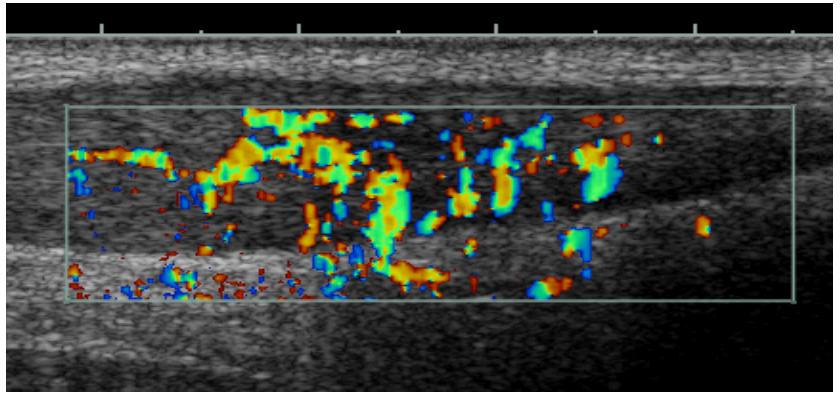
Achilles tendinopathy
How to manage the non-responder?

Dr Lorenzo Masci

Consultant in Sports and Exercise Medicine

ISEH

Pure Sports Medicine



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Tendinopathy Clinic

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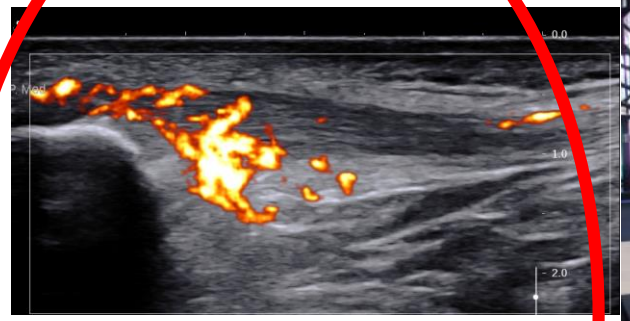

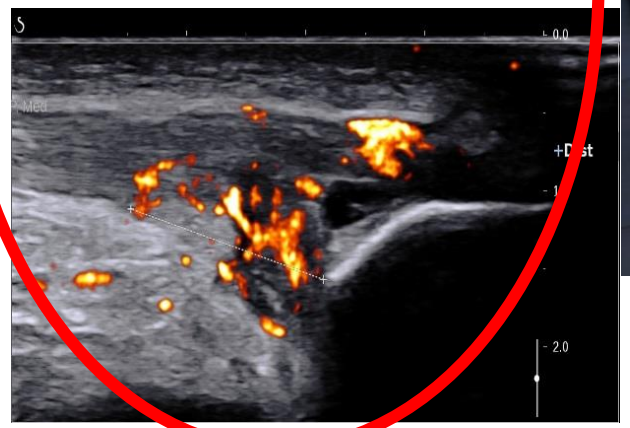

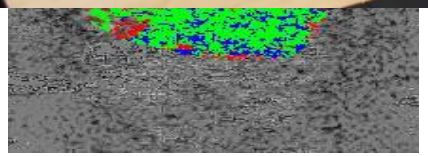

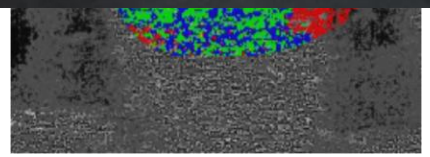

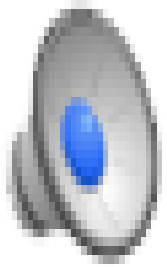

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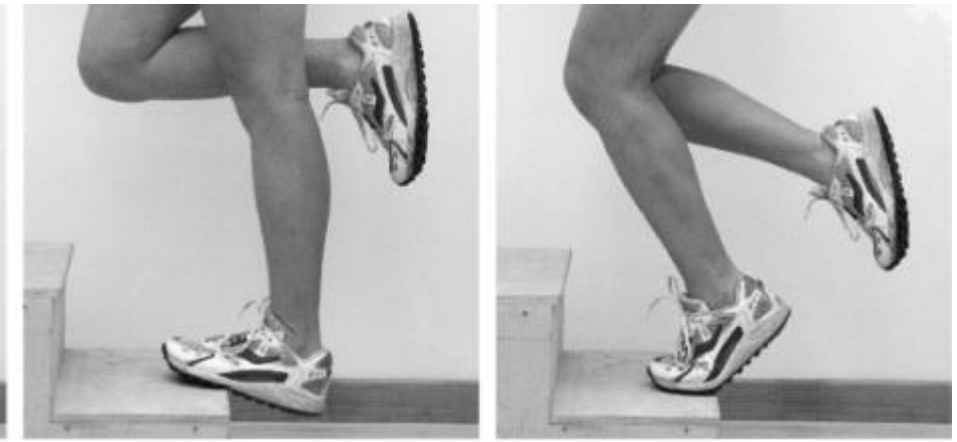
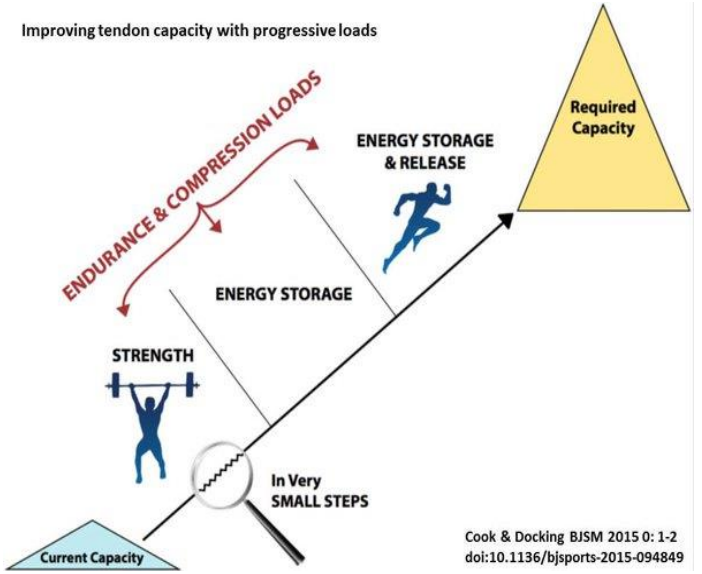
Exercise therapy is first line therapy





