Gastroc release

Open/Arth haglunds debridement.



DEBRIDEMENT WITH SPEEDBRIDGE REINSERTION.

ZADEK

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PERONEAL TENDON TEARS

- TO REPAIR OR NOT REPAIR

SHELAIN PATEL

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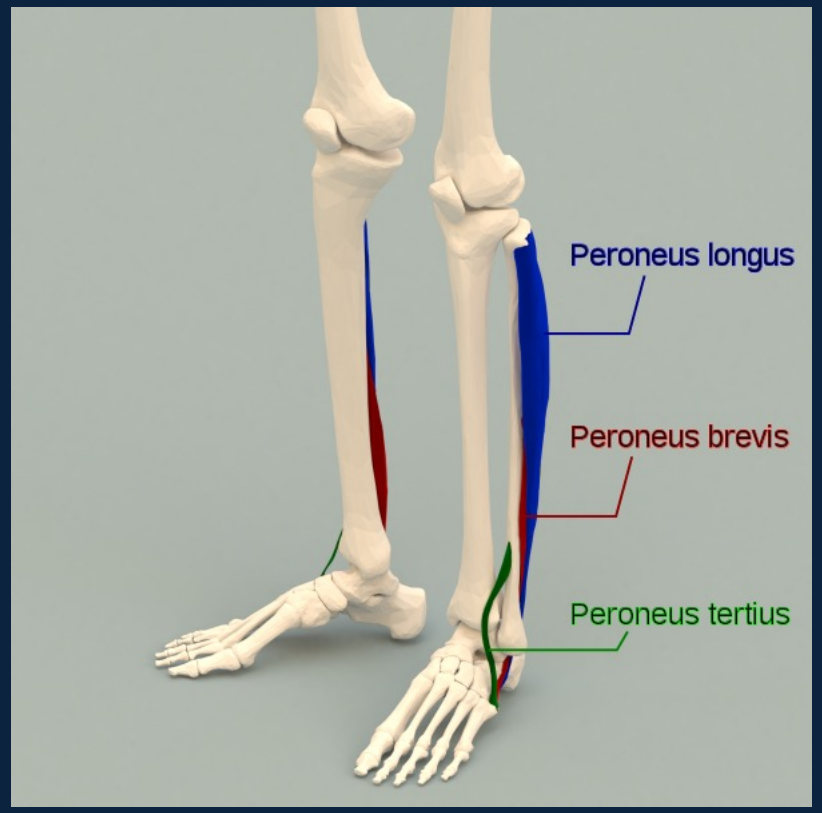
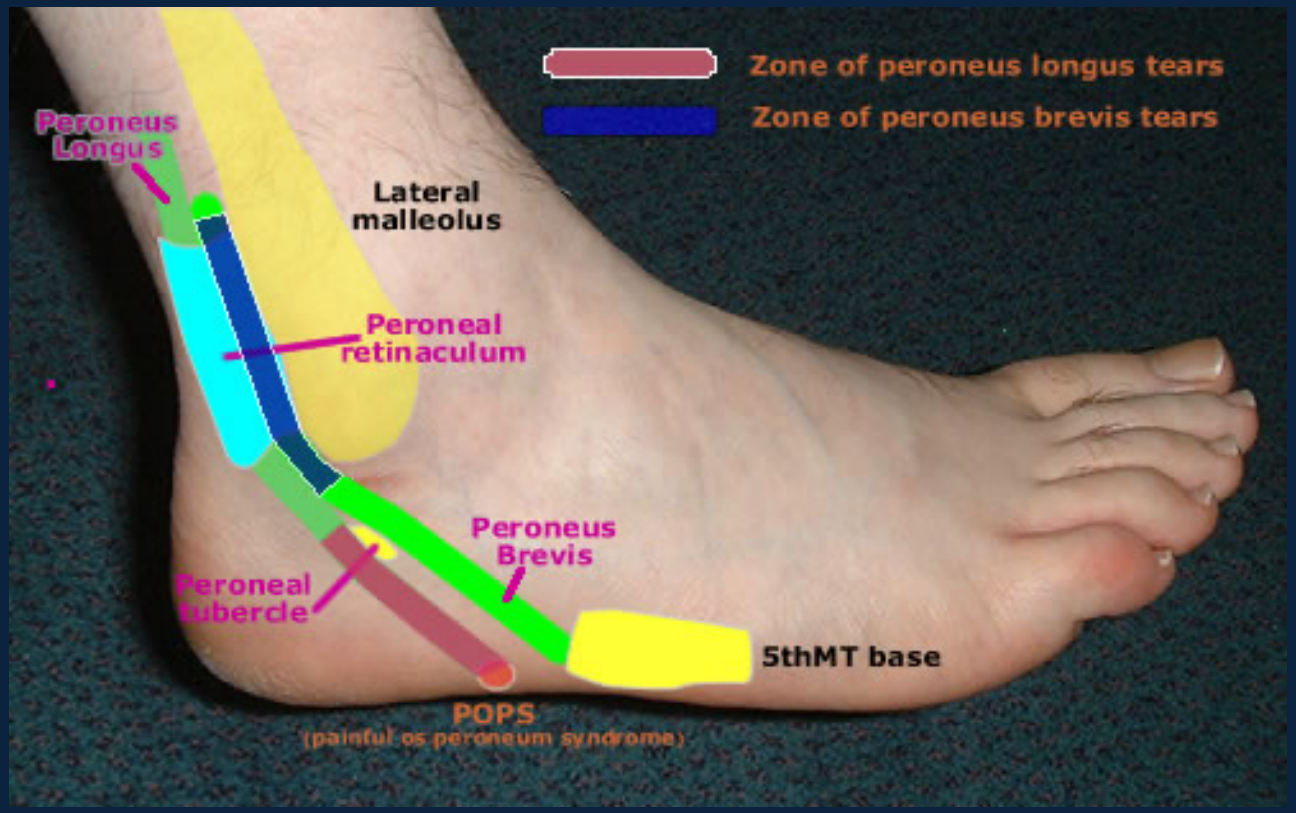
Anatomy – 3 or 4 peroneal tendons exist





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Case of RG

54 year old male

Increasing lateral hindfoot pain

Otherwise fit and well

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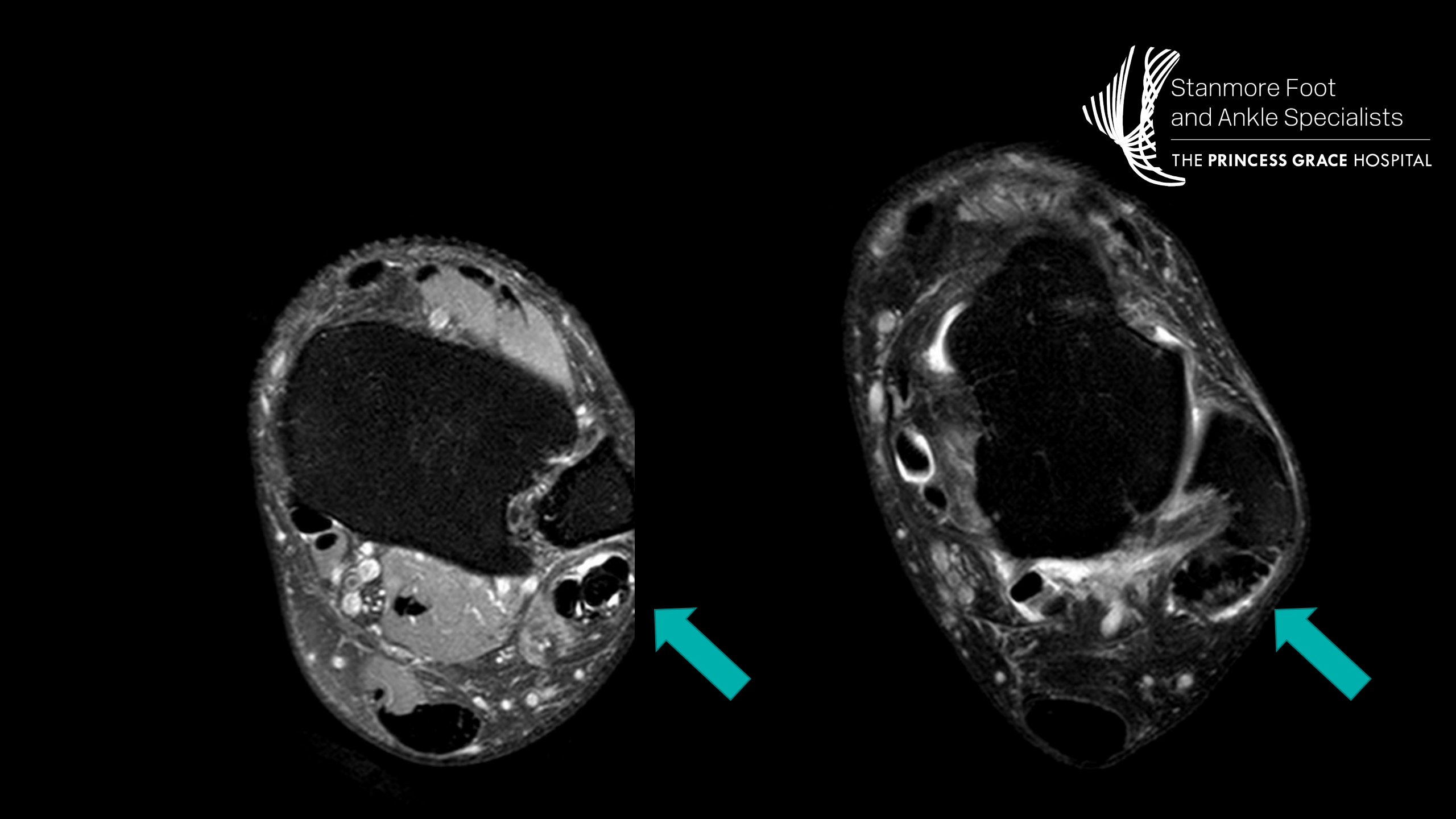
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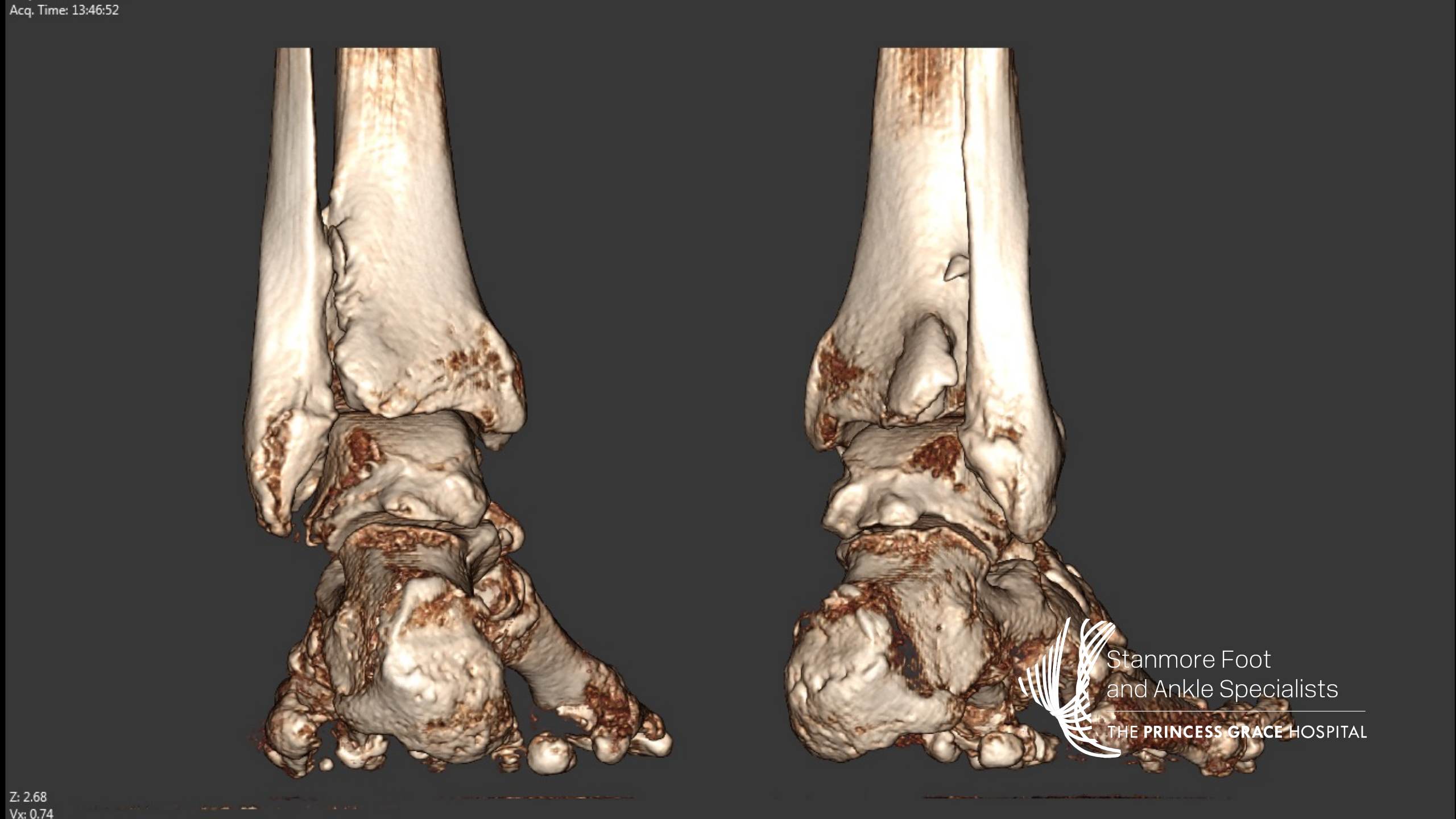
Acq. Time: 13:46:52
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Z: 2.68
Vx: 0.74

Why do they happen?

