

(西暦) 2022 年度 博士後期課程学位論文要旨

学位論文題名 (注: 学位論文題名が英語の場合は和訳をつけること)

Movement patterns of the functional reach test do not reflect physical function in healthy young and older participants

(健全若年者と高齢者におけるファンクショナルリーチテストの運動パターンは身体機能を反映しない)

学位の種類: 博士 (理学療法 学)

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注: 1 ページあたり 1,000 字程度 (英語の場合 300 ワード程度) で、本様式 1~2 ページ (A4 版) 程度とする。

The relationship of the Functional Reach Test (FRT) value with the Center of Pressure Excursion (COPE) and physical function remains unclear, and would be influenced by different population characteristics and movement patterns used in the FRT. Therefore, we explored the relationship between the FRT value and the COPE and physical function in healthy young and older individuals classified according to movement patterns.

In 21 healthy young participants (42 sides) and 20 older participants (40 sides), three-dimensional motion analysis was performed during the FRT and physical function assessments. The participants were assigned to two clusters after performing a motion analysis during the FRT. Kinematic and kinetic parameters during the FRT and physical function assessment results were compared between the clusters for both groups. Correlation analysis was performed to investigate the relationships of the FRT value with COPE and physical function parameters in each cluster, in young and older individuals separately.

The results showed that the hip strategies could be divided into two groups according to the degree of use (Small Hip Strategy, SHS Group; Large Hip Strategy, LHS Group). In the older SHS group, the FRT values were significantly correlated with the COPE ($r = 0.75$), toe grip strength ($r = 0.62$), and the five-times sit-to-stand test time ($r = -0.52$). In the older LHS group and in both groups of young individuals, there were no significant correlations of the FRT value with any parameters.

The FRT value reflects the COPE and physical function only in older individuals using the SHS. This could explain previous discrepant results. As there is no simple relationship between the FRT value and physical function, it is important to include movement strategy assessment when using the FRT in clinical evaluations.