Ger-E-News

Vitamin D Supplementation in Older Adults

Q: An 85 year old woman is brought to an outpatient clinic because she has fallen twice in the last 6 months. Which of the following interventions is most likely to help prevent future falls?

    A. Removing her second cataract.
    B. Wearing hip protectors.
    C. Taking a vitamin D supplement.
    D. Wearing non-slide shoes.
    (See answer on the next page.)

What role does vitamin D play in the body?

- ❖ Maintains calcium homeostasis and bone health
- ❖ May help to increase muscle strength and stability
- ❖ Potential, but as of yet uncertain links to conditions such as cancer, cardiovascular disease, diabetes, depression, and other disorders

Vitamin D and Older Adults

Falls: a major source of morbidity and mortality

- ❖ Meta-analyses suggest that vitamin D supplementation can help reduce the risk of falls and fractures in *institutionalized* adults
- ❖ The USPSTF currently recommends vitamin D supplementation to prevent falls in *community-dwelling* adults *at risk* for falls
  - o *A Note of Caution:* Recent research suggests that supplementing *community-dwelling older adults with a history of fall* at monthly intervals above 24,000 IU (~800 IU/day) can increase future risk of falls. This study did not have a placebo or daily dose group for comparison. Another study showed that annual dosing of 500,000 IU increased fall and fracture risk in older women.

The benefit of vitamin D supplementation on lowering cancer risk or reducing the burden of cardiovascular disease, diabetes, depression, and other disorders has not yet been demonstrated conclusively in RCTs.
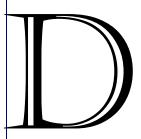
Implications for Daily Practice

Should I check a level? Which one?

- ❖ The US Preventive Services Task Force found insufficient evidence to screen for Vitamin D in **community dwelling** asymptomatic adults.
- ❖ Some experts advocate for supplementation without testing levels given a lack of consensus about target optimal levels, inconsistency in assays between laboratories, and cost of testing.
- ❖ Testing may be considered for patients at risk of deficiency (i.e. low sun exposure, CKD, osteoporosis). The Institute of Medicine (IOM) and Endocrine Society define vitamin D deficiency as a level of 25(OH)D less than 20ng/mL.
    - o *It should be noted that this reflects studies comprised primarily of Caucasian patients. Lower levels may not accurately reflect metabolic deficiency in Black, Hispanic, and other populations with higher levels of skin pigmentation.*

What is the best supplement?

- ❖ Either cholecalciferol (Vitamin D_3) or ergocalciferol (Vitamin D_2) can be used for supplementation.

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The Bottom Line: Vitamin D

- ❑ Vitamin D is essential for bone health and calcium homeostasis; broader impacts are not yet well understood.
- ❑ Testing levels is of limited benefit in asymptomatic patients.
- ❑ All elderly patients should get at least 800 IU daily from sun exposure, food, or supplementation

Answer: For current board exams, C. But stay tuned! This is an evolving discussion.

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References

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