

Treating Bunions Hallux Abducto Valgus

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Hallux Abducto Valgus is a very common condition - one that I see almost every day in my clinics. Often I am asked if the shoes patients wear are the cause of the bunion?

The answer to this question is quite complex. The patient's biomechanics is the main contributing factor behind the development of a bunion, however, tight fitting shoes can often aggravate the bunion during it's development.



Figure 1: X-ray of a bunion

Excessive pronation will cause excessive forces to be applied to the forefoot, with increased load on the 1st metatarsal head in an adductory direction. This will allow rotation of the shaft and in turn the hallux (big toe) will compensate by abducting. A short

1st metatarsal or hyper mobile feet are considerably more susceptible - in this situation, the patient's biomechanics is hereditary. A short 1st metatarsal is a major contributing factor as the 1st metatarsal adducts and drops to meet the ground. When combined with pronation this causes the hallux to abduct, hence the term 'Hallux Abducto Valgus'. (Lorimer et al, 1997; Selner et al, 1992; De Valentine, 1992).

There are 3 stages of bunion development - orthotic therapy at each stage can prevent the bunion from progressing to the next stage.

1. Primary Stage: usually occurs from adolescents up to the age of 25 years. A primary stage bunion presents as a slight bump.

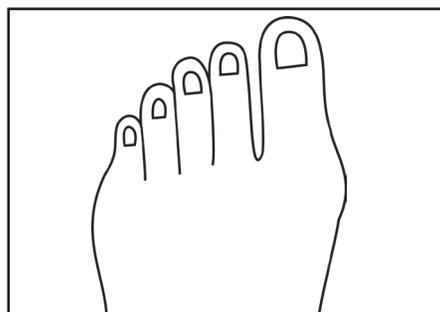


Figure 1: Primary stage bunion

2. Secondary Stage; occurs generally at between the ages of 25 and 55 years. The 1st metatarsal head adducts and the hallux abducts causing pressure on the 2nd digit. Callosity may develop on the medial side of the 1st Metatarso Phalangeal Joint and medial hallux.

As the foot continues to pronate over several years the ground reaction forces the hallux into abduction and the extensor hallucis longus also becomes tight and pulls the hallux further across

in a 'bow' like effect.

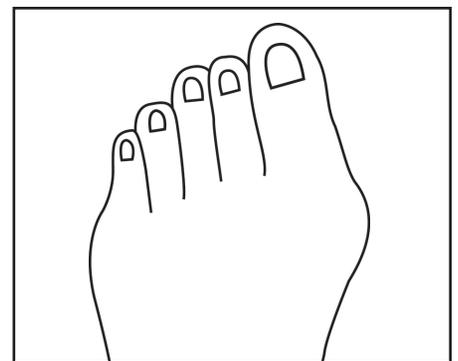


Figure 2: Secondary stage bunion

3. Tertiary Stage: If this situation is not controlled with orthotic therapy at the secondary stage to prevent the condition from progressing further, the bunion will eventually move into the Tertiary Stage (or the 3rd stage). In the tertiary stage of Hallux Abducto Valgus an overlapping of the hallux occurs either above or below the 2nd digit. As this takes place the patient's shoes become difficult to wear, and find it hard to find shoes to accommodate, as most shoes will aggravate the 1st MTPJ on the medial side (Thordarson, 2004).

This stage is very difficult to treat, the patient may be in extreme pain and often find it hard to find footwear that can accommodate for the deviated hallux. Patients may need to consult an orthopedic surgeon to surgically correct the bunion deformity. Following surgery, the patient will need to have orthotic prescribed to treat the underlying biomechanical condition. Orthotics are essential to give the foot realignment and support, and prevent the reoccurrence of the Hallux Abducto Valgus (bunion).

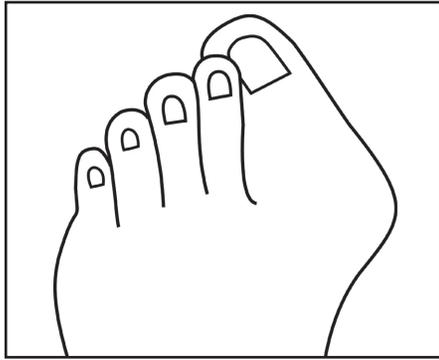


Figure 3: Tertiary stage bunion

Treatment

Prescribe an orthotic to realign and control the patient's pronation. Heat and mould the orthotic with the foot in the Neutral Calcaneal Stance Position (NCSP). Following heat moulding, monitor the patient, ensuring the orthotic is adequately controlling the pronation - thus preventing the further development of the bunion.

In addition to the orthotics the patient will need to do intrinsic foot strengthening exercises to strengthen the aponeurosis, e.g. picking up chopsticks with their toes.

Bunion strapping can be done, however it is only effective if the bunion is in the beginnings of Stage 1.

When treating hallux abducto valgus with orthotic therapy, it is important to explain not only the causes of bunion development but also the 3 stages. By doing so the patient will understand why they need to wear orthotics and that by doing so they will prevent the bunion from progressing to the next stage.

Treating Hallux Abducto Valgus with orthotic therapy will realign the foot, limit calcaneal eversion, thus controlling pronation and taking pressure off the 1st MTPJ. Monitor the bunion closely, and if it worsens or continues to be painful, review the prescribed orthotic - make sure the orthotic is providing enough control, and check if the patient is

continuing to pronate through the orthotic. If the patient is continuing to pronate it may be necessary to prescribe a firmer density orthotic such as the ICB Firm Green Orthotics, to ensure correction and control is being achieved.

If the patient presents with a short 1st metatarsal shaft the practitioner can create a Mortons Extension to the orthotic. To do so place a Forefoot Orthotic Addition under the hallux (attaching using double sided tape) or posteriorly to the distal digit of the hallux - this treatment is only successful in the first stage.



Figure 4: Adding a Mortons Extension to a heat moulded orthotic.

References:

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