

TEST

WHO TO TEST

- Fragility fractures, confirmed osteomalacia, osteoporosis, symptomatic hypocalcaemia
- High risk patient group with **suggestive symptoms** e.g. Suspected osteomalacia or rickets, severe widespread muscle ache, proximal muscle weakness
- All patients prior to starting potent antiresorptive treatment

DO NOT TEST

- Asymptomatic patients
- Patients on alfacalcidol or calcitriol (not measured by assay)
- Painless fatigue, tiredness, fibromyalgia, non-specific aches and pains (with normal bone chemistry)

MEASURE 25OH VITAMIN D (NANOMOL/L)

ALSO CHECK: Adj Ca²⁺, PO₄, Mg, Alk Phos

INTERPRET

>50

NO TREATMENT REQUIRED
Advise on safe sun exposure, dietary sources and use of OTC supplements if appropriate e.g. 400 units (10micrograms) daily, see section 8

25-50

Check if any of the following risk factors are present:

- Fragility fracture, osteoporosis, high fracture risk
- Prescribed drug treatment for bone disease
- Symptoms suggestive of vitamin D deficiency
- Increased risk of developing vitamin D deficiency e.g. reduced UV exposure, dark skin, cultural dress code
- Raised PTH
- Prescribed anticonvulsants, rifampicin, glucocorticoids, HAART
- Conditions associated with malabsorption
- Chronic Kidney Disease (eGFR <30ml/min) – consult with specialist

<25

NO RISK FACTORS

1 OR MORE

TREAT

TREAT

HOW TO TREAT VITAMIN D DEFICIENCY

All UK children & adults (PHE guidance see section 8)

High Strength Replacement
If symptomatic or about to start treatment with potent antiresorptive agent e.g. zolendronate, denosumab

Approximately 300,000 units COLECALCIFEROL (Vitamin D3) orally divided over 6-10 weeks

Routine Replacement
If less urgent (asymptomatic), continued long-term OR **Maintenance therapy**
GP prescribing not recommended.
For OTC purchase
(1000 units for <3p/day)

800 - 2,000 units COLECALCIFEROL daily or intermittently at higher equivalent dose

Licensed high strength options: see Appendix 3

- Colecalciferol 40,000 units/cap: 1 cap **weekly** for 7 weeks (e.g. Plenachol, 7 capsules= £10.50)
- Colecalciferol 50,000 units/ml oral soln: 1 ampoule **weekly** for 6 weeks (e.g. InvitaD3 6 ampoules= £12.50)
- Colecalciferol 20,000 units/capsules: 2 tablets **weekly** for 7 weeks (e.g. Plenachol, 14 tabs= £13.50)
- Commence maintenance dose 4 weeks after loading *

Pharmacies, health food shops & supermarkets sell a variety of products in various strengths – see Appendix 3 & 4
IF a clinical need to prescribe, options for maintenance:

- Colecalciferol caps 20,000 units **monthly** (£0.96/mth)
- Colecalciferol soln 25,000 units **monthly** (£1.48/mth)
- Colecalciferol caps 800 units **daily** (£3.36/mth)

Note: Higher doses may be required –see full guideline
If Ca²⁺, content required (poor dietary intake or osteoporosis) a combination product may be needed eg. 1.2g calcium + 800 units vitamin D – see Appendix 3

FOLLOW UP

*Check serum adjusted Ca²⁺ 4 weeks after loading doses of vitamin D. Repletion of vitamin D may unmask primary hyperparathyroidism. If Ca²⁺ is normal, initiate maintenance. If hypercalcaemic, check PTH and refer.

Routine repeat vitamin D3 testing is **NOT** required

Referrals: children, eGFR <30ml/min, failure to respond to treatment, doubt about diagnosis, atypical biochemistry.
Secondary care requests to test/treat outside of this guidance – discuss rationale with requesting clinician/biochemist.