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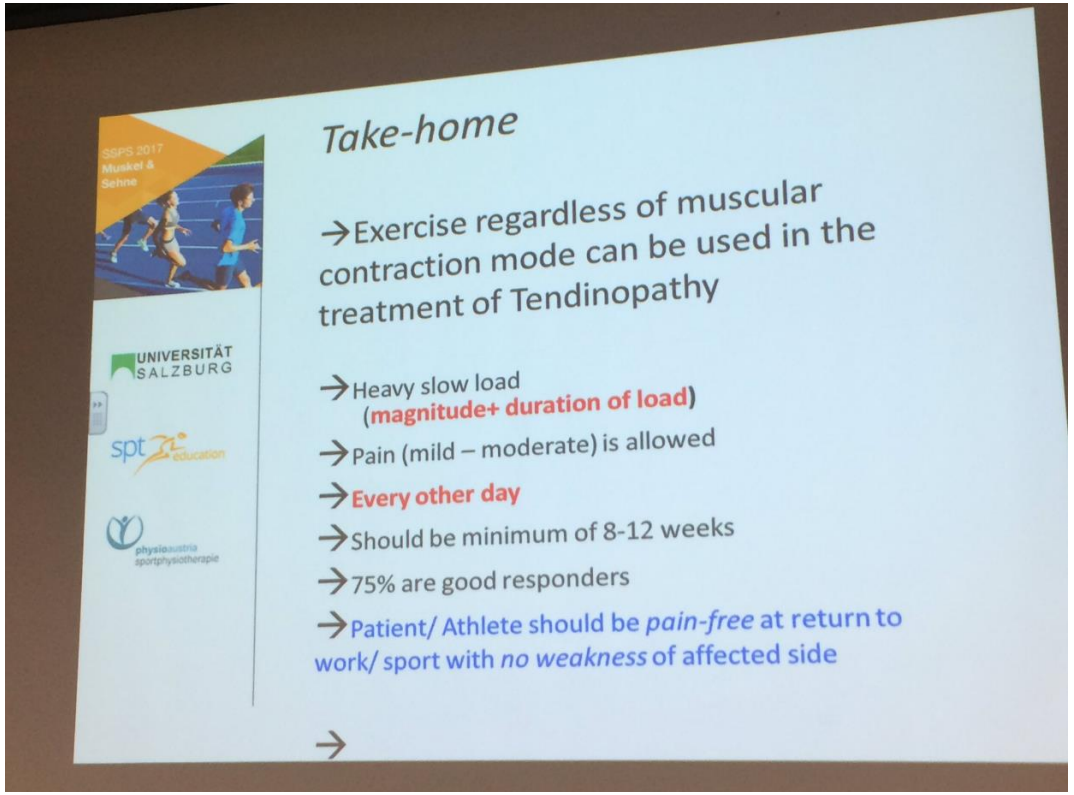
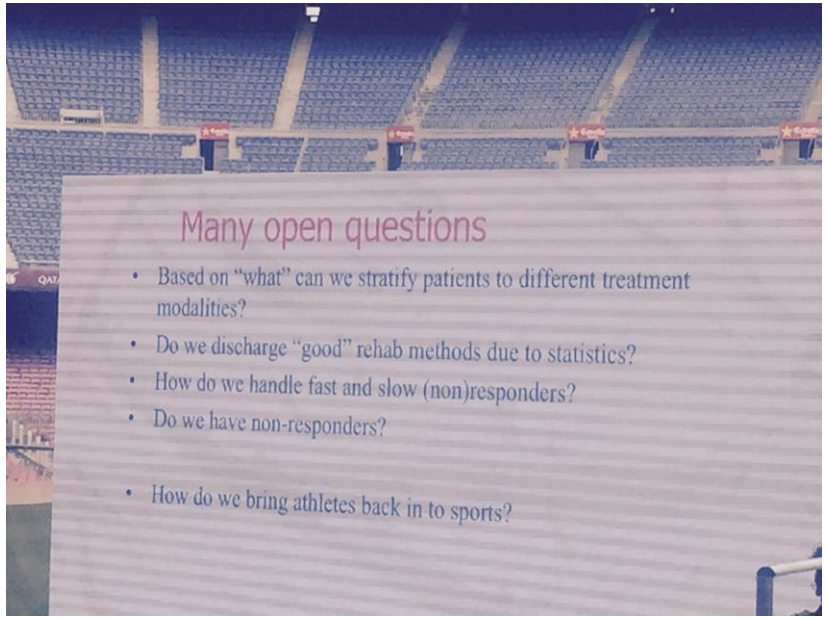
But not all cases improve with loading And we don't talk about it….

- Up to 75% improve with loading
- 1 in 4 don't improve





Permission C Couppe

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1. Do you have the right diagnosis?

Focal load-related pain

Finger point test

Primary hyperalgesia

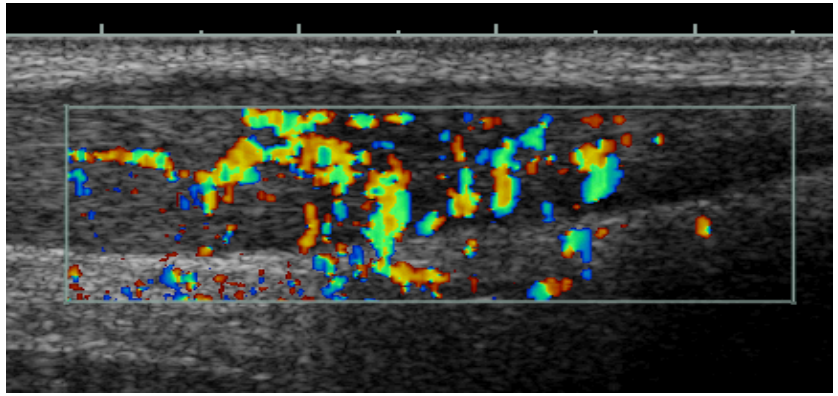
The Utility of Clinical Measures for the Diagnosis of Achilles Tendon Injuries: A Systematic Review With Meta-Analysis

Michael Reiman, DPT, LAT, ATC, SCS, Ciara Burgi, SPT, CSCS, Eileen Strube, SPT, LAT, ATC, CSCS, Kevin Prue, SPT, CSCS, Keaton Ray, SPT, ATC, CSCS, Amanda Elliott, SPT, and Adam Goode, DPT, PhD, PT

1. Do you have the right diagnosis?

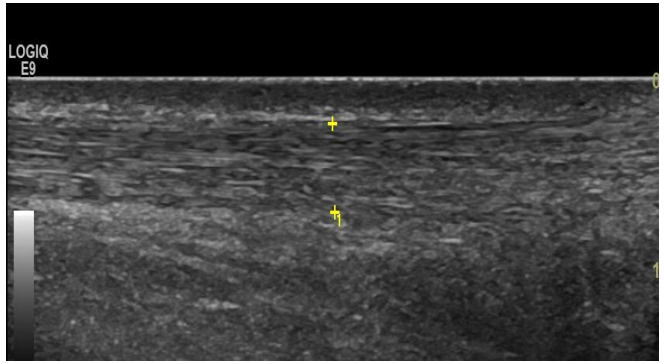
What about imaging?