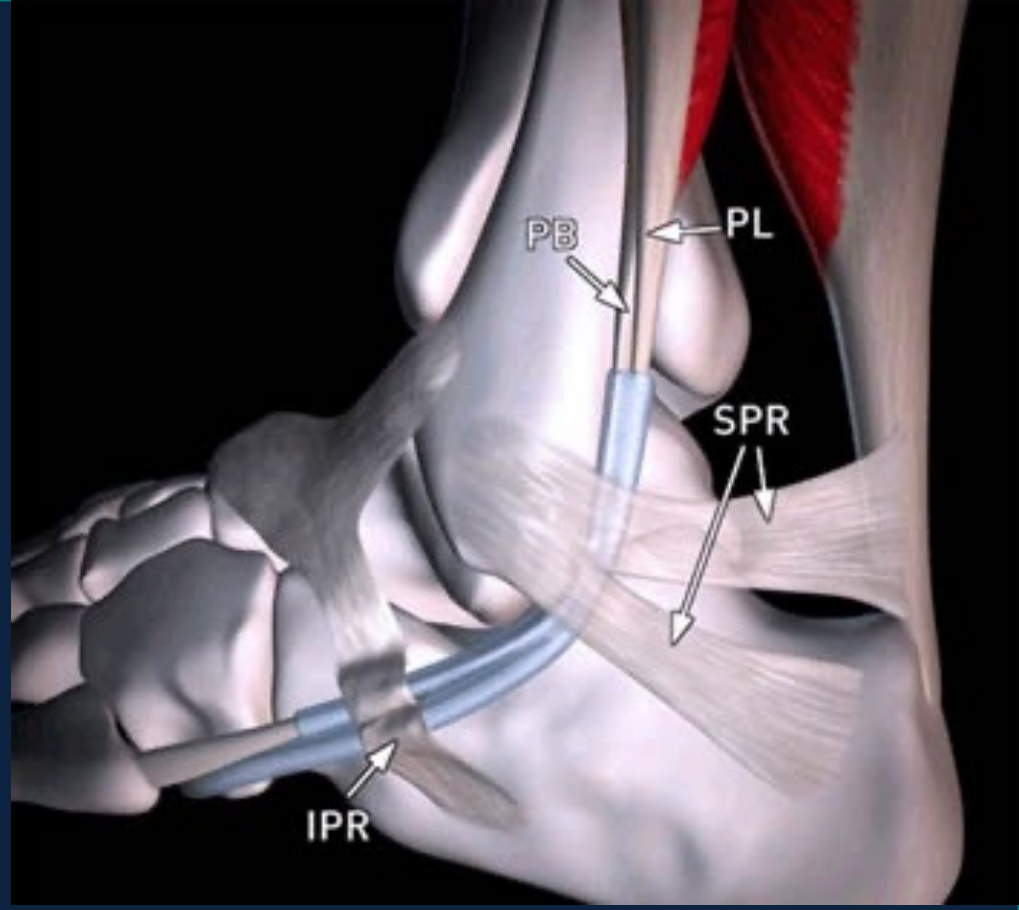
Likely chronic

Brevis tears

– Instability and overstuffing

Longus tears

– Foot shape – 80% cavus



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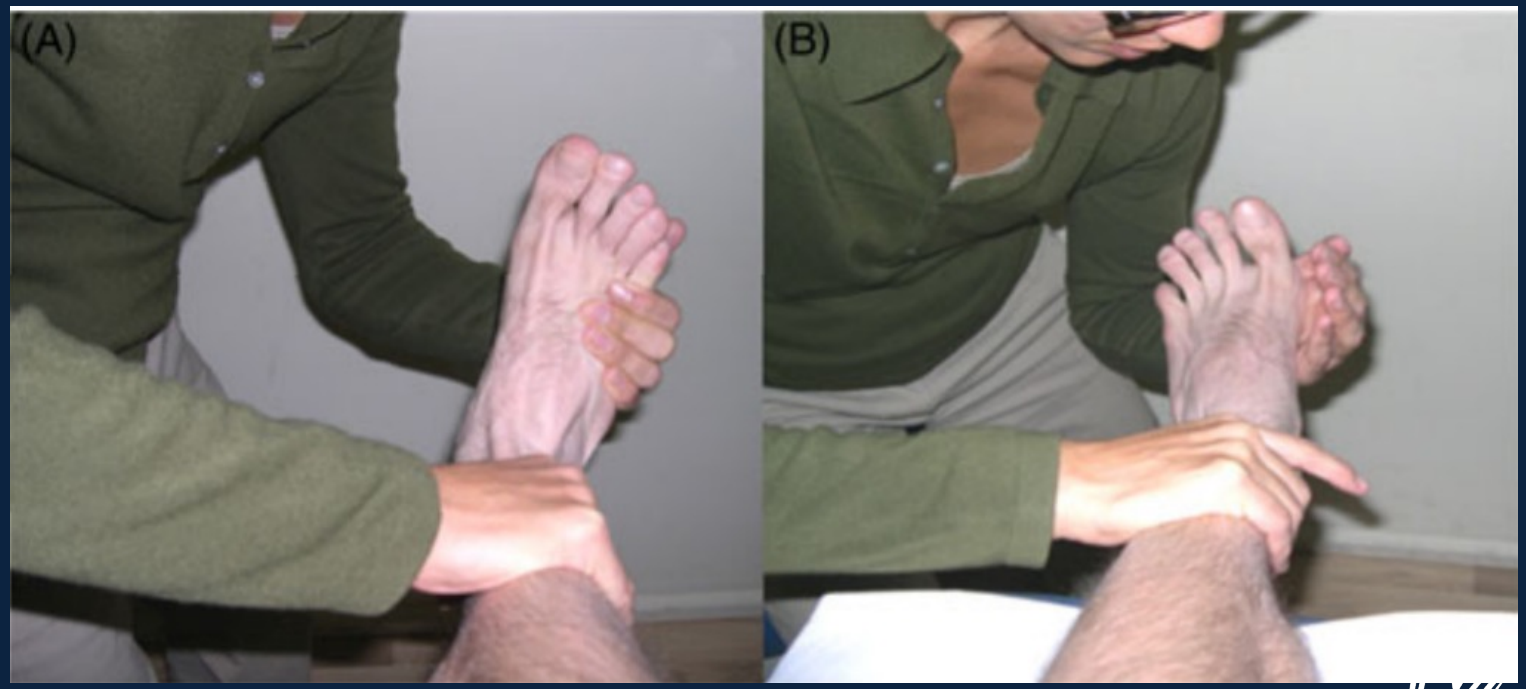
Testing cause pain

Brevis and longus: both are plantar-flexors and everters



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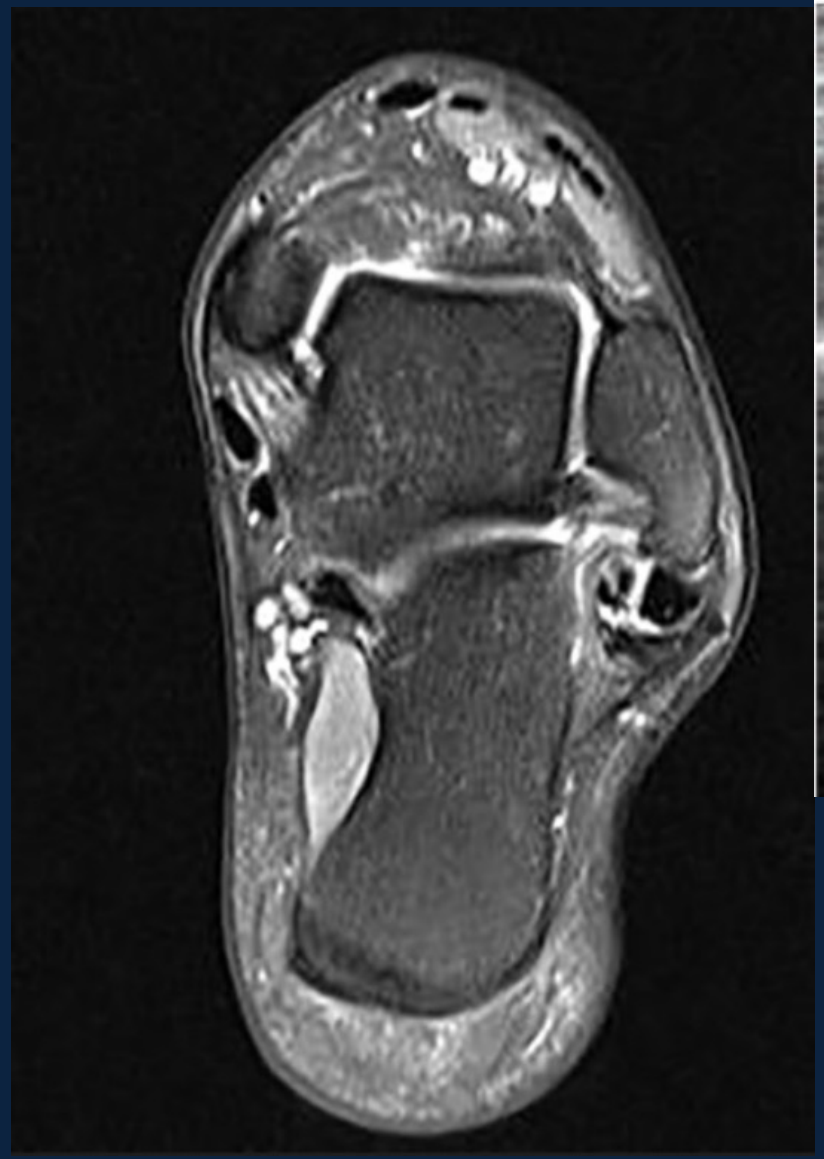
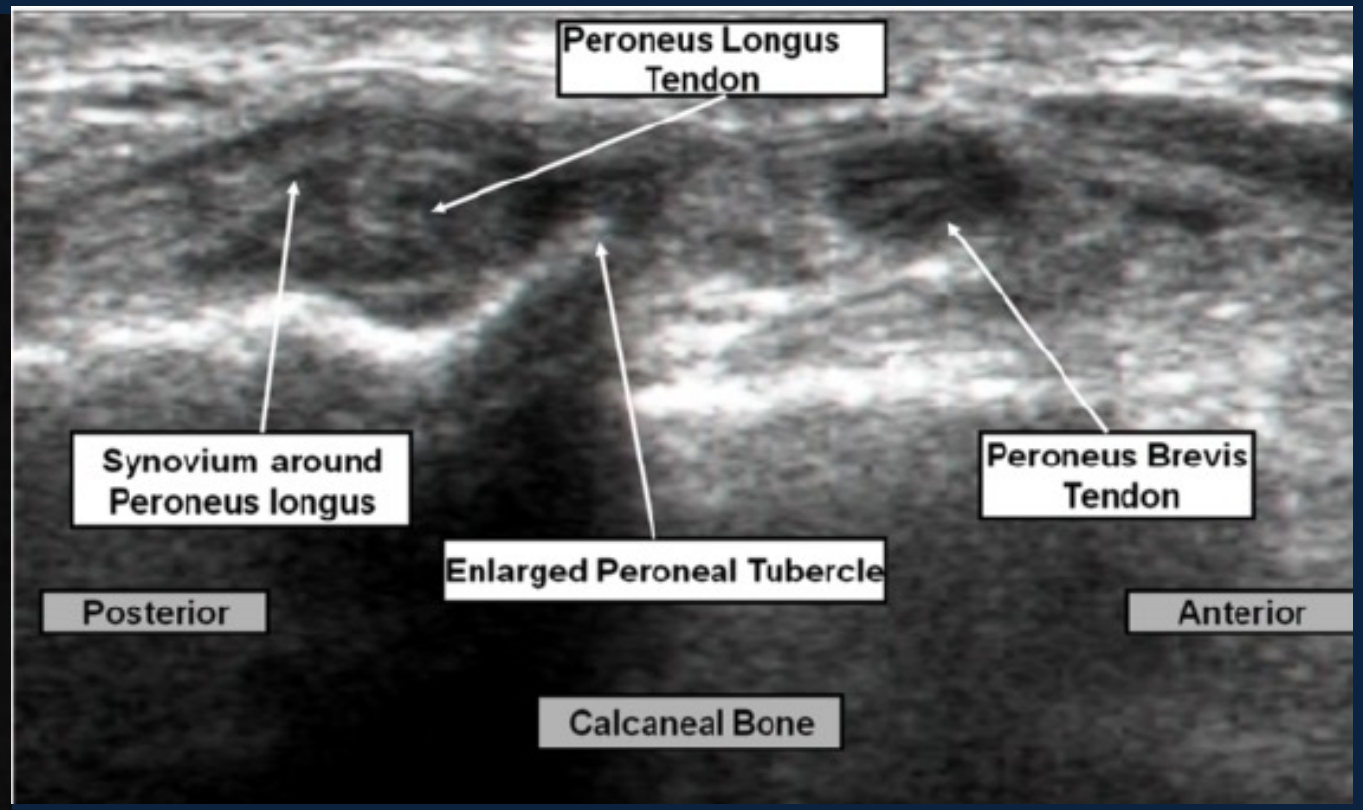
Investigations . . .





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Should we repair all tears?

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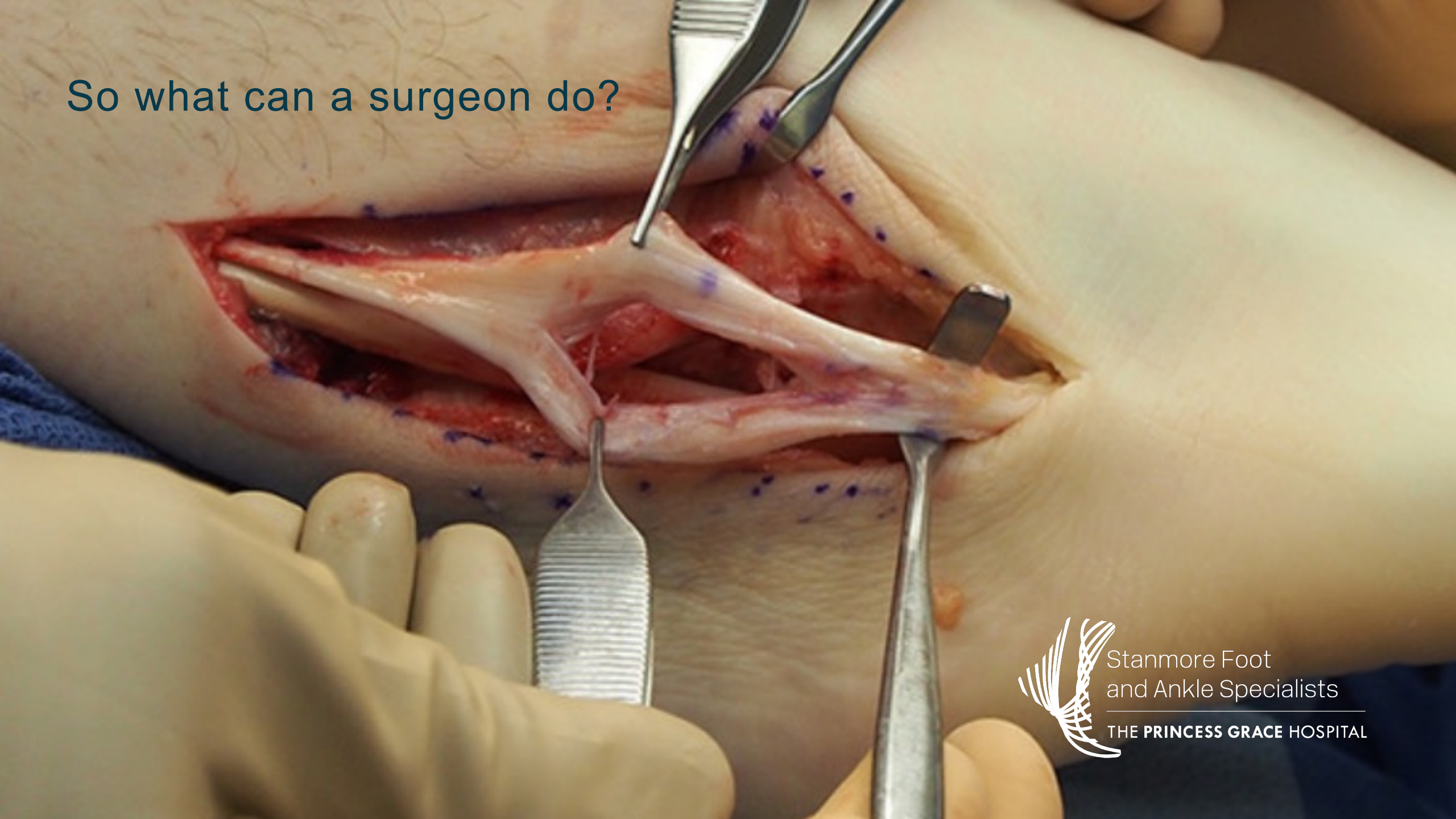
So what can a surgeon do?



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QUESTIONS?

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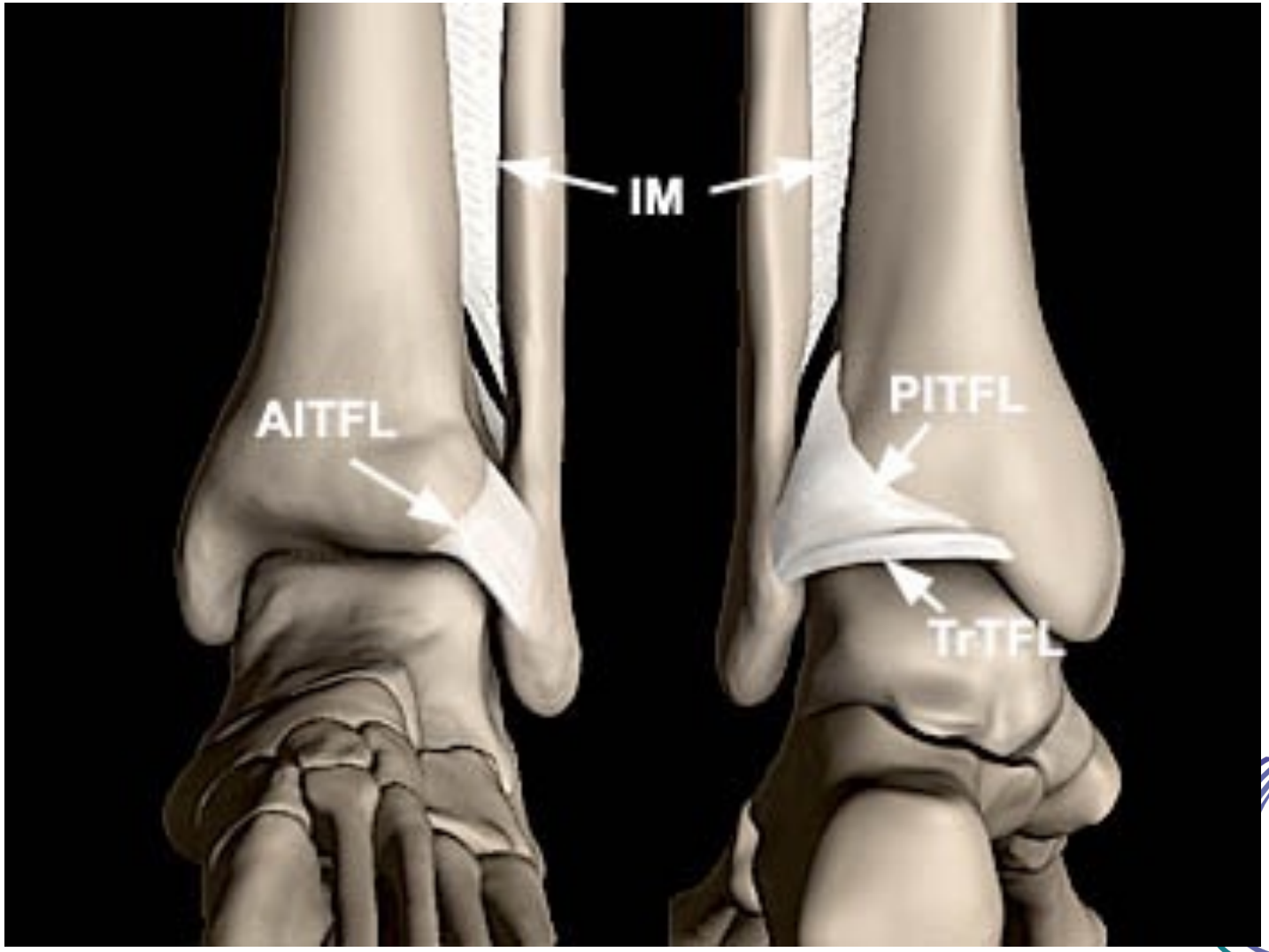
SYNDESMOSIS INJURIES

