

Minimally invasive surgery of the Foot and Ankle

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SA FOOT & ANKLE
SURGERY

Newer techniques....

- Low profile metalwork
- Mechanically improved screws
- Robust bone/soft tissue anchors
- Bone graft substitutes/ osteo-inductive

New implants you be hearing about more and more....

- Internal brace
- Tight ropes
- PARS minimally invasive Achilles
- Endoscopic plantar fascia

AOFAS at Home Annual Meeting 2020

Early Outcomes of Minimally Invasive Surgery Using Percutaneous Technique for Hallux Valgus Jae Han Park, MD; Kwang Hwan Park, MD, PhD; Yoo Jung Park, MD; Seung Hwan Han, MD, PhD; Sang B. Kim; Jin Woo Lee, MD, PhD

- **Methods:** This was a prospective cohort study of 19 feet (13 patients) undergoing operative correction of hallux valgus using MIFS technique with minimum 2-year of follow-up. Outcome measures include the visual analogue scale (VAS) for pain and the American Orthopaedic Foot & Ankle Society Hallux-Metatarsophalangeal-Interphalangeal (AOFAS-HMI) scale, Foot Function Index (FFI), hallux valgus angle (HVA), 1-2
- **Conclusion:** The MIS using percutaneous technique for hallux valgus deformity achieved enough correction and relief of pain. All patients were satisfied with the clinical assessments. However, a long-term study is necessary to compare with other techniques. intermetatarsal angle (IMA), and distal metatarsal articular angle (DMAA).

Hallux Valgus Correction Comparing Percutaneous Chevron/Akin (PECA) and Open Scarf/Akin Osteotomies

Moses Lee, MD, James Walsh, MD and Peter Lam, MBBS(Hons),
Volume 38, Issue 8

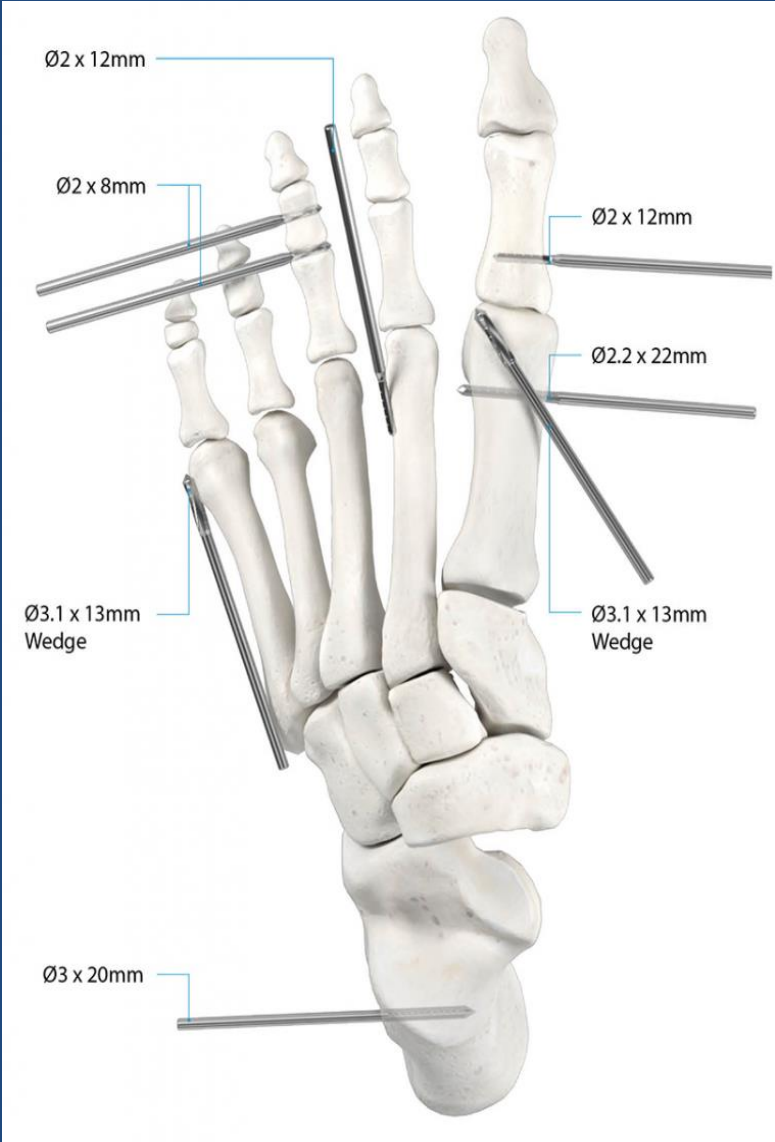
Methods: This was a prospective, randomized study of 50 patients undergoing operative correction of hallux valgus using one of 2 techniques (PECA vs open SA).

