

Clinical effectiveness of customised sport shoe orthoses [orthotics] for overuse injuries in runners – a randomised controlled study

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[Abstract of the original article]

INTRODUCTION

Running injuries, particularly located in the lower limb, are among the most commonly treated sports-treated injuries. Of the latter, overuse injuries are the main pathology to prevent competitive runners from training or competition. In the past 3 decades, the incidence of running-related overuse injuries has continuously increased due to a rising number of recreational athletes and higher training intensity in competitive athletes. Several risk factors appear to be associated with those injuries such as weekly distance, history of previous running injuries, number of years running, training characteristics, surface and footwear.

The most common diagnoses in running injuries are patellofemoral pain syndrome, iliotibial band syndrome, tibial stress syndrome (often referred to as ‘shin splints’) low back pain, chronic exertional compartment syndrome, plantar fasciitis and tendinopathies (particularly of the Achilles tendon, patellar tendon, posterior tibial tendon, adductor tendons and upper hamstring tendons).

INTERVENTION

51 patients with running injuries were treated with custom-made, semi-rigid running shoe orthoses [orthotics] for 8 weeks. 48 served as a randomized control group that continued regular training activity without any treatment.

DISCUSSION

The present study is one of the first randomized controlled studies on foot orthoses [orthotics] in lower extremity overuse injuries showing a statistically significant pain reduction in injured runners after a standardized orthoses [orthotic] therapy of eight weeks.

CONCLUSION

The results of this study indicate that individually customized foot orthoses [orthotics] are an important effective treatment strategy for running-related overuse injuries. In contrast to the widespread opinion that “orthoses [orthotics] are only one facet of treatment and should be combined with rest, training modification, a change in the running surface or shoe and a proper conditioning and stretching programme” (Gross et al. 1991), the results of our study justify the prescription of orthoses [orthotics] as a single-measure approach for runners that are still able to continue their training, as the majority of participants responded well without any side treatments and reported high comfort wearing the orthoses [orthotics].