**Grip Strength: An Indispensable Biomarker for Older Adults**

Grip strength has been proposed as a biomarker. Supporting this proposition, evidence is provided herein that shows grip strength is largely consistent as an explanator of concurrent overall strength, upper limb function, bone mineral density, fractures, falls, malnutrition, cognitive impairment, depression, sleep problems, diabetes, multimorbidity, and quality of life. Evidence is also provided for a predictive link between grip strength and all-cause and disease-specific mortality, future function, bone mineral density, fractures, cognition and depression, and problems associated with hospitalization. Consequently, the routine use of grip strength can be recommended as a stand-alone measurement or as a component of a small battery of measurements for identifying older adults at risk of poor health status.

Although grip strength is not directly required for the performance of functional activities such as gait, it does distinguish between older adults on the basis of their mobility. Forrest et al noted significantly lower grip strengths among older Americans who reported physical limitations- including standing from a chair, walking, climbing steps, and “going out”.[16](https://www.ncbi.nlm.nih.gov/pmc/articles/PMC6778477/#CIT0016) Zhang et al demonstrated a significant, albeit low (r= 0.36), relationship between grip strength and the distance walked during the 6 min walk test.[17](https://www.ncbi.nlm.nih.gov/pmc/articles/PMC6778477/#CIT0017) Specific grip strength thresholds have been determined that identify older adults who are weak and likely to have walking limitations. In 6 studies identifying walking as slow (< 0.80m/s), grip strength thresholds for men ranged from 23.2kg to 39.0kg. For women they ranged from 15.9kg to 22.0kg.[18](https://www.ncbi.nlm.nih.gov/pmc/articles/PMC6778477/#CIT0018)–[23](https://www.ncbi.nlm.nih.gov/pmc/articles/PMC6778477/#CIT0023) Sallinen found that thresholds of 37.0kg for men and 21.0kg for women identified older adults with difficulty walking 0.5km or climbing stairs.[24](https://www.ncbi.nlm.nih.gov/pmc/articles/PMC6778477/#CIT0024)

SOURCE: National Library of Medicine (National Center for Biotechnology Information)

<https://www.ncbi.nlm.nih.gov/pmc/articles/PMC6778477/#S0002title>

**More studies:**

Journal of Geriatric Medicine - <https://journals.lww.com/jgpt/Fulltext/2015/07000/Measuring_Grip_Strength_in_Older_Adults__Comparing.7.aspx>

Standford Lifestyle Medicine –

<https://longevity.stanford.edu/lifestyle/2023/04/04/what-does-grip-strength-indicate-about-your-health/>

**Measurement standards:**

Journal of Orthopedic and Sports Physical Therapy –

 <https://www.jospt.org/doi/full/10.2519/jospt.2018.7851>