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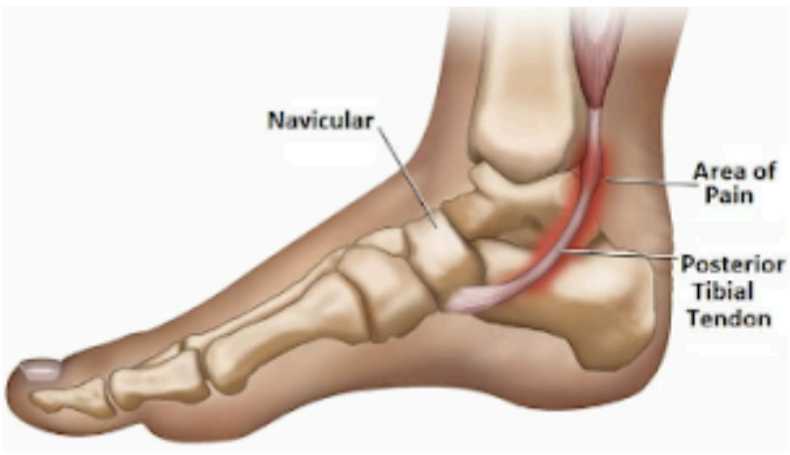
Tibialis Posterior Tendinopathy

Tibialis posterior is the main tendon supporting the arch of the foot. Overuse/ repetitive injury could lead to wear and tear of the tendon called tendinopathy.