HOW NOT TO MISS THEM

SYNDESMOTIC INJURY



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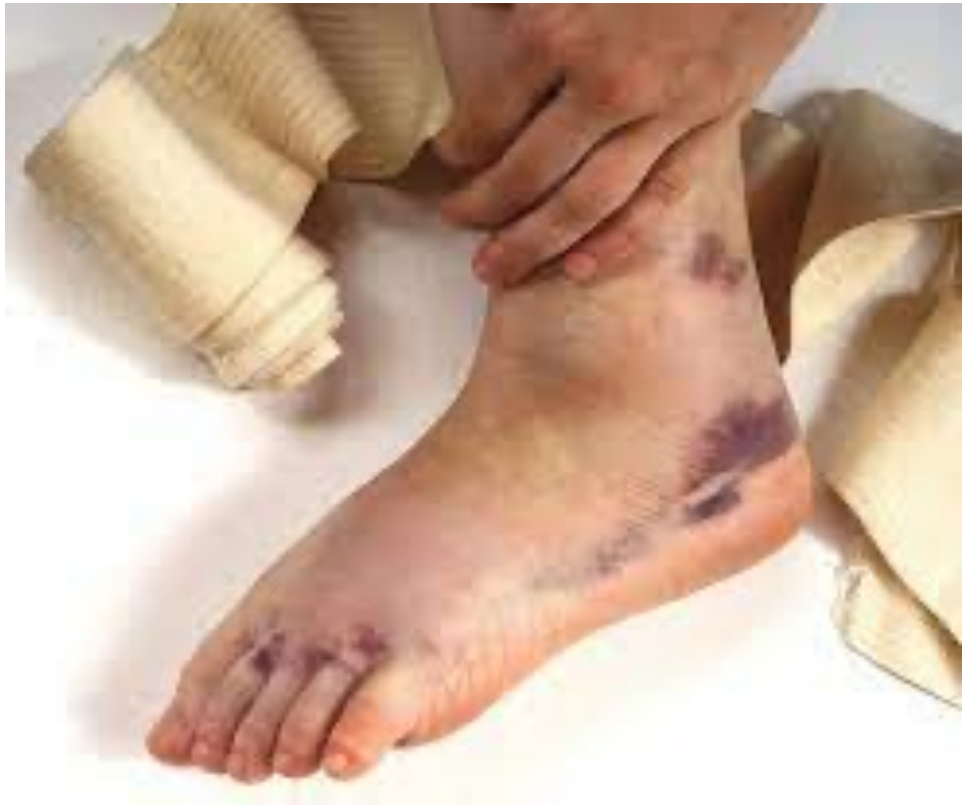
WHAT IS TYPICAL MOI?

HOW WOULD YOU INVESTIGATE?

HOW WOULD YOU TREAT?



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MOI

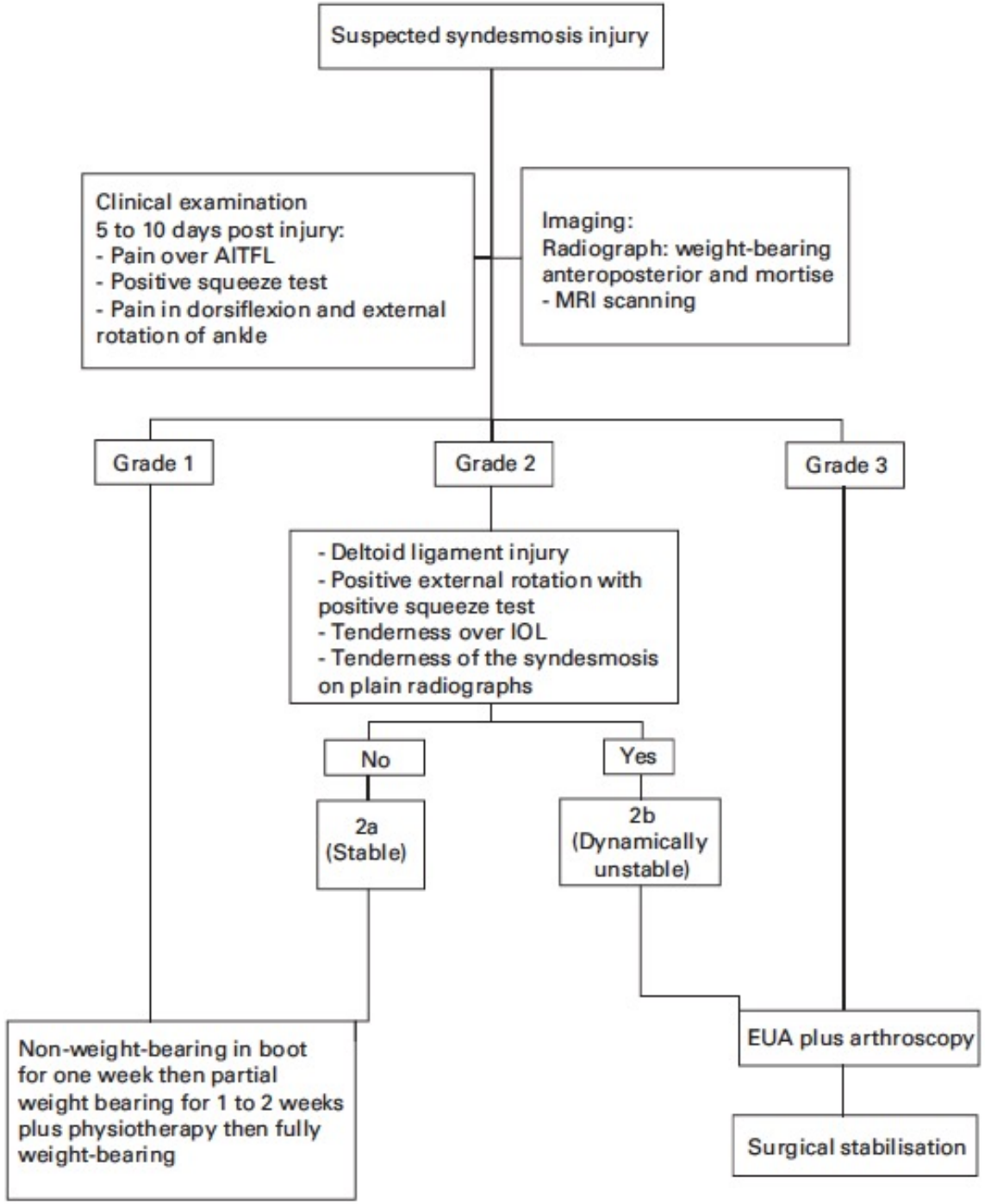
- ER TALUS ON PLANTED FOOT

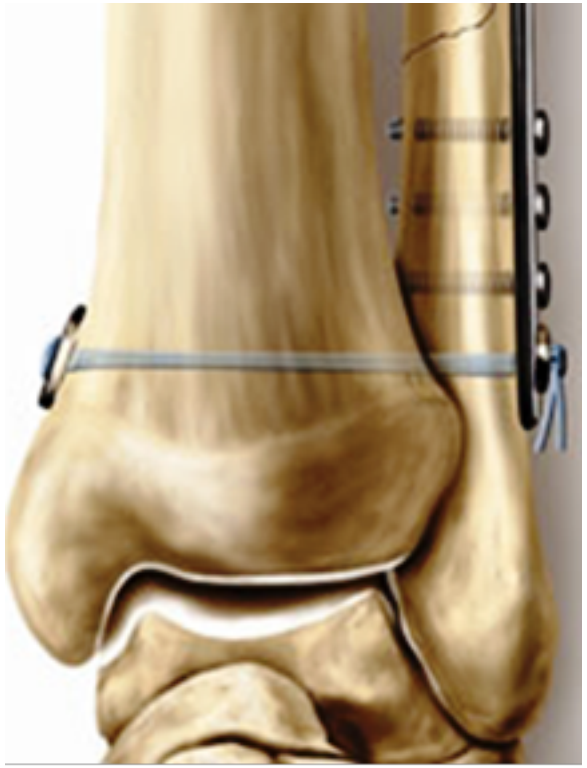
O/E

- HIGH ANKLE PAIN
- DF/ER TEST SENSITIVITY 92%
- SQUEEZE TEST

WEST POINT GRADING SYSTEM

- **1. SPRAIN AITFL. NO INSTAB**
- **2. TEAR AITFL, INCOMPLETE IOL – slight instab**
  - **A OR B. DYNAMICALLY UNSTABLE**
- **3. COMPLETE OF ALL AND GROSS INSTAB**


Suspected syndesmosis injury
Clinical examination
5 to 10 days post injury:
- Pain over AITFL
- Positive squeeze test
- Pain in dorsiflexion and external rotation of ankle
Imaging:
Radiograph: weight-bearing anteroposterior and mortise
- MRI scanning
Grade 1
Grade 2
Grade 3
- Deltoid ligament injury
- Positive external rotation with positive squeeze test
- Tenderness over IOL
- Tenderness of the syndesmosis on plain radiographs
No
Yes
2a (Stable)
2b (Dynamically unstable)
Non-weight-bearing in boot for one week then partial weight bearing for 1 to 2 weeks plus physiotherapy then fully weight-bearing
EUA plus arthroscopy
Surgical stabilisation



HOW NOT TO MISS!

1. SYNDESMOTIC INJURIES (ACUTE or CHRONIC, ISOLATED or COMPLEX) are COMMON & OFTEN MISSED.
2. POST OPERATIVE MALREDUCTION IS ALSO COMMON
3. MISSED OR INADEQUATELY TREATED SYNDESMOSIS INJURIES CAN CAUSE CHRONIC INSTABILITY AND EARLY ONSET OA IF ASSOC WITH TALAR SHIFT.

THEREFORE ESSENTIAL TO BE ABLE TO ACCURATELY EVALUATE SYNDESMOSIS.

▪XRAY

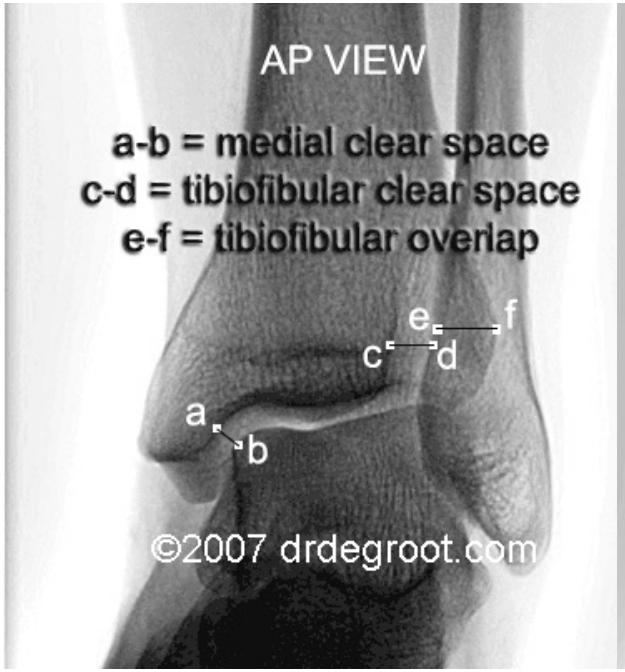
TIBIOFIBULAR OVERLAP (1cm. 6MM VS 1MM), TIBIOFIBULAR CLEAR SPACE (1cm. 6MM), MEDIAL CLEAR SPACE (mortice, 4.5MM),

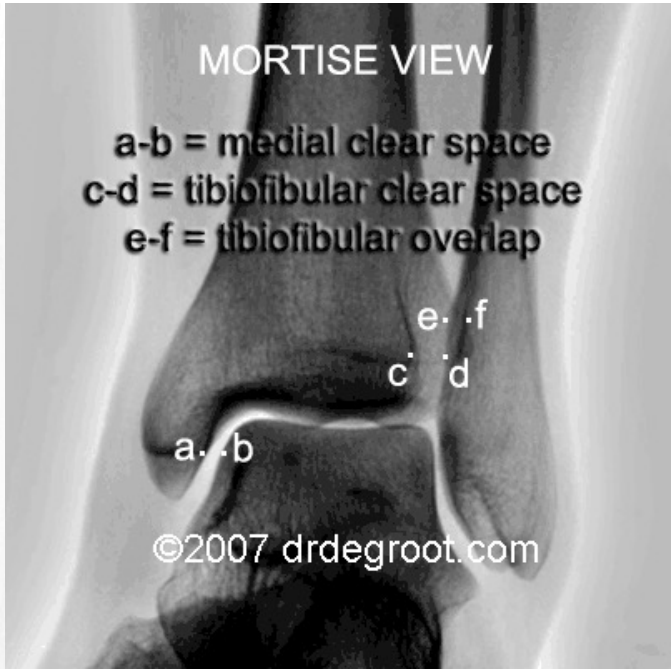
✓ WEIGHT BEARING

× POOR REPRODUCIBILITY,
ROTATION DEPENDENT,
MAGNIFICATION DEPENDENT

POOR SENSITIVITY FOR SUBTLE,

WIDE VARIATION OF NORMAL





STRESS XR		
	✓	DYNAMIC CAN EXAGERRATE DIASTASIS
	✗	POOR REPRODUCIBILITY, ROTATION AND MAG DEPENDENT, WIDE VARIATION OF NORMAL, REQUIRE GA.
		45% SENSITIVTY WHEN CF ARTHROSCOPY.
▪CT	✓	CROSS SECTIONAL SO CAN SEE AP DISPLACEMENT.
	✗	NOT WEIGHT BEARING/DYNAMIC
▪MRI	✓	EXCELLENT SOFT TISSUE DETAIL TO SEE ANATOMY (100% sens AITFL and PITFL)
	✗	NOT WEIGHT BEARING, ANATOMICAL NOT FUNCTIONAL, EXPENSIVE, INACCESSIBLE
▪USS	✓	DYNAMIC
	✗	TECHNICALLY DEMANDING , USER DEPENDENT
▪ARTH	✓	DYNAMIC, SENSITIVE
	✗	INVOLVES OPERATION AND RISK, EXPENSIVE

WEIGHT BEARING CT SCAN

- 3D CT WITH FULL WEIGHT BEARING
- RADIATION DOSE 1.4µs (3 standard radiographs = 0.7µs)

- ✓ WB
- ✓ CROSS SECTIONAL IMAGING
- ✓CAN STANDARDISE ROTATION
- ✓ ALLOWS COMPARISON WITH C/L SIDE
- ✓ ACCESSIBLE.

THE TECHNIQUE

MEASUREMENTS ALL AT 10MM PROXIMAL TO PLAFOND

6 DISTANCES AND 2 ANGLES MEASURED TO ASSESS LATERAL TRANSLATION, AP TRANSLATION, ROTATION.

J Orthop Trauma. 2013 Nov;27(11):638-41.