Conclusion:

Both groups showed comparable good to excellent clinical and radiologic outcomes at final follow-up. However, the PECA group had significantly less pain in the first 6 weeks following surgery.

Utilisation of the Burr...low speed...high torque

- MIS joint preparation
- Bunion
- Bunionette correction- 5th toe
- Lesser toe corrections
- Subtalar fusion
- Cheilectomy/bumpectomy
- Sliding calcaneal osteotomy



Dorsal Cheilectomy



MIS Bunion









Minimally Invasive Chevron Osteotomy for Bunion Correction



Next, proceed to drill over the second K-wire with the cannulated drill, again ensuring to drill into the capital fragment. The optional profile drill can be used to drill the near cortex.



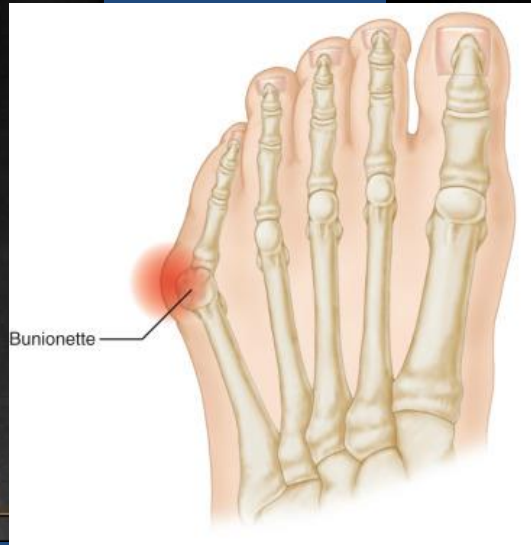
Minimally Invasive Chevron Osteotomy for Bunion Correction

8

9

Alternatively, for a chevron osteotomy, initially introduce the burr in the same fashion as for the transverse osteotomy. However, following the dorsal cut, angle the handpiece toward the dorsum of the great toe to complete the plantar limb of the chevron cut.

