



Clinical Specialties in Orthotics and Prosthetics

Customised footwear to relieve foot pain and improve mobility

Supportive, well-fitting footwear plays a vital role in keeping people mobile and pain free. Sometimes, wearing commercially available shoes does not provide enough support and stability for people with certain foot conditions. If you have abnormal foot structure, mechanics or disease, you may benefit from customised footwear.

What is customised footwear?

Footwear customisation (also known as adaptation or modification) refers to permanent changes made to footwear for increased comfort, ease of use or improved mobility. Standard footwear or extra-depth or extra-width footwear can all be customised.

Footwear customisation may benefit you if you have a foot deformity that has been present from birth (such as talipes equinovarus or club foot) or is a result of complicated or severe foot injury (such as a foot crush injury), or from disease affecting your feet (such as rheumatoid arthritis). Customisation may also be required if you wear an orthosis on your foot or ankle. Customising footwear can accommodate many foot and orthosis shapes to ensure a safe, secure and comfortable fit.

What types of customisation are possible?

Types of customisation include changes to the:

- Type of closure
- Shape of the upper by stretching the leather over specific areas
- Height or shape of the sole
 - Heel or sole raises to correct leg length discrepancies, Achilles tendonitis, after Achilles surgery or to accommodate Achilles contracture
 - Creating a rocker sole to help with smooth roll-over when ankle movement is limited, or to reduce forefoot pressure (for example in hallux limitus/rigidus)
 - Heel flares for lateral (side-to-side) support
 - Heel or sole wedges to accommodate foot position by creating a flat walking surface



Shoe areas such as the sole, the shape of the upper and the type of closure can be customised by an orthotist

Who prescribes customised footwear?

Orthotists (pron. or-tho-tists) are tertiary qualified allied health practitioners who specialise in the clinical assessment, provision and ongoing review of orthoses. In Australia, orthotists are trained at either a Bachelor or Master's level. Orthotists work autonomously and within the multidisciplinary team in the acute and rehabilitation hospital setting as well as in private clinics.

Why an orthotist?

An orthosis is a supportive device fitted to the body to protect and support a body part, compensate for weakness, accommodate or prevent deformity, redistribute pressure or correct the alignment of body parts. Examples of lower limb orthoses include foot orthoses, ankle-foot orthoses and ankle-knee-foot orthoses. Footwear is an essential part of any lower limb orthosis as it helps secure the foot within the orthosis and provides a stable connection with the ground.

The design of footwear worn with an orthosis can have a significant effect on how the orthosis performs. Adaptations to the heel and sole of the shoe (such as changes to the heel height or heel-sole profile) will affect the forces acting on the feet and legs.



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The choice of footwear must always be carefully considered for any person who uses a lower limb orthosis.

Orthotists are trained to assess and treat the physical and functional limitations of people using orthoses. Orthotists combine clinical expertise with knowledge of biomechanics, physiology, anatomy and materials science to treat a wide range of foot and ankle pathologies.

I don't wear an orthosis but standard footwear just doesn't fit. Should I investigate customised footwear?

Orthotists can customise footwear even if you don't wear an orthosis. Talk to your orthotist about whether footwear customisation might benefit you.

In some cases, standard footwear or extra-depth or extra-width footwear with customisation does not adequately accommodate foot anatomy or mechanics. In this case, custom-made footwear (sometimes called orthopaedic, surgical or pedorthic footwear) may be more appropriate because it is tailor made to the individual. Orthotists can arrange custom-made footwear if this is required.

How do I access customised footwear?

Referrals for customised footwear are not essential. Some private health insurance companies and insurance/government bodies will require a referral, often from an orthopaedic surgeon or podiatrist, so it is always best to check with them first. However, if you are attending the hospital, GP or allied health service you can ask to be referred to an orthotist who will:

- Perform a clinical assessment
- Support you to determine the most suitable footwear or footwear customisations to meet your goals and requirements
- Complete any measurement/casting, manufacture and fitting
- Provide ongoing clinical support and education including regular reviews
- Adjust and/or replace the footwear to maintain optimal fit and function
- Liaise with relevant members of the healthcare team

Certified Orthotist/Prosthetists (c-OP AOPA) can be located using the 'Find a practitioner' search function on the AOPA website (www.aopa.org.au).



Disclaimer – This fact sheet does not replace clinical advice. If you require orthotic services AOPA recommends speaking to your practitioner. This fact sheet was developed based on interpretation of current evidence as of May 2018. References available on request.