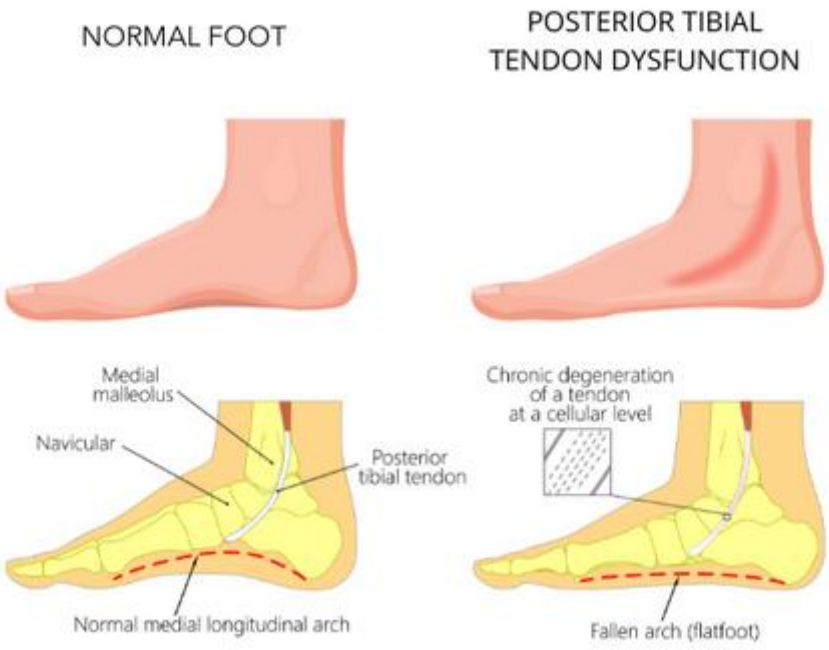
Posterior Tibial Tendon Dysfunction (PTTD)



What is PTTD?

Posterior Tibial Tendon Dysfunction (PTTD) is a condition where the **posterior tibial tendon** (a tendon on the inside of the ankle that supports the arch of the foot) becomes **inflamed, overstretched, or weakened**.
It is also known as **Adult Acquired Flatfoot**.

The tendon helps maintain the foot's arch and supports normal walking. When it becomes dysfunctional, the arch can gradually flatten, causing pain and difficulty walking.

Common Symptoms

- Pain along the inside of the ankle or foot
- Swelling or tenderness behind the ankle bone (medial malleolus)

- Flattening of the foot arch
- Heel turning outward (hindfoot valgus)
- Difficulty standing on tiptoes on the affected leg
- Pain after walking or standing for long periods
- Changes in walking pattern

Causes / Risk Factors

- Overuse (walking long distances, running)
- Flat feet or reduced arch height
- Poor footwear or unsupportive shoes
- Trauma / ankle sprains
- Age-related tendon degeneration
- Being overweight
- Inflammatory conditions (e.g., rheumatoid arthritis)
- Diabetes

Stages of PTTD

Stage I – Tendon inflammation (tendonitis)

- Pain and swelling
- Foot shape normal

Stage II – Tendon elongation + flexible flatfoot

- Arch collapses but still flexible
- Heel rolls outward

Stage III – Rigid flatfoot

- Arch collapse becomes fixed and stiff

Stage IV – Ankle involvement

- Ankle joint also becomes affected

Initial Management

1. Activity Modification

- Reduce activities that worsen pain (long walks, running).
- Switch to low-impact activities (cycling, swimming).

2. Ice

- Apply ice 10–15 minutes after activity.

3. Footwear

- Supportive trainers
- Avoid flat shoes, pumps, sliders, flip-flops
- Consider shoes with strong arch support and firm heel counter

4. Pain Relief

- Paracetamol or ibuprofen if suitable
- Topical anti-inflammatory gels may help

5. Orthotics

- Over-the-counter arch supports for early stages
- Custom orthotics may be needed in more advanced cases to support the arch

---

Rehabilitation Exercises

1. Calf Stretch

- Stand facing a wall.
- Stretch both the gastrocnemius (knee straight) and soleus (knee bent).
- Hold 30 seconds, repeat 3 times.

2. Posterior Tibialis Strengthening ("Arch Lifts")

- Sit or stand.
- Gently raise the arch without lifting the toes.
- Hold 5 seconds.
- Repeat 10–15 times.

