

Imaging Evaluation of the Peroneal Tendons

Jon A. Jacobson, M.D.

FACR, FAIUM, FSRU, RMSK

Musculoskeletal Radiologist
Ann Arbor, Michigan, USA

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Disclosures

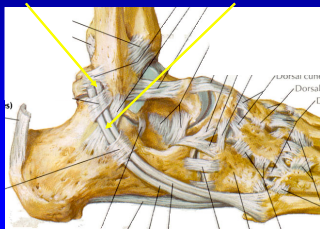
- Book Royalties: Elsevier
- Consultant: Bioclinica
- Medical Director: POCUSPRO
- Not relevant to this talk
- I still do not refer to these tendons as “fibularis longus and brevis”

Syllabus on line and other educational material:
www.jacobsonmuskus.com

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Lateral Tendons

- Peroneus brevis:
 - Oval or crescent shaped
 - Inserts of 5th metatarsal
- Peroneus longus
 - Plantar 1st MT base
 - Medial cuneiform



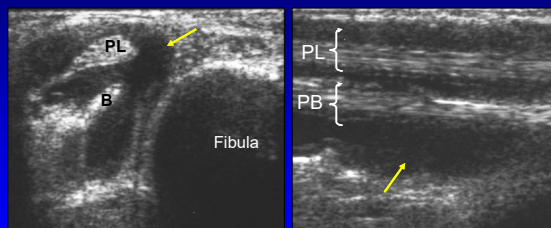
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Peroneal Tendons:

- Lateral malleolus
 - Longitudinal split, complete tear
 - Subluxation: retinaculum injury
- Os peroneum: peroneus longus
 - Complete tear, os peroneum fracture
- 5th metatarsal: peroneus brevis
 - Avulsion, with aponeurosis

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Tenosynovitis: peroneal tendons

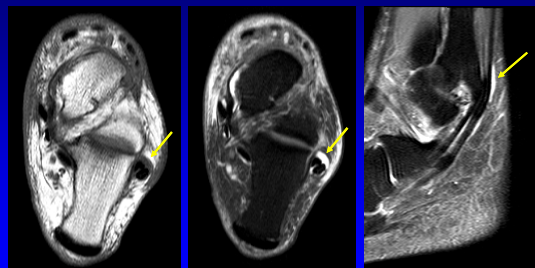


Short Axis

Long Axis

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Tenosynovitis: MRI

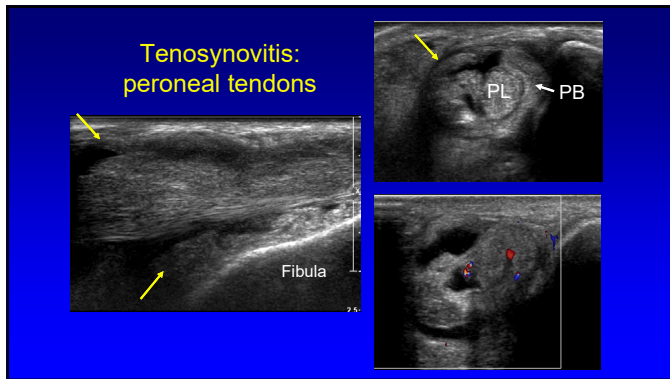


T1w

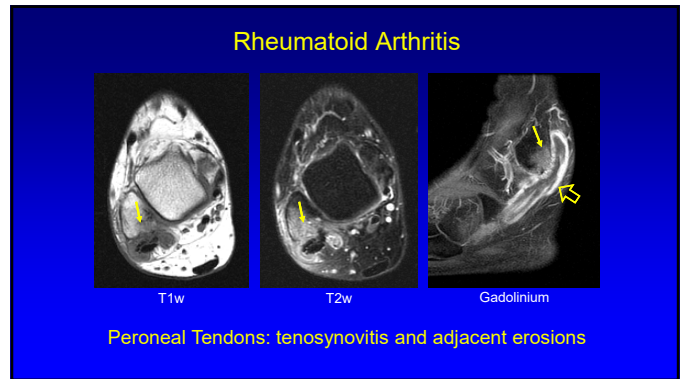
T2w + fat sat

STIR

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Peroneal Tendon Pathology:

Retrospective: 40 patients with surgery:

- 88% peroneus brevis tear
- 37% peroneus brevis + longus tears
- 33% low lying peroneus brevis muscle
- 20% tendon subluxation
- 13% peroneus longus tear

J Foot Ankle Surg 2003; 42:250

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Peroneal Tendon Tears: US

- 54 tendons (5 peroneal): surgery
 - US: 100% sensitivity, 93% accuracy¹
- 60 peroneal tendons: surgery
 - US: 100% sensitivity, 90% accuracy²

