

THE ORTHOTIC REVOLUTION

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Using ICB Orthotics Made Easy: Plantar Fasciitis

I am often asked by practitioners, "How do I know that my patient will benefit from ICB orthotic therapy?"

From the outset we must understand that ICB orthotics are not a 'cure-all'. Rather they are simply a tool for the practitioner to use in the treatment regime. Be assured however, that you can achieve great results when you combine ICB Orthotics within your modality.

During a patient's initial consultation they will generally outline a point of pain (P.O.P) and will be looking to gain quick, if not immediate relief. As practitioners we should be sensitive to the pain our patients suffer. However, in my clinic I initially treat the P.O.P whilst at the same time endeavouring to identify the root cause which has triggered the symptomatic pain (in non trauma cases only).

Let's look at the case of a Plantar Fasciitis (Heel Spur Syndrome) sufferer.

In this situation excessive Subtalar joint pronation lowers the arch structure causing the foot to elongate and traction forces are placed on the Plantar Fascia resulting in inflammation of the plantar calcaneal attachments (Warren, 1990; Kibler et al, 1991).

The practitioner must first accurately identify where the pain is felt by the patient - medial heel pain, lateral heel pain or central heel pain. The P.O.P is very important to identify as this will help determine the best form of treatment.

There are three aponeuroses under the foot medial, central and lateral attachments to the calcaneus. Thus it is critical to identify the point of pain, as it will greatly assist in the diagnostic process and subsequent treatment.

Medial Heel Pain is associated with excessive pronation more than the 4° the body allows. This causes the medial plantar fascia to elongate and tear away from the calcaneal attachment causing inflammation and pain.

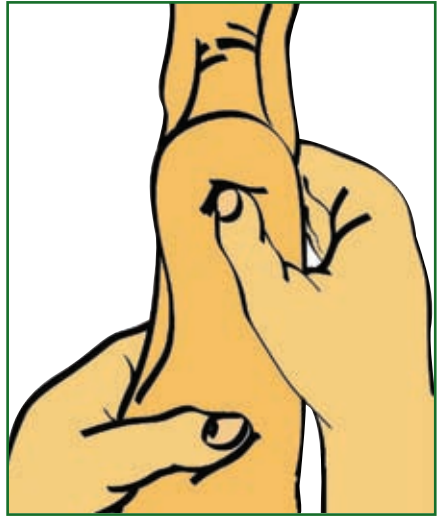
Central Heel Pain is associated with high lateral heel strike in gait to mid foot collapse, and pronation at mid stance of gait, together



with a forefoot valgus deformity usually $<10^\circ$. When the foot lands laterally, the ground reaction forces propel the foot into pronation as it enters mid stance, causing middle or central plantar fascia tearing to occur at the attachment, and causing trauma at the pivot point.

Lateral Heel Pain is associated with a Pes Cavus foot structure or a high forefoot valgus which causes the lateral plantar fascia to strain from the attachment. A fixed plantarflexed 1st metatarsal can also cause lateral heel pain.

All the above will affect either lateral heel pain, medial heel pain or centre heel pain.



Treatment

1. Check if the patient is pronating or supinating. Look at the amount of pronation by correcting the feet to neutral (Neutral Calcaneal Stance Position), then allowing the patient to relax (Resting Calcaneal Stance Position). This will identify the total pronation factor.
2. Check the patient's weight, so you will know which ICB Orthotic density will be most suitable, i.e. supporting the patients arch without collapsing under their body weight.
3. Identify if there is a forefoot valgus. If a forefoot deformity exists, attach the appropriate size forefoot addition to the orthotic prior to heat moulding. Then proceed to heat mould the orthotic, with the patient's foot in the neutral calcaneal stance position.
4. When fitting orthotics always check if there is a structural leg length difference. If a leg length difference is detected the fitting of orthotics will remedy any long leg compensation. If the patient has a short leg, add a heel lift and build up gradually to the required height.
5. Check the patient for a tight plantar fascia as this may cause orthotic compliance problems and irritation in the patients' arch (see over).



If the patient does exhibit a tight plantar fascia, a plantar fascial groove will need to be placed into the arch of the orthotic, after the heat moulding to the patient's NCSP. A plantar fascial groove can be created marking a line 1cm in from the medial aspect of the longitudinal arch. Then heat the marked area, and use a metal instrument to depress a groove into the arch of the orthotic. This process is further outlined in the Quick Reference Guide to ICB Orthotic Additions & Modifications on page 143.

Post-Compliance Issues

If after the wearing-in period the patient complains of pain under the arch caused by the orthotics, check the following:

1. Is the orthotic sufficiently controlling the pronation? Check the density guide (www.icbmedical.com) and upgrade the patient to a more supportive controlling device. For example, change from an ICB mid density Blue orthotic to a firm density Green orthotic, which offers increased support and control.
2. Is the patient's Neutral Calcaneal Stance Position greater than the 5° built into the orthotics? If the orthotic density is correct and the NCSP measures more than the 5° rearfoot varus angle already built into the ICB orthotic, or the device is not controlling the pronation, increase the inversion angle by adding a Rearfoot Varus addition to the orthotic.



Additional Treatments

- Low Dye Strapping: to assist or mimic an orthotic.
- R.I.C.E (Rest – Ice – Compression – Evaluation)
- Foot Mobilisation to free up the joints and break down scar tissue and realign the joints.
- Deep Tissue Massage - to break down fibrous tissue.

Differential Diagnosis

- Entrapment of the medial calcaneal branch of the tibial nerve.
- Tarsal Tunnel Syndrome

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