

Vitamin D deficiency in older adults

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Low vitamin D levels can impact cognitive functioning in older adults.¹ As vitamin D levels decrease, cognitive impairment increases.

Vitamin D deficiency can occur because few foods contain this nutrient² and patients have limited exposure to sunlight—vitamin D is produced when sunlight strikes the skin.² In addition to rickets, low levels of vitamin D have been linked to slower information processing in middle age and older men, cognitive decline, mood disorders, and altered brain development and function resulting in neurodegenerative diseases and other medical disorders.³

One study suggested that one-half of adults age >60 do not get sufficient vitamin D, with an even higher rate among women with Alzheimer's disease.⁴ Patients in dementia units typically are not tested for vitamin D levels. These patients rarely leave the unit, which leaves them deprived of the vitamin D provided by sunlight. Even patients exposed to sunlight may receive minimal vitamin D because they use sunscreen.

The following protocol can help patients who may benefit from vitamin D supplementation and increased sun exposure.

Obtain and assess vitamin D levels.

Evaluate your patient's level in the context of physical or cognitive symptoms and other lab values:

- deficient: <12 ng/mL
- inadequate: 12 to 20 ng/mL
- adequate: ≥20 ng/mL.²

Order dietary assessment to identify foods that may increase vitamin D levels. The best sources are fish—salmon, tuna, and

mackerel—fish oils, beef, liver, cheese, and egg yolks.² Several food products, including milk and orange juice, are fortified with vitamin D.

Suggest a daily vitamin D supplement

ranging from 400 IU/d to 1,000 IU/d. The Institute of Medicine suggests 600 IU/d for patients age 60 to 70 and 800 IU/d for those age ≥71. For vitamin D deficient patients, recommend >1,000 IU/d.¹

Recommend 15 minutes per day in the sun

without sunscreen from spring to autumn; late summer to fall is ideal because vitamin D's half-life is 30 days. Midday is the best time to produce vitamin D.⁵

Recheck the patient's Mini-Mental State Examination score

every 4 months. Vitamin D supplementation is correlated with cognitive functioning.⁶

References

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Disclosure

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