¹Waitches et al. JUM 1998; 17:249
²Grant et al. 2005; 87:1788

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Peroneal Tendon Tears: MRI

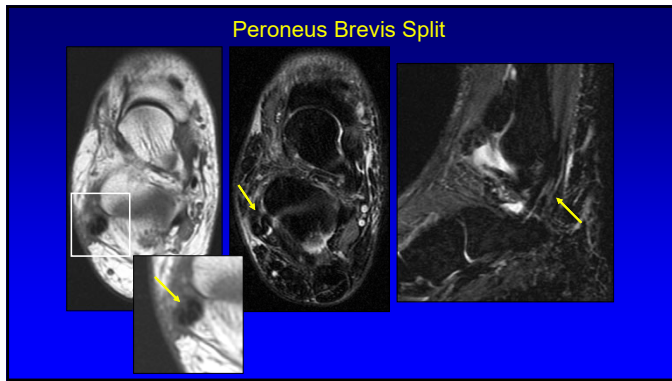
- 12 peroneal tendons: surgery
 - 12 / 12 tears, 2 false positive, 1 false negative¹
- 18 peroneal tendons: surgery
 - 56% sensitivity (radiologist), 89% (ortho surg)²
- 32 peroneus brevis: surgery
 - 83% sensitivity, 75% specificity³

¹Khoury et al. AJR 1996; 200:833
²O'Neill et al. Clin Orthop Relat Res 2010;468:1115
³Lamm et al. J Foot Ankle Surg 2004; 43:30

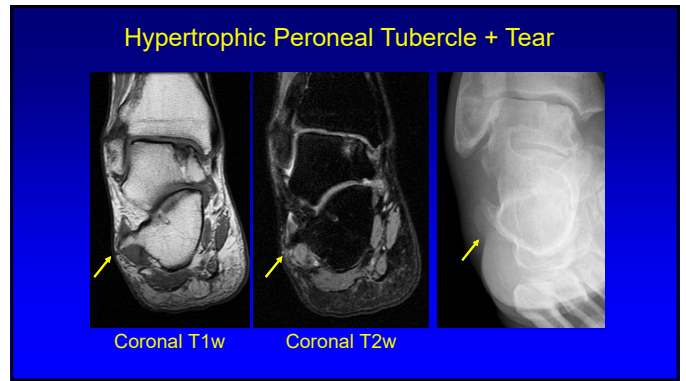
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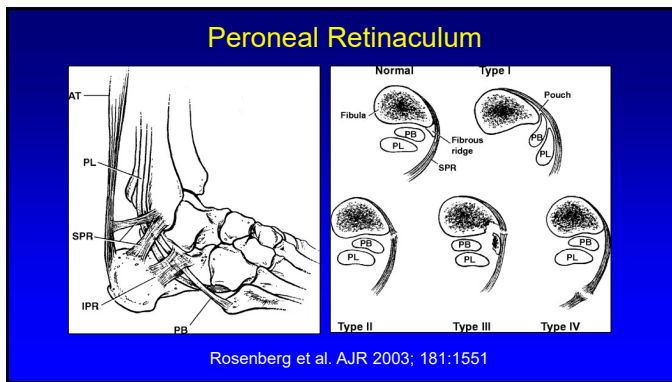
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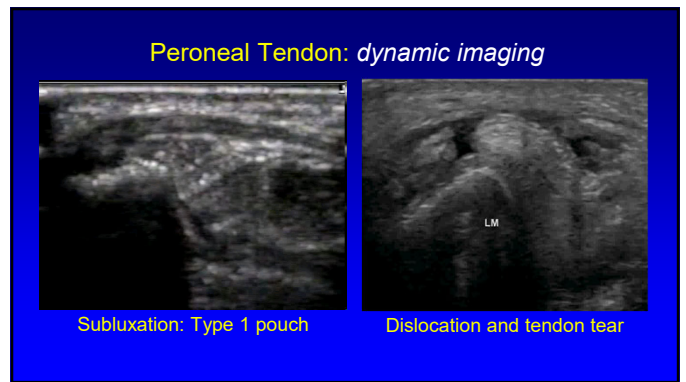
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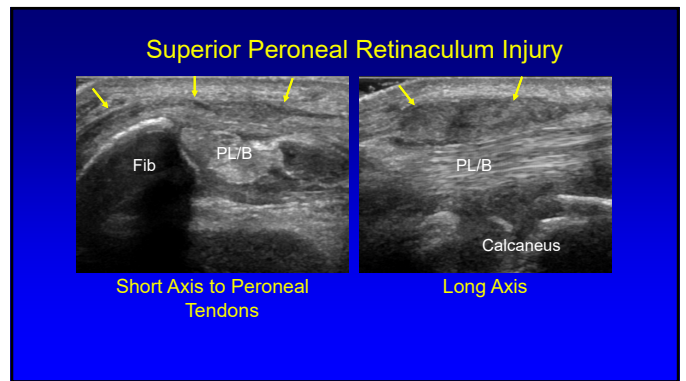
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Intrasheath Peroneal Subluxation

