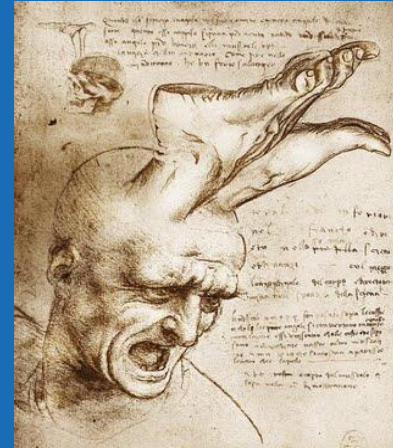


PLANTAR FASCIITIS – IS THIS A PAIN FOR EVERYONE?

ALAN LAING & TONY PIERCE



'COVID toe'

Children, teens and young adults

Chilblain like discoloration (pink, red, purple) and swelling of toes.
Itchy, painful, blister, sometimes with raised bumps (pus under skin).

Benign natural history / resolve spontaneously

'Healthy'.. Type-1 interferon immune response



‘COVID Heel’ - ‘lockdown response’



Barefoot indoor activity

+++Walking.....



Poor Footwear...

'COVID Heel' - 'lockdown response'



Barefoot indoor activity

+++Walking.....



Poor Footwear...



PLANTAR FASCIITIS

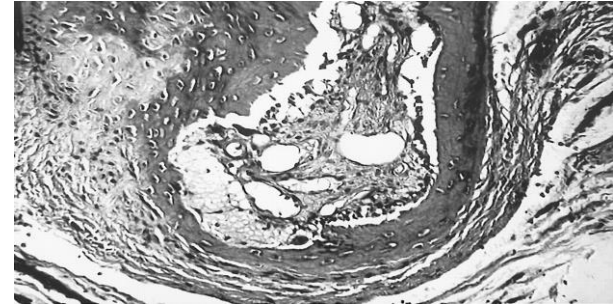
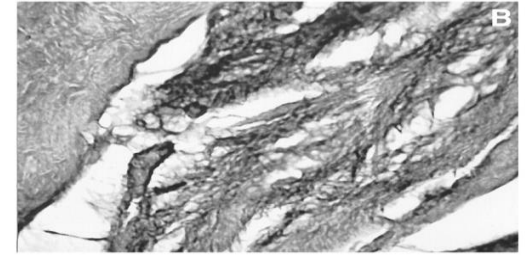
Plantar Fasciitis A Degenerative Process (Fasciosis) without Inflammation

Under the microscope...

- Collagen fragmentation
- Myxoid degeneration
- Dilated blood vessels in the bone

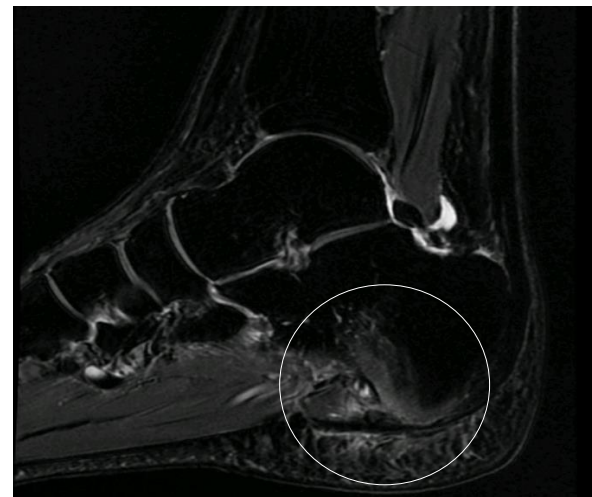
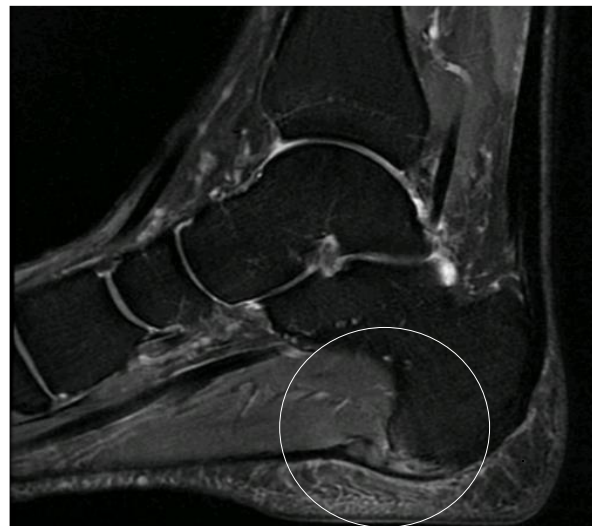
Hyperemia responsible for “bone contusion” on T2-weighted images.