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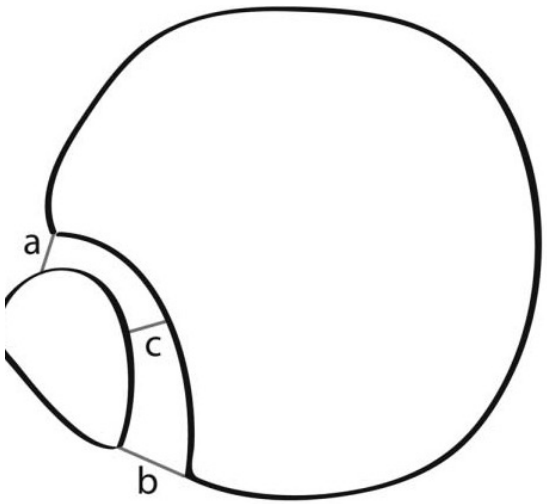
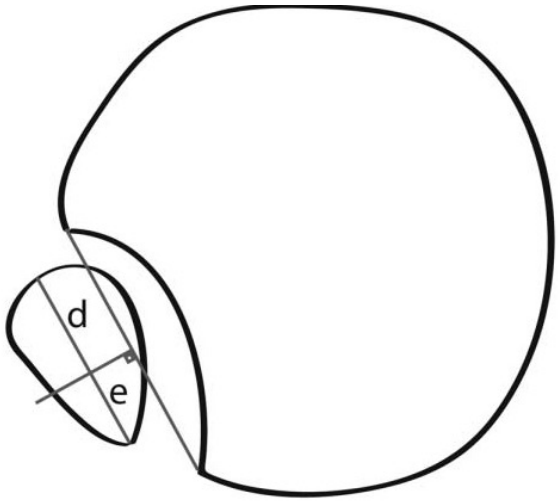
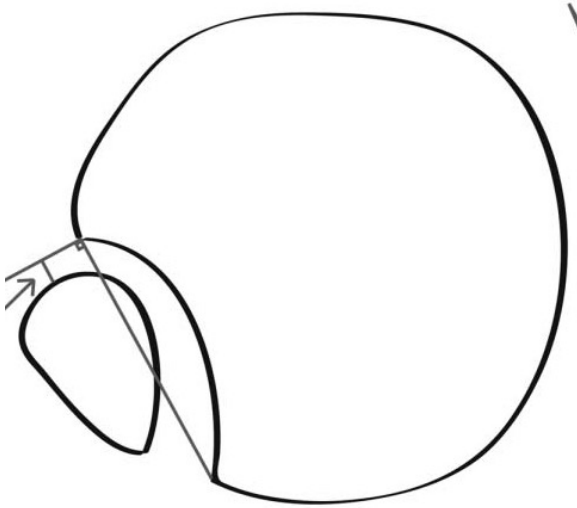
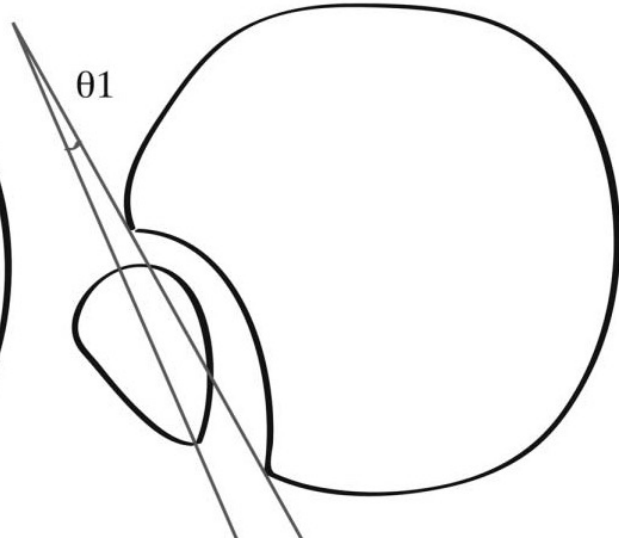








- **Ratio A:B, Angle 1:**

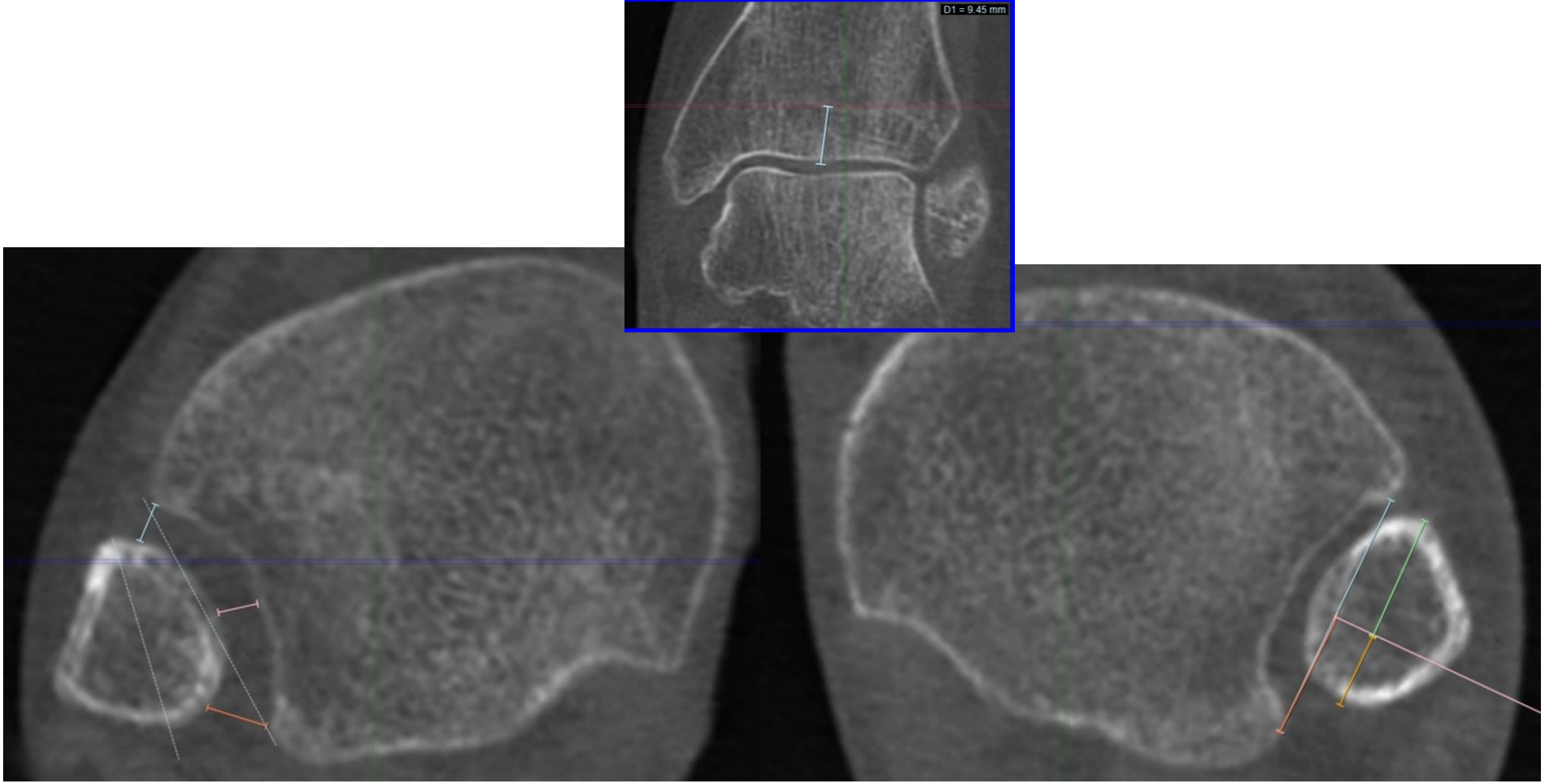
  ROTATION

- **C**

  LATERAL TRANSLATION

- **Ratio D:E, F**

  AP TRANSLATION


D1 = 9.45 mm

STUDIES - PRELIMINARY

- **DONE TO SEE IF ANY DIFFERENCE BETWEEN WB AND NWB.**
- In order to recognise pathology need to know what normally happens on WB
- **75 PATIENTS WITH BOTH CT ANKLE AND WBCT ANKLE.**
- **EXCLUDED PATIENTS WITH PATHOLOGY THAT MAY AFFECT SYNDESMOSIS, N=26.**
- **RESULTS:**
- **FIBULA EXTERNALLY ROTATES, LATERALLY TRANSLATES, AND POSTERIORLY DISPLACES ON WEIGHT BEARING**.

Malhotra, Welck, Cullen, Singh, Goldberg. Foot and Ankle Surgery, 2018.

- **With knowledge that WB significantly affects syndesmosis…**
- **MEASURE VALUES IN 200 NORMAL SYNDESMOSES**
- **TO DEFINE NORMAL, LATER ENABLING US TO DEMONSTRATE ABNORMAL.**

Patel, Malhotra, Cullen, Singh, Goldberg, Welck. 2019. Bone and Joint Journal 101B, 3, 348.

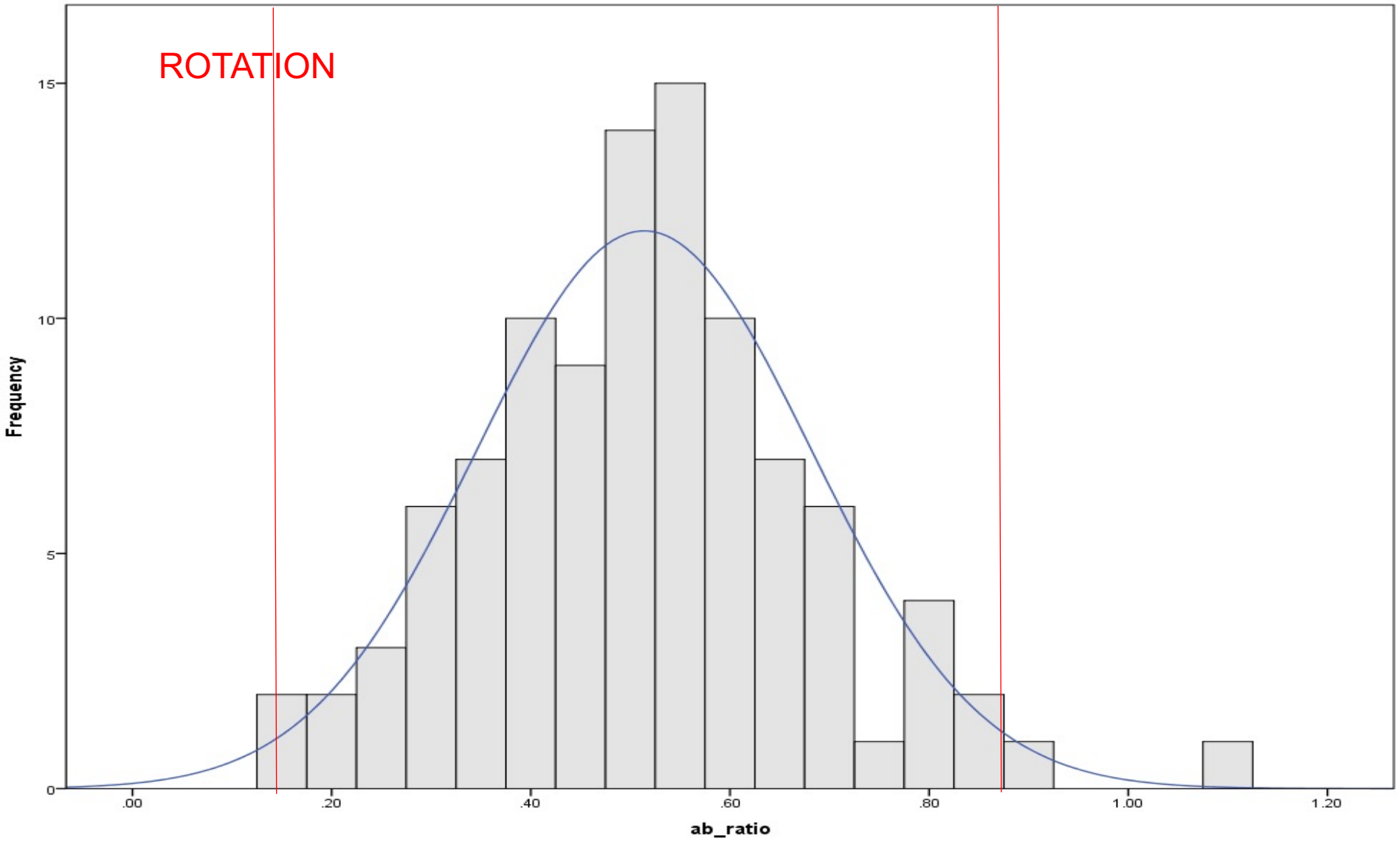
50M, 50F. 200 feet.

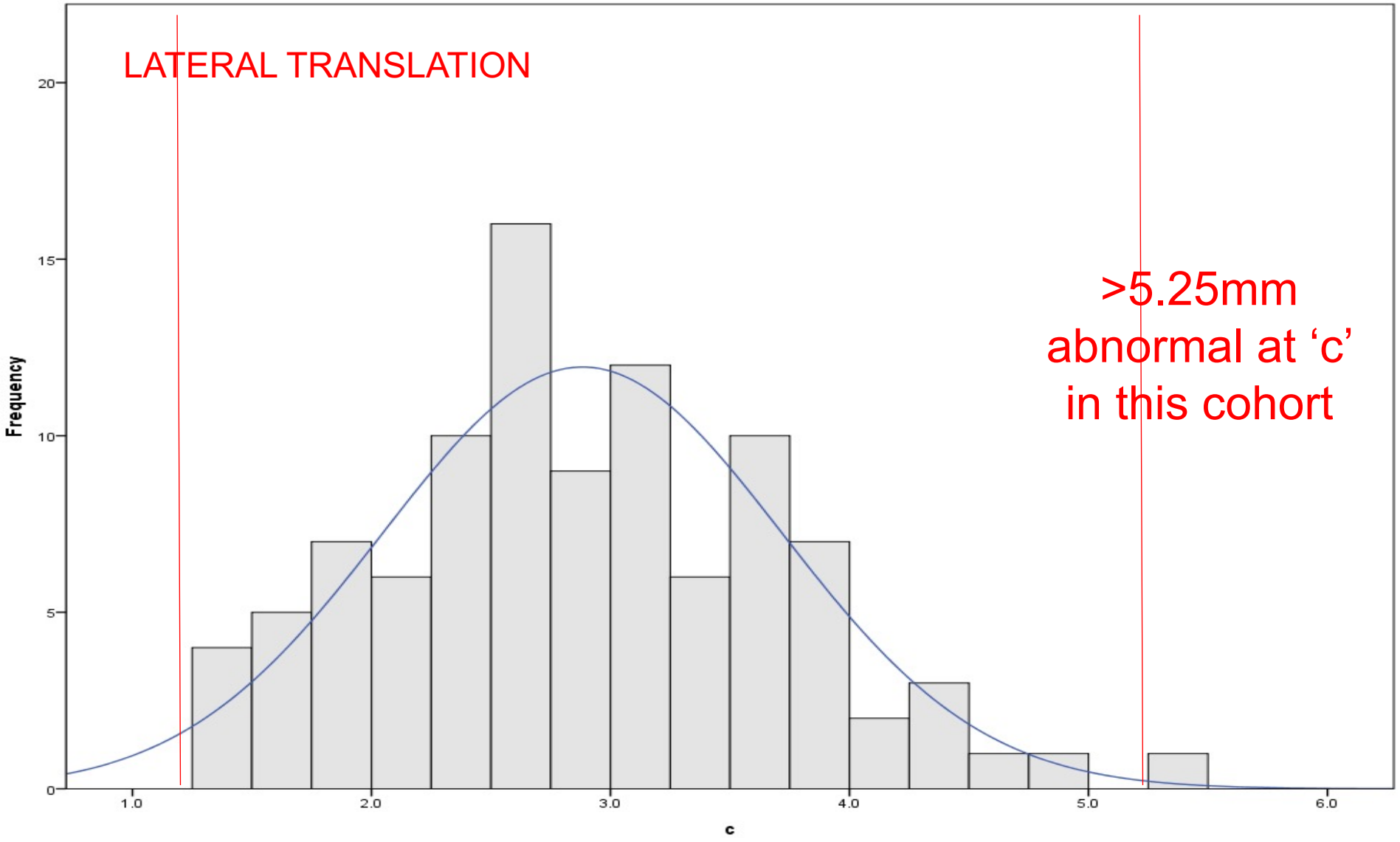
Scans for forefoot pathology so normal syndesmosis.

Ranges and 2SD given

	Mean	St Dev	Min	Max
a	2.516	.7688	.6	4.4
b	5.056	1.2090	2.5	7.7
ab_ratio	.5138	.16816	.15	1.11
ba_diff	2.542	1.1743	-.4	5.5
Angle1	-14.10	4.698	-23	-4
c	2.882	.8348	1.3	5.5
d	10.212	1.2478	7.4	14.2
e	7.201	1.5319	2.1	10.5
de_ratio	1.5229	.68401	.89	6.69
f	.457	1.0411	-3.7	3.1

- MEAN, STANDARD DEVIATIONS FOR EACH VALUE.
- THEREFORE 2SD AWAY FROM MEAN CAN BE CONSIDERED ABNORMAL.