Disconnect between structure and pain



THEN WHY IMAGE ?

NORMAL SCAN = NOT TENDON PAIN



IMAGING HAS HIGH NEGATIVE PREDICTIVE VALUE

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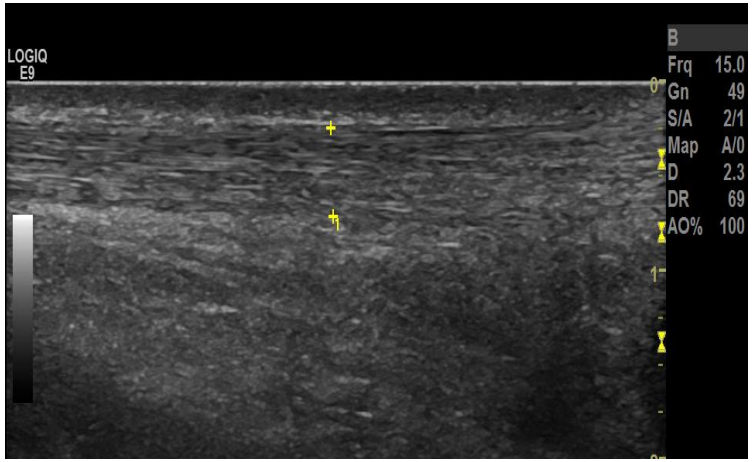
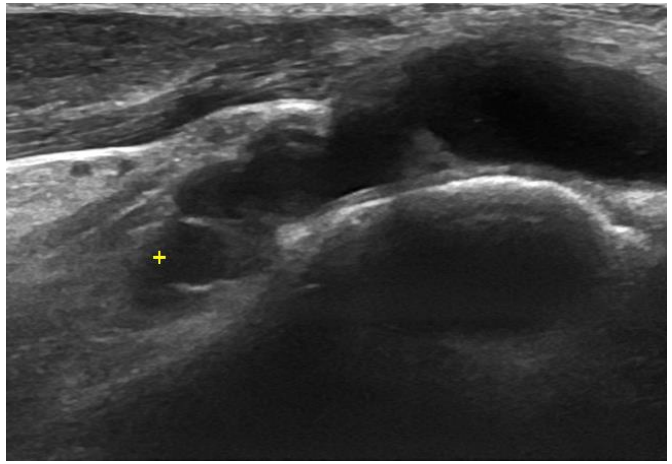
40 year old triathlete
6 mths Achilles pain
heavy progressive loading





HIS PAIN IS NOT TENDON RELATED

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Tendon: Differential diagnosis of Achilles pain

Mid-tendon tendinopathy

Insertional tendinopathy

Paraten

Plantari

Longitu

Partial r

Fascia crura tears

Should we treat these all the same?
Do they all respond the same?

Non-Tendon Differential Diagnoses

posterior ankle impingement

Subtalar joint pathology

Stress fractures

Sural nerve

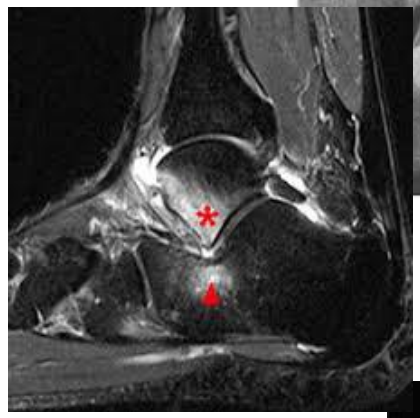
Muscle injury (distal soleus)

Accessory Soleus muscle

tendinopathy (peroneal, tibialis posterior, FHL)

Referred pain

tumours/cysts, inflammatory arthritis, compartment syndrome, vascular



2. Can we load better ?

Type of load? Eccentric/HSR

No difference

Frequency? Daily not necessary

2-3x/week

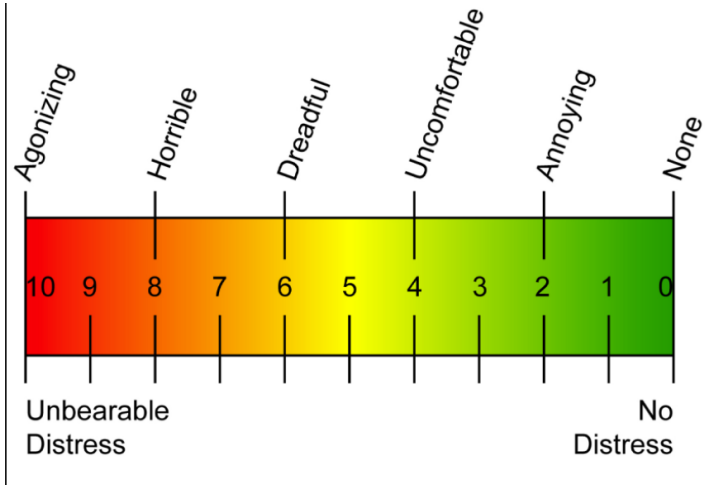
Load into pain?

Yes

Load heavy

Should exercises be painful in the management of chronic musculoskeletal pain? A systematic review and meta-analysis

Benjamin E Smith,[1,2] Paul Hendrick,[3] Toby O Smith,[4] Marcus Bateman,[1] Fiona Moffatt,[3] Michael S Rathleff,[5,6] James Selfe,[7] Pip Logan[2]



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2. Can we load better? STRENGTH GOALS %BW

