



Relationship between ankle proprioception with balance and agility in young football players

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ABSTRACT

Ankle proprioception is one of the most important components that contribute to balance control in sports, and balance is an important determinant of agility performance. The aim of this study is to investigate the relationship between ankle proprioception, balance and agility in young football players. 38 male football players were included in the study. Ankle proprioception of the participants was tested with the Active Joint Movement Discrimination Apparatus (AMEDA), their balance was tested with posturography and their agility was tested with Speedcourt. As a result of the study, a moderate negative correlation was found between ankle proprioception and medial-lateral sway amplitude during dominant side single-leg static balance; medial-lateral sway velocity during non-dominant side single-leg static balance; medial-lateral sway velocity and total sway amplitude during non-dominant side single-leg dynamic balance ($p < 0.05$). However, there was no significant relationship was found between ankle proprioception and agility ($p > 0.05$). A moderate positive correlation was found between the total duration of participants' change of direction test and ellipse area during dominant side single-leg static balance; anterior-posterior sway amplitude and ellipse area during non-dominant side single-leg static balance; anterior-posterior sway velocity, medial-lateral sway velocity and total sway amplitude during dominant side single-leg dynamic balance ($p < 0.05$). However, there was no significant relationship found between balance and reactive agility ($p > 0.05$). This study showed that ankle proprioception is related to balance in young football players, but not to agility. It was found that balance performance can affect change of direction performance. These factors should be taken into consideration when designing training programs for young football players.

BIOGRAPHY

She was born on Juli 27, 1975 in Germany. Dr. Erdoganoglu, graduated from the Department of Physical Medicine and Rehabilitation of the Faculty of Medical Sciences of Hacettepe University in 1998. That same year, she started working as a physiotherapist at Physical and Cognitive Rehabilitation Center for disabled children. She began working in 2000 Hacettepe University department of physical medicine and rehabilitation. She finished her master thesis in 2006. She worked in the Asklepios Klinik Weserbergland (Fachklinik für Neurologische, Orthopädische und Geriatriische Rehabilitation und Therapiezentrum für Neuromuskuläre Erkrankungen) Höxter, Germany and Evangelische Krankenhaus Holzminden, Germany as a researcher in for 2.5 months in 2006. She participated in the ESMAC gait analysis training in London in 2009 and she worked in the organization team 3D Gait and Movement Analysis Laboratory, Department of Physical Medicine and Rehabilitation Hacettepe University. In 2011, she finished her thesis entitled "The investigation of the effectiveness of transversus abdominus and multifidus muscle training on patients with low back pain in physical treatment and rehabilitation. Hacettepe University, Institute of Health Sciences, Physiotherapy and Rehabilitation Program," and graduated her doctoral degree. Having received the title of associate professor in 2021, Dr. Erdoganoglu still carries out his studies at Antalya Bilim University, faculty of health sciences, department of physiotherapy and rehabilitation.