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The acute effects of different types of common ankle orthosis on balance after functional fatigue: A study on volleyball players with unstable ankle grade I and II

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Epidemiological studies have shown that 10–28% of all sports injuries are ankle sprains, leading to the longest absence from athletic activity compared to other types of injuries. This study was conducted to evaluate the effectiveness of external ankle supports in the prevention of inversion ankle sprains and identify which type of ankle support was superior to the other after functional fatigue. Fifteen men volleyball players (18-23 years) with unstable ankle grade I and II were recruited. They had at least 3 years experience of playing in different volleyball leagues. Four testing conditions included a no orthosis, Neoprene ankle orthosis, lace-up ankle orthosis, and Aircast ankle orthosis. Postural control test (single leg stability testing in difficult level of 12) was performed by Biodex Balance System after functional fatigue. The results show that the overall index of postural control had a significant decrease while applying either type of ankle orthoses. According to the obtained results, all three types of ankle orthoses could improve postural control ($P < 0.05$). Neoprene ankle orthosis was more efficient than lace-up and Aircast ankle orthoses ($P < 0.05$). Although the lace-up orthosis was more effective than Aircast ankle orthosis in ankle stability, the difference was not obviously significant ($P > 0.05$). Consequently, in athletes with unstable ankle, all types of ankle orthosis could prevent ankle sprain by improving the postural control index. Especially in volleyball players with unstable ankle grade I and II after functional fatigue.

Biography

Sahebozamani Mansour has completed his PhD in 2004 from the Russian State University of Physical Education and Tourism. He is President of the Faculty of Physical Education and Sports Science, University of Kerman and Chairman of the Department of Sport Injuries and Corrective Exercises. He has published more than 30 articles in internal and external journals.

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