

Fact Sheet

Orthotics

What are Orthotics?

An 'orthosis' is a medical term which describes a device that supports, realigns or assists in the function of the musculo-skeletal system.

Biomechanical problems can have significant impact on the legs, pelvis and lower back - and obviously the feet. Foot orthotics are designed to support, align and improve the function of the feet and lower limbs during gait.

The orthotics apply forces to the feet, enabling the podiatrist to alter certain movements or offload stress within the tissues. Orthotics provide pain relief and ongoing support to allow for realignment of the knees, hips and spine, thereby providing relief for a range of musculoskeletal problems not limited to the feet.

Patients with arthritis, diabetes or circulatory conditions are at increased risk, thereby orthotics can act as an effective preventative treatment.

Conditions where Orthotic devices may help:

- Achilles tendonitis
- Plantar Fasciitis (heel pain)
- Metatarsalgia
- Claw Toes
- Pronation (flat feet)
- Supination (high arch feet)
- Bunions
- Tibialis Posterior Dysfunction
- Shin pain
- Knee problems



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Patient Assessment

At Highett Podiatry, we undertake a thorough assessment before any orthotic recommendation. This assessment includes:

- 1. Biomechanical Assessment:** Patients should be fully assessed to record range of movement, gait and function.
- 2. Pathological Assessment:** Underlying pathology causing foot abnormalities should be evaluated.
- 3. Footwear Analysis:** Patient footwear should be evaluated and recommendations should be made for shoes that provide support and, when necessary to allow mobility for deformed feet with a wider toe box.

Orthotic Prescription

The orthotic prescription should take into account the above three considerations in order to determine the patient's needs.

Most orthotics in Australia are made from plastic polymer, EVA or carbon fibre to provide patients with firm support. The material selected should provide the level of flexibility required on the basis of foot type and patient pathology. Thinner polymer devices provide the most flexibility. Carbon fibre is altered in production to provide adequate flexibility.

For patients with sensitive foot problems, including elderly or people with serious injuries (such as ulcers), softer, more flexible orthotics will be made to provide support without causing further pain to already sensitive areas.

For serious conditions which require ankle and foot support, customised orthotics can be made following a biomechanical assessment.



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Orthotic Customisation

The following elements make up the customisation of a patient's orthotic prescription:

Cup Depth: Heel cup depth is available in a range of sizes to provide more (deep cup) or less (shallow cup) surface area. Cup depth should be selected based on the underlying patient pathology as inadequate surface area can reduce the efficacy of the orthotic.

Width: Orthotic width is often selected on the basis of shoe type, however width should be selected according to the level of support required and the degree of pronation. Wider orthotics will provide more support to limit pronation, whereas narrower orthotics will allow for increased movement.

Fill: The depth of cast fill optimises the fit against the arch, thereby lowering or fully supporting the arch depending on the amount of support required. Fill should follow the arch of the foot and in patients with limited range of motion, fill should be shallower so as to not further reduce mobility.

Extensions and additions: There are a multitude of extensions and add-ons that can be used to further customise orthotics to fit a patient's foot type, deformity and underlying condition. Such extensions can significantly improve the effectiveness of an orthotic, leading to increased comfort, increased support and improved quality of life.



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