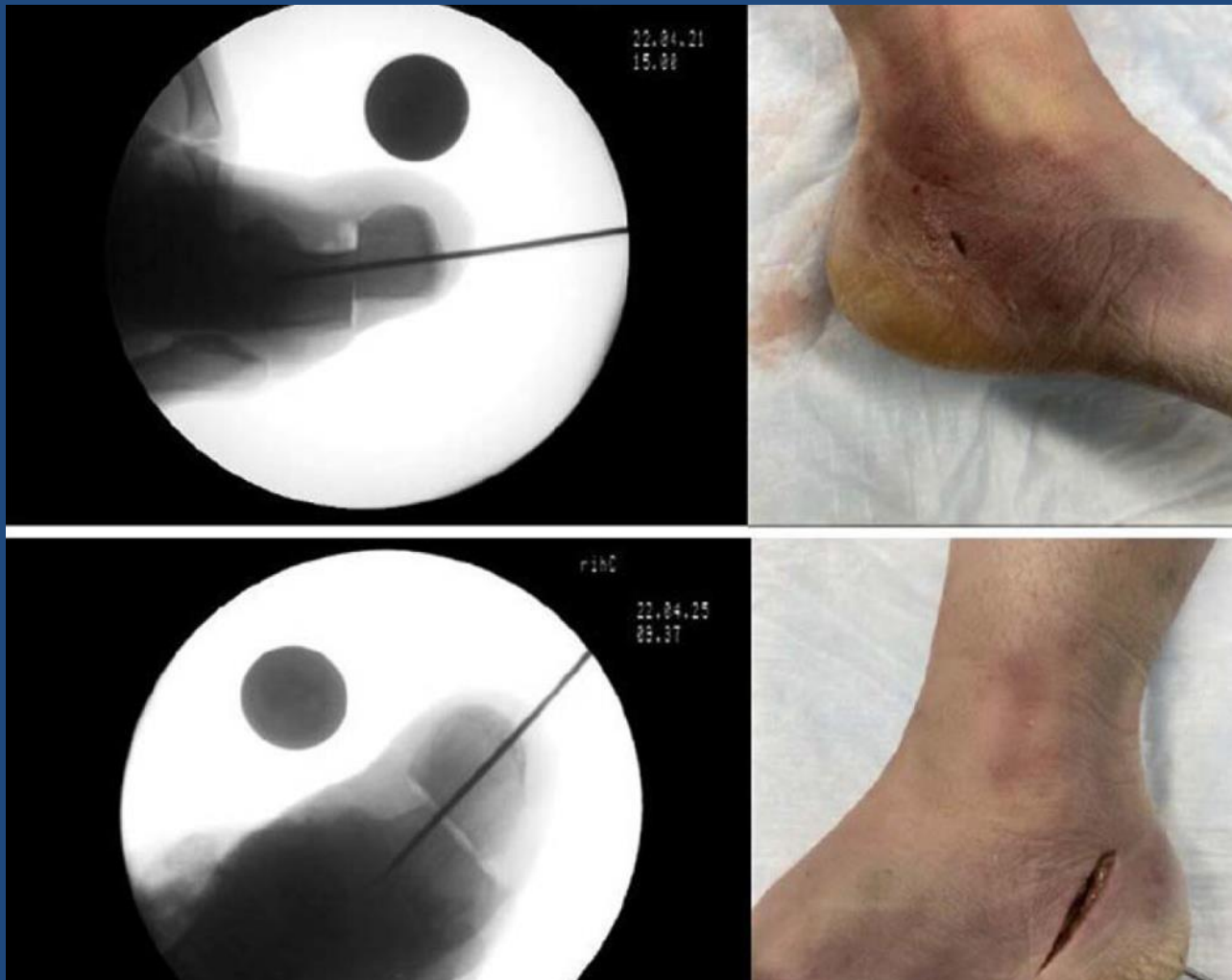
Bunionette - 5TH Toe



Poor soft tissues?



MIS Calcaneal Osteotomy



Percutaneous Haglund excision



Endoscopic Gastrocnemius recession

- Combine with lesser toe surgery



Arthroscopic Ankle Arthrodesis

- Key hole ankle fusion
- Reduced risk of wound infection
- Reduced scarring
- Fibula intact





Isolated Subtalar Arthrodesis Through Minimal Incision Surgery

A. Carranza-Bencano, MD, PhD, S. Tejero-García, MD, PhD, [...], and A. Alegrete-Parra, MD+2View all authors and affiliations

Volume 34, Issue 8

- Large study
- 77 feet
- Radiographic and clinical consolidation was achieved in 92% of cases. Main outcomes were “good” in 57 patients as determined by the Angus and Cowell criteria

Broström Repair With and Without Augmentation: Comparison of Outcomes at Median Follow-up of 5 Years

