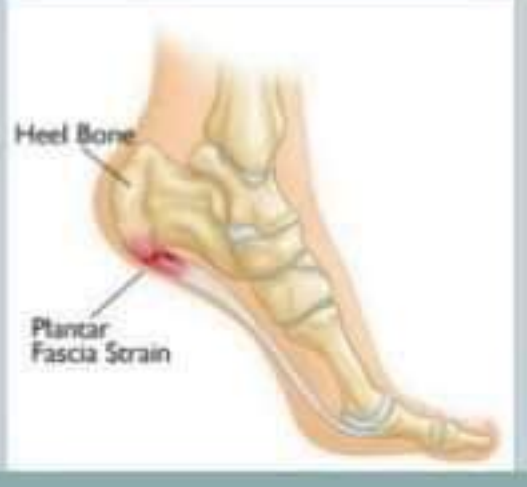
PLANTAR FASCIITIS

AND IT'S

PATHO-MECHANICS



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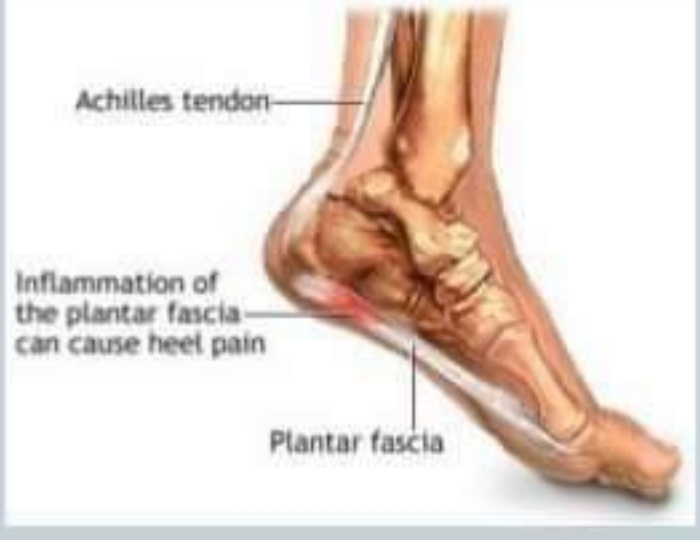
Information & MCQs
By Dr NM Noori

What is PLANTAR FASCIITIS?

- Plantar fasciitis is a painful foot condition caused by inflammation of insertion of the plantar fascia on the medial process of the calcaneal tuberosity.
- This associated with
  - Pain
  - Swelling
  - Warmth of the affected area
  - Redness of the adjacent skin



RISK FACTORS

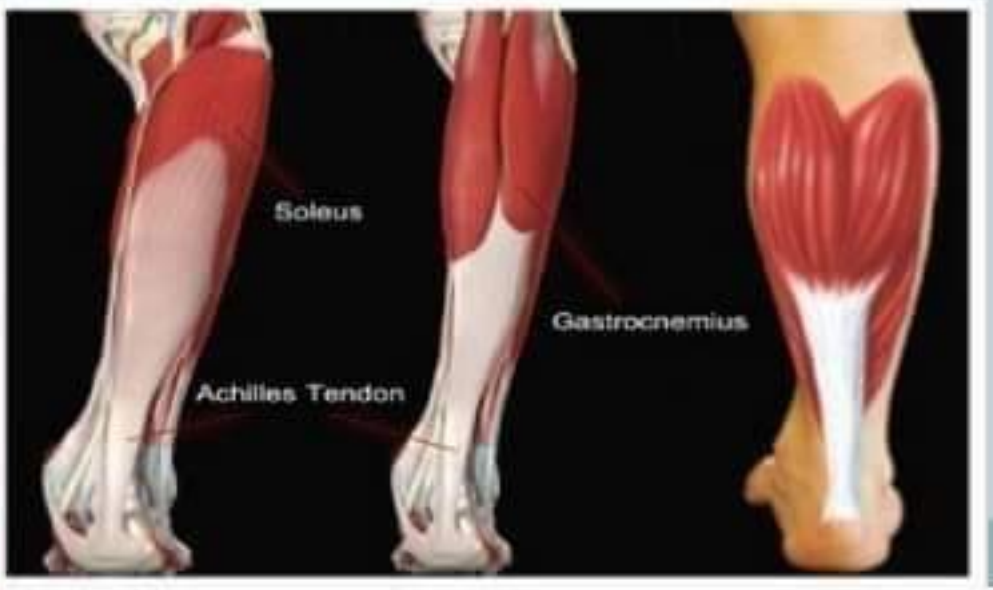
- Foot arch
- Obesity or sudden weight gain
- Long-distance running
- Tight Achilles tendon
- Shoes with poor arch support or soft soles

PATHOMECHANICS

- **<u>Tightness of gastro soles muscles</u>.**

  During midstance to heel off phase of gait cycle there is 5 degree dorsiflexion is needed, in order to clear the surface.

  (anterior translation of tibia over the talus. closed kinematics)



PATHOMECHANICS

- In case of gastro soles shortness, there is limited range of dorsi-flexion and these short musculature don't allow tibia to glide anteriorly.
- This can be compensated by pronation of the subtalar joint.
- This pronated foot causes lots of stress over the plantar fascia during the push of phase of gait.
- That will lead to plantar fasciitis.

PATHOMECHANICS

Absence of windlass mechanism

- During propulsive phase of gait cycle dorsiflexion of the 1st mtp will occur.
- That's winds the plantar fascia around the head of the meta tarsal causing calcaneal inversion,shortening the truss and lead to subtalar jt supination.
- Absence of this mechanism affects the subtalar jt supination that will lead to plantar fasciitis.