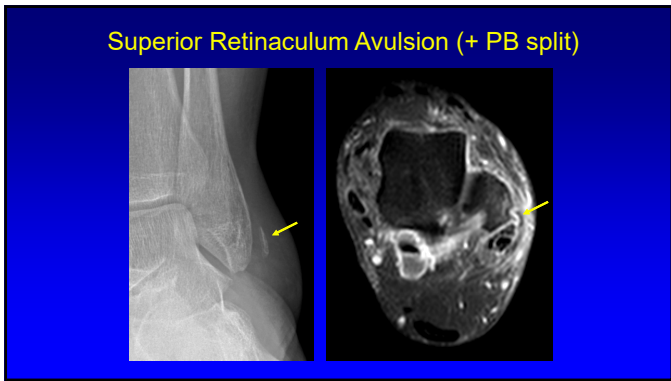
- Abnormal snapping: peroneal tendons
- No lateral displacement, intact retinaculum
- Type A: no tear; B: tendon tear
- Associations:
 - Convex posterior fibula in 92%
 - Tendon tear in 86%
 - Low lying peroneus brevis muscle in 71%

J Bone Joint Surg Am 2008; 90:992
J Foot Ankle Surg 2009; 48:323

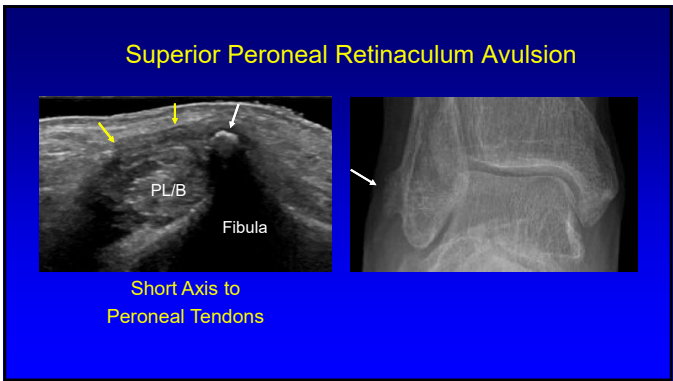
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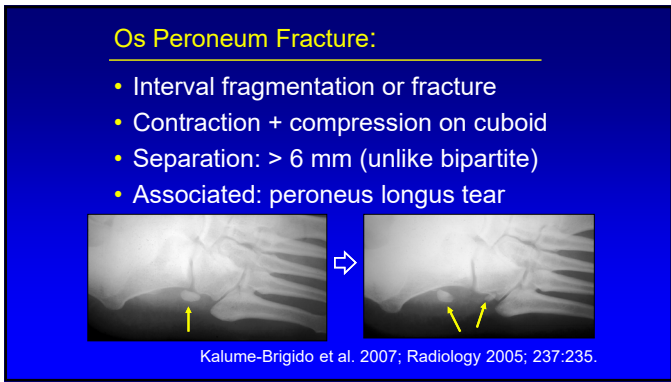
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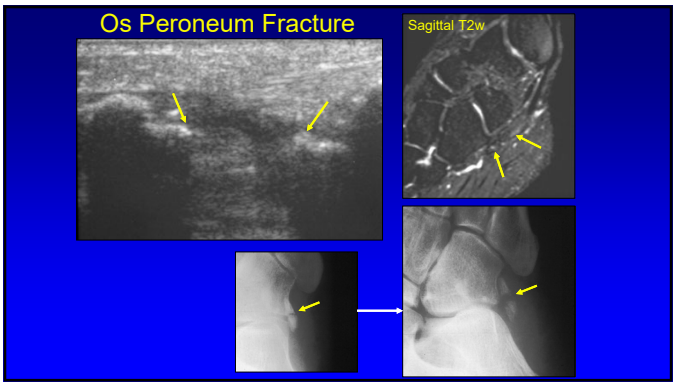
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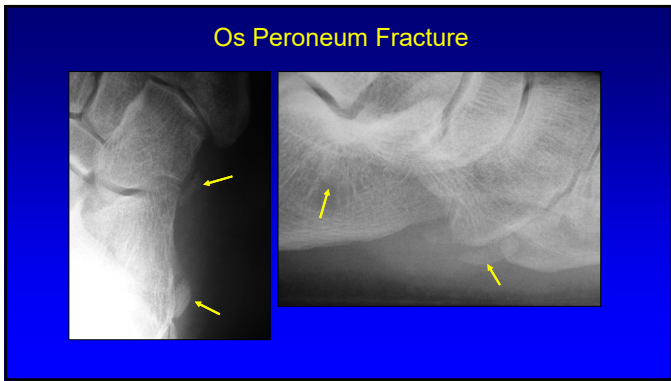
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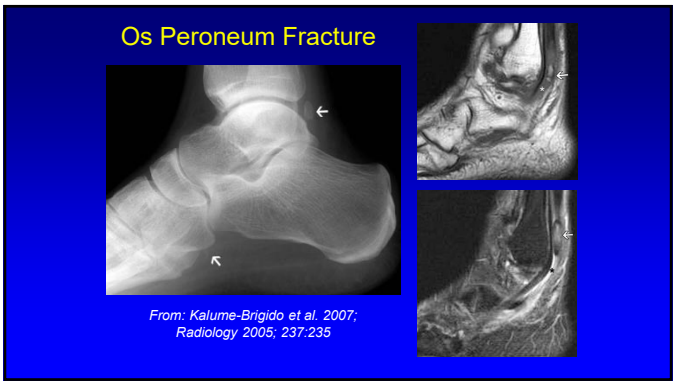
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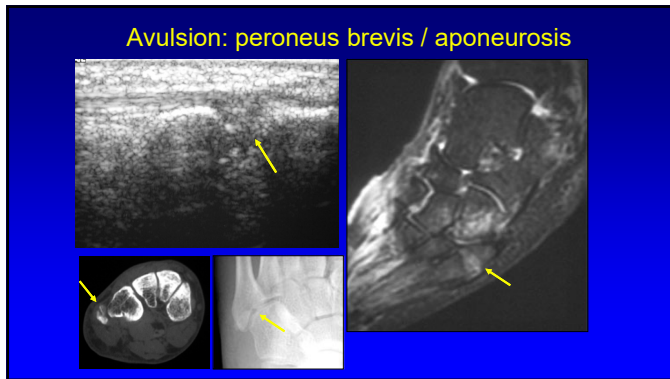
