Vitamin D supplementation may reduce mortality in elderly adults

Clinical question	Does vitamin D supplementation reduce mortality in healthy adults and adults in a stable phase of disease?
Bottom line	There was some evidence that vitamin D3 (cholecalciferol) may decrease all-cause mortality and cancer mortality in predominantly elderly participants living independently or in institutional care (NNT* 150). Vitamin D3 combined with calcium increased nephrolithiasis. Vitamin D2 (ergocalciferol), alfacalcidol and calcitriol had no statistically significant effect on mortality. Alfacalcidol and calcitriol increased hypercalcaemia. Elevated urinary calcium excretion, renal insufficiency, cancer and cardiovascular disorders, gastrointestinal disorders, psychiatric or skin disorders were not statistically significantly influenced by vitamin D supplementation. All trials were conducted in high-income countries. The age of participants ranged from 18 to 107 years. The mean proportion of women was 77%. Vitamin D was administered for an average of 4.4 years. *NNT = number needed to treat to benefit 1 individual.
Caveat	A major drawback in most of the included trials was the relatively large proportion (>8%) of participants who dropped out. There was a lack of information on the effect in men and in younger persons of both sexes. Due to the risk of attrition bias, outcome reporting bias and other biases, it is not yet possible to recommend or refute the use of vitamin D for reducing all-cause mortality or cancer mortality.
Context	Numerous observational studies suggest that optimal vitamin D status may be associated with fewer occurrences of cancer and cardiovascular disease (such as heart attack or stroke). Vitamin D is synthesised in the skin as vitamin D3 (cholecalciferol) or is obtained from dietary sources or supplements as vitamin D3 or vitamin D2 (ergocalciferol).
Cochrane Systematic Review	Bjelakovic G et al. Vitamin D supplementation for prevention of mortality in adults. Cochrane Reviews, 2014, Issue 1. Art. No.: CD007470.DOI: 10.1002/14651858. CD007470.pub3. This review

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contains 56 studies involving 95,286 participants.
Pearls No. 443, September 2014, written by Brian R McAvoy

[References]