PATHOMECHANICS

- **<u>Tibialis posterior weakness</u>**

  The tibialis posterior eccentrically control pronation during footflat and midstance phase of gait cycle.

- Weakness of this muscle can cause excessive pronation of the subtalar joint and this can also leads to plantar fasciitis.

PATHOMECHANICS

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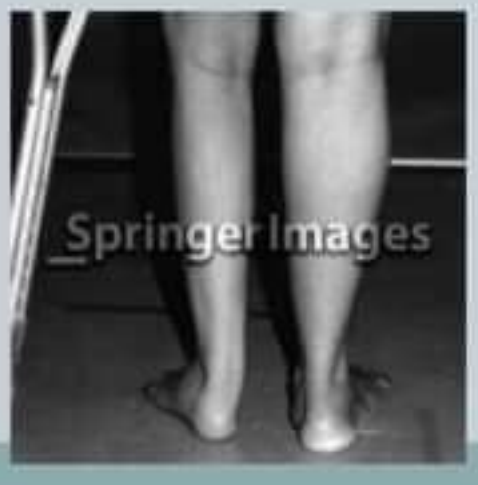


CONSERVATIVE TREATMENT

ELECTROTHERAPY

Ultrasound therapy

Phonophoresis

Iontophoresis

Contrast bath

MANUAL THERAPY

- Talocrural joint posterior glide
- Subtalar joint lateral glide
- Anterior and posterior glides of 1st tarsometatarsal joint
- Subtalar joint distraction manipulation

STRETCHING

- **Calf muscle stretch**

  Calf muscle stretching can be either 3 times or 2 times day, sustained(3mini) or intermittent(20sec).

- **Plantar fascia specific stretch**

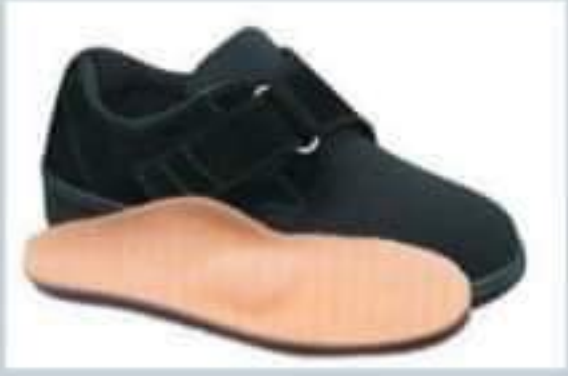
  Performed in sitting, with the patient placing the fingers of one hand across the toes of the involved foot. Then pulling the toes back.

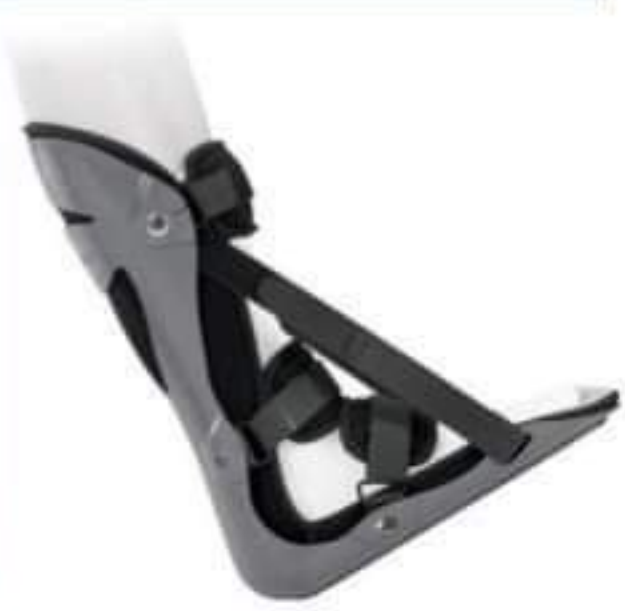
TAPING

- Calcaneal taping or low-dye taping used for short-term pain relief. Taping does cause improvement in function.

ORTHOTIC DEVICES

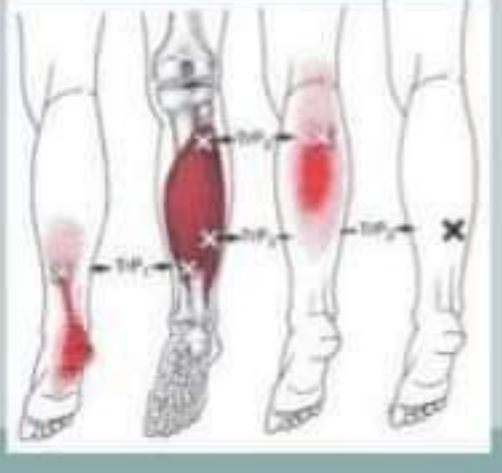
- Heel cuffs
- Viscous elastic heel pad
- Accommodative inlays
- Prefabricated and custom made orthosis: All these orthosis used for exceesive foot pronation and improvement of the condition.





TRIGGER POINT THERAPY

- In some cases trigger points and myo-fascial pain syndrome contribute to heel pain that mimicking plantar fasciitis.
- Common location of trigger point is either muscle belly of gastrocnemius or in soleus. This will lead to referred pain at heel.
- Deep cross fiber friction or ischemic compression done for reduction of taut muscular and facial band with Trigger point.



NIGHT SPLINTS

- It is used for patient with symptoms greater than 6 months in duration.
- The desire length of time for wearing the splint is 1 to 3months.
- This splint maintain ankle in neural position and toes in slight extension.

SUMMARY

- **Plantar Fasciitis** is a painful condition caused by overuse of the plantar fascia or arch tendon of the foot.
- The most common cause of plantar fasciitis is very tight calf muscles
- Treatment can last from several months to 2 years
- Some people may need surgery.