

Hallux Valgus

A Sock as Friend

Applied research of physiotherapeutic bandages. After years of experience in physiotherapeutic bandages, a new technologically innovative sock has been created for those who suffer from Hallux Valgus or have a tendency to develop it.

Created in Italy with an international patent, by I.S.P.E. snc, a company with over thirty years of experience in the textile industry, and Dr. Carlo De Luca of Fisiomed RS25 in Padua, a center that for years has used physiotherapeutic bandages to treat Hallux Valgus, Alluce Valgo Solution® is a technologically advanced sock created to embrace the foot and aid it in its functions. It is above all for people who suffer from type I and II Hallux Valgus, or have the tendency to develop it.

According to Dr. De Luca: «Hallux Valgus, can basically be defined as a malformation of the foot characterized by a lateral deviation of the phalanx of the big toe and a medial (or opposite) deviation of the metatarsal of the big toe. This malformation is usually progressive and, even though it is a congenital pathology, unsuitable shoes (with high heels and pointed toes) and poor lifestyle habits (reduced sports activity, never walking barefoot on uneven ground, earth or sand) can accelerate its evolution. In serious cases, the angle between the first metatarsal and big toe can be such that it blocks the joint. Typical complications of this pathology are bunions at the joint (due to rubbing and traumatism of the malformed joint on the shoe), metatarsalgia (pain in the forefoot) and walking alterations with repercussions on the knee, hip and back».



Treating the pathology

«Surgery is the main remedy to correct this anatomical malfunction, even though the various surgical approaches to the pathology can cause the patient to be wary. Post-surgical recovery can sometimes be difficult. Physiotherapy helps to reduce signs and symptoms, massages and exercise can slow down and contain its evolution. Other than surgery and physiotherapy, there are joint restraining and/or protection devices in the market. Among the various symptomatic, restraining, protective therapeutic approaches is the physiotherapeutic bandage. There are more than one type of bandage, but essentially it consists of a band or band-aid that reinforces the joint at the medial area, anchoring itself to the big toe and preventing a lateral deviation, and of a transversal band that gathers the metatarsal region, preventing the medial deviation of the first metatarsus».

The physiotherapeutic bandage

«If the bandage is well-made» states De Luca «the various bands interact in synergy. For example, the

extension of the sole of the foot when pressure is applied puts into motion the transversal band which, being anchored to the medial band, will accentuate the action on the joint of the first metatarsal ray. When stepping, this action anticipates the movement of the weight on the forefoot and the metatarsal-phalanx joint of the big toe will be assisted and tend to naturally align in anticipation of the moment of maximum effort. Furthermore, the combined action of the 2 bands not only protects the proximal joint of the big toe but also massages the medial foot muscles with firming results. Usually those who use it really like it, so much so that for years as part of our service we taught patients how to self-bandage, like the auto-taping (or strapping) sportsmen do».

Alluce Valgo Solution®

According to the creators, the sock was initially conceived to replace the physiotherapeutic bandage. It was perhaps less efficient because it was less personalized, but easier and more comfortable to use. «But then we realized that we couldn't simply create an ensemble of bands that wrapped into a shape, however complex and dynamic, but rather we had to think about creating forces and vectors intrinsic to the idea of a garment that could wrap the foot overall». Beginning with these principles, Dr. De Luca and Ispe developed Alluce Valgo Solution®, a first-rate medical device, accredited by the Ministry of Health. It was not created to correct the anatomic malformation by force but rather to assist and strengthen its natural shapes by adapting itself dynamically to the complex movements of the foot itself. Alluce Valgo Solution®, thanks to a complex interweaving and the unique nature of the fibres of its various bands, actively works and moves in synch with the foot, massaging it, encouraging a lymphatic return and firming up of the muscles. Moreover, the device makes wearing shoes easier, reduces traumatism to the phalanx metatarsal joint of the big toe and is appreciated by those who suffer from Hallux Valgus and who love to walk, do sports or must stand for long periods of time. «When creating Alluce Valgo Solution®» explains Paolo Scettri «the bands were made intrinsic to the weavings of the sock fibers, transformed and studied as pure lines of strength. The simple transversal band (or bands) was substituted by multiple lines of oblique action force in the medial-lateral and distal-proximal sense (according to many angles) acting up until the base of the big toe. The strengthening lines of protection and assistance of the medial muscles and of the joint of the first metatarsal ray maintain their motion beyond the base of the big toe, but without acting upon the last phalanx, while surrounding the foot at the back». «With the physiotherapeutic bandage» says Scettri «there has certainly been a loss in personalisation given by the more or less professional wrapping, but an advantage has been gained in that it's easy to wear and practical to use. The bands, furthermore, have been immersed in a sock that wraps the entire foot, which allows for resting and differentiated pressure, promoting a further lymph drainage action. The angle of separation of the big toe is wide enough to favor greater freedom and the bone of the metatarsal ray are bound, creating a comfortable place for the joint of the big toe, where bursitis frequently occurs.»



Hallux Valgus is a malformation of the foot that causes a deviation in the lateral sense of the phalanx of the first toe, the big toe, and in the medial sense of the metatarsus of the first ray of the foot.

Long-tested solution

Alluce Valgo Solution® has been studied and tested on volunteers; the interweavings of fibre, Lycra, cotton and elastics of various weight, have been interwoven in such a way as to wrap and assist the foot in its complex dynamics. The volunteers have tried the prototypes for over 2 years offering advice and suggestions as to how to improve its efficiency and wearability. The current product is guaranteed by 30 users who have worn the sock for at least 2 hours a day for at least one month: 96.6% say they are satisfied with the product, 50% have said it makes wearing shoes easier, 60% have reported a reduction in their usual pain, 36.6% have observed a reduction of reddening in the "lump", while 15% have had less problems with sweat. No one has complained about any inconveniences. «Alluce Valgo Solution® is different in its design from many other devices dedicated to Hallux Valgus,» explains Scettri «because it doesn't force anatomical correction, maybe only of the forefoot, but it tends to assist the entire structure of the foot, adapting itself to its complex movements. In this sense it could in fact not be aimed only at those who have Hallux Valgus but also for those who must stand for a long time or who walk for a passion. In its complexity, the weavings of the garment tend to open and close elastically aiding with perspiration. This, together with the antibacterial treatment Sanitized®, often resolves the problem of bad smell». Finally, concludes Scettri addressing experts in textile manufacturing «you need only to turn the sock inside out and look at the internal workmanship to understand the complexity of the study and work undertaken».