Rehabilitation of Inflammatory Foot Conditions

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Disclosures

- I have no disclosures / conflicts of interest

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Objectives

- To better understand common foot and ankle inflammatory conditions
- Identify risk factors and variables associated with inflammatory conditions
- Determine considerations in treatment options for each
- Understand when other providers need to be added into the team

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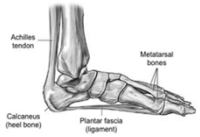
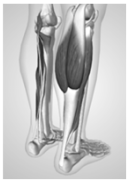
Common Inflammatory Conditions

Tendinopathy grouping:
- Achilles (insertional and non-insertional)
- Posterior tibialis

Plantar Fasciitis

Rheumatological conditions:
- RA
- Gout
- Lupus





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Achilles Tendinopathy

Risk Factors

- Male gender
- Risk increases with age
- Physical problems
  - Flat feet
  - Obesity
  - Tight calf musculature
- Training choices
  - Poor shoe wear
  - Cold weather training
  - Hill training
- Medications
  - Use of fluoroquinolones (antibiotics)
- Medical conditions
  - High BP
  - Psoriasis

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Achilles Tendinopathy

What does the evidence say?
- Exercise (grade A evidence)
- Activity modification (grade B evidence)
- Iontophoresis (grade B evidence) – when being treated acutely

What does it discourage?
- Exercising >2x/week (grade F)
- Neuromuscular Re-education (grade F)
- Manual Therapy (grade F)
- Taping (grade F)
- Dry needling (grade F)
- Orthoses / heel lifts (grade D – inconclusive evidence)
- Night splints (grade C)

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Achilles Tendinopathy

Emerging Evidence since CPG:

- Extracoporeal shockwave therapy: Grade B evidence for decreasing pain and promoting tendon healing. When combined with eccentric loading it was better than eccentric loading alone[2,3]
- Low-level laser therapy: Grade B evidence when used with exercise[4]

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Achilles Tendinopathy

Exercise:

- Eccentric loading through as much ROM as possible
- Heavy load and slow speed (6 sec per rep)

Activity Modification

- Avoid complete rest but modify activity and start eccentrics.
- Continue within pain tolerance (<5/10)

Iontophoresis with Dexamethasone

- Use to manage pain levels early on

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Posterior Tibialis Tendinopathy

Risk Factors

- Older age (>40)
- Obesity
- Weakness / tightness in leg/feet musculature
- Smoker
- Wearing unsupportive footwear
- Play high impact sports
- Long periods standing, walking or running
- Health conditions
  - Hx of inflammatory conditions (RA, etc)
  - Diabetes
- Medication use
  - Prolonged use of oral corticosteroids
  - Fluoroquinolones (antibiotic)

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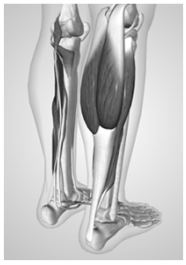
Posterior Tibialis Tendinopathy

Evidence supports:

- Activity modification
- Shoe wear
- Orthotics (custom or over the counter)
- Strengthening
- NSAIDs – early in pain process



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Plantar Fasciitis

Risk Factors

- Obesity
- Diabetes
- Job requiring prolonged standing / walking
- Age (most common between 40-60 y/o)
- Tight Achilles tendon
- Having pes planus or pes cavus
- Activity levels (sedentary vs highly active)

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Plantar Fasciitis

What does the evidence say?

- Manual Therapy (grade A): joint and soft tissue mobilizations, improve calf flexibility[3,6]
- Stretching (grade A): plantar fascia and gastrocnemius/soleus stretching[3,6]
- Taping (grade A): antipronation taping[3,6]
- Foot Orthoses (grade A): no significant difference between custom and off the shelf[3,6]
- Night splinting (grade A): utilization over 1-3 months[3]

Use above simultaneously for 4-6 weeks before considerations of adjunct therapies such as:

- Extracorporeal shockwave therapy[6]

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Plantar Fasciitis

What does the evidence discourage?

- Dry needling (grade F): no clinic studies completed with good methodology
- Therapeutic Exercise (grade F): when prescribed alone
- Neuromuscular Re-Education (grade F): when prescribed alone
- Education and counseling for weight loss (grade E)
- Footwear changes (grade E): use of rocker bottom shoes
- Modalities (grade C): low level laser, US, iontophoresis

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Plantar Fasciitis

Emerging Evidence

- Extracorporeal shockwave therapy[5]
- Low-level Laser Therapy[5]
- PRP injections – conflicting evidence[5]

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Biography

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