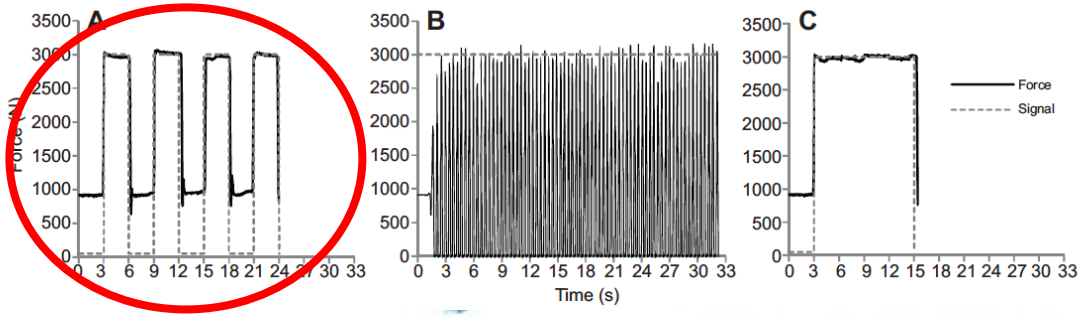
Calf

Isotonics 1 x BW

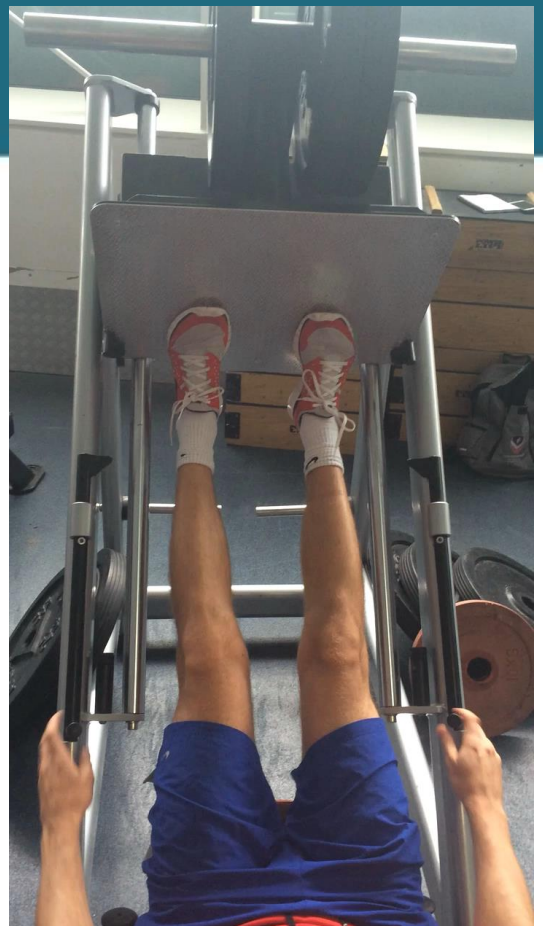
0.5 x BW

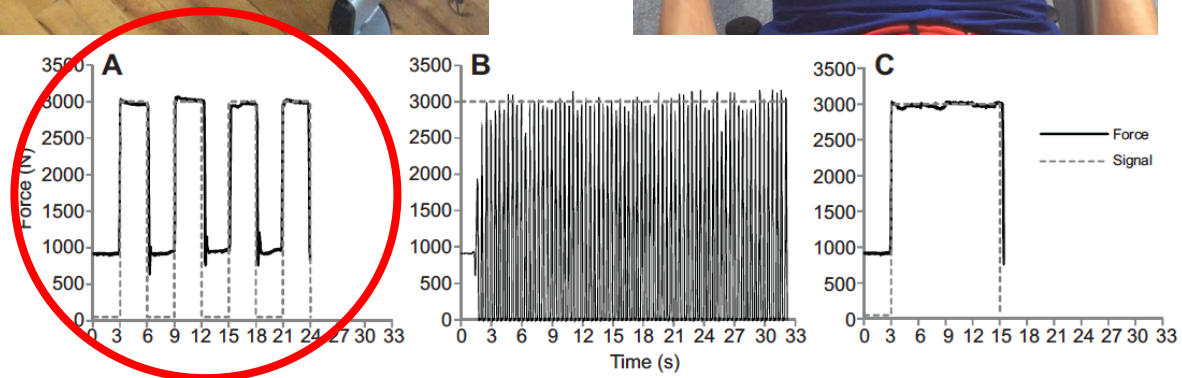
Isometrics analgesia 1-1.2x

Isometrics stiffness 1.2-1.4x



2. Can we load better?





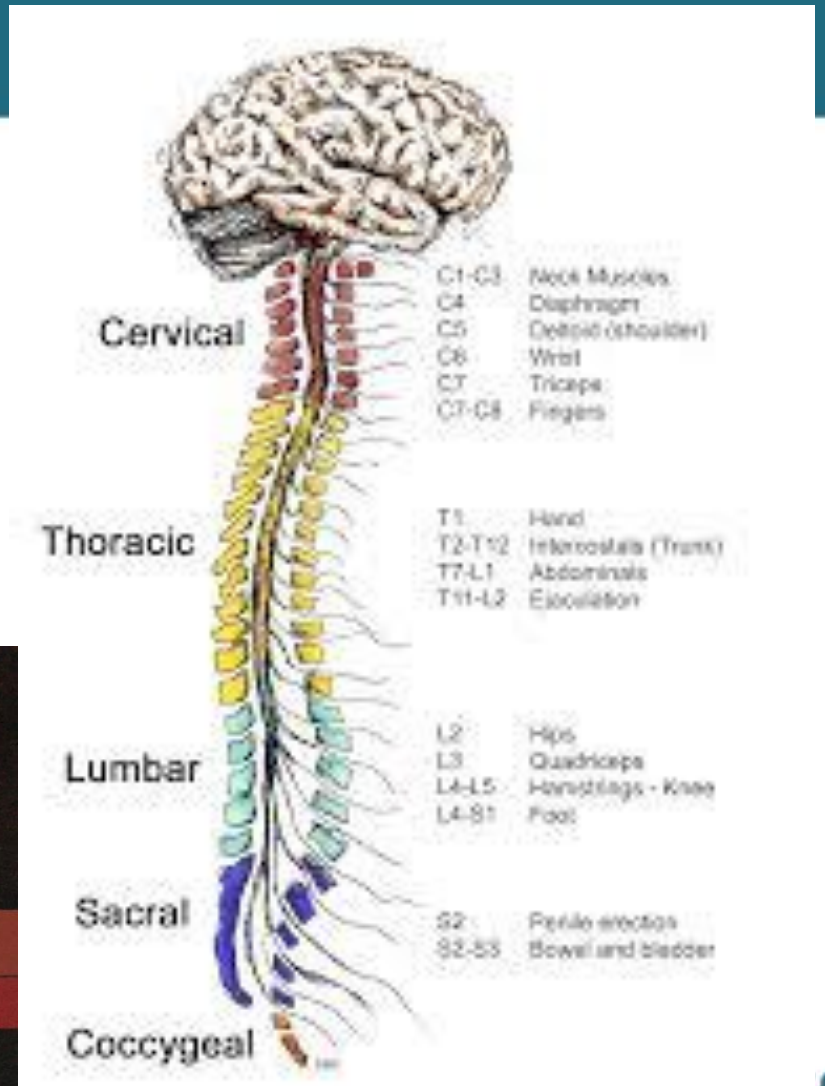
2. Can we load better?

Is it all about strength?

What about the CNS?