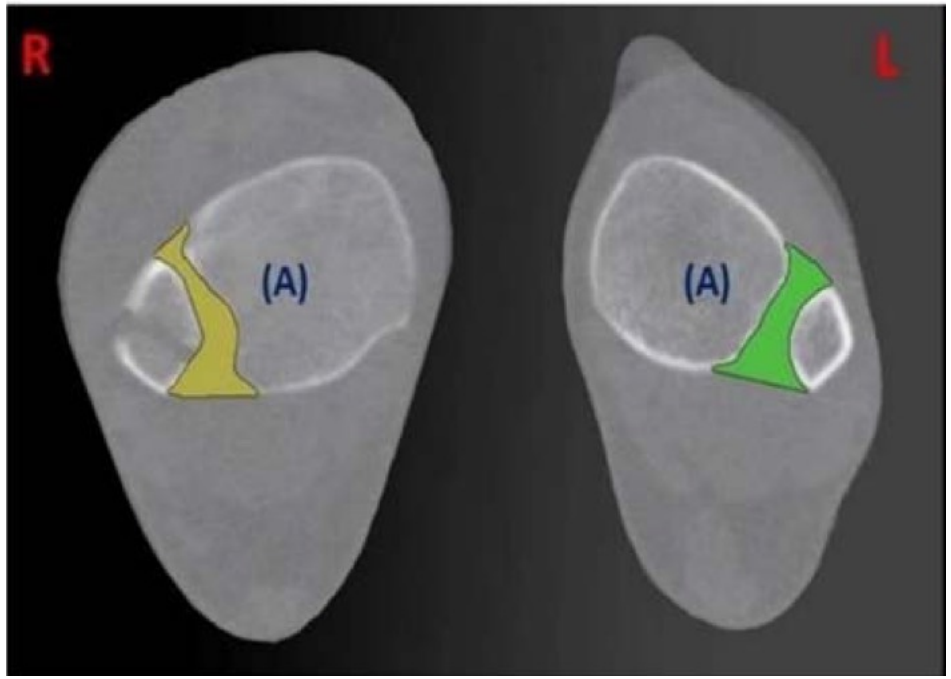

ROTATION
Frequency
15
10
5
0
.00
.20
.40
.60
.80
1.00
1.20
ab_ratio


LATERAL TRANSLATION
>5.25mm
abnormal at ‘c’
in this cohort
Frequency
20
15
10
5
0
1.0
2.0
3.0
4.0
5.0
6.0
c

NEWER CONCEPTS

SYNDESMOSIS AREA – 2D

SYNDESMOSIS VOLUME – 3D



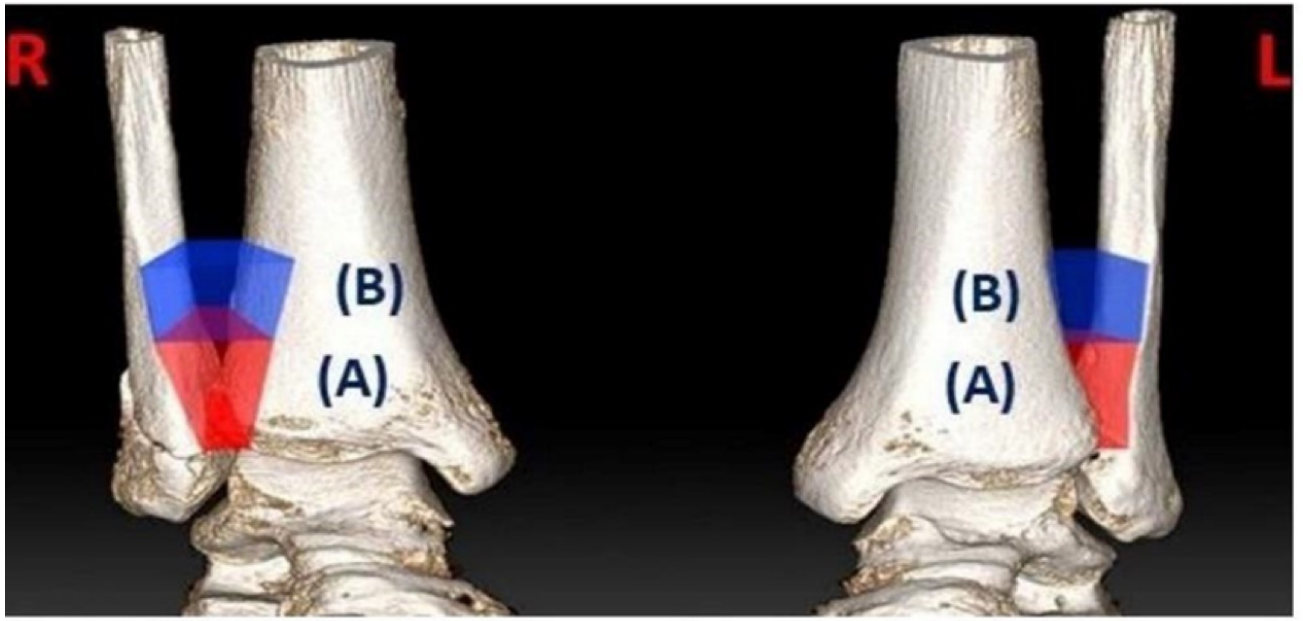


Figure 1. Weightbearing computed tomography syndesmotic joint volumetric measurements in a patient having Weber B fracture with right sided syndesmotic instability. Anterior view Image (A) Syndesmotic joint volume up to 3cm above the joint line. (B) Syndesmotic joint volume up to 5cm above the joint line. Abbreviations: L, left; R, right.

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DETECTING SUBTLE SYNDESMOSIS PATHOLOGY ESSENTIAL

WBCT IS WB, AXIAL, CAN ASSESS C/L, CAN STANDARDISE ROTATION.

CAN USE ABSOLUTE VALUES OR COMPARE WITH OTHER SIDE.

SPRING LIGAMENT INJURY

- WE SEE THEM BUT DO THEY SEE US?

SHELAIN PATEL

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These are the facts....

My trainees have not heard of the spring ligament

Non-F&A consultant colleagues will struggle to know where the spring ligament is

Hands up – who has heard of it?

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MELLY CHRISTMAS
@mellyfratelli
Replying to @bbcstrictly @AJOdudu and @Kaiwidd
Gutted for AJ and Kai! They really deserved to be in the final and it won't be the same without them.
Alison Monkhouse
@AlisonMonkhouse
Replying to @bbcstrictly @AJOdudu and @Kaiwidd
Sad news but sounds like the right call, health comes first. Lots of love to you @AJOdudu and @Kaiwidd - you have been A-MAZ-ING!
AJ Odudu and Kai Widdrington are having to withdraw from Strictly Come Dancing and will not compete in tomorrow's Grand Final.

← Tweet

AJ ODUDU
@AJOdudu

Gutted. ❤️

I've had ultrasounds, MRI scans and x-rays. I've had two incisions to drain the inflammation around my ankle. I've injected local anaesthetic directly into my foot, I have been strapped up to an ice compression machine for days. I've done all I can possibly do to get back on my feet for the @bbcstrictly Final, I even asked the docs if I could perform in a medical moonboot! 😆 But the fact is, I can't stand on my feet let alone dance because I've torn my spring ligament. 😭

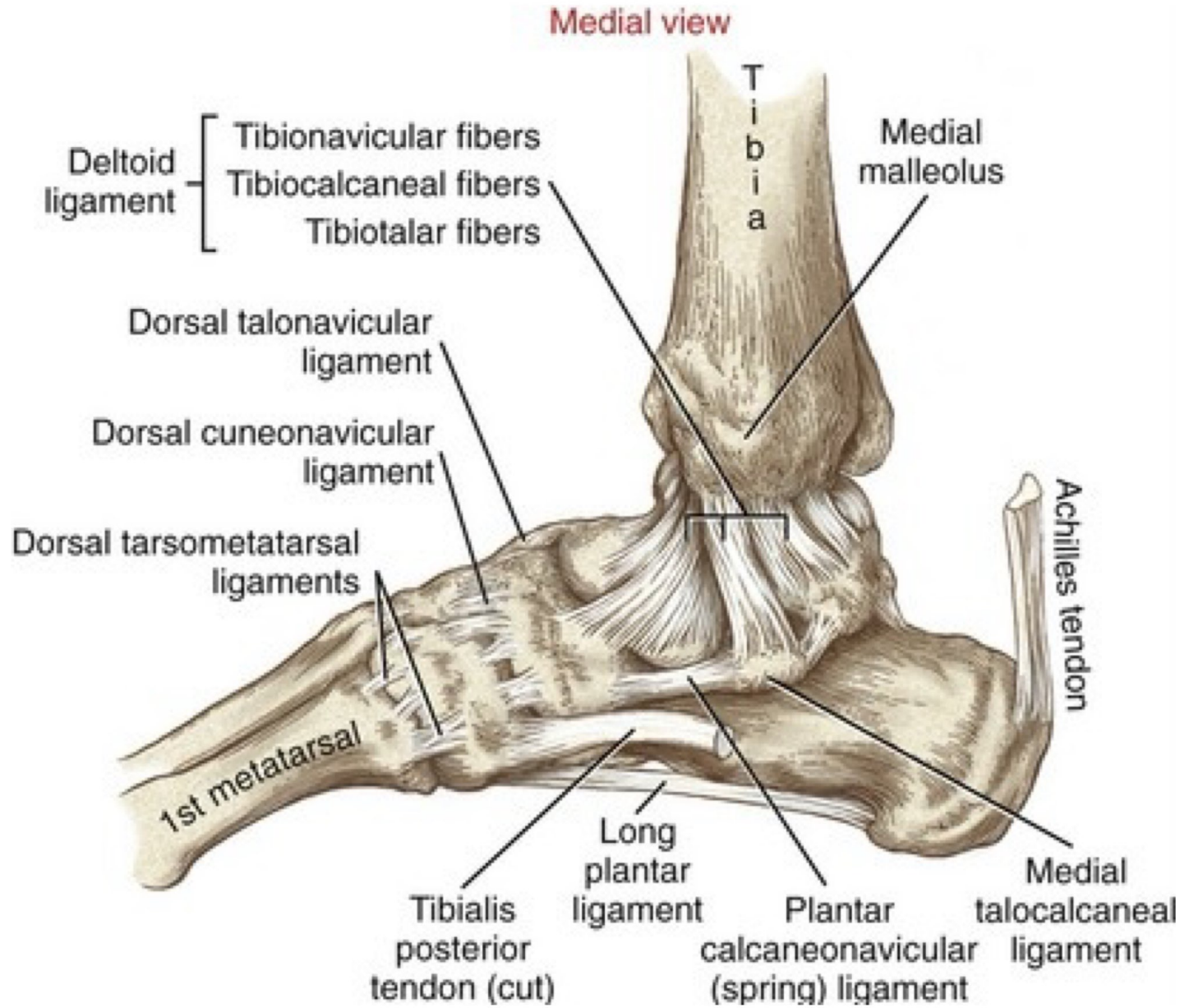
Learning to dance over the last 13 weeks has been an incredible honour and to do it alongside someone as special, patient and devoted as Kai is something I'll treasure forever. You're the best @kaiwidd and I know you were ready to be my human crutch on that dancefloor come tomorrow night. Gutted! ❤️

I want to say a huge thank you to the Strictly family for the experience, the medical team for trying to get me back on my feet and mostly, to everyone at home watching and supporting. You've made this experience one to remember and I couldn't be more grateful for your well wishes. Strictly Come Dancing has been a lifelong dream of mine and I'm glad it came true. ✨

Good luck to my partners in dance, @john_whaite & @Johannesradebe and @Rose.a.e and @perniceGiovann1. I will be cheering you all on (on one leg). 😆🎉🎉

2:34 PM · Dec 17, 2021 · Twitter for Android

263 Retweets **64** Quote Tweets **17.1K** Likes



The case of CM

52 year old lady

Seen in August ‘21 – new patient

1 year ago -> twisted ankle and was extremely swollen

Ongoing pain and instability

Normal foot shape

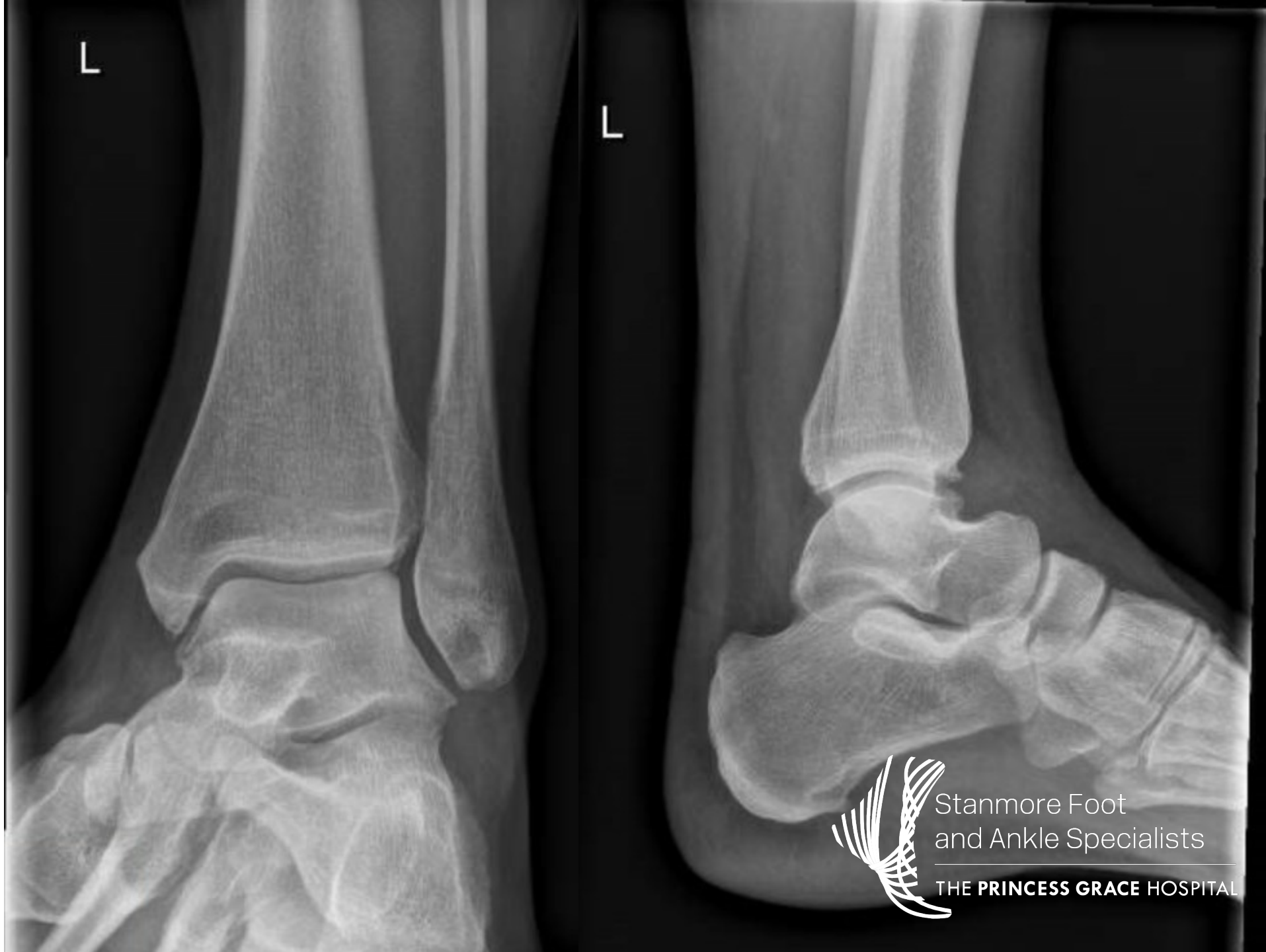
Swelling over ATFL

Positive anterior drawer

X-rays suggest OCL and tip of fibula fracture

Plan: Options explained, brace, physiotherapy, MRI

2016



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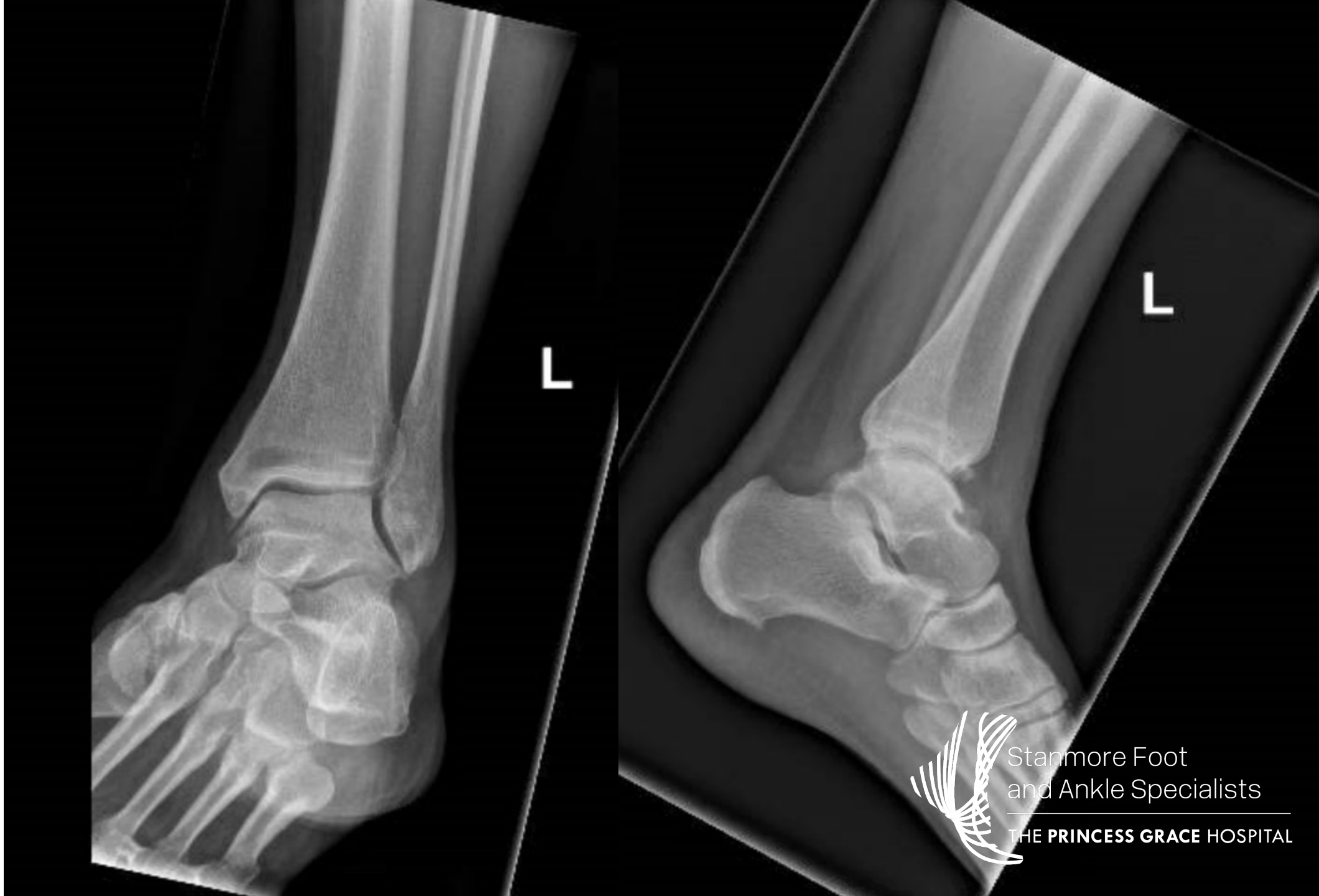
2020