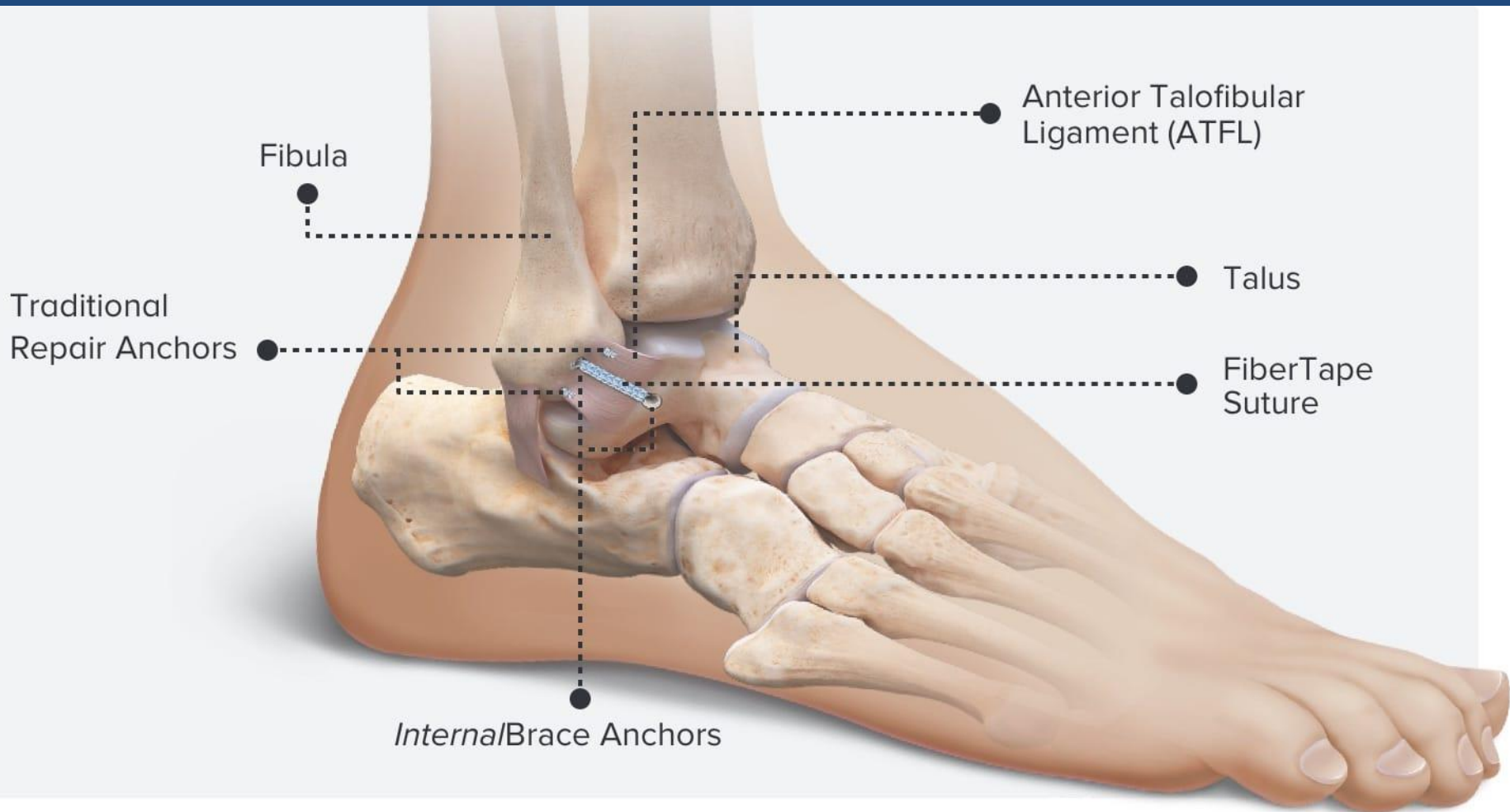
Spencer M. Comfort, MD, Daniel C. Marchetti, MD, [...], and Thomas O. Clanton, MD

Background: An augmented Broström repair with nonabsorbable suture tape has demonstrated strength and stiffness more similar to the native anterior talofibular ligament (ATFL) compared to Broström repair alone at the time of repair in cadaveric models for the treatment of lateral ankle instability.

