

**Following is a summary of information on vitamin D. Equipped with this information, will you screen more of your patients for vitamin D deficiency or will you recommend more supplements to your patients?**

Actions and Effects:

Increases absorption of calcium in the gut  
Involved in cell proliferation and differentiation (all cells)  
Required for proper functioning of the immune system, control of hormonal systems  
Receptors in many target organs (e.g. brain)

Results of Deficiencies:

Osteomalacia – osteopenia, bone pain, fractures  
Muscle weakness, falls  
Increased risk of breast, prostate, colon, and ovarian cancer  
Elevated blood pressure, increased risk of cardiovascular events  
Increased risk of some infections (e.g. tuberculosis)  
Increased risk of some autoimmune diseases (e.g. MS, type 1 DM, rheumatoid arthritis)  
Glucose intolerance

Prevalence of Deficiency:

21 to 58% in adolescents and adults in the United States, 54% in homebound older adults, 84% in elderly black women, 37% of patients with intakes exceeding recommended amounts  
OKPRN review of charts of 279 patients (suspected to be deficient, subsequently screened) in two clinics – 71% (mean age = 62.4 years)

Reasons for Deficiencies:

Reduced sun exposure including use of sunscreen  
Age-related changes that reduce production of Vitamin in the skin  
Liver or kidney disease (impaired conversion to active form)  
Reduced intake of Vit D enriched milk and bread

High Risk Groups:

Homebound and institutionalized  
Advanced age  
African American  
History of skeletal fractures

Diagnostic Test:

Serum 25-OH Vitamin D < 37 ng/ml  
Cost: \$195 (DLO)  
Not restricted to any specific diagnoses (Medicare)

Treatment:

Daily requirement 800 IU – 1200 IU (err on high side); 10,000 IU/day is safe (non-toxic)  
Most MVI/M preps have 200-400 IU; Calcium +D tabs usually have 200 IU  
Vitamin D caps 1000 IU  
Vitamin D 50,000 IU weekly by prescription  
Vitamin D 25,000 IU IM every 1-3 months  
Vitamin D2 is as effective as Vitamin D3 in maintaining serum 25(OH)D levels

- Yes and Yes.
- The information on the page would not be enough to cause me to increase my screening for vitamin D deficiency. What I need to know is an evidence-based answer to the question: "Should I screen my elderly patients for Vitamin D deficiency?" Inherent in the answer to that question would be the evidence that screening, and ultimately, treating, for Vitamin D deficiency, will have a significant positive impact on my patient's life. The information sheet indicates that a lot of patients have low vitamin D levels. Deficiency is noted in adolescents, adult, elderly, black elderly. Should I screen all patients? If not all, which ones? Will the test be covered by insurance? Most of my patients can't afford to drop a quick 200 dollars for a test that might make a difference. How reliable are the levels? Is there any evidence that treating patients has a positive impact? What vitamin D levels do we need to maintain to insure health? How expensive will it be to monitor levels? How often should I test? Too many unanswered questions for me. I have a difficult enough time providing flu and pneumonia shots and getting my patients screened for breast and colon cancer.
- I have already started (prescribing) 800 IU as needed. I will probably start checking more vitamin d levels.
- Yes. However, I already screen quite a large number. I have begun increasing the number of patients that get vitamin D supplementation. Where did you get that 10,000 IU daily is safe, most articles I have read do not recommend over 2000?
- Yes, the National Academy of Sciences - Institute of Medicine has indicated that 2000 IU/day is safe, but they also reported that toxic effects occur only when the daily dose is >10,000 IU on a chronic basis. "Concerns about vitamin D toxicity in the past have been because of massive overdoses in the range of 50,000 to 150,000 IU per day on a long-term basis." Garland et al. *The Role of Vitamin D in Cancer Prevention*. American Journal of Public Health (96), 2, February 2006.
- Yes. Yes.
- I have been screening most of my adults, male and female, for vitamin D, and the mean D level is about 30 ng/ml, which is low according to LabCorp. I put them on vitamin D 50,000 IU once weekly for 90 days, and recheck a level. I make sure they are taking D with food, since it is a fat soluble vitamin. I've had some good responses; once they're above 50 ng/ml, I'll put them on 1000 IU daily for lifetime maintenance. Of course, everybody gets 1500 mg or more of calcium daily. At the same time, if they are older, I recommend a DXA if they're higher risk for osteopenia/osteoporosis.
- I too have been ordering Vit D levels and have only found one person who had a nl>32. I went to a conference 4 weeks ago that indicated that 50 was the minimum for muscle and 32 for bone, so I have been putting them on vitamin D 50,000 IU twice weekly for 8-12 weeks then rechecking. So far my lowest was "<7."
- I think I am just going to suggest to all of my older patients that they take 1000 IU p.o. daily. I already have them all take a MVI/M.