Metronome training (Rio)

Neuromuscular control (O'Neill)

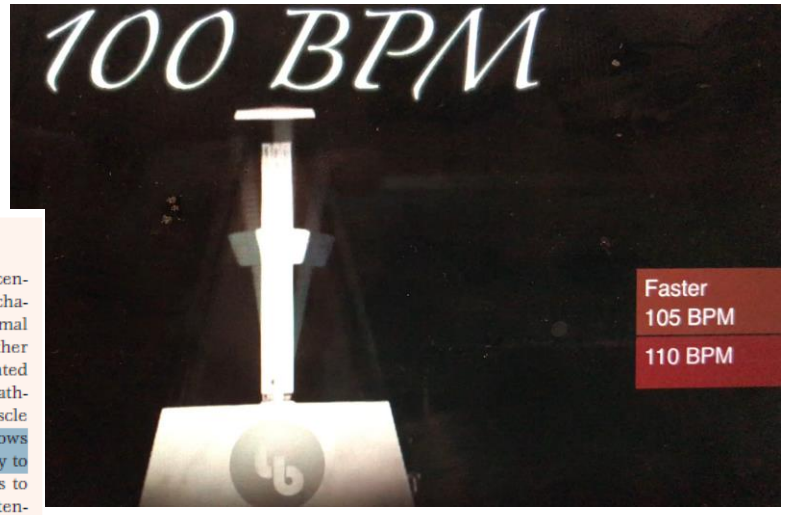


IJSPT

CLINICAL COMMENTARY

WHY ARE ECCENTRIC EXERCISES EFFECTIVE FOR ACHILLES TENDINOPATHY?

Seth O'Neill, MSc, BSc, PGCE HE, MSCP, MACP[1]
Paul J. Watson, PhD, PGCE HE, MSCP[1]
Simon Barry, PhD, PGCE HE, MCSP[2]



ABSTRACT

Achilles Tendinopathy is a complex problem, with the most common conservative treatment being eccentric exercises. Despite multiple studies assessing this treatment regime little is known about the mechanism of effect. This lack of understanding may be hindering therapeutic care and preventing optimal rehabilitation. Of the mechanisms proposed, most relate to tendon adaptation and fail to consider other possibilities. The current consensus is that tendon adaptation does not occur within timeframes associated with clinical improvements, therefore the clinical benefits must occur through another unidentified pathway. This clinical commentary critically reviews each of the proposed theories and highlights that muscle alterations are observed prior to onset of Achilles Tendinopathy and during the disease. Evidence shows that the observed muscle alterations change with treatment and that these adaptations have the ability to reduce tendon load and thereby improve tendon health. The purpose of this clinical commentary is to review previous theories regarding the mechanisms by which eccentric exercise might affect Achilles tendinopathy and offers a novel mechanism by which the plantarflexor muscles may shield the Achilles tendon.

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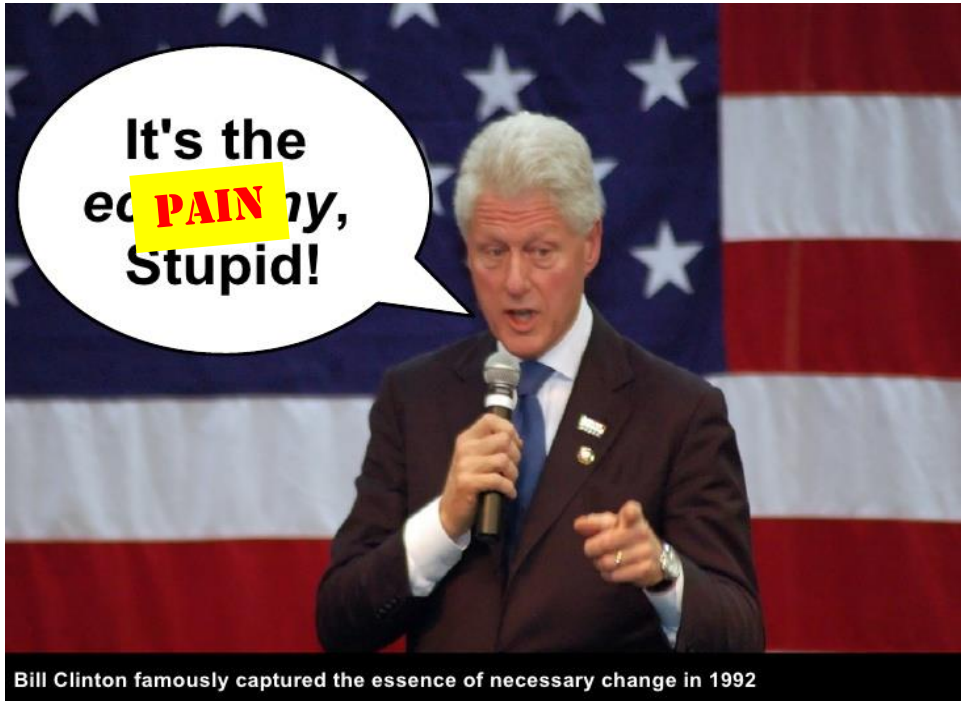
3. Loading is optimised What now ?



Bill Clinton famously captured the essence of necessary change in 1992

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What are your other options?

The effectiveness of extracorporeal shockwave therapy in common lower limb conditions: a systematic review including quantification of patient-rated pain reduction

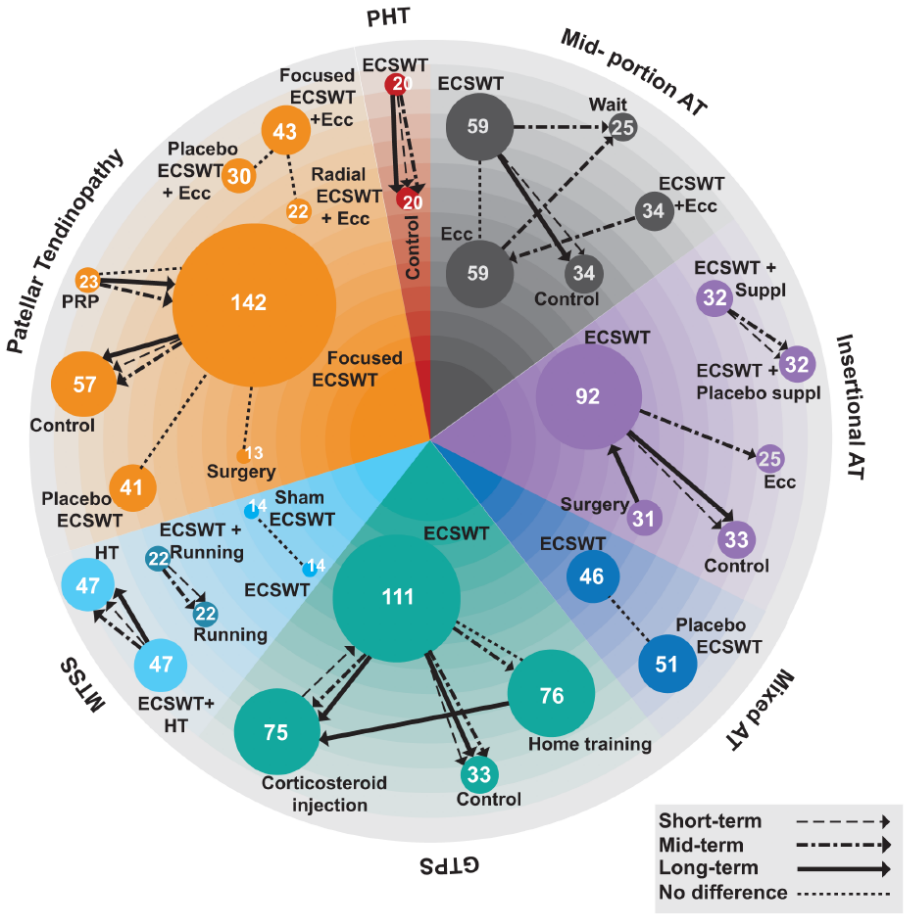
Vasileios Korakakis,[1,2,3] Rodney Whiteley,[1] Alexander Tzavara,[2] Nikolaos Malliaropoulos[4,5,6]

