

TEST

Vitamin D testing is not routinely required. Test only in:

- Patients with diseases with outcomes that may be improved with vitamin D treatment, eg confirmed osteomalacia, osteoporosis
- Patients with symptoms that could be attributed to vitamin D deficiency e.g. suspected osteomalacia, chronic widespread pain with other features of osteomalacia
- Before starting patients on a potent antiresorptive agent (zoledronate or denosumab or teriparatide)

INTERPRET

25 (OH) vitamin D (nmol/L)

> 50

25-50

<25

Maintain vitamin D through safe sun exposure and diet

If one or more of following applies:

- Fragility fracture/osteoporosis/high fracture risk
- Drug treatment for bone disease
- Symptoms suggestive of vitamin D deficiency
- Increased risk of developing vitamin D deficiency eg.
 - Reduced UV exposure
 - Raised PTH
 - Treatment with anticonvulsants or glucocorticoids
 - Malabsorption

TREAT

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HOW TO TREAT VITAMIN D DEFICIENCY

Rapid correction if:

- Symptoms of vitamin D deficiency
- About to start treatment with potent antiresorptive agent (zoledronate or denosumab or teriparatide)

- Prescribe approximately 300,000 units in divided doses over 6-10 weeks.
- Acute Trusts typically use 50,000 units once a week for 6 weeks
- **4 weeks after loading**, commence maintenance therapy of vitamin D, as per elective correction

CAUTION

Elective correction in all other instances

When co-prescribing vitamin D supplements with an oral antiresorptive agent, maintenance therapy may be started without the use of loading doses

Encourage patients to buy OTC products if possible

- Commence therapy of 1000units vitamin D3 daily or intermittently at higher equivalent dose
- **or** Calcium/Vitamin D supplementation as per local formulary

FOLLOW UP

Check serum adjusted calcium one month after treating with loading doses of vitamin d. Vitamin D repletion may unmask primary hyperparathyroidism

Routine follow up:

Routine follow up monitoring is generally unnecessary but may be appropriate in patients with:

- symptomatic vitamin D deficiency or
- malabsorption or
- where poor compliance with medication is suspected.
- in patients taking antiresorptive therapy who have extremely low levels at baseline assessment
- repeat testing of 25(OH)D may be indicated prior to sequential doses of potent antiresorptives

If indicated check serum 25-hydroxyvitamin D (25-OHD) levels after at least 3 and preferably 6 months of treatment with high-dose vitamin D.

To prevent vitamin D deficiency:

NICE advises that all adults living in the UK, including people at risk of vitamin D deficiency, should take a daily supplement containing 400 IU (10 micrograms) of vitamin D throughout the year, including in the winter months.

- Advise that:
 - Pregnant and breastfeeding women eligible for NHS Healthy Start scheme may be able to access vitamin supplementation via their local distribution point.
 - All other people can purchase multivitamin preparations containing 400 units of vitamin D. Allergies and dietary restrictions should be considered before buying these preparations to ensure their content is safe and appropriate.
 - Regular but sensible exposure to sunlight - 20-30 minutes around midday on the face and forearms 2-3 times a week during the months of April-October. Exposure may need to be longer in darker skinned people.
 - Dietary source: principally found in oily fish / fish oils – 2-3 portions a week. Also in egg yolk and some breakfast cereals.
- **Do not routinely monitor serum vitamin D levels.**
- Some drug treatments represent an additional risk factor for lowering vitamin D levels, these include; some anticonvulsants, corticosteroids, rifampicin and antiretrovirals. Vitamin D supplements (+/- calcium) should be considered for these patients.

Further information about prevention and management of vitamin D deficiency is available on the following links:

<https://cks.nice.org.uk/vitamin-d-deficiency-in-adults-treatment-and-prevention#!scenario:1>

<https://cks.nice.org.uk/vitamin-d-deficiency-in-adults-treatment-and-prevention#!backgroundSub:2>

Vitamin D products– availability and suitability for dietary requirements

Oral : Vitamin D3 (colecalciferol) is recommended 1st choice but is generally not suitable for vegans and may not be suitable for vegetarians. Vitamin D2 (ergocalciferol) is generally suitable for vegans but individual brands should be checked.

Injection : Ergocalciferol 300,000 units/mL intramuscular injection is available. It should only be considered for patients with severe malabsorption and will need discussion with a specialist. Drawbacks include an unpredictable bioavailability and slower onset of repletion. Use of single doses of 300,000 IU or higher is not recommended

Further information regarding available vitamin D products and assesses their suitability for different dietary requirements is available on the following link:

[Specialist Pharmacy Service - Choosing an oral vitamin D preparation for vegetarians or vegans](#)