Ankle-foot orthoses (AFOs) are typically designed to limit the motion of the ankle joint in one or more planes. Given that balance may be compromised when joint range of motion is restricted, an understanding of the relative effects of AFOs on balance performance is clinically relevant. The aim of this systematic review was to evaluate existing evidence related to the effects of AFOs on static and dynamic balance. A search of appropriate medical databases was conducted, and 37 articles were found to satisfy predetermined inclusion criteria. Articles were categorized under two main areas: those investigating the use of AFOs designed for sporting applications (sports orthoses, 18 studies) and those investigating orthoses that are intended to facilitate ambulation in subjects with locomotor disorders (ambulatory orthoses, 19 studies).

Combined results suggest that sports orthoses may facilitate certain aspects of balance in subjects with ankle instability and that balance is unlikely to be compromised when able-bodied subjects wear AFOs as a prophylactic measure. No evidence exists to suggest that any one design of sports orthosis is superior to another in terms of performance on balance measures. Results of studies involving ambulatory orthoses indicated that their effects on balance were largely dependent on the design characteristics of the orthosis used. Rigid AFOs seemed to facilitate static balance tasks, although the level of confidence in this outcome was relatively low. Under dynamic conditions, rigid AFOs seemed to compromise balance for the tested populations; confidence in this outcome was rated as moderate. A high level of confidence was ascribed to the statement that leaf spring AFOs, which allow controlled motion in the sagittal plane, seemed to facilitate both static and dynamic balance in the studied cohorts.

**KEY INDEXING TERMS:** ankle-foot orthoses, balance, postural control

**ABSTRACT**

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