

Each year Paul Lucas, a Canadian Certified Pedorthist and the 2008 President of the Pedorthic Association of Canada, consults with hundreds of new patients experiencing knee, hip or lower back pain caused by foot problems. A number of his patients require foot orthotics in order to help alleviate their discomfort. Unfortunately few people know much about the value of foot orthotics - with the exception of the myths that foot orthotics are only for seniors, are one-size-fits-all and are designed to fit only in 'unfashionable' footwear.

"A foot orthotic is a brace that can be discretely inserted into the shoe to support and improve foot function. They are not just for seniors, as foot orthotics can treat a wide range of foot problems in children, teens, adults and seniors. And, depending on the type of orthotic it can be modified and fitted in most types of athletic and fashionable footwear," says Paul Lucas.



According to Lucas, once he explains to patients requiring a foot orthotic what an orthotic is, the next questions are usually "How can this small piece of material help to ease my pain?" and "How quickly will it work?".

A foot orthotic can help patients with foot problems caused by high arches, mild to excessive pronation (foot rolls inward), heel or forefoot pain, bunions, callouses, as well as pain and complications related to health conditions such as arthritis or diabetes. How? By supporting and correcting deformities in order to improve the way the foot moves and functions. For example, if a patient has a high arched foot with poor shock absorption they may be prone to painful callousing. A foot orthotic inserted into appropriate footwear can help to provide the necessary shock

absorption and alleviate certain pressure points to help prevent further callousing.

In terms of how quickly a foot orthotic can help alleviate discomfort, Lucas adds, "Most patients will adapt quickly to the new foot orthotic resulting in fast relief. However, some patients may take more time and may experience new aches and pains as the body adapts to the orthotic - but this will ease up over time."

Foot orthotics are not one-size-fits-all. They can vary in size and shape and can come in a variety of different materials from hard plastic to soft foam. There are two types of foot orthotics - **over-the-counter** and **custom-made**.

### **What's the Difference?**

Basic over-the-counter foot orthotics are mass produced and can be found in most pharmacies, grocery stores and other retail outlets. Typically they are less expensive than custom-made foot orthotics and can sometimes bring satisfactory results in treating mild foot conditions. However, over-the-counter foot orthotics generally have a shorter lifespan and require more frequent changing than custom-made orthotics and therefore may end up becoming less cost-effective over time. Additionally, without the assistance of a certified healthcare professional, such as a Canadian Certified Pedorthist who is a footwear and orthotic expert, the incorrect product may be purchased, which may aggravate the foot condition instead of improving it.

“Over-the-counter foot orthotics can be effectively used as a temporary solution for children who are rapidly growing or as a ‘first’ step for any age to provide insight into how a patient will initially respond to a foot orthotic before receiving a more corrective support with a custom-made foot orthotic,” he explains. “However the one-size-fits-all adage of most over-the-counter foot orthotics can prove detrimental to a patient who requires specific support or material only found in a custom-made foot orthotic.”

Unlike over-the-counter solutions, custom-made foot orthotics require a prescription from a physician and are made specifically for the patient following an assessment of their feet and legs by a trained professional such as a Canadian Certified Pedorthist. In order to evaluate the patient’s specific and unique requirements, the pedorthist performs a gait (walking) analysis of the patient as well as a hands-on biomechanical assessment of the feet and lower legs. The pedorthist then takes a three-dimensional model of the patient’s foot and an orthotic is made from raw materials. A wide range of materials can be used from soft foam to hard plastic, as well as any combination of these materials, to make a foot orthotic. This versatility can provide support as well as cushioning in the exact proportions needed for the patient’s specific problems - something that cannot be found in a mass-produced, over-the-counter product. The actual appearance of a custom-made foot orthotic varies depending on the foot condition it is designed to treat and in what type of footwear it will be worn.

A custom-made foot orthotic can also vary in size from being the full length of the foot to one that spans only from the heel to the ball of the foot. They can also vary greatly in thickness depending on the style of footwear being used and the type and location of support needed (as determined through the pedorthic assessment process).

### ***Not your grandmother’s shoe***

Whether patients are using over-the-counter or custom-made foot orthotics it is imperative for them to ensure they are wearing appropriate footwear. A shoe acts as a foundation for the foot and provides a stable base for an orthotic to sit on. A foot orthotic can be rendered less effective by placing it within inferior footwear because it may work against the features of the orthotic.

However, that doesn’t sentence foot orthotic wearers to “unfashionable” or “clunky” shoes, as the myth would have you believe. Lucas says that shoe manufacturers have made significant advances in the past few years in making supportive shoes that are also attractive. One feature that you will notice more often is the presence of an easily removable insole. With this feature it is simple to replace the insole with a custom-made orthotic and maintain a good fit. He also advises that patients should bring their foot orthotics with them when they are purchasing new shoes and they should make sure to select shoes that feel comfortable right from the first step.

Appropriate footwear also helps with the lifespan and effectiveness of a foot orthotic. Typically the lifespan of a custom-made foot orthotic is longer than that of an over-the-counter device which off-sets the greater cost of a custom-made device. Patients should also check-in with their pedorthist regularly in order to ensure the foot orthotic is working effectively over time and with use - especially if the patient purchases new footwear and to determine if any specific modifications or adjustments are required should the patient’s condition change over time.

Pedorthists (C. Ped (C)) are one of the few healthcare professionals trained in the assessment of lower limb anatomy and biomechanics. With specialized education and training in the design, manufacture, fit and modification of foot orthotics and footwear, Pedorthists help to alleviate pain, abnormalities and debilitating conditions of the lower limbs and feet that if left untreated could result in limited mobility. Canadian Certified Pedorthists work with prescribing healthcare providers to help patients achieve healthy lower limbs and feet.