

# **A Predictive Model of the Risk of Fall Based On Physical Fitness Assessment in Older Adults**

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## **Abstract**

Falls occurring during activities of daily living pose a major threat and are the third most common cause of death in seniors. In clinical evaluations, mostly single tests are used to assess the risk of fall. However, a complex set of tests would lead to a more comprehensive assessment of the risk of falls. The purpose of this study was to develop a predictive model of the risk of falls in older adults aimed to prevent injuries. This study involved 159 older adults ( $\geq 65$ , 77% women) who underwent laboratory testing consisting of questionnaires, physical tests and basic anthropometric data measurement. The data were processed by a statistical method of regression analysis, the Classification and Regression Tree. Based on the analysis a predictive model of the risk of fall for older adults was created. The most important variables for the predictive model were total % of body fat mass, Timed Up and Go Test and 2 minutes walking test. Based on the predictive model, we can design a targeted intervention program for elderly adults to prevent risk of falling, promoting well-being and increase quality of their life. *Key words:* risk of falls, TUG, physical tests, elderly

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