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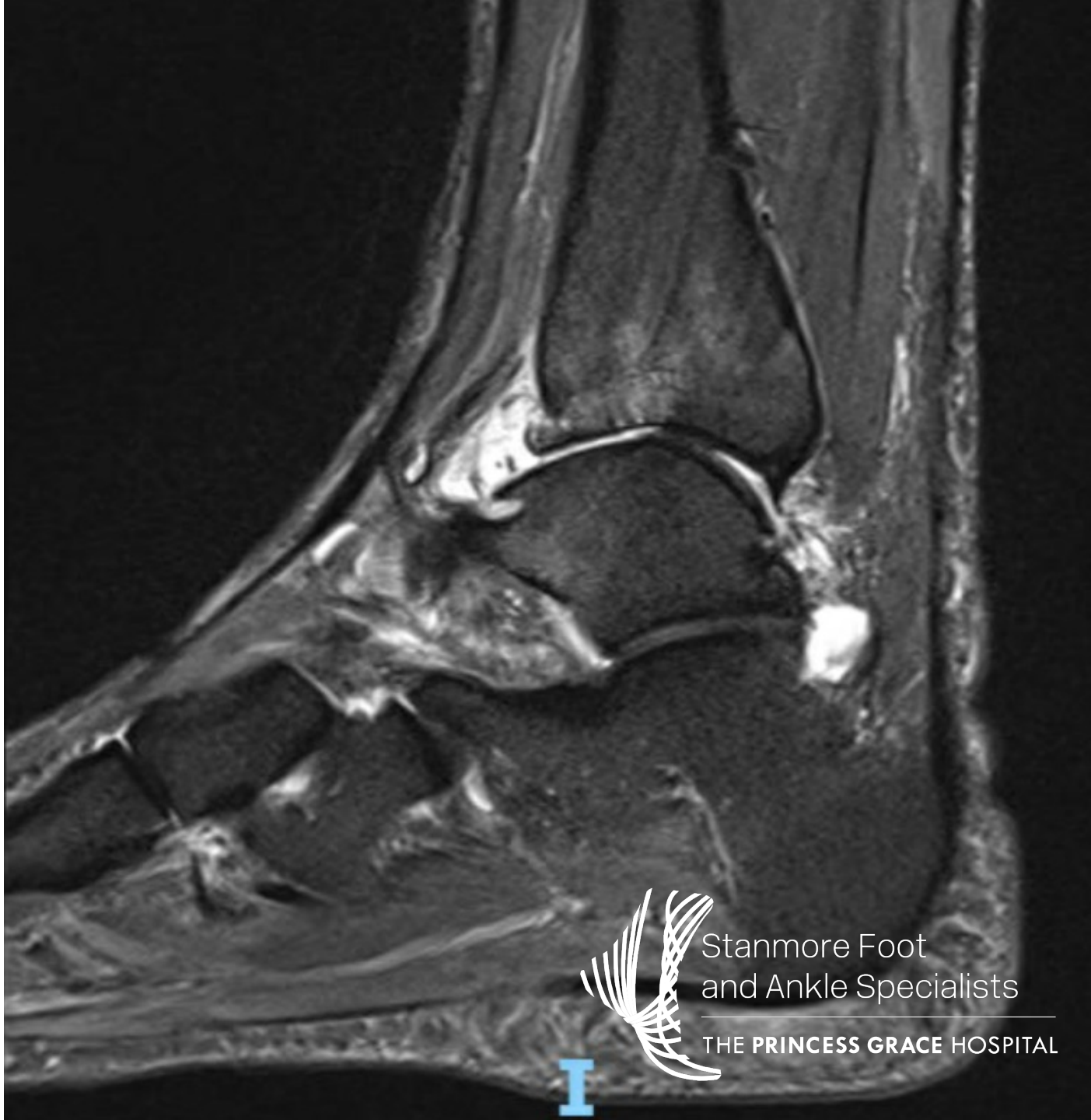
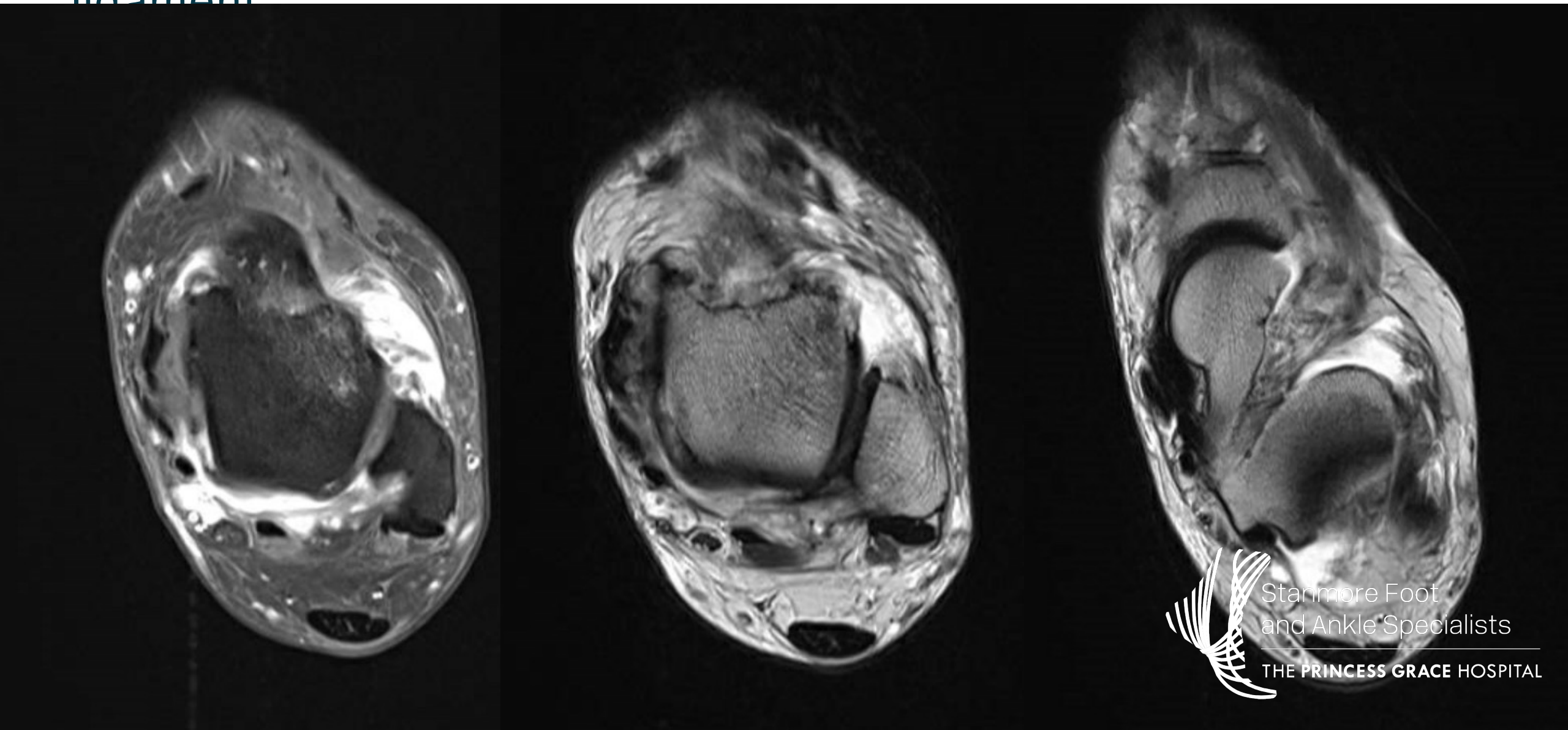
2021

Full thickness chondral loss anteromedially

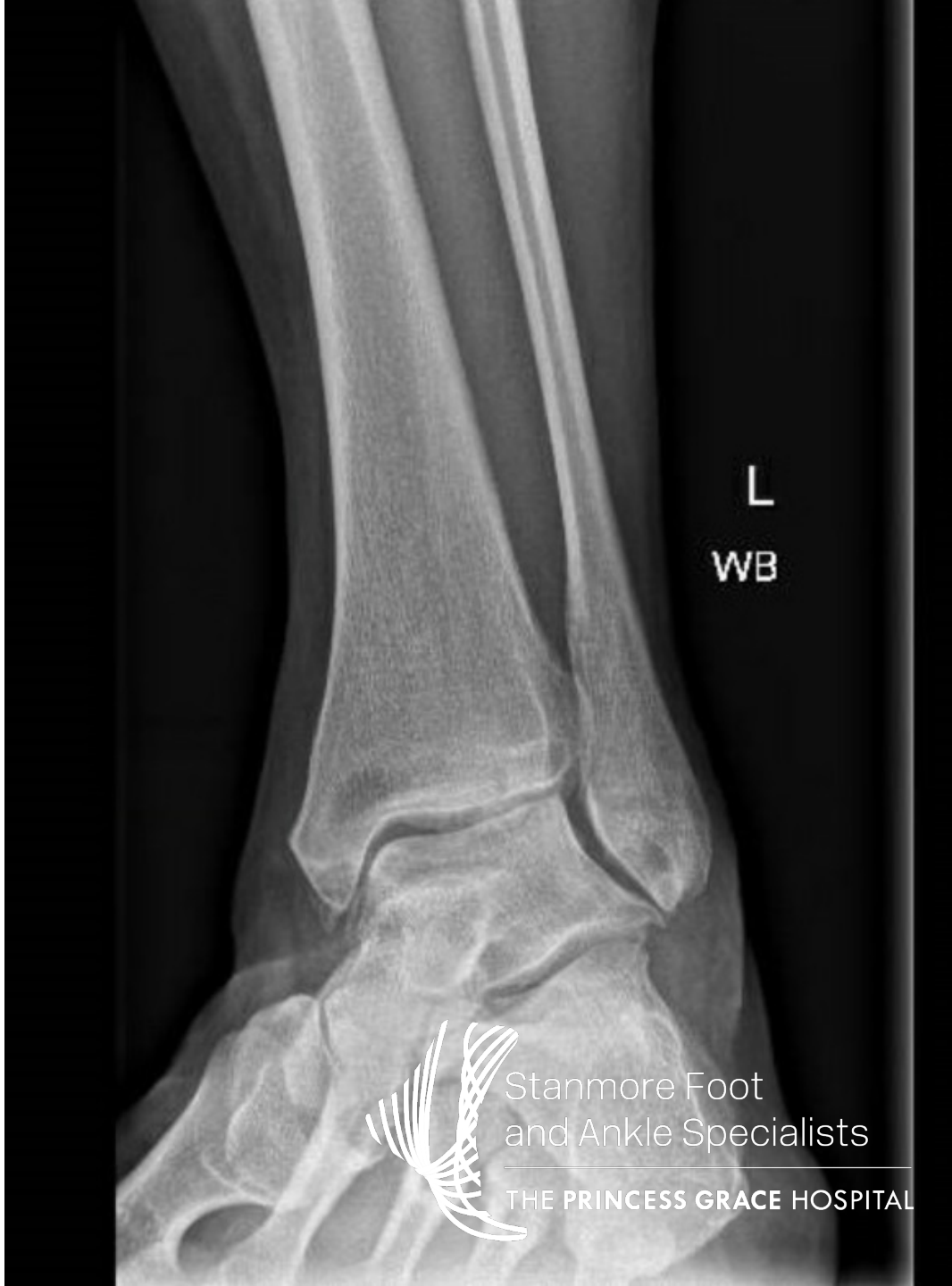


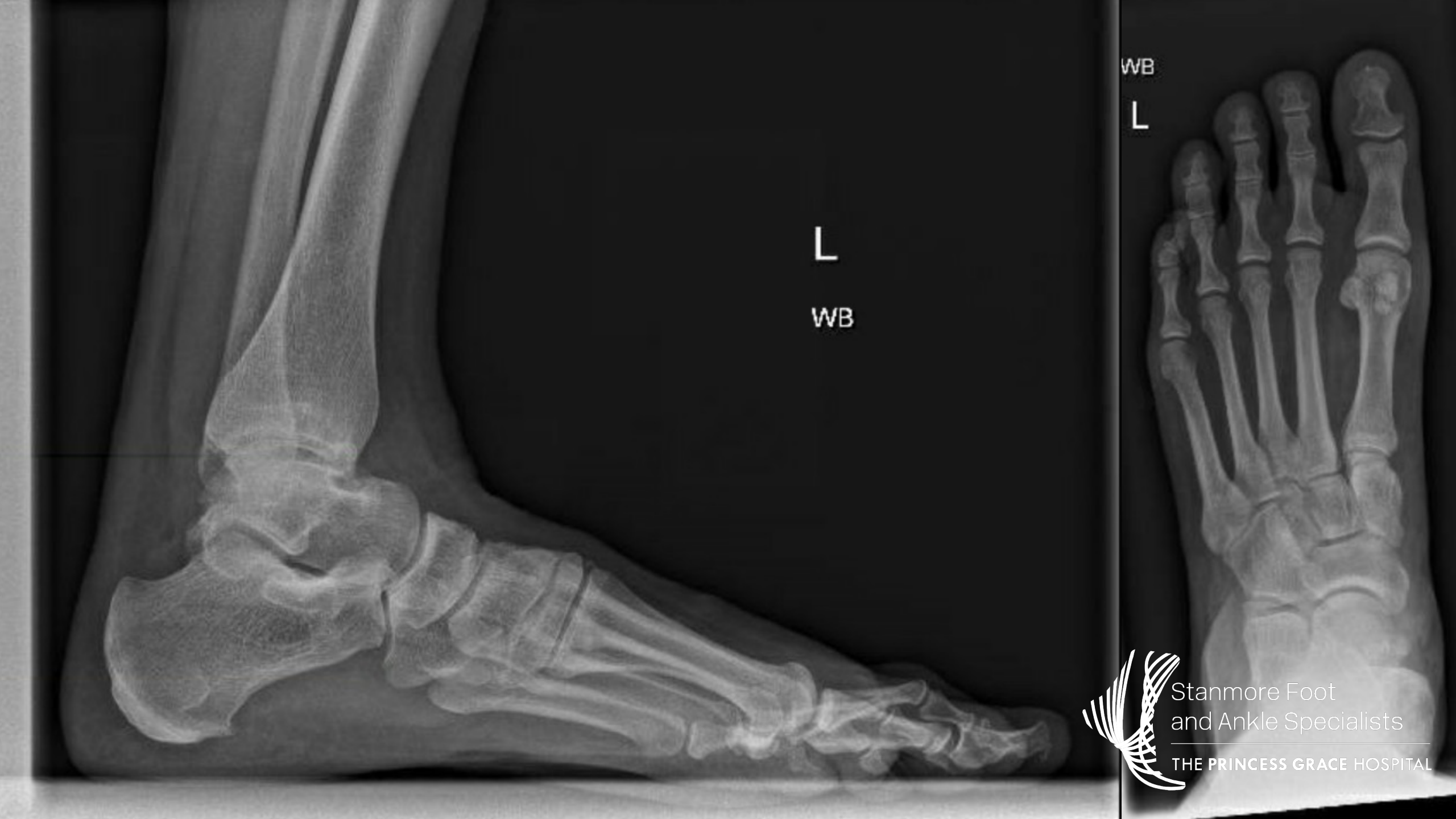
2021 – Lateral and medial ligament injury including spring ligament