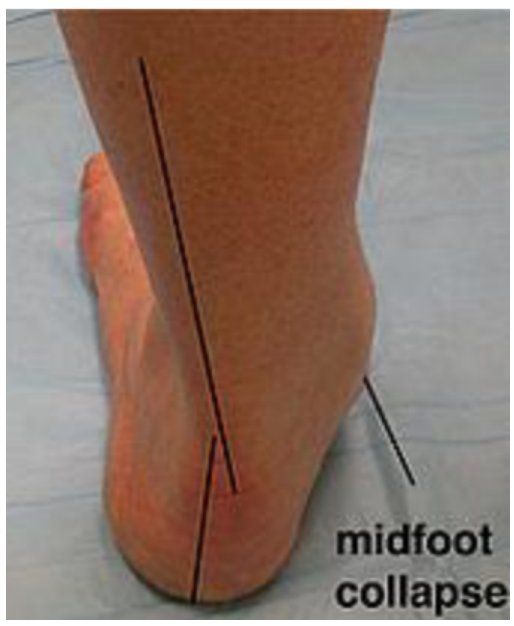


Risk factors

- Overweight
- Middle age women
- Flat arch

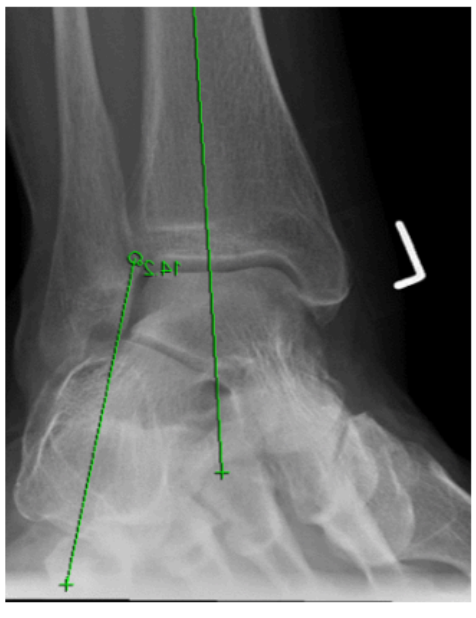
Symptoms and signs

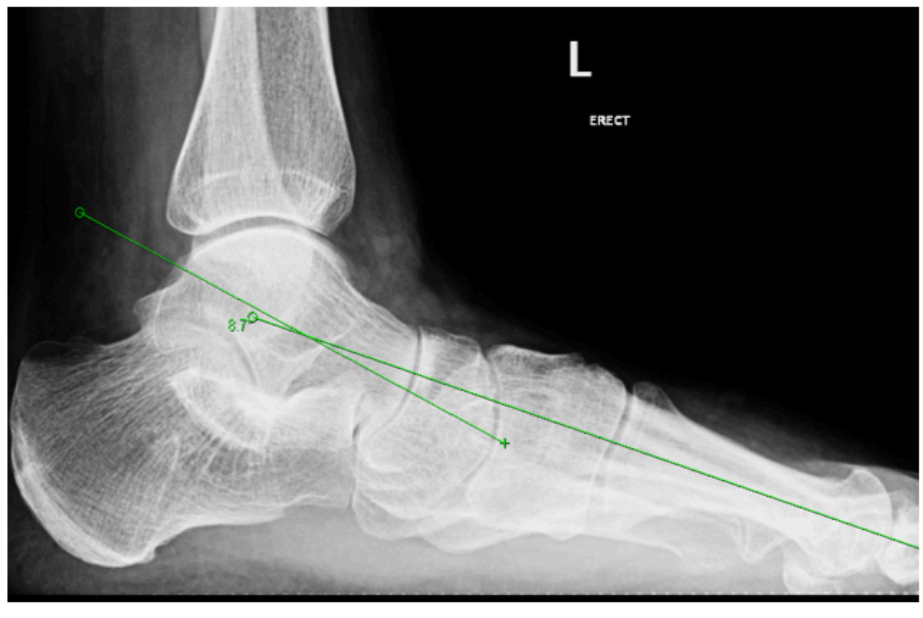
- Pain inner side of ankle and instep with or without swelling
- Reduce walking ability or unable to walk fast pace
- Gradual change in the foot shape - Flattening of the arch, walking on the instep
- Struggle to go on tiptoes

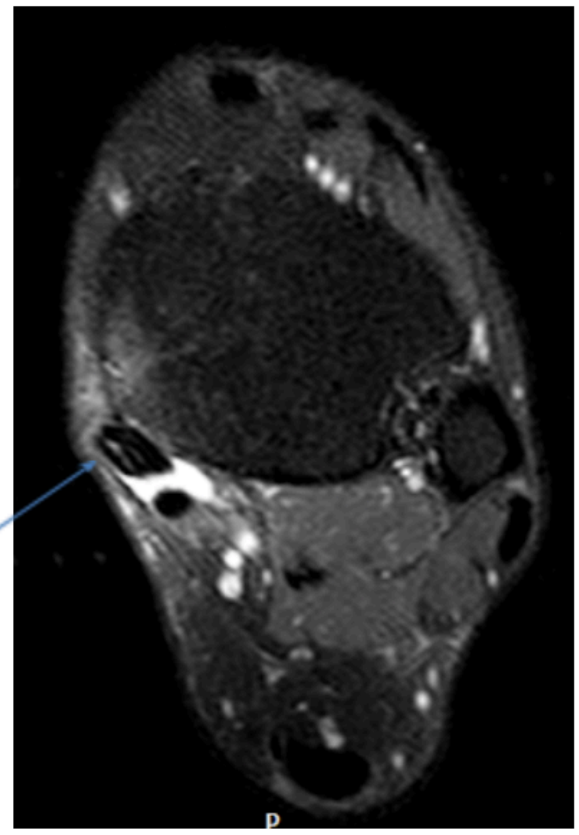


Diagnosis

The condition is a clinical diagnosis and to assess the severity of the condition and associated arthritis, your surgeon would have to request a standing x-ray of the foot and ankle. An MRI scan is not essential but helps to grade the severity of the condition and plan for further treatment.







MRI shows wear & tear (degenerate) of tibialis posterior with fluid (inflammation)

Initial treatment

- **Rest:** Avoid activities which cause pain, such as: prolonged walking, running etc. As an alternative, choose non-impact activities like swimming, cycling
- **Ice application:** Intermittent ice application can reduce the swelling. During the application cover the area with a damp towel to avoid direct contact with skin, which may cause skin burn.
- **Pain killers:** Non-steroidal anti-inflammatory medications like neurofen can help reduce the pain and swelling.

- **Support:** Walking boots provide support to the foot and ankle. Avoid sandals, flip flops and other poorly-fitting footwear, a medial arch support with an ankle brace provides more comfort.
- If the pain is severe, a plaster cast/ pneumatic walker for 6 weeks may be required.

Late treatment

This is done once the initial pain and swelling improves in 3 to 6 weeks.

