

Using Orthotics Made Easy: When To Use Orthotics

By Abbie Najjarine
BSc (Pod) - QMU UK
Dip Pod - NSW



When should I use an orthotic in conjunction with my treatment program for my patient?

It can be confusing especially if you do not use orthotic therapy regularly. So in this series I want to address the key questions and try to simplify the prescription process so that as practitioners we can benefit by providing patients with the best form of treatment, in turn benefitting our patients by relieving painful conditions and treating the cause of pain, not just the symptomatic pain.

Each time I speak with allied health practitioners I remind them that they need to use their own treatment in conjunction with orthotic therapy, or develop relationships with practitioners from other modalities, thus combining treatments to provide the patient with a holistic regime.

The common conditions that an orthotic can treat include:

- **Bunions** - usually caused by a short 1st metatarsal and aggravated by pronation.
- **Ball of Foot Pain** - collapsing and rotating of the metatarsals caused by pronation.
- **Plantar Fasciitis / Heel Spur** - pronation causes the fascia to elongate and tear from the calcaneus. Spurs are a secondary compensation.
- **Severs Disease (children's heel pain)** - related to pronation and growth

spurts in children and affects sporting children more than sedentary ones.

- **Achilles Tendonitis** - constant bending of the Achilles tendon caused by both pronation and supination creates a point of pain stress point.

- **Shin Splints** - lateral/medial/anterior pronation and supination are the key contributing factors.

- **Knee Pain** - collateral ligamental strain due to pronatory and supinatory factors.

- **Children's Knee Pain** - 'Osgood Schlatters Syndrome' occurs due to a combination of tibial torsion, growth spurts and pronatory factors.

- **Hip Pain** - due to structural or functional leg length and supinatory factors including tight external hip rotators and long leg jamming action.

- **Low Back Pain** - Unilateral and bilateral pronation, and structural and functional leg length causing stress on the lower back L1-L5.

- **Leg Length Syndrome** - when a structural leg length difference is evident the long leg may excessively pronate to level the pelvis and so the orthotic will correct the long leg pronation and a heel lift will be added to the orthotic on the short leg.

So how do I start? And when should I use orthotics?

First, always check if the patient pronates or supinates. If the patient pronates then pronation will be an underlying factor to many of the conditions above and so you will need to identify and treat with orthotics to realign and control the rearfoot and support the longitudinal arch.

Next, identify the amount of pronation by correcting the foot to neutral and

then allowing the patient to rest and relax their feet (or pronate) - this will allow you to recognise whether the patient will require an orthotic.

Check structural leg length and if a heel lift is required attach to the orthotic for the short leg. The longer leg with pronation compensation, will be supported by the orthotic on the other foot. Never use a single orthotic, always prescribe a pair as this will maintain correct foundational balance.

If the foot is supinating the patient will experience jarring in the foot and to the upper structure, and will usually have a rigid high arched foot type. This type of foot commonly exhibits a forefoot valgus deformity. Such a foot is not that common - about 8 - 9% of the population may present with it.

Check the Neutral Calcaneal Stance Position, i.e. the congruency of the subtalar joint, which may be less than the patient's resting position.

Prescribe an ICB Orthotic based on the patient's weight and style of shoe, and check for a forefoot valgus as this type of condition may contribute to lateral ankle sprain, lateral knee pain, lateral shin splints and lateral hip pain. In this case an orthotic is required to control the supination by maintaining the Neutral Calcaneal Stance Position, treat the forefoot valgus and whilst providing the patient with comfortable support.

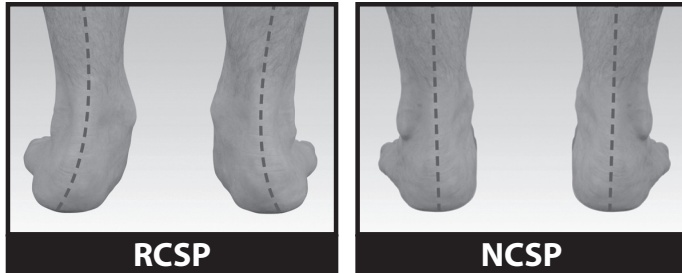
Prescribing an orthotic for 80% of your patient base is easy as:

1, 2, 3

See overleaf...

1. Identify the RCSP (or the pronated position).

2. Observe the NCSP (corrected position) to identify the correct position for heat moulding the orthotic, and to help identify the pronatory effect, i.e. NCSP - RCSP = Pronation



3. Check the leg length (manually) for any structural differences:

- a. Place finger under Malleolus. Using a ball point pen mark a straight line (as shown below).
- b. Line up both legs - ensuring the pelvis is straight and even. Look for a leg length difference, but measuring the difference between the two lines (as shown below).



By following these simple steps more than 80% of the conditions you see in your clinic on a daily basis can be treated effectively with orthotic therapy.

It is important to act on your initial assessment, if the patient requires realignment, then prescribe the orthotic and continue with assessing the patient and modifying the orthotic when they return for a subsequent consultation.

Don't forget to instruct the patient that orthotics require a period of adjustment so the patient should be instructed to wear them for 1-2 hours per day, increasing gradually until the patient is comfortable wearing them full time. If they experience discomfort, the patient should take the orthotics out of their shoes, and give their feet a rest. Then resume wearing the orthotics. Continue until the patient is comfortable wearing the orthotics all day.

Many practitioners say to me that they sometimes feel overwhelmed when assessing and prescribing orthotics, often asking **"When should orthotic additions be attached to the orthotic?"**

Orthotic additions can be added on the subsequent consultation. The most important things to address are: 'does the patient require orthotics?' and 'does the patient exhibit a structural leg length difference?'

Once the issue of leg length has been resolved, you are now ready to proceed with the heat moulding process.

Forefoot additions can be attached to the orthotics on subsequent visits - if required.

This procedure will start the treatment process and the practitioner can continue to monitor and modify the orthotics as needed.

ICB has an easy Addition Modification Chart available upon request, for all customers. If you need any further assistance or advice with patient assessment, or prescribing orthotics you can contact ICB Medical or go to the ICB website: www.icbmedical.com