2021

Talar tilt evident





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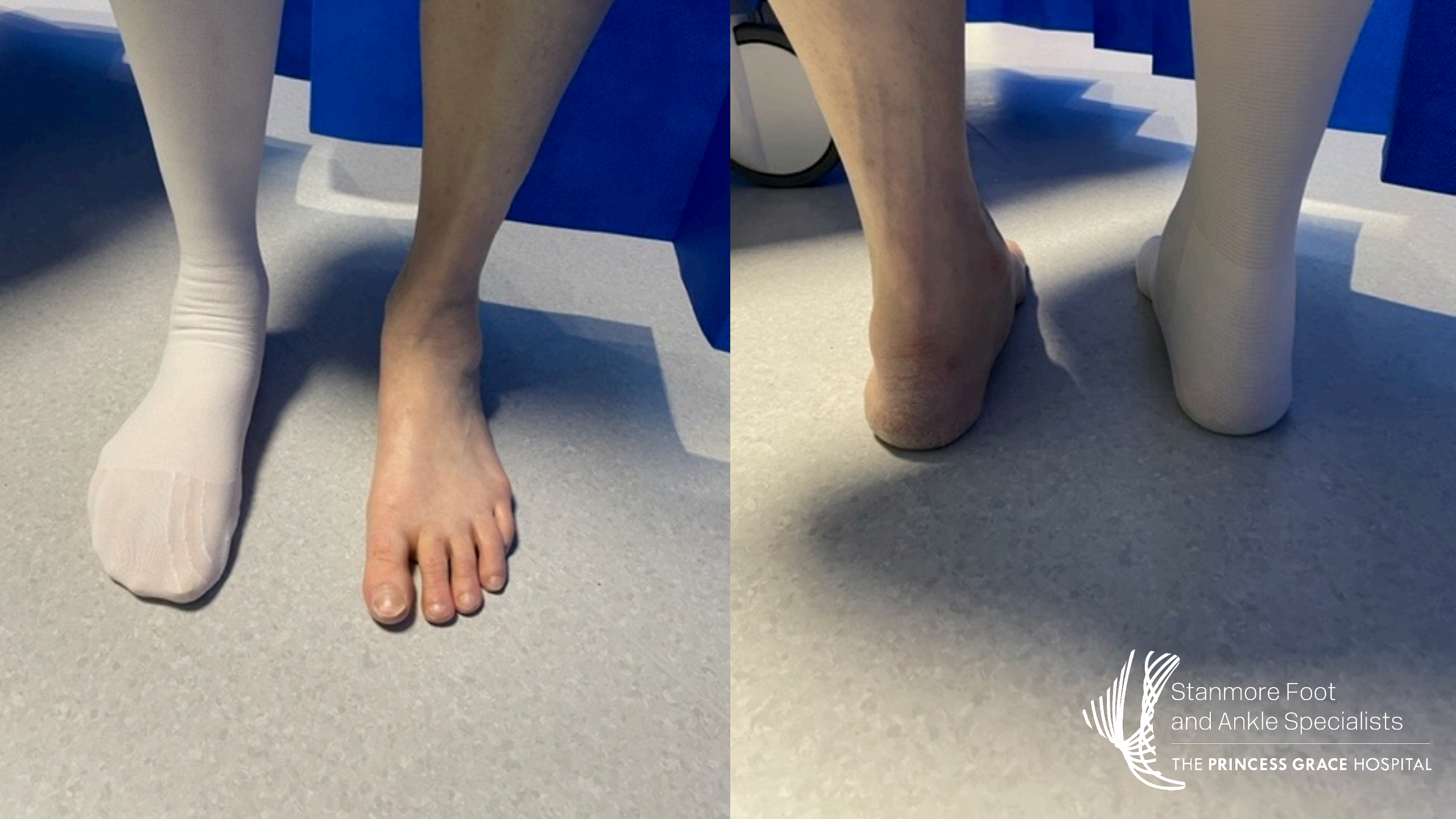
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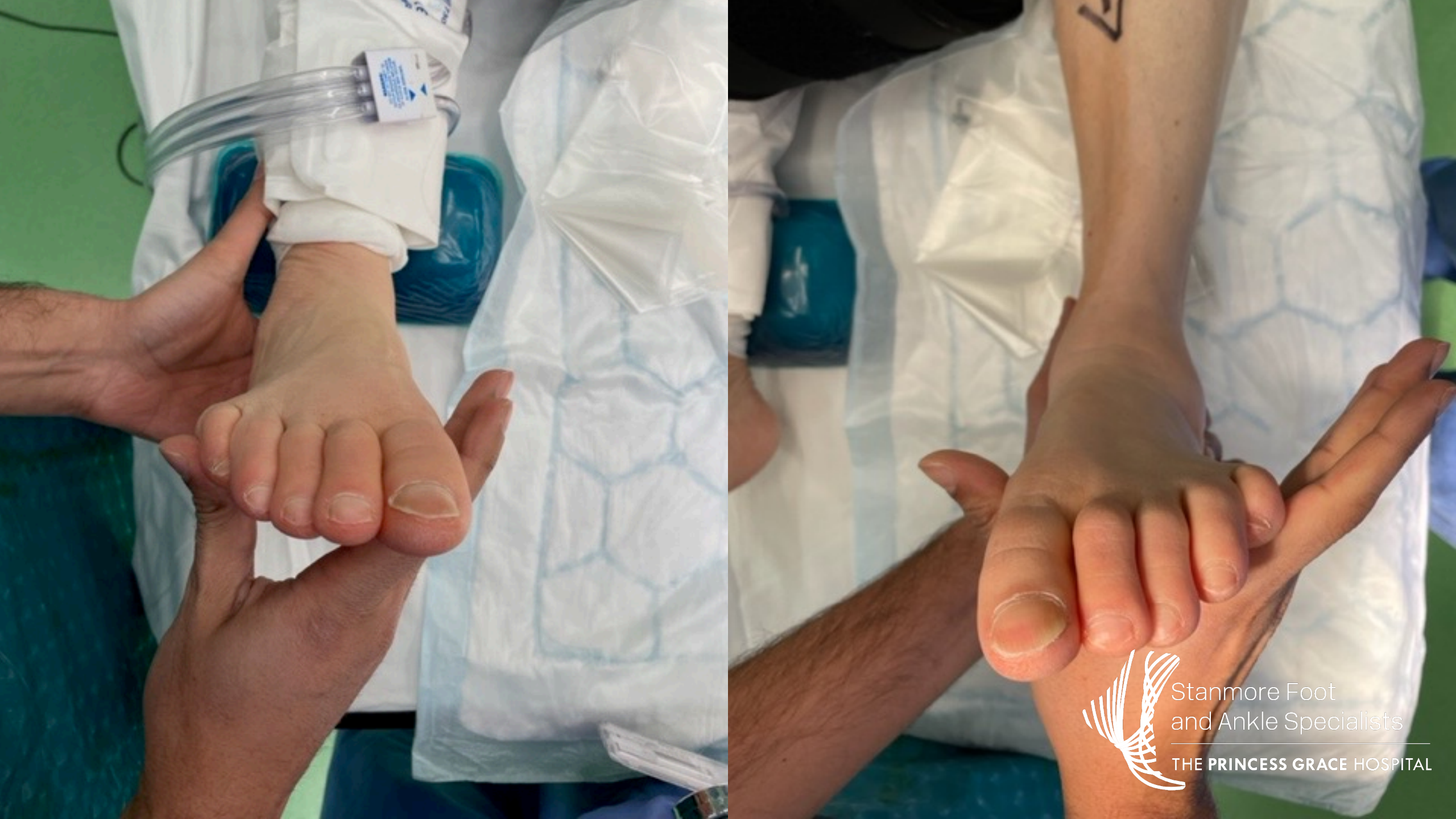
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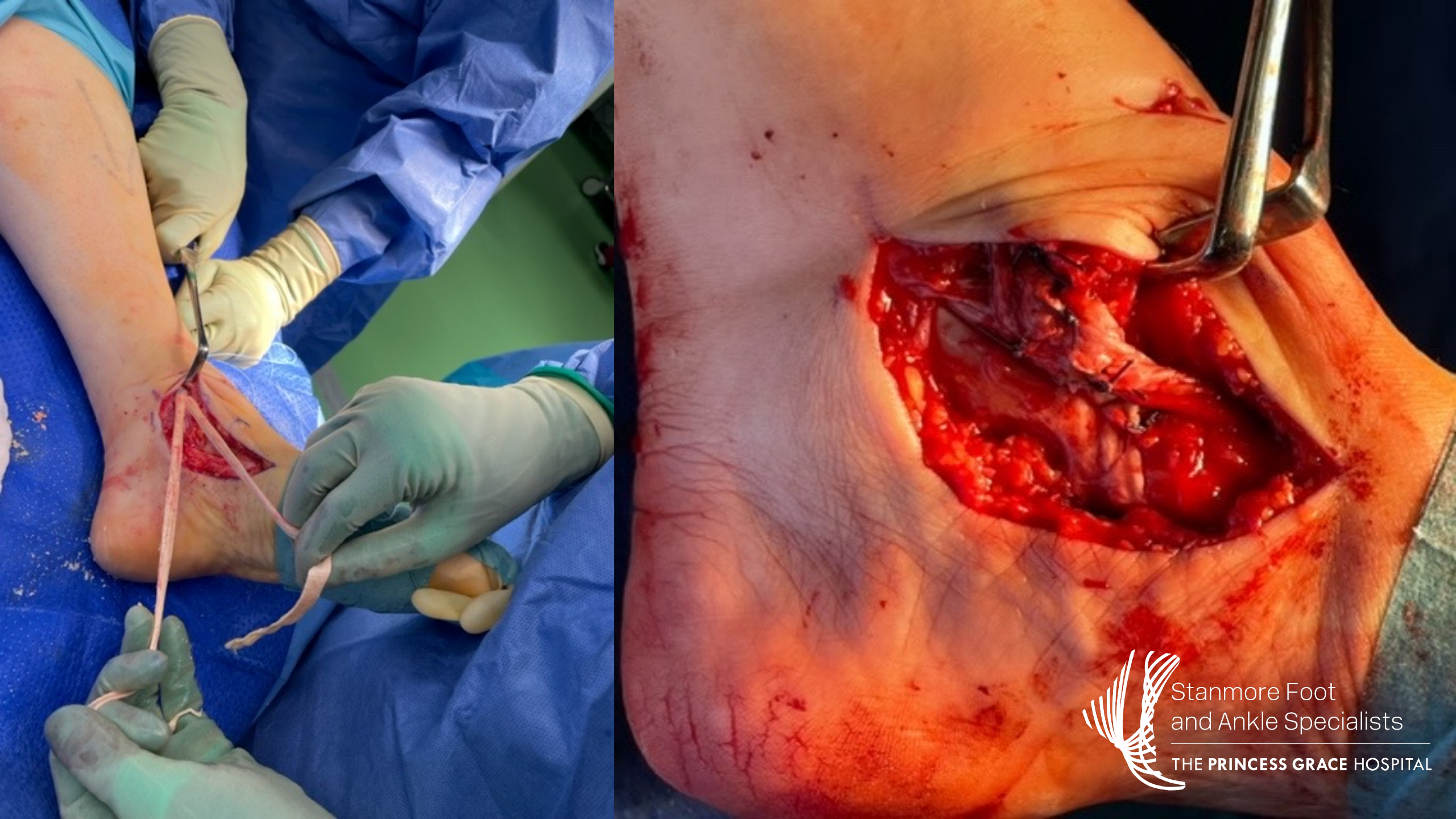
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Two questions...

Why did it happen?

Was the outcome avoidable?

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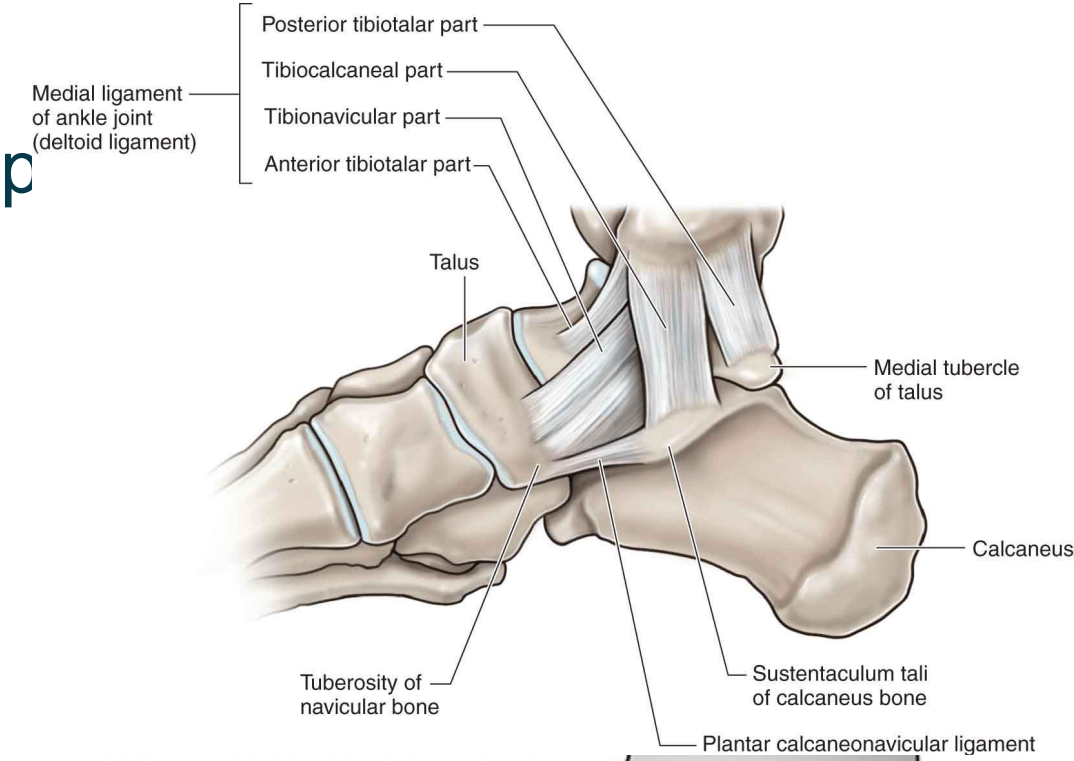
Spring ligament – part of a bigger comp

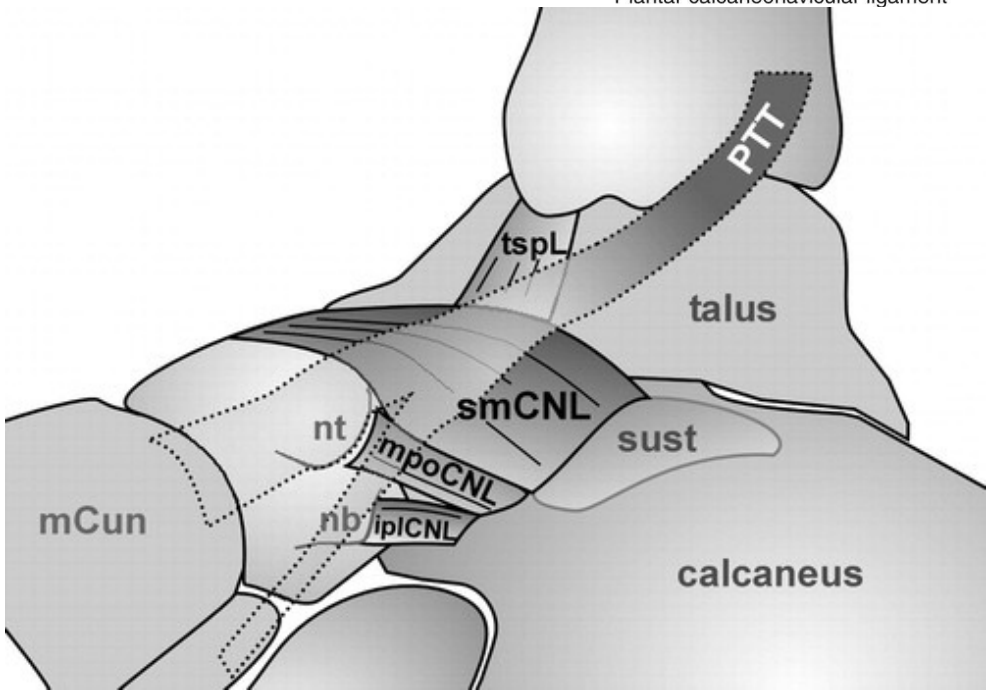
Deltoid

- Superficial
- Deep

Spring

- Superomedial
- Medial plantar oblique
- Inferior plantar longitudinal





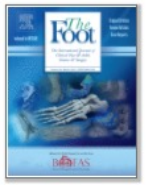
Two questions...