Moderate evidence : hamstring origin

Low evidence: AT and GTP

No evidence: PT (compared to sham)

MTSS



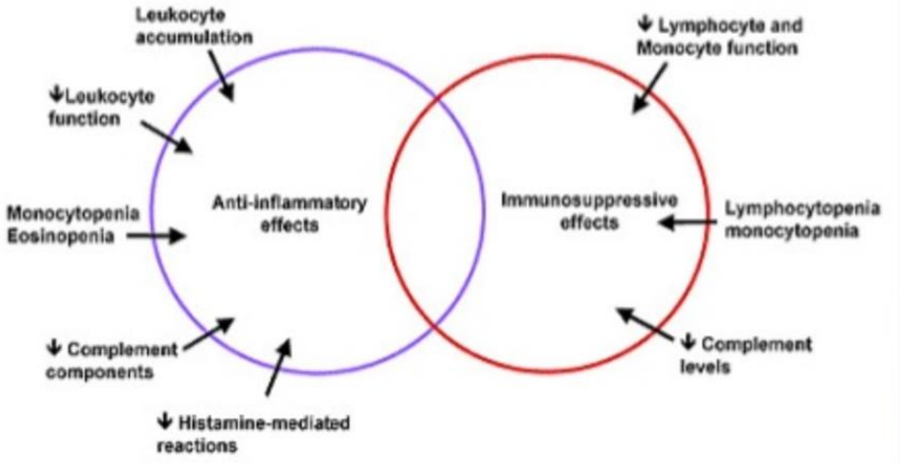
What are your other options?

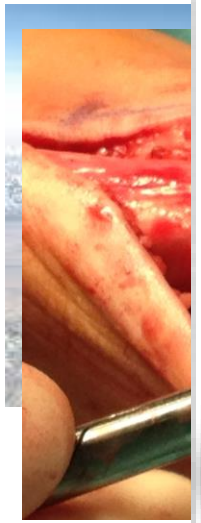
- **Injections**
  - ❖ *Cortisone*
  - ❖ *PRP*
  - ❖ *Dry needling*
  - ❖ *'scraping'*

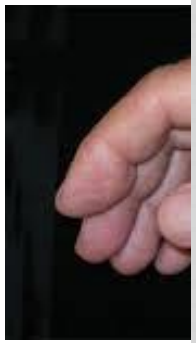
Beware Cortisone

The risks and benefits of glucocorticoid treatment for tendinopathy: A systematic review of the effects of local glucocorticoid on tendon

Benjamin John Floyd Dean, MRCS*, Emilie Lostis, BSc, Thomas Oakley, BM, BSc, Ines Rombach, MSc, Mark E. Morrey, MD, Andrew J. Carr, FRCS



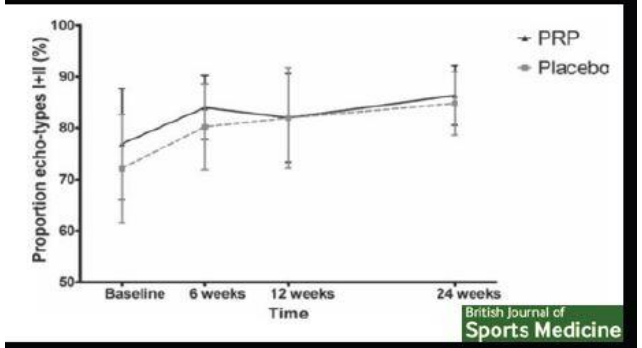


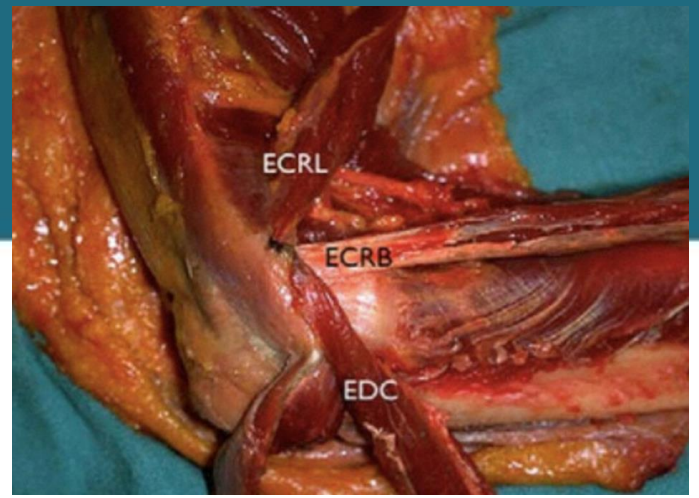


PRP has mixed evidence

No effects of PRP on ultrasonographic tendon structure and neovascularisation in chronic midportion Achilles tendinopathy

R J de Vos,[1] A Weir,[2] J L Tol,[2] J A N Verhaar,[1] H Weinans,[1] H T M van Schie,[1]

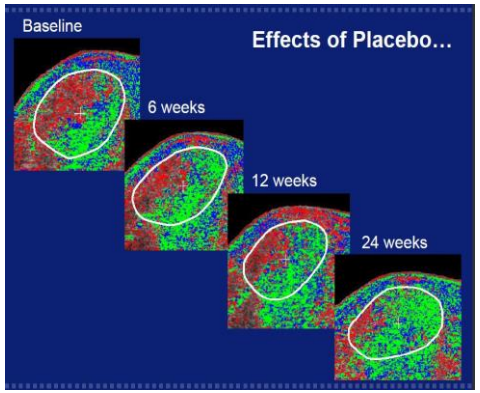


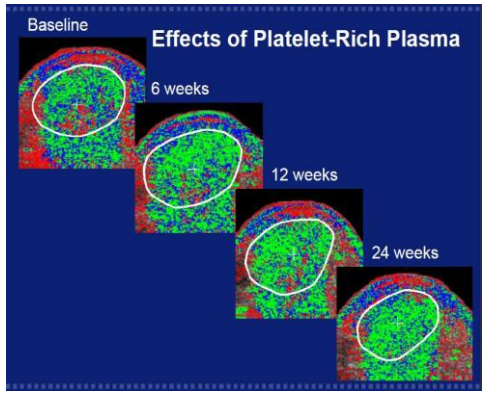


Treatment of Lateral Epicondylitis With Platelet-Rich Plasma, Glucocorticoid, or Saline