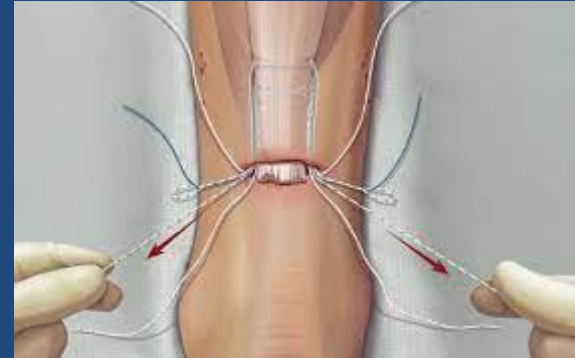
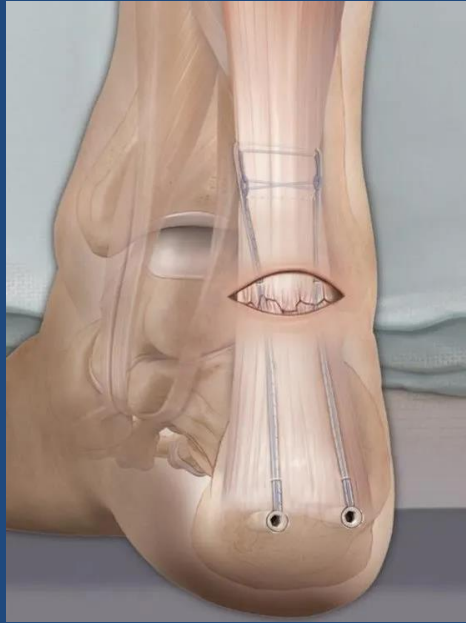
The study purpose was to compare minimum 2-year patient-reported outcomes (PROs) following treatment of ATFL injuries with Broström repair with vs without suture tape augmentation.

Results:

Ninety-one of 102 eligible patients were available for follow-up at median 5 years. The BR cohort had 50 of 53 patients (94%) completed follow-up at a median of 7 years.