Why did it happen?

Acute – In combination with deltoid injury/medial malleolar fractures

C D

The Foot
Volume 46, March 2021, 101720



Original Article

High incidence of spring ligament laxity in ankle fractures with complete deltoid ruptures and secondary first ray instability

Chandra Pasapula [a], Ahmad M.S. Ali [a] ✉, Biju Kiliyanpilakkil [a], Antonia Hardcastle [a], Mandeep Koundu [a], Aref-Ali Gharooni [a], Sylvester Kabwama [a], Steven Cutts [b]

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Two questions…

Why did it happen?

Acute – In combination with deltoid injury/medial malleolar fractures

Chronic – In combination with PTTD

Was the outcome avoidable?

Perhaps... A tale of 3 patients

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We only see what we look at.
To look is an act of choice.
John Berger
quotefancy
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QUESTIONS?

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TURF TOE

WHEN TO TAPE AND WHEN TO REFER?

WWW.MATTHEWWELCK.COM

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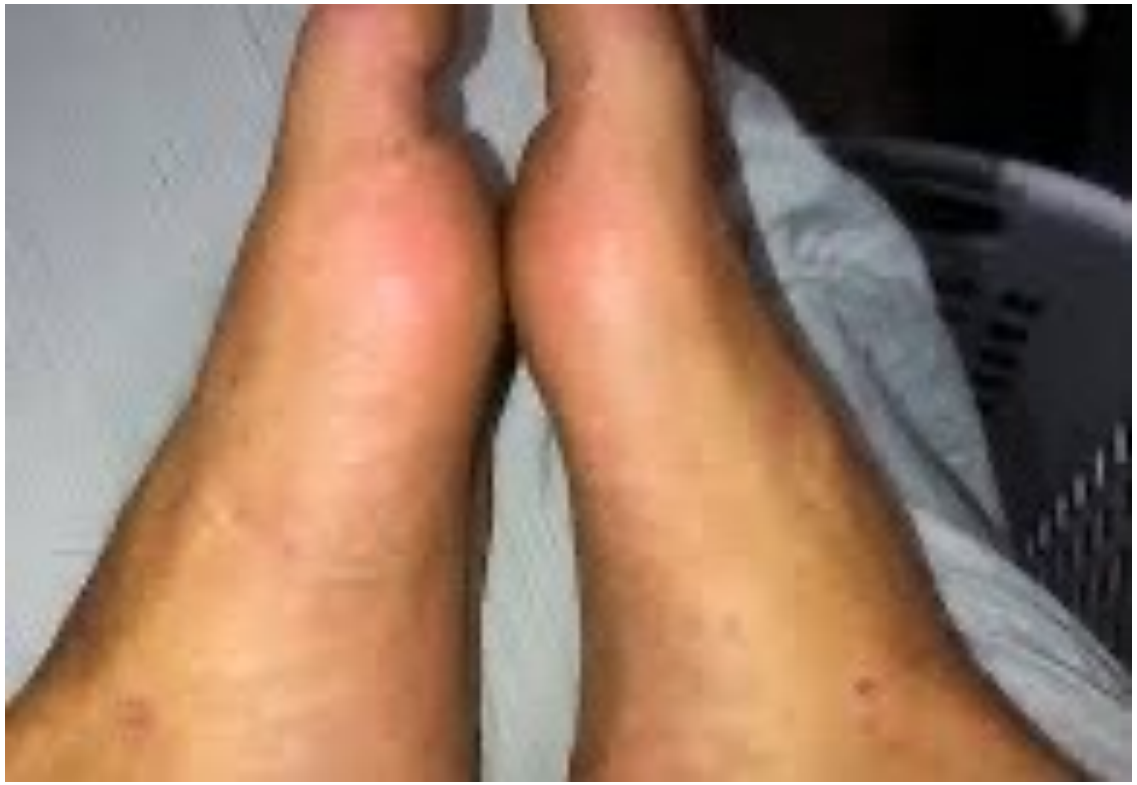
25M

- **Recently bought new lighter, flexible running shoes**
- **Injury training on astro-turf**
- **Presents with….**

- **? What is classical MOI**
- **? What would you do with this patient?**
  - Ix?
  - Treatment?



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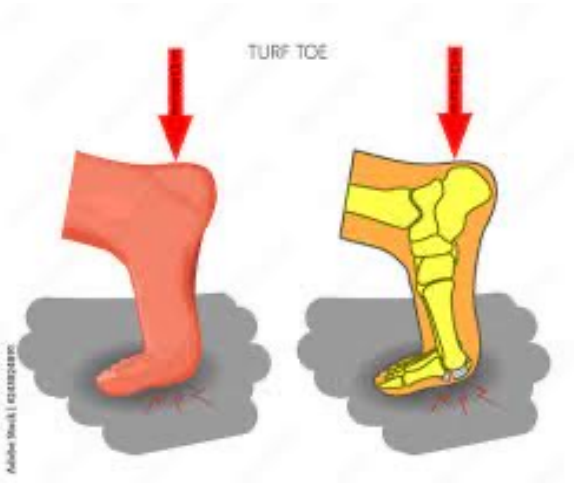
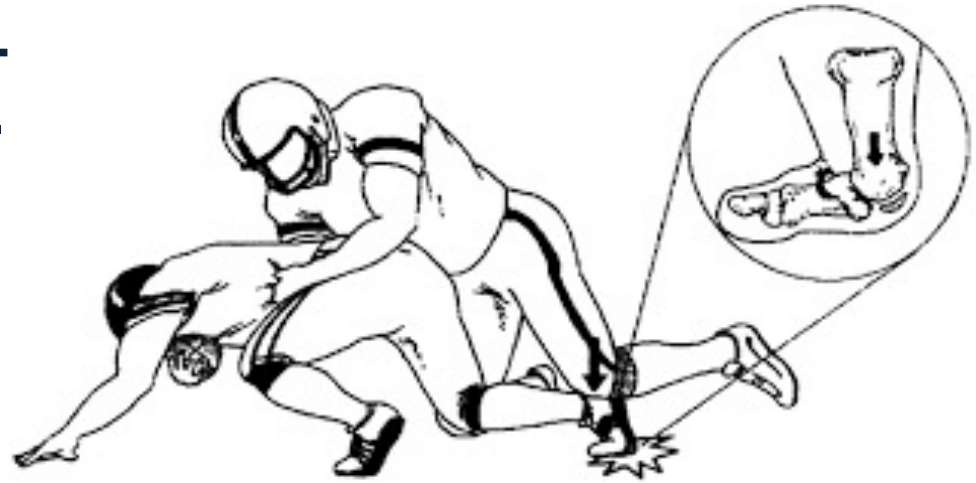
MOI

- **HYPERDORSIFLEXION OF MTPJ**
- **HIGH FRICTION SURFACES**
- **CERTAIN SPORTS… AMERICAN FOOTBAL RUGBY > FOOTBALL.**
- **AXIAL LOAD ON DORSIFLEXED MTPJ**





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WHAT IS THE INJURY?

- **Damage to plantar mechanism under 1st MTPJ**
- **Littl bony stability to joint.**

- **GRADES**
  - 1: SPRAIN
  - 2. PARTIAL TEAR
  - 3. COMPLETE TEAR

    SESAMOID FRACTURE

    PROXIMAL MIGRATION OF SESAMOIDS

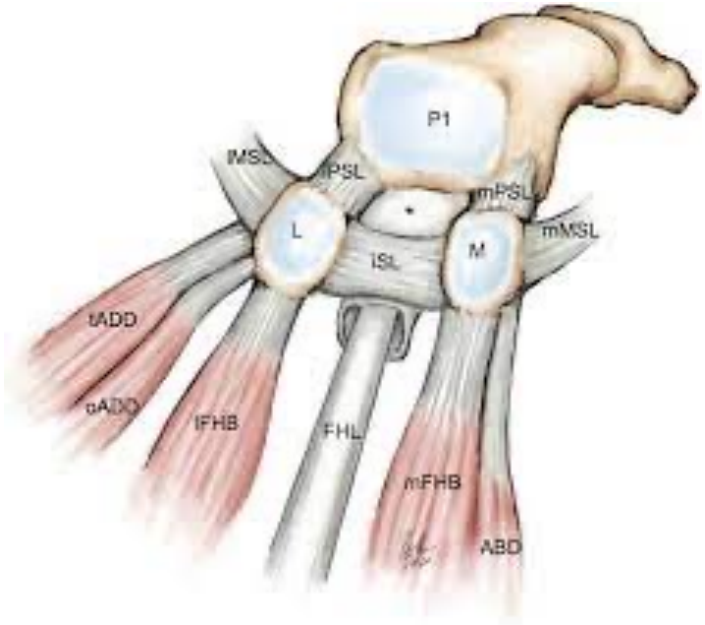
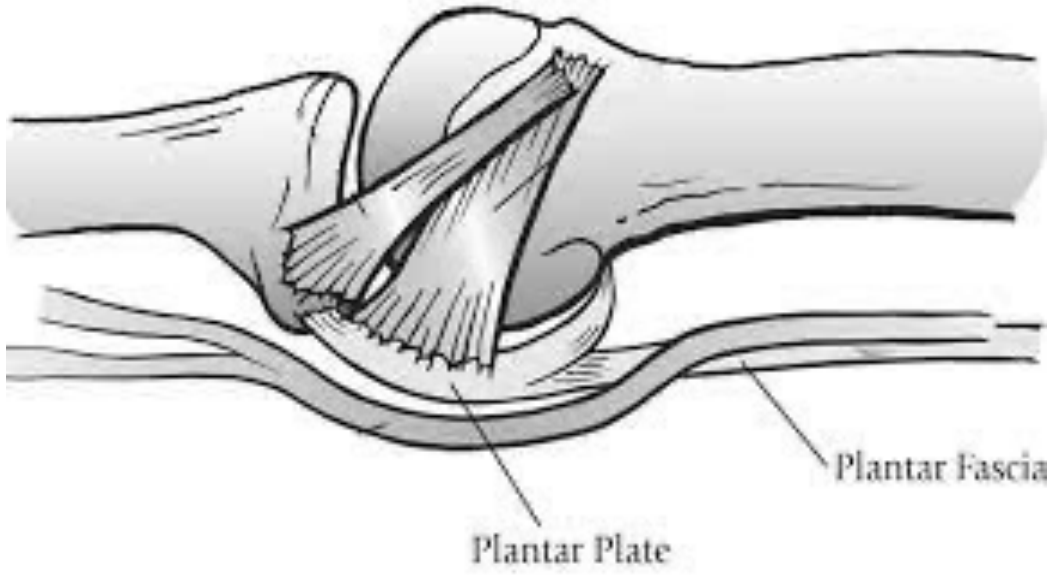


Table 1. Grading of Turf Toe Injuries

Grade	Signs and Symptoms	Tissue Disruption
1	Plantar or medial tenderness, minimal swelling, no ecchymosis, negative x rays	Stretched plantar capsuloligamentous complex
2	Diffuse tenderness, moderate swelling, ecchymosis, restriction of motion	Partially torn plantar capsuloligamentous complex without articular injury
3	Severe dorsal tenderness, plantar tenderness, considerable swelling, ecchymosis, marked range-of-motion restriction	Completely torn plantar capsuloligamentous complex with compression injury to dorsal articular surface; may represent a spontaneously reduced great-toe dislocation



O/E

- High Index of suspicion
- Plantar tenderness and bruising.
- Tenderness proximal to sesamoids may indicate less severe than distal.
- Varus and valgus testing for collaterals
- Careful Dorsoplantar drawer

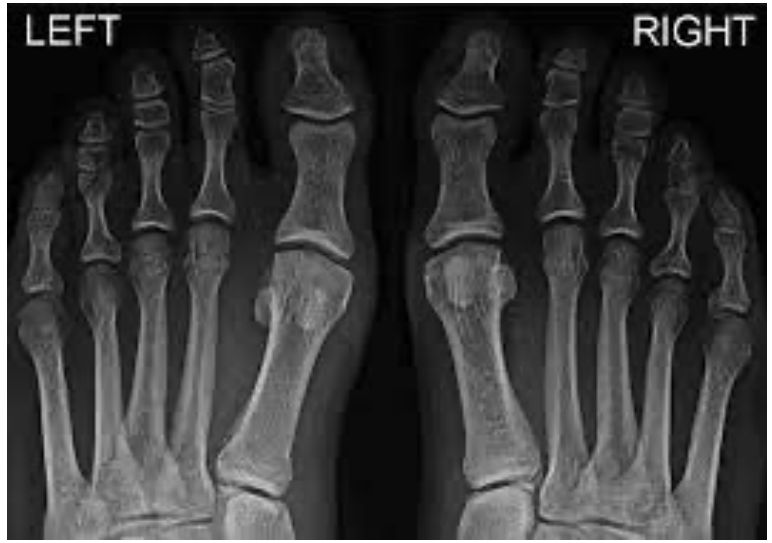
INVESTIGATION

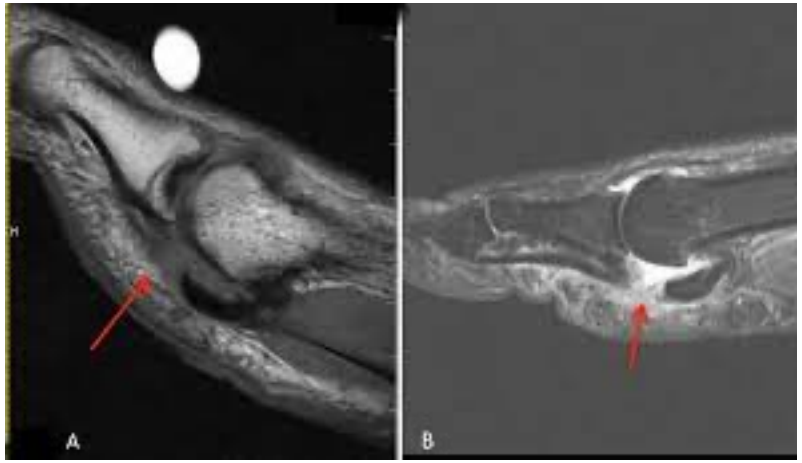
- **IMPORTANT TO KNOW GRADE OF INJURY FOR REHAB/RX**

- **XRAY**
  - Diastasis, fleck, proximal migration (cf other side)
  - Sesamoid to joint DISTANCES increase of 3mm tibial, 2.7mm fibular cf other side
  - Forced DF view shows sesamoids don't track distally

- USS

- MRI





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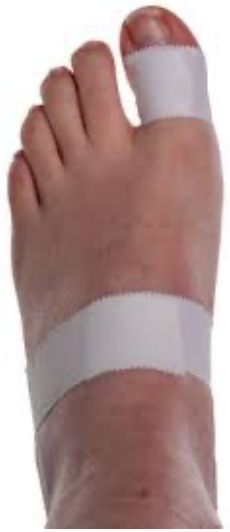
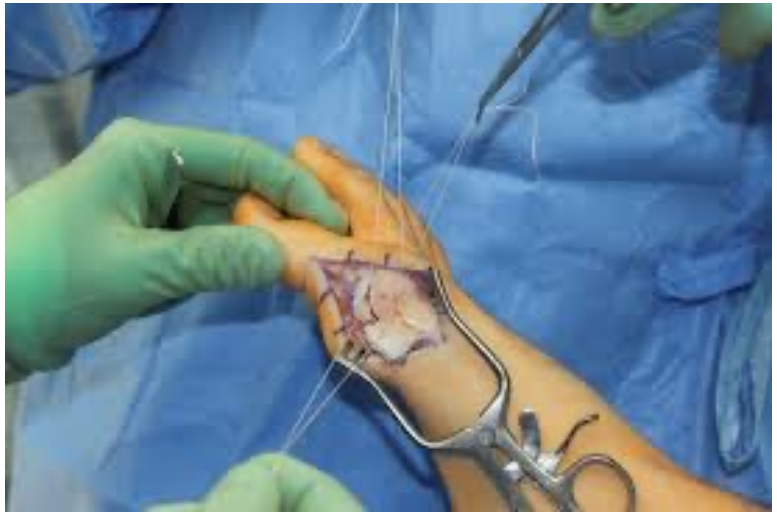
TREATMENT

- **GRADE 1**
  - STRAPPING, STIFF SOLED SHOE, ORTHOTIC.
  - TOE SEPARATOR
  - RTP 1 WEEK
  - ROM EXERCISES

- GRADE 2
  - STRAPPING OR BOOT
  - RTP 2 WEEKS

- GRADE 3
  - SURGICAL INDICATIONS:
    - UNSTABLE MTPJ, SESAMOID FRACTURE, LOOSE BODY, FAILED NON OP.
  - IF NON OP RTP 8 WEEKS
  - 50-60 DEGREE PAINLESS PASSIVE DF BEFORE RTP





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THANKS FOR LISTENING!

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