

# Plantar Fasciitis: A common cause of heel pain

**Plantar fasciitis** is the inflammation of the plantar fascia of the foot and is considered the most common cause of heel pain.

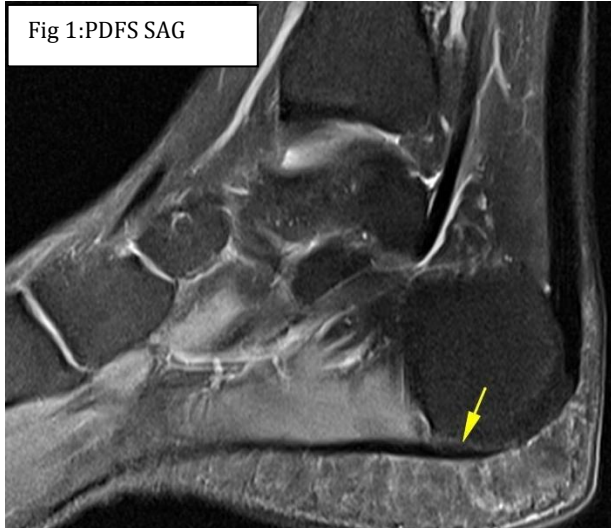


Fig 1 shows normal, uniformly low signal intensity in plantar aponeurosis.

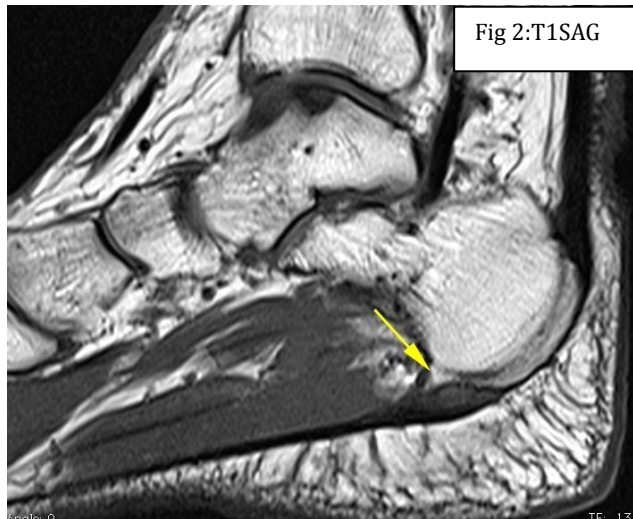


Fig 2 T1W sag shows spur from plantar surface of calcaneum.

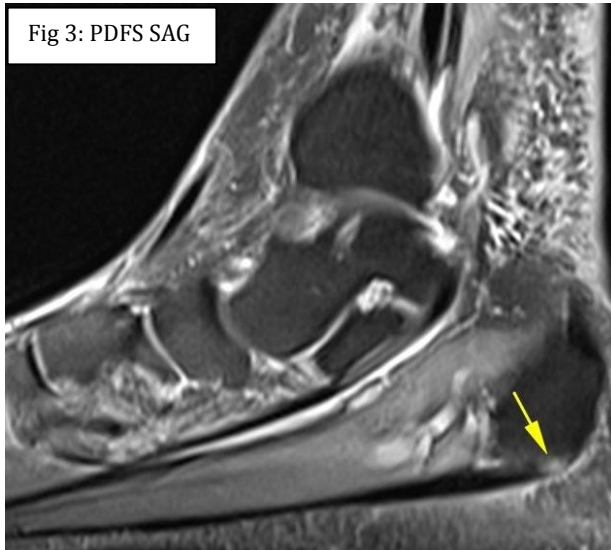


Fig 3 and 4 PDFS SAG show altered intrasubstance signal intensity in central cord of plantar aponeurosis consistent with plantar fasciitis.

## Discussion:

**Clinical presentation:** Pain on the pressure point of the heel on weight bearing is the primary complaint. It can be aggravated, especially in the mornings when weight is borne after a period of rest and eases with walking. Passive dorsiflexion of the toes may relieve some discomfort.

**Pathology:**

Plantar fascia is a fibrous aponeurosis arising from the medial calcaneal tuberosity and plays a significant role in longitudinal arch support. Distal to the calcaneum, it continues anteriorly, dividing into central, medial and lateral cords.

Plantar fasciitis is generally a low-grade inflammatory process involving the plantar aponeurosis with or without involvement of the perifascial structures.

It can arise from several factors:

- **Mechanical:** stress of repetitive micro trauma elicits micro tears which generate an inflammatory response. (more common)
- **Degenerative**
- **Systemic:** as an enthesopathy in association with seronegative spondyloarthropathies like ankylosing spondylitis etc.

**Radiographic features:**

**Plain radiograph:** Plain film features are non specific but may show an associated plantar calcaneal spur although this is also seen in asymptomatic individuals.

**Ultrasound:** Ultrasound typically shows increased thickness of the fascia and a hypoechoic fascia.

MRI is modality of choice and signal characteristics of affected tissues include :

- **T1/PD:** intermediate signal
- **T2:** high signal
- **STIR/PDFS sequence:** very sensitive in the detection of both fascial and perifascial oedema, which appear as poorly margined areas of high signal intensity.

Other MRI features include:

- Plantar fascial thickening - often fusiform and typically involves the proximal portion and extends to the calcaneal insertion.
- Increased T2/STIR signal intensity of the proximal plantar fascia.
- Edema of the adjacent fat pad and underlying soft tissues.
- Marrow edema within the medial calcaneal tuberosity may also be seen.
- In severe cases there may be disruption of the fibres.

**Conclusion:** Because of the wide clinical differential diagnosis of heel pain, MRI is useful in distinguishing plantar fasciitis from other causes and treatment recommendations often vary markedly based on the MR findings.

Regards,

**Dr.Deepa S. Nadkarni / Dr.Shaikh M.Mazhar**

N.B: This case is authentic and from the archives of **Radiance Diagnostics**. For any queries/suggestions/feedback write to us at [radiance@radiancediagnostics.in](mailto:radiance@radiancediagnostics.in) Case of the month can also be accessed anytime online at **VIEW BOX** at [www.radiancediagnostics.in](http://www.radiancediagnostics.in)