A Randomized, Double-Blind, Placebo-Controlled Trial

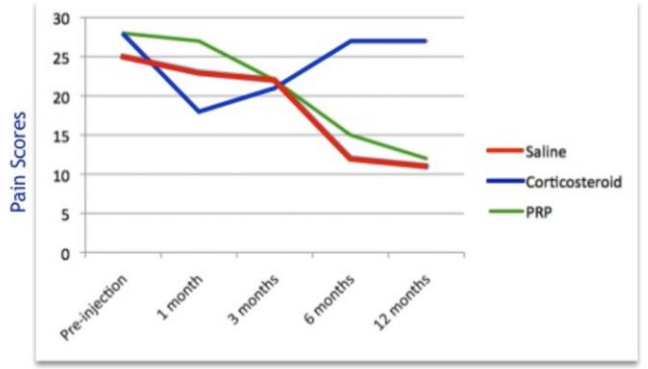
Thøger Persson Krogh, MD, Ulrich Fredberg, MD, PhD, Kristian Stengaard-Pedersen, MD, DMSc, more... Show all authors



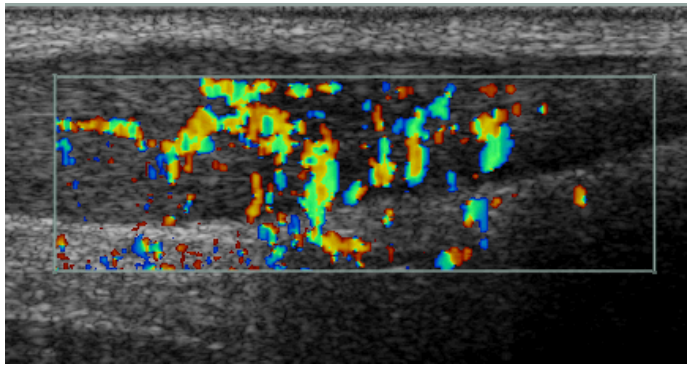


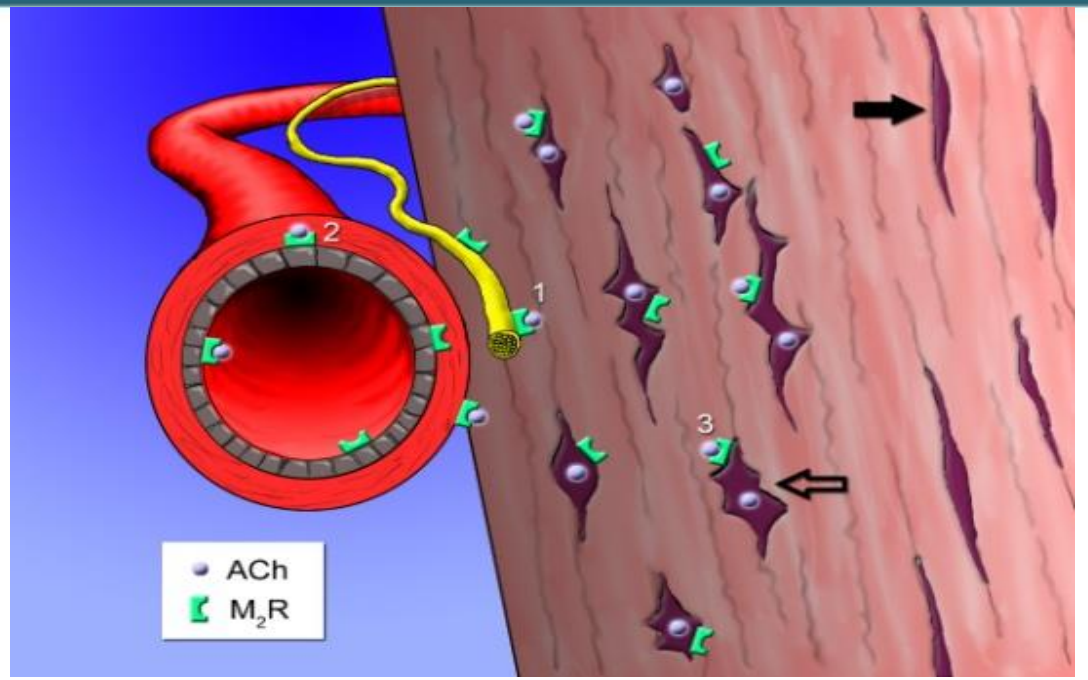
Permision R De Vos

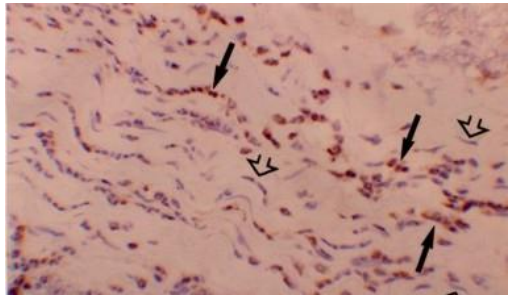
Platelet Rich Plasma - may not be better than saline and needling