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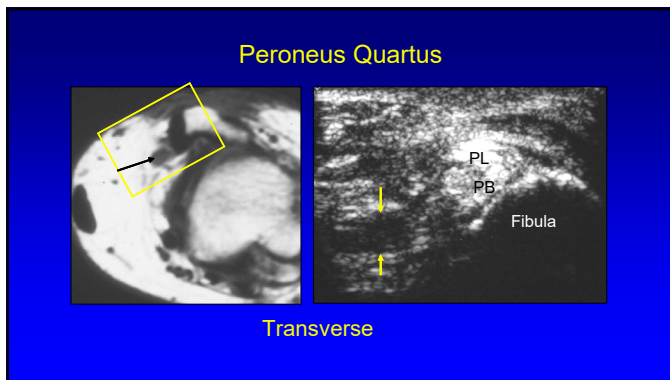
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Peroneus Quartus

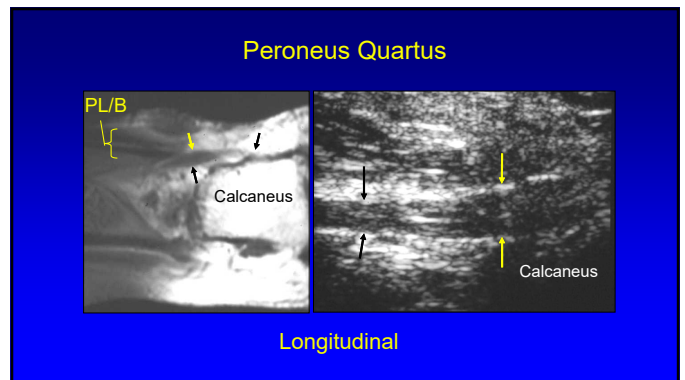
- Accessory tendon: in 22%
- Origin: peroneus brevis muscle
- Insertion: retrotrochlear eminence of calcaneus
- Can simulate peroneus brevis split tear
- Can cause tear

*Radiology 2001; 218:415

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- ### Take Home Points
- Peroneus brevis split: most common
 - US and MRI equally effective
 - Os peroneum fracture: pitfalls
 - Peroneus quartus: variant
 - Dynamic evaluation
 - Intrasheath subluxation
 - Tendon dislocation

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Thank you!

Syllabus on line and other educational material:
www.jacobsonmskus.com

Twitter handle: @jjacobsn

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