It is uncertain whether any dose of vitamin D supplementation reduces the risk of falls or fractures in community-dwelling older adults. Previous meta-analyses of RCTs had differed about whether vitamin D supplements reduce the risk of falls,8-10 or fractures,8,12-14 in community-dwelling elderly individuals. In contrast meta-analyses15-17 have shown that 800 IU of vitamin D and 1200 mg of calcium reduced the risk of hip fracture and mortality for patients dwelling in institutions. These patients should receive calcium and vitamin D supplements.

Clinicians should not recommend vitamin D supplements for other putative health benefits. There is no evidence from meta-analyses of RCTs that vitamin D supplementation reduces the risk of cardiovascular disease or cancer.13,18 In addition, a recent trial19 found that 1000 IU of vitamin D per day, with or without calcium, did not decrease the risk of colon cancer or recurrent adenomas in those with a history of colon adenomas.

The vitamin D story seems to be following the familiar pattern observed with antioxidant vitamins. Enthusiasm for the health benefits of vitamin supplements is coupled with the belief that “vitamins” are inherently safe and reinforced by observational studies showing, essentially, that healthy people have higher vitamin levels. Then RCTs and meta-analyses20 proved that the supplements in fact increase mortality (β-carotene, vitamin E), or have no health benefits (vitamin A, vitamin C).

The strategy of supplementation with vitamin D to achieve serum levels of at least 30 ng/mL has not been established by RCTs to reduce the risk of falls and fractures. It may increase the risk of falling. Until that approach is supported by randomized trials with updated meta-analyses, it would be prudent to follow recommendations21 from the Institute of Medicine (IOM) that people 70 years or older have a total daily intake of 800 IU of vitamin D without routine measurement of serum 25(OH)D levels. It is prudent to get recommended intakes of vitamin D and other vitamins from a balanced diet with foods that naturally contain what is manufactured into supplements.