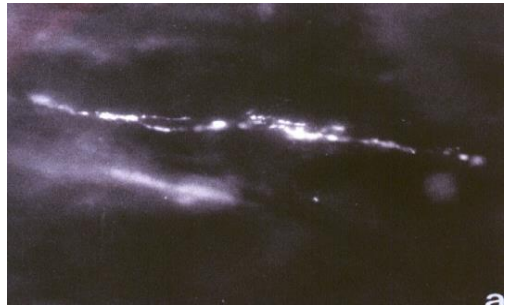


HVI/Scraping









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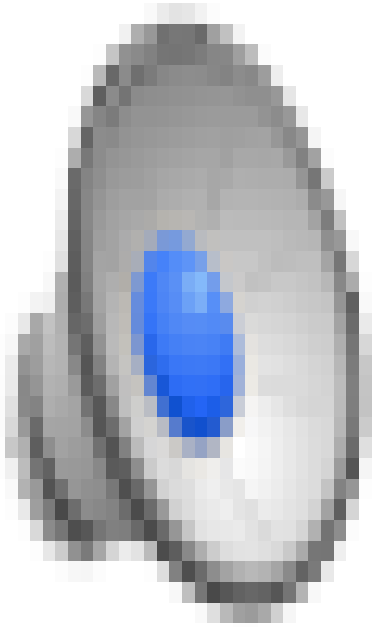
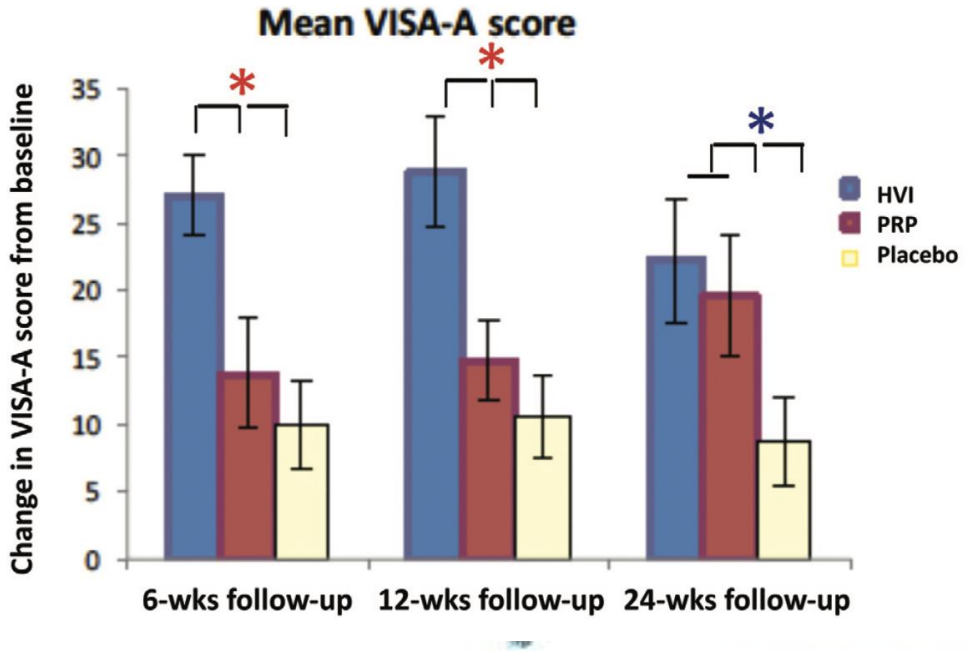


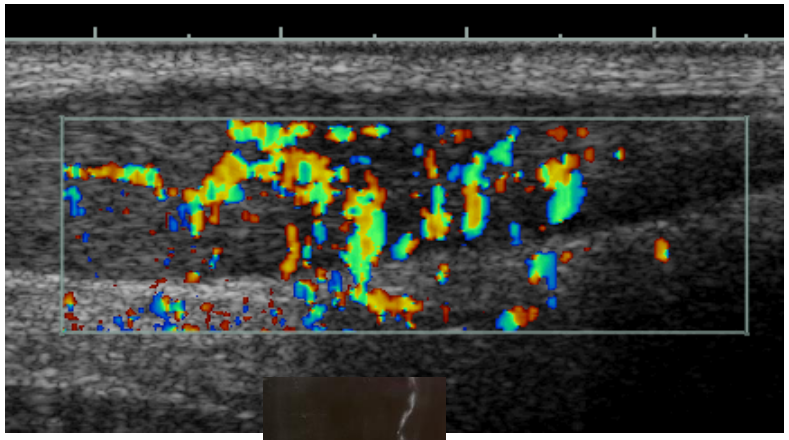
Effect of High-Volume Injection, Platelet-Rich Plasma, and Sham Treatment in Chronic Midportion Achilles Tendinopathy

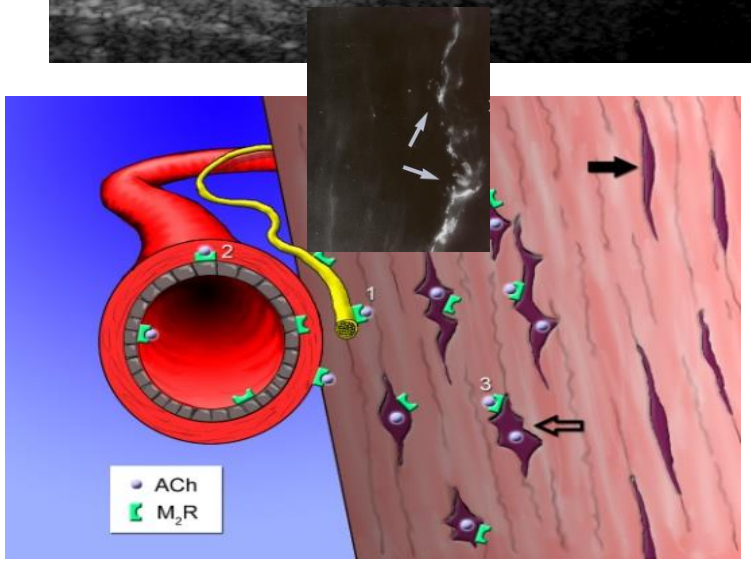
A Randomized Double-Blinded Prospective Study

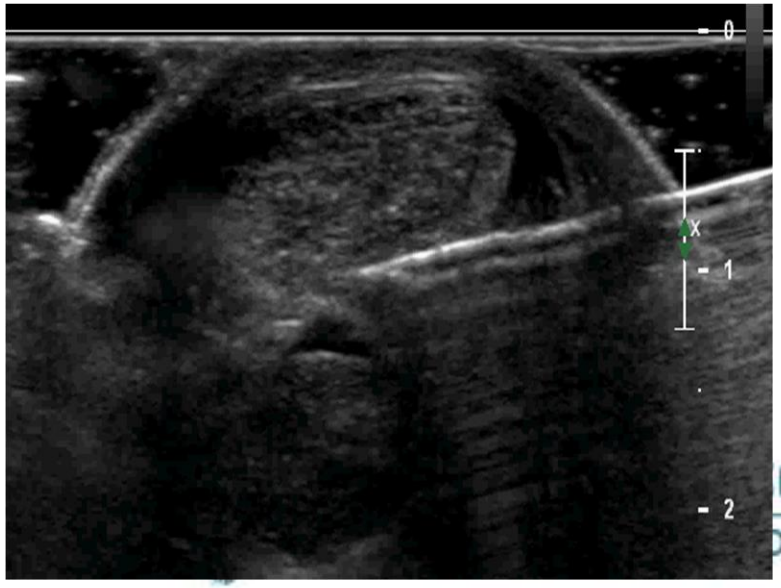
Anders Ploug Boesen,*†‡ MD, PhD, Rudi Hansen,† PT, MSc, Morten Ilum Boesen,§ MD, PhD, Peter Malliaras,‖ BPhysio (Hons), PhD, and Henning Langberg,¶ DrMed, PhD, DMSc
Investigation performed at the Institute of Sports Medicine, Bispebjerg Hospital, Copenhagen, Denmark



Surgical scraping







Take home messages

- 1 in 4 cases don’t respond to loading
- Do you have the right diagnosis?
- Can we load better?
- Heavy
- Strength goals % Body weight
- Adjuncts:

  shockwave

  High volume injection

  surgical scraping