

عنوان مقاله:

The effects of neck muscular fatigue on static and dynamic postural control in elite male volleyball players

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خلاصه مقاله:

Introduction: Muscular fatigue is a common phenomenon in daily sports activities and is worsening motor performance. The aim of this study was to determine the effect of neck muscular fatigue on static and dynamic postural control in elite male volleyball players. **Methods:** For this study, 30 elite male athletes with mean age of 23.3 ± 3.5 years old, height of 184.1 ± 7.7 cm, and weight of 76.6 ± 3.1 kg were selected in the available form and divided randomly into control and experimental groups. Fatigue protocol was induced on both sides via maximal exhausting protocol by instructing the subjects in experimental group to perform a "Dumbbell Shrug Trap Exercise" commonly used in fitness training to specifically involve Levator Scapulae and Trapezius superior muscles. The subjects' dynamic and static postural control immediately after fatigue were assessed by Biodex System (level 4 and 3). For statistical analysis paired and sample t-test ($\alpha \leq 0.05$) were used. **Results:** The results of this study showed that in the level 4 of Biodex system there were significant differences in Ant-Post ($P=0.030$), Med-Lat ($P=0.020$), Limit of stability ($P=0.012$) and dynamic balance ($P=0.011$). In the level 3 of Biodex system there were significant differences in Ant-Post ($P=0.022$), Med-Lat ($P=0.020$), Limit of stability ($P=0.011$) and dynamic balance ($P=0.021$). With respect to study results, there were significant differences in static balance ($P=0.012$) in experimental group but there were not significant differences in control group ($P=0.214$). **Conclusion:** Based on this study results, we concluded that neck muscle fatigue affects stability indexes, static and dynamic postural control so it seems that increasing the endurance of neck muscles to prevent early time fatigue, should be considered.

کلمات کلیدی:

Static Postural Control, Dynamic Postural Control, Elite Volleyball Players, Static Postural Control, Dynamic Postural Control, Elite Volleyball Players

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