No acute inflammatory changes
'Not – itis'



Low-power view of calcaneal marrow demonstrating vascular engorgement (H&E, ×20).

X-ray v MRI



Normal

PF - Facts

'Common cold of the foot'

1 in 10, 1/3 x 2

Micro tear in an 'Inelastic arch stabilizer'

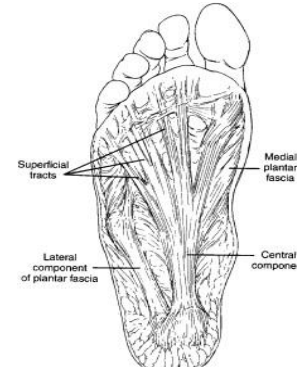
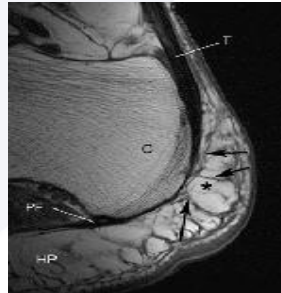
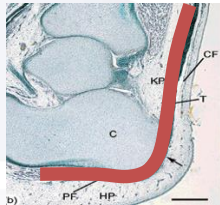


Prolonged walking, standing, running, high-impact activities, ↑BMI,
Pes planus, reduced ankle dorsiflexion (tight calf musculature)

Not Inflammatory! = failed healing response in a microtear

Heel spur! FDB origin

Embryologically -ACP



Diagnosis/Management

History..... First step.....medial, plantar heel pain

Exam local tenderness.....tight calf muscle

Investigations... MRI

Explain.... 'Their injured tissue has to heal'

This will take time

Management options

90% resolution within 12 months – conservative

ABC of Plantar Fasciosis

Activity modification – 'STOP aggravating the tear'

Rest(bike or swim)/Footwear/ heel cup to cushion, Boot some

Prefabricated silicone insert(combined with stretching) v custom insoles

Pfeffer et al FAI 1999

Night splints x 3 months



Powell et al FAI 1998

Wapner et al FAI 1991



ABC of Plantar Fasciosis



Traditionally ; Gastrosoleus stretching
Why? ACP Functional unit



NWB Plantar Fascia-Specific Stretching Exercise
10:10:3 regime

Prospective clinical trial with 2 year follow-up

J Bone Joint Surg Am. 2003 and 2006 DiGiovanni et al

92% total satisfaction or with minor reservation



Extracorporeal Shock Wave Therapy EST

Acoustic waves of low frequencies - no thermal effect

- ? hyperstimulation of pain receptors and reflex analgesic effect
- ? inflammatory response neovascularisation and collagen healing

EST is Effective in Treating Chronic Plantar Fasciitis :
Meta-analysis of RCTs CORR 2013

Improved pain scores with ESWT @ 12 weeks
Improvement maintained @ 12 months.



Steroid injections

Historical teaching – ‘.....treated as an itis’

Steroid - anti-inflammatory

Microtear

Anti-healing? ‘Switch off everything’