Achilles tendon rupture



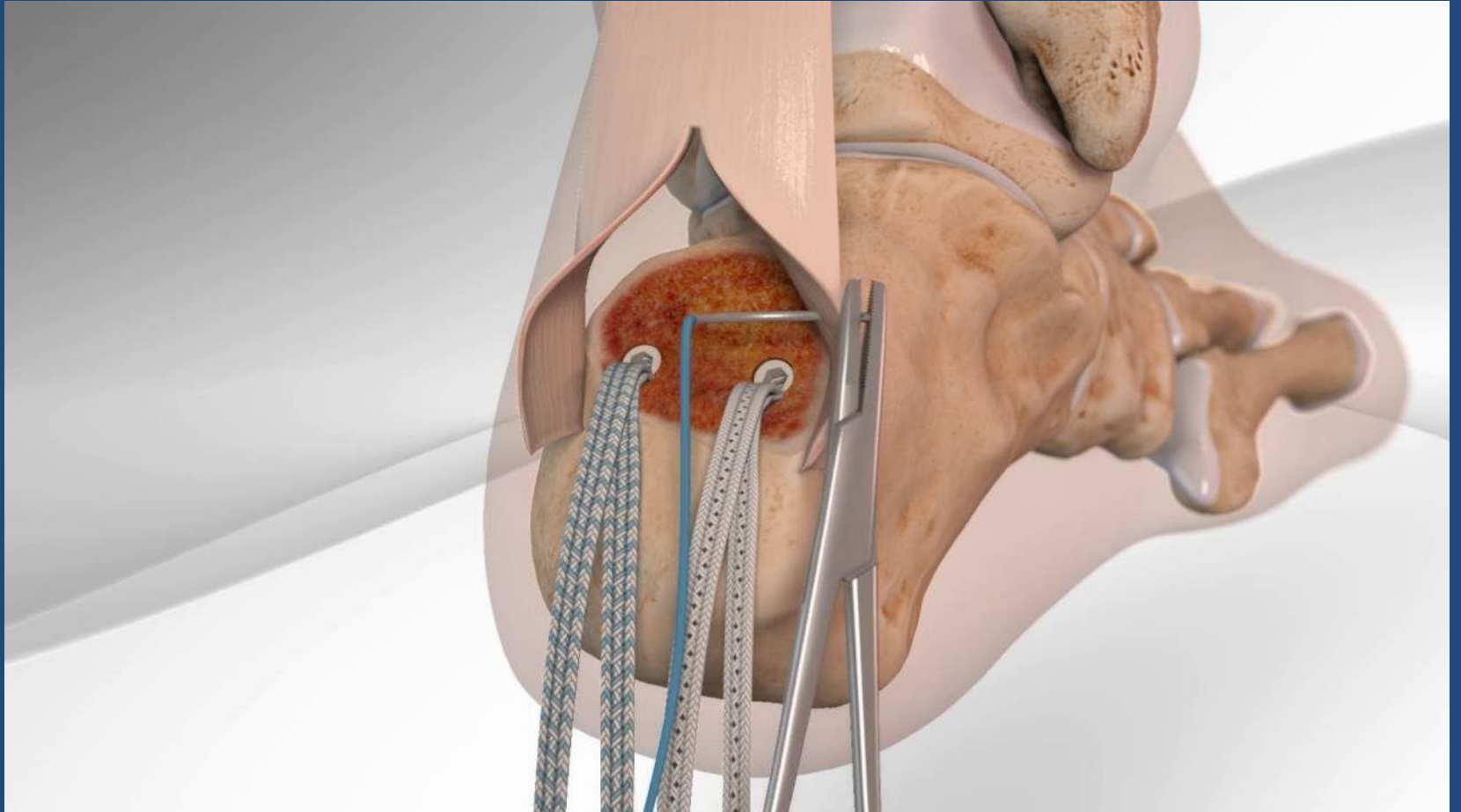
Achilles Tendonitis



Management

- Activity modification
- Physiotherapy
- Shoe wear modification
- Heel lift
- NSAIDS
- Injection???

