

Older adults may need more vitamin D to prevent mobility difficulties

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Older adults who don't get enough vitamin D – either from diet, supplements or sun exposure – may be at increased risk of developing mobility limitations and disability, according to new research from Wake Forest Baptist Medical Center.

"This is one of the first studies to look at the association of [vitamin D](#) and the onset of new mobility limitations or disability in [older adults](#)," said lead author Denise Houston, Ph.D., R.D., a nutrition epidemiologist in the Wake Forest Baptist Department of Geriatrics and Gerontology. Houston researches vitamin D and its effects on physical function.

The study, published online this month in the *Journal of Gerontology: Medical Sciences*, analyzed the association between vitamin D and onset of mobility limitation and disability over six years of follow-up using data from the National Institute on Aging's Health, Aging, and Body Composition (Health ABC) study. Mobility limitation and disability are defined as any difficulty or inability to walk several blocks or climb a flight of stairs, respectively.

Of the 3,075 community-dwelling black and white men and women aged 70-79 who were enrolled, data from 2,099 participants was used for this study. Eligible participants reported no difficulty walking one-fourth mile, climbing 10 steps, or performing basic, daily living activities, and were free of life-threatening illness. Vitamin D levels were measured in the blood at the beginning of the study. Occurrence of mobility limitation and disability during follow-up was assessed during annual

clinic visits alternating with telephone interviews every six months over six years.

"We observed about a 30 percent increased risk of [mobility limitations](#) for those older adults who had low levels of vitamin D, and almost a two-fold higher risk of mobility disability," Houston said.

Houston said vitamin D plays an important role in muscle function, so it is plausible that low levels of the vitamin could result in the onset of decreased lower muscle strength and physical performance. Vitamin D may also indirectly affect physical function as low vitamin D levels have also been associated with diabetes, high blood pressure, cardiovascular disease and lung disease – conditions that are frequent causes of decline in physical function. Houston said people get vitamin D when it is naturally produced in the skin by sun exposure, by eating foods with vitamin D, such as fortified milk, juice and cereals, and by taking vitamin D supplements.

"About one-third of older adults have low vitamin D levels," she said. "It's difficult to get enough vitamin D through diet alone and older adults, who may not spend much time outdoors, may need to take a vitamin D supplement."

Current recommendations call for people over age 70 to get 800 International Units of vitamin D daily in their diet or supplements. Houston pointed out that current dietary recommendations are based solely on vitamin D's effects on bone health.

"Higher amounts of vitamin D may be needed for the preservation of muscle strength and physical function as well as other health conditions," she said. "However, clinical trials are needed to determine whether increasing [vitamin D](#) levels through diet or supplements has an effect on physical function."

Provided by Wake Forest University Baptist Medical Center

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