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No good evidence that shock-absorbing insoles stave off injuries or stress fractures

But foot orthotics can work well, finds pooled analysis of available published data

There's no good evidence that shock-absorbing insoles, which are used to reduce impact and minimise muscle, tendon, and bone damage, do stave off injuries or stress fractures, reveals a pooled analysis of the available data, published online in the **British Journal of Sports Medicine**.

But foot orthotics can be effective, the analysis shows, although the quality of the data on which the findings are based is variable, caution the researchers.

The most common overuse injuries associated with physical activity include medial tibial stress syndrome (stress response fracture of the shin bone), Achilles tendon, plantar fasciitis (severe heel pain caused by thickening of the plantar fascia tissue in the foot) and knee (patellofemoral) pain.

Contoured foot orthotics, which aim to redistribute pressure and alter neural sensory feedback and gait while walking or running, and soft insoles, which aim to soften impact, are often used to stave off injury risk and manage existing musculoskeletal conditions.

To find out how effective these are, the researchers trawled through research databases for relevant studies published up to June 2016.

They found 11 clinical trials relating to foot orthotics and seven that had evaluated shock-absorbing insoles.

When the data were pooled together, the results showed that foot orthotics cut the risk of overall injury by 28%, and of a stress fracture in the legs and feet by 41%. But they didn't stave off the risk of tendon/muscle injury, including Achilles tendon, and knee and back pain.

Shock-absorbing insoles didn't lessen the risk of any type of injury. And the data from one trial indicated they increased the risk.

The research design of this study provides the strongest evidence for drawing conclusions about cause and effect, because it brings together all of the best available evidence. However, the study authors caution that further rigorous research is needed because the quality of the studies they analysed varied considerably, as assessed by the Physiotherapy Evidence Database (PEDro) score, which rates the design and methods of research trials.

Furthermore, much of the evidence stems from the use of insoles and orthotics in military personnel, whose exercise regimes and footwear are unlikely to be representative of those of the general population.

[Ends]

Notes to editors

Review: Effectiveness of foot orthoses and shock-absorbing insoles for the prevention of injury: a systematic review and meta-analysis

<http://bjsm.bmj.com/lookup/doi/10.1136/bjsports-2015-096671>

About the journal

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