Surgery



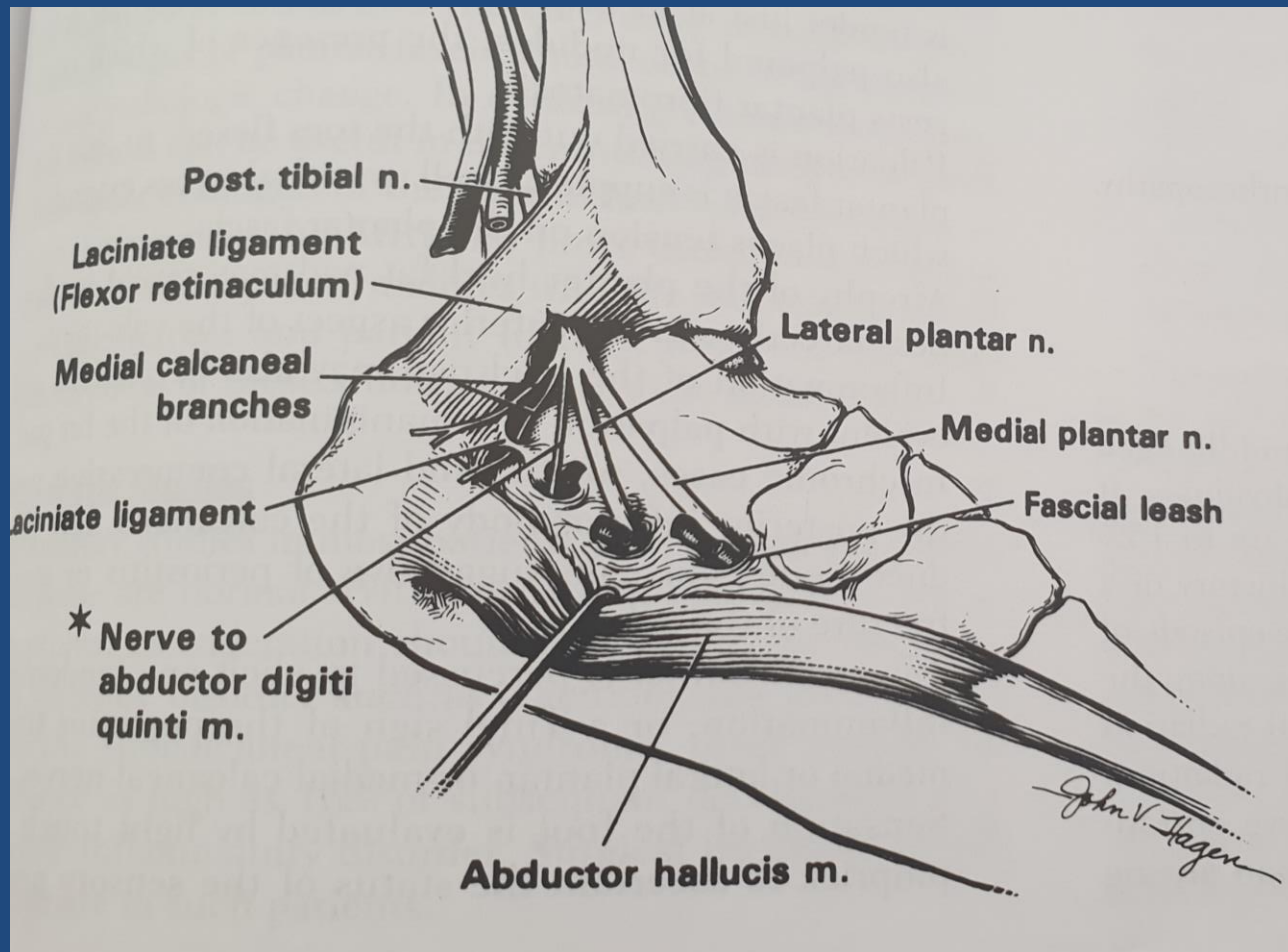
Complications

- Recurrent tendonitis
- Sural neuritis
- Persistent hyperaesthesia

Subcalcaneal pain syndrome

- Plantar fasciitis most common
- Lumbar stenosis- atypical radicular symptoms
- Chronic heel fat atrophy
- Fibromatosis
- Cavus or planus foot deformity
- Achilles
- Calcaneal stress fractures
- Inflammatory arthropathy with enthesopathy
- Nerve Entrapment

- Heel Spur??? Not in the plantar fascia
- Secondary involvement of structures
 - Medial calcaneal nerve
 - Tarsal tunnel



Management

- Non operative ...6 months- 1 year
- Physiotherapy- specific program
- Activity modification
- Padded shoe wear – heel cups
- NSAIDS
- Steroids???
- PRP?
- Shock therapy

Rule out...

- Seronegative arthropathies
- Stress fractures
- Lumbar stenosis
- Nerve entrapment

Surgery

- Success rates vary 70-85%
- Improvement over 6-8 months

Endoscopic plantar fascia release



Complications

- Release – over / under
- Usually release the medial half- 2/3rds
- Pseudoaneurysm
- Numbness and neuroma formation
- Recurrent/ recalcitrant symptoms
- Lateral column overload/ foot pain