- **Custom made orthotics:** If over the counter arch support doesn't help, then a measured and made orthotic is essential.
- **Physiotherapy:** Exercises mainly focused on strengthening the weakened tibialis posterior and also the other tendons around the ankle to compensate for the weakened tibialis posterior (Detailed in the exercise leaflet).
- **Stretching the Achilles tendon:** Along with strengthening, it is necessary to stretch the tight Achilles tendon.
- **Steroid injection:** This is controversial due to the risk of tendon rupture, but it helps the pain and also to better cope with physiotherapy.

You are bound to get some pain/ discomfort during physiotherapy. But do the exercises within the tolerable limits of pain.

Prognosis:

Depending on the severity, the symptoms can subside within the range of 6 weeks to 6 months. Some patients however may progress to have further tendon wear and tear to the extent where the tendon becomes totally dysfunctional or there is a complete rupture with a loss of the arch of the foot. Further progression of this can lead to arthritis of the triple joints and ankle joint.

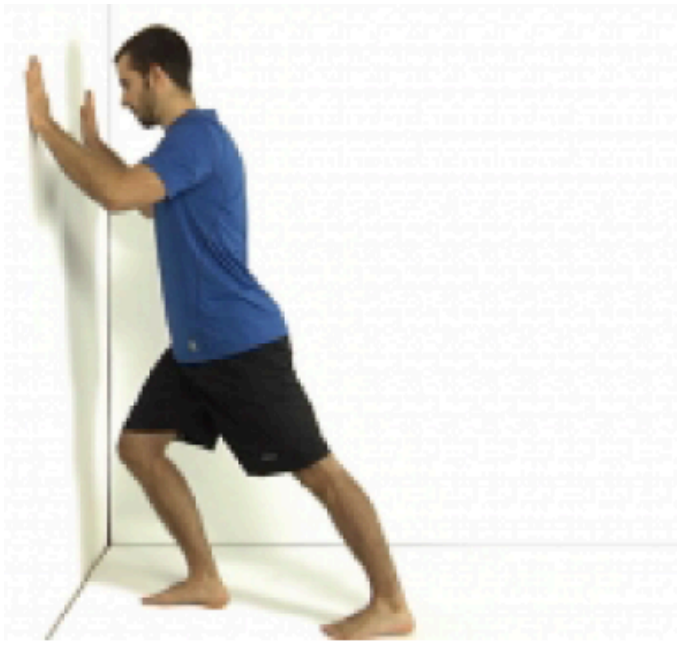
Surgical Treatment:

The majority of patients improve with non operative treatment. However failure to improve and the continuation of significant symptoms can require operative management, which if necessary your surgeon will discuss with you. The operative management depends on the stage of the condition.

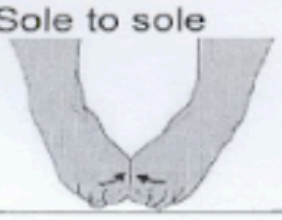
- **Stage I :** Tibialis posterior tenosynovectomy
- **Stage II :** Tendon transfer with Spring ligament repair with calcaneal osteotomy +/- Achilles lengthening
- **Stage III :** Triple fusion +/- Achilles lengthening
- **Stage IV :** Pan talar fusion or Triple fusion with ankle replacement +/- Deltoid ligament reconstruction

Most patients present at stage II and thus a commonly performed procedure is tendon transfer with Spring ligament repair with calcaneal osteotomy +/- Achilles lengthening. The most common complication of surgery is the pain being not completely relieved.

Tendo Achilles Stretching & Strengthening



TIBIALIS POSTERIOR DYSFUNCTION PROTOCOL

Exercise	Phase I	Phase II	Phase III	Phase IV
Sole to sole 	25 reps x 4 a day ↓ 25 reps x 12 a day	25 reps x 12 a day	Continue	Check can perform >300 a day
Resisted D/F  Inversion and  Eversion  with controlled eccentric return	**Red Band** 25 reps x 4 a day ↓ 50 reps x 4 a day	Continue	**Green Band** 50 reps x 4 a day	Check can perform >200 a day
Heel raises 	-	**Double Stance** 50 reps a day	**Double Stance** X 50 reps a day	Check can perform x 50 double stance
Tiptoe walking 	-	100 yards	Check can walk >100 yards	Check can walk > 100 yards on tiptoes
Education	Education on pathology	Encourage to persevere & explain need to increase reps for function		If cannot achieve above, consider re-referral for surgery