

実践研究

高齢者疑似体験セットの有無による転倒時の 加速度パラメータに関する研究

Study on acceleration parameters of when falls with and without age simulation

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Abstract

The purpose of this study was to clarify how the difference in experimental conditions depending on whether a young person wears an age simulation affects various parameters when falling. The subjects were healthy college students, each six males and females.

Falling experiments were conducted under two conditions, with and without age simulation. Measurements were made of acceleration in brain and hip during falls. The combined acceleration (G) and impact force (N) obtained in the experiments were analyzed to examine various parameters during falls.

For maximum combined acceleration in brain, this phenomenon was significantly higher in the age simulation group than in the non-simulation group for males ($p < 0.05$). Regarding impact force, this phenomenon was significantly greater in the age simulation group than in the non-age simulation group for males ($p < 0.05$). It was revealed that the university students who were the subject of the experiment in this study did not receive the impact force that is the threshold for proximal femoral fracture even if they wore the age simulation.

キーワード：転倒実験，合成加速度，若年者，衝撃力

fall experiments, combined acceleration, young people, impact force

1. 緒言

我が国の全人口に対する65歳以上の高齢者の割合は2007年に21%を越え、現代の日本は超高齢社会と定義づけられている。令和元年度版高齢社会白書(2019)によると総人口に占める65歳以上の割合は28%を越えており、世界

のOECD(経済協力開発機構)諸国の中でも群を抜いている(OECD, 2022)。また高齢者のQuality of life(以下、QOLと記す)を維持するためにも転倒を予防することは重要である。東京消防庁によると、令和元年中の東京消防庁管内における「65歳以上の転ぶ事故によ

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