As physical therapists, we will often be looked at as a healthcare consultant for many of our clients in the outpatient setting. We’ve discussed throughout the curriculum that our patients develop a relationship with us that is built around trust and respect. That being said, we really need to be informed on the possible treatments as well as the pros and cons to each.

A patient comes to you and says, “Nothing is working and the doctor wants to do a plantarfascial release, what do you think?” We need to be prepared.

Plantar fasciitis is a common cause of hindfoot pain with more than 600,000 outpatient visits annually in the United States.1 The Sharkey et al.2 article looks specifically at the plantar fascias role in terminal stance and does a great job depicting the cyclical requirements. Stated below:

The fascia is cyclically loaded in this fashion during gait, because the metatarsophalangeal joints are dorsiflexed at terminal stance. At the same time, GRF increase under the forefoot because of active plantarflexion and the imposed weight of the entire body. In terminal stance, peak forces may momentarily exceed body weight and the plantar fascia, augmented by toe dorsiflexion, becomes an essential structural component in maintaining proper transfer of force between the ground and foot.2

The study used eight dozen unpaired human cadaveric feet and tested the effects of four plantar fascial conditions: intact, 50% release of the central band, full release of the central band and complete plantar fasciotomy. They hypothesized “that plantar fascial release or rupture, by altering the skeletal conformation of the foot, redistributes plantar pressure and increases loading in the second metatarsal, particularly during the stages of gait where the windlass mechanism normally acts to reinforce the longitudinal arch and matatarsophalangeal joints.”2

The article found that partial sectioning of the central band only had mild changes in plantar pressure distribution.2 However, whole band or complete release caused major peak pressure and force under the met heads to increase at early and late terminal stance. Also, the dorsal strain, medial strain, and plantar to dorsal bending moment in the second metatarsal were all significantly elevated. 2 If you are very interested in this matter—the article does a great job at detailing the protocol, findings, and specifics. In hopes to keep this brief, the overall findings suggested that plantar fasciaotomy or rupture could precipitate new problems in the forefoot.2

While this information is a great resource we also must consider all other options—making sure to do a full assessment and implement multiple treatment techniques before we can say “we tried everything”. Remember that the integrity of the plantar fascia itself may be our primary culprit. A culprit that may only be assessed once looked at under the knife. This is a topic that will most definitely need to be discussed at extent with each patient as well as understanding their surgeons intentions.

References:

1. Riddle, DL; Schappert, SM: Volume of ambulatory care visits and patterns of care for patients diagnosed with plantar fasciitis: a national study of medical doctors. Foot Ankle Int. 25:303 – 310, 2004.
2. Sharkey NA. Biomechanical Consequences of Plantar Fascial Release or Rupture During Gait Part II: Alterations in Forefoot Loading. *Foot & ankle international.* 1999-02;20:86-96.