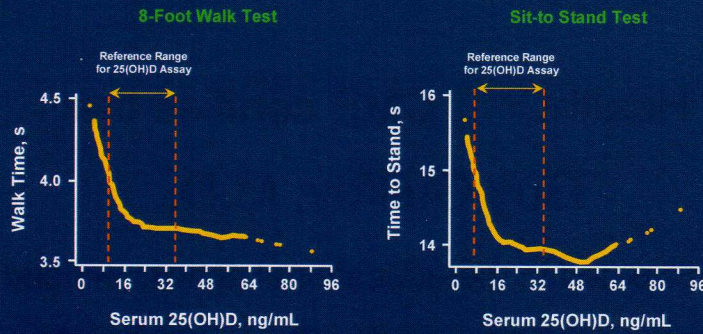


## Lower Extremity Function Varied Inversely With Vitamin D Status

Ambulatory men and women 60 years and older  
(NHANES III data); calcium intake,  $700 \pm 469$  mg/day



Adapted from Bischoff-Ferrari HA et al. *Am J Clin Nutr.* 2004;80:752-758. Reproduced with permission from *The American Journal of Clinical Nutrition.*

### Lower Extremity Function Varied Inversely With Vitamin D Status

This slide shows the association between vitamin D status and lower limb function in a population-based study of 4,100 ambulatory persons aged 60 years and older who participated in NHANES III. The study population consisted of 49% women 51% men; 58% of the sample were non-Hispanic white persons; 20%, Mexican-American; and 19%, non-Hispanic black. Study participants were studied at home and were given standardized clinical examinations that included evaluation of lower limb function, such as the 8-foot walk test and the sit-to-stand test. About 25% of the study participants were inactive.<sup>1</sup>

The graphs on the slide are LOWESS regression plots of the association between serum 25(OH)D levels and the 8-foot walk test on the left and the sit-to-stand test on the right. Performance in both tests improved throughout the entire range of values for serum 25(OH)D. Most of the improvement in lower extremity function occurred between 9.0 and about 16.0 ng/mL, but additional, though less dramatic, improvement in performance occurred between 16.0 and 50 ng/mL of 25(OH)D.<sup>1</sup>

The authors concluded that serum 25(OH)D levels of 36 ng/mL or higher are advantageous for optimal lower extremity function, which is important for reducing risk of falls. Vitamin D supplementation offers a way to improve both vitamin D status and lower extremity function in this population.<sup>1</sup>

#### Reference:

1. Bischoff-Ferrari HA, Dietrich T, Orav EJ, et al. Higher 25-hydroxyvitamin D concentrations are associated with better lower-extremity function in both active and inactive persons aged  $\geq 60$  y. *Am J Clin Nutr.* 2004;81:752-758.