Original Article

Comparison of Manual Balance and Balance Board Tests in Healthy Adults

Ki Young Oh, M.D., Soo A Kim, M.D., Seung Yeol Lee, M.D., Young Seop Lee, M.D.

Department of Physical Medicine and Rehabilitation, Soonchunhyang University College of Medicine, Cheonan Hospital, Cheonan 330-721, Korea

Objective To investigate the correlations of scores on the Timed Up and Go (TUG) test and the Single Leg Stance (SLS) test with stability scores on the Biodex Balance System (BBS) in healthy adults.

Method The postural balance of 73 participants was measured on the TUG and SLS tests and with the Overall Stability Index (OSI) on the BBS. Th e participants were divided into groups by age and by times on the TUG and SLS. Th e correlations between TUG or SLS and OSI scores were analyzed by groups.

Results TUG scores were signifi cantly correlated with OSI scores in age under 65 years, TUG over 10 seconds and SLS over 30 seconds groups (level 12). TUG scores were also correlated with OSI in total (level 10) and TUG under 10 seconds groups (level 2). However, there were no signifi cant relationships between SLS and OSI scores.

Conclusion OSI scores on the BBS are significantly correlated with TUG scores, especially at the easy levels. According to the fi ndings of present study, relatively easy BBS levels are considered to assess the postural balance in healthy adults.

Key Words Biodex balance system, Single leg stance, Timed up and go

INTRODUCTION

Balance is the ability to maintain the center of gravity of the body over the base of support.[1] Although various tools are used to measure balance, some measurement tools using scales require not only considerable time but

also a considerable eff ort on the part of the examiner.[2-4] In recent studies, some tools for measuring balance have a clinical limitation for use in healthy active people, because they are not suffi ciently challenging.[2]

The Biodex Balance System (BBS) uses a balance platform and has been widely used to evaluate postural balance in recent years. The system is known to be a reliable test for the measurement of balance in healthy people and blind people.[5-10] However, no studies have investigated which level of BBS (level 12: most stable and level 1: most unstable) better refl ects the balance of patients.

The Timed Up and Go (TUG) test and the Single Leg Stance (SLS) test, both of which are being used to measure balance, are reliable and can be performed quickly and easily. The scores on these tests are also known to have significant association with the risk of falls.[2-4] However, no studies have

investigated the relationships between scores on these tests and those on the balance test using BBS.

The purpose of this study was to measure balance in healthy adults using the TUG, SLS and BBS and to investigate which stability level on the BBS is most useful for the assessment of balance by analysis of the correlations between TUG or SLS tests and the OSI (Overall Stability Index) at the various different BBS levels.

The full article can be obtained here:

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