

History of X-Line Foot Orthoses

These simple but effective devices were designed to give the practitioner a quick and easy prescription base. X-Lines can be modified, and have now established themselves as the first line of defence in many clinics.

The term 'X-line' refers to the co-ordinate system where the sagittal plane is represented as an "X". Because gait is about moving forward, most motion of the foot occurs in the sagittal plane just like the rest of the joints in the leg.

Each X-Line orthotic is a 'total contact' device meaning it is in contact with the shoe throughout its length. Made from expanded foam, each X-Line device has three common

Features;



A contoured heel seat affording control with comfort for the patient.



A mid-foot saddle. An integral part of the design, this 'hump' reduces the speed and amount of distal calcaneal plantarflexion in the foot.



X-line also has a 1st metatarsal recess freeing the 1st metatarsophalangeal joint from early and high pressure in stance to allow good sagittal motion as the foot accelerates towards the next step.



Philosophy behind X-Line

In describing this feature, the best analogy to use is that of a car driving over a humpback bridge.



As the car approaches the bridge, it slows to go up the incline. Calcaneal plantarflexion is reduced when the heel meets the mid-foot saddle.



At a safe speed, the car crosses the hump of the bridge. The foot is stabilised when fully loaded on the saddle.



Once over the hump, the car accelerates away. The 1st ray drops into the recess and encourages the MTP joint to bend, the heel raises and sagittal movement within the foot has been maximised.

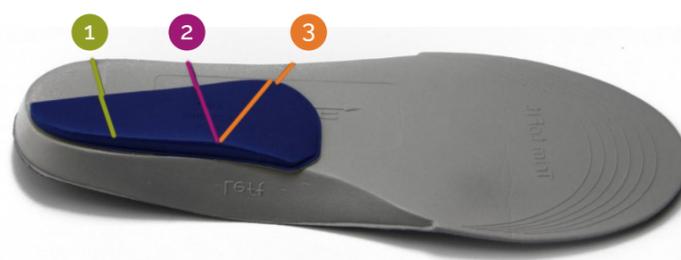


Specifically designed for the X-Line range, the wedge kit comprises a pair of 4 degree and 8 degree wedges. The kit offers a rearfoot wedge which extends into the arch enhancing the mid-foot control provided by the mid-foot saddle.

Healthy Step Posting system is designed to create forces in point specific locations on foot anatomy across the range of our X-line, Condition specific and Alleviate evolve and evolve+ range of foot orthoses. They adhere using top quality double-sided tape, but can be adhered to the insoles by using a range of suitable adhesives such as neoprene if the underside is scored first

Each post is designed to apply their moments of force to control the maximum arch deforming that results from weight-bearing forces on the foot at a specific moment of gait.

Coming in a range of sizes and thicknesses, these posts should be seen as doses of force that can be used to enhance the effectiveness of HealthyStep's orthoses across the range. There is nothing else out there so specifically engineered.



Rearfoot Post

Healthy Step rearfoot posts are tri-planar designed specifically to control contact to loading response eversion excursion, and plantarflexion of the sub-talar/ankle joint complex. The post is extended when compared to most rearfoot posts available from other companies to work with HealthyStep insole's arch and midfoot saddle profile to prevent excess plantarflexion, eversion, and abduction of the talo-navicular joint. This joint has been demonstrated to have greater effect on other foot joints than any other joint in the foot

1



Finally the post is tapered down distally from the talonavicular joint and calcaneocuboid joint to promote forward progression of the leg into late midstance phase. This prevents the post from delaying heel lift and helping the body to accelerate off the foot during terminal stance.

2



These rearfoot posts enhance the midfoot saddle profile of the insole in slowing the body's centre of mass's forward progression over the foot when the arch muscles are tired or weak. This allows foot muscles in the foot more time to fire and stabilise the foot and lower leg during midstance phase of gait.

3



The rearfoot post can also be reversed (left to right and visa-versa) to become a lateral post when a patient shows lateral instability or under eversion in loading response.