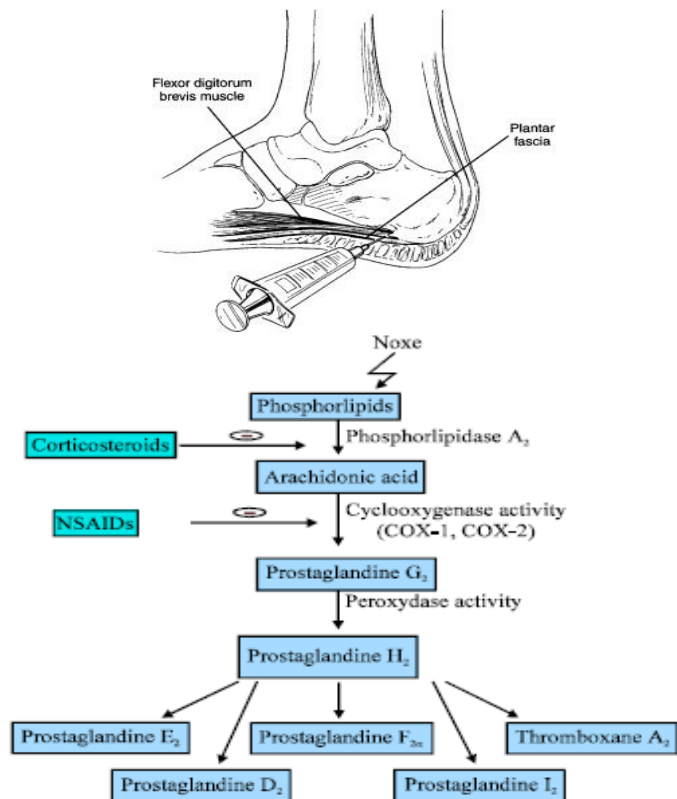
Risks

Results??

Plantar fasciosis (92%+)

Only 8% + @ 3mths

FAI 2016 Grice, Calder et al



Platelet rich plasma / autologous conditioned plasma PrP/ACP

Physiologically encourages self healing
Delivery of concentrated platelets

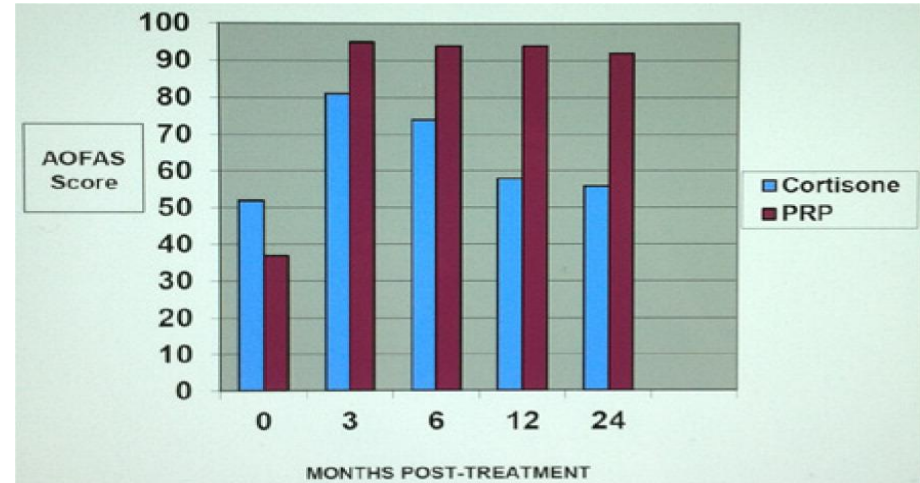
'tennis elbow to vampire facials'

RPT level 1 Resistant PF

PrP v Steroid

Monto et al 2014 FAI

PrP more effective and durable



Combined - needling, rest, stretching, PrP

What role of Surgery ?

?Preferred management of recalcitrant plantar fasciitis among foot and ankle surgeons DiGiovanni et al 2012 FAI

Audit of 84 'esteemed committee members of AOFAS'

Results of Scenario : PF in 42yr old patient 10 months after symptom onset, with ongoing symptoms despite nonop. treatment.

Only 55% - Why??- no guarantee with surgery



Table 2: Preferred Treatments at 10-Month Symptom Duration

	Preferred treatments at 10 months	Preferred treatments without cost or insurance constraints
Surgery total	46 (55%)	38 (45%)
ECSWT total	28 (33%)	35 (42%)
ECSWT in isolation	16 (19%)	25 (30%)
ECSWT combined with another procedure	12 (14%)	10 (12%)
Nonoperative measures (no surgery, no ECSWT)	22 (26%)	21 (25%)

Respondents indicated their preferred treatments with and without cost or insurance constraints, assuming ongoing symptoms despite following previously prescribed treatment. ECSWT, Extra-corporeal shock wave therapy.

Surgery - comments

What surgery?

Gastrocnemius recession, alone or in combination, was the most popular operative intervention.

Partial plantar fascia release, decompression of Baxters (FBLPN)

No good Evidence-based recommendations available for operative treatment

Message!

Acute appendicitis = appendicectomy

Plantar fasciitis = Rest, lifestyle change
Ice, NSAIDs
Boot/Cast/Low dye taping
Footwear modification
Orthotics, prefabricated or custom
Stretching
Plantar massage
Night Splinting
US, Laser, Shockwave
Steroid
PrP
Botox, Hyaluronic acid
Surgery

'everything works for some, but no one thing works for everyone!'



Stop!, Shoes, Stretch, Splint.....time.....

Thank you