Summary of the Study

A NEW DYNAMIC SPLINT FOR THE CONSERVATIVE TREATMENT OF LIGHT TO MODERATE HALLUX VALGUS

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Until now a conservative treatment of hallux valgus was not possible. In cooperation with the Fraunhofer Institute a dynamic splint was developed for the active correction of light to moderate hallux valgus. It has six major functions: metatarsal bandage, supports the transversal arch with a pad, anatomic splint for the 1st metatarsal, soft part pad for pressure relief, free mobility of the base joint of the big toe and toe splint with corrective bandage. The individually adjustable reins then enable correction of the malpositioning. The splint is designed for day and night use and can also be worn in normal shoes.
The effect of this new splint (Hallufix®) was tested on 59 patients during a period of 6 weeks. There were 54 women and 5 men with an average age of 48 years. 2 men and 21 women had a light to moderate hallux valgus on both sides. Along with a determination of the hallux valgus angle at the beginning and end of the study a gait analysis with a strain gauge was performed in barefoot gait with and without the corrective splint. With 10 patients an x-ray of the forefoot in dorsoplantar ray path was performed under burden at the beginning of the study and after eight weeks with the splint on.
The results demonstrate that the pre-existing metatarsophalangeal angle of an average 38 degrees could be reduced to 18.5 degrees with the splint on. The intermetatarsal angle was reduced from an average 18 degrees to normal values around 10.5 degrees, the DMAA (distal metatarsal articular angle) was improved from 32 degrees to 12.5 degrees.
The study shows that with the newly developed orthosis an effective medical aid has been developed in order to correct the malpositioning of the foot in the case of light to moderate hallux valgus and thus to prevent arthrosis.

May 2007