

## **Vitamin D3 Supplementation Improves Physical Fitness in Postmenopausal, Diabetic Women**

A low serum vitamin D level is a common condition, especially among postmenopausal women. Incidence of type 2 diabetes is also high in this demographic. Physical fitness is a key factor in maintaining quality of life and controlling consequences of both diabetes and menopause. This study investigated whether supplemental vitamin D3, which is related to many physiological functions, including muscle function, and is commonly prescribed during menopause, has a positive influence on physical fitness in postmenopausal women with diabetes.

Thirty-five postmenopausal women with type 2 diabetes completed the study. Fasting blood glucose and 25-hydroxyvitamin D [25(OH)D] levels, body composition (height; abdominal, waist, iliac, and hip circumferences; body mass; fat mass; lean body mass; fat percentage; fat-free mass; and visceral fat area), and physical fitness measures (handgrip strength, timed up and go, arm curl, and 30-second chair stand) were collected at study start, six months, and 12 months. During the year-long study, participants took 1,000 IU/day of vitamin D3.

The study found significant increases in 25(OH)D blood levels at both six months and 12 months compared to study start, aligning with prior evidence that supplemental vitamin D3 raises blood levels. In addition, all physical fitness measures improved significantly at six and 12 months compared to start, and waist-to-hip ratio improved significantly at 12 months. Although other body composition measures did not change significantly, the authors point out they remained constant which could be viewed as a positive outcome since these factors often deteriorate with age.

*Contributed by Sheena Smith, MS MA.* Menopausal and postmenopausal women often require more than just vitamin D

### **Reference**

Bentes C, Costa P, Resende M, et al. Effects of 12 months of vitamin D supplementation on physical fitness levels in postmenopausal women with type 2 diabetes. *J Funct Morphol Kinesiol* 2021;6(4):87. doi:10.3390/jfmk6040087

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