3. Resistance Band Inversion

- Loop a band around the foot.
- Pull foot inwards against resistance.
- 3 sets of 12–15 reps.

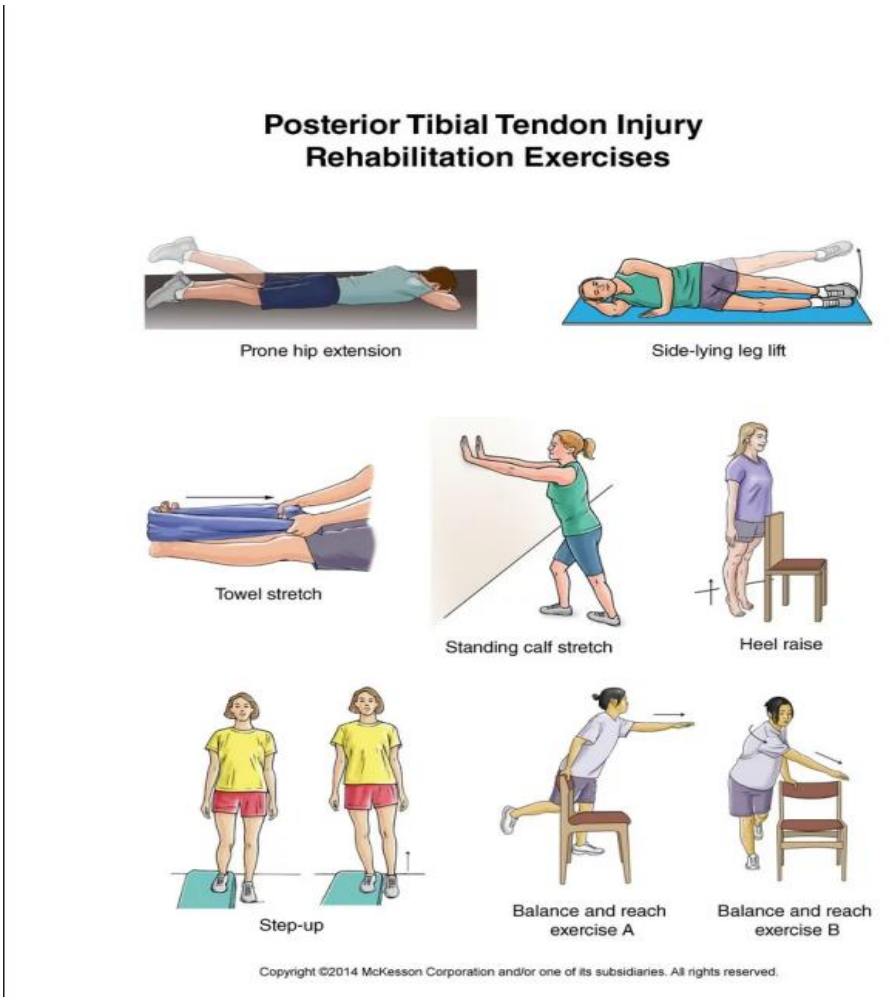
4. Heel Raises (Progressive Loading)

Start double-leg and progress to single-leg.

- Rise up slowly on toes, hold 2 seconds, lower slowly.
- 3 sets of 10–12 reps.
  If single-leg is too painful, keep 80% of your weight on the good leg.

5. Balance Training

- Stand on one leg for 30 seconds.
- Progress to unstable surfaces (cushion/Bosu) as tolerated.



Bracing (if needed)

A **medial ankle brace** or **air-cast boot** may be recommended if pain is severe or in early stages to allow the tendon to rest.

Expected Recovery Time

- Early stages: improvement expected within **8–12 weeks** with exercises and good footwear
- More advanced stages can take **3–6 months**
- Severe or rigid deformity may require **specialist referral** or surgical opinion

Consistency with exercises and footwear is essential.

When to Seek Further Help

- Pain persists after 8–12 weeks of rehab
- You cannot stand on tiptoes on the affected leg
- Foot shape is worsening
- Significant swelling or inability to walk normally
- You suspect progression to Stage III or IV
- Concern for associated ankle instability

Possible Additional Treatments

- Physiotherapy-guided strengthening programme
- Orthotics (custom insoles)
- Bracing (ankle-foot orthosis)
- Shockwave therapy (for persistent tendon pain)
- Steroid injection is **not usually recommended** due to risk of tendon weakening
- Orthopaedic referral for severe deformity or failure of conservative treatment