

Which Vitamin D Supplement Boosts Levels More — D₂ or D₃?

D₃ (cholecalciferol) has the edge.

In the U.S., vitamin D supplements are available over-the-counter as D₃ (cholecalciferol; usually in 400–1000 IU doses) and by prescription as vitamin D₂ (ergocalciferol; Drisdol and others; often prescribed at 50,000 IU doses). In previous research, D₃ supplements raised blood levels of 25-hydroxyvitamin D (25[OH]D) more than D₂ did at equivalent doses. In two new studies, researchers reach the same conclusion.

In a randomized trial, 64 older adults received daily D₂ or D₃ (1600 IU) or monthly D₂ or D₃ (50,000 IU). Mean 25(OH)D levels were about 33 ng/mL at baseline. At 1 year, mean 25(OH)D levels had increased by 9 ng/mL in both the daily and monthly D₃ groups; mean levels increased by 6 and 4 ng/mL in the daily and monthly D₂ groups, respectively. The increase was significantly greater with D₃ than with D₂.

In another randomized trial, 33 adults received 50,000 IU weekly of either D₂ or D₃; mean baseline 25(OH)D was about 28 ng/mL. After 12 weeks, increases in 25(OH)D levels were significantly greater with D₃ than with D₂ (increase from baseline, about 40 vs. 22 ng/mL).

Comment: On average, oral supplemental vitamin D₃ — the form made naturally after exposure to sunlight — raises 25(OH)D blood levels more than does vitamin D₂. The authors of the second study conclude, with good reason, that D₃ is preferable for correcting vitamin D deficiency. Note, however, that U.S. clinicians often give D₂ by prescription to vitamin D-deficient patients: One reason might be the availability of high-dose D₂ capsules that can be taken weekly or monthly; another might be a mistaken impression that prescription D₂ is "stronger" than an equivalent dose of D₃.

— [Allan S. Brett, MD](#)

Published in [Journal Watch General Medicine](#) April 26, 2011