

# Physical function tied to clinical, subclinical neurological disease

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(HealthDay)—Physical function is associated with clinical and

subclinical brain disease, according to a study published online Aug. 8 in the *Journal of Alzheimer's Disease*.

Erica C. Camargo, M.D., Ph.D., from Boston University, and colleagues examined the correlation of fast-paced walking speed and handgrip strength with the risk of dementia, Alzheimer's disease (AD), and stroke in a middle-aged community sample. A total of 2,176 participants from the Framingham Offspring study had physical [function](#), [brain](#) magnetic resonance imaging, and cognitive evaluations from 1999 to 2005; they were followed until 11 years later for incident dementia, AD, and stroke.

The researchers found that slow walking and weak handgrip correlated with more than a 2.5-fold increase in the risk for AD. In persons aged 65 years and older, weaker handgrip was also associated with increased risk of incident stroke (hazard ratio, 1.74). There were correlations seen for both measures with lower total brain volume and poorer performance on visual memory, language, executive function, and visuosperceptual function tests. There were also correlations noted for slower gait with poorer verbal memory, and for weaker handgrip with poorer abstraction.

"Tests of walking speed and handgrip strength may serve as clinical markers of brain structure and function and may improve dementia [risk](#) prediction," the authors write.

**More information:** [Full Text \(subscription or payment may be required\)](#)

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