Quick reference guide: Primary Care Management of Vitamin D deficiency

Approved: January 2020
Review: January 2023
Version: 2.0
Quick reference guide: Primary Care Management of Vitamin D deficiency

**WHO TO TEST**
- 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 parental anti-resorptive treatment
- Isolated raised ALP (with normal liver function, including gGT)
- Malabsorption, e.g. post-gastric bypass surgery

**DO NOT TEST**
- Asymptomatic patients
- Fibromyalgia
- Non-specific aches and pains (with normal bone chemistry)

**MEASURE 25(OH) VITAMIN D (nmol/L) ALSO CHECK: Adj Ca\(^{2+}\), PO\(_4\), Alk Phos**

- Has a fragility fracture, documented osteoporosis, or high fracture risk.
- Is prescribed an anti-resorptive drug for bone disease e.g. bisphosphonate
- Symptomatic – i.e. has symptoms suggestive of vitamin D deficiency
- Is at increased risk of developing vitamin D deficiency in the future:
  - With limited sun exposure: Cover up skin for cultural reasons (e.g. Muslim women) OR for health reasons (e.g. skin photosensitivity or a history of skin cancer).
  - Spend very little time outdoors (e.g. housebound or institutionalized) OR with dark skin (e.g. African, African-Caribbean, or Asian or Middle-Eastern ethnic origin).
- Prescribed antiepileptics or oral corticosteroids, or is on long-term treatment with other drugs known to cause vitamin D deficiency, e.g. colestyramine.
- Has a malabsorption disorder (e.g. Crohn’s disease) or other condition known to cause vitamin D deficiency, such as chronic kidney disease

**NO TREATMENT REQUIRED**
Advises on safe sun exposure, dietary sources and use of OTC supplements if appropriate. E.g., 400 units (10µg) daily. If the person has MSK symptoms (such as muscle pain or weakness) despite adequate serum 25(OH)D levels, consider an alternative diagnosis.

**ASYMPTOMATIC & NO RISK FACTORS**

**LOAD**

Rapid high strength replacement
If about to start treatment with potent antiresorptive agent e.g. zoledronate, denosumab higher vit D3 doses will be required & managed in secondary care.

**CHILD LOADING DOSES**
0-1m – 2,000 units daily for 12 weeks
1-6m – 3,000 units daily for 8 weeks
6m-12yrs – 6,000 units daily for 8 weeks
12-18yrs – 10,000 units daily for 8 weeks
NB: These doses are unlicensed. See APC Formulary for choice of products available

**ADULT LOADING DOSES (including pregnancy)**
Prescribe 300,000 units calciferol (vit D3) orally divided over 6-7 weeks
- Colecalciferol 20,000 units/capsules: R:\_ 2 capsules weekly for 7 week
- Colecalciferol 25,000 units/ml oral so\textendash; 2ml weekly for 6 weeks
- Commence maintenance therapy 4 weeks after loading patient with high strength replacement. DO NOT USE LOADING DOSE IF: PATIENT IS HYPERCALCAEMIC or ASYMPTOMATIC + START REGULAR MAINTENANCE DOSE

**1 OR MORE RISK FACTORS**

**TREAT**

**LOAD**

When NHS maintenance dose allowed: after loading doses** or if HYPERCALCAEMIC or ASYMPTOMATIC with ≥ 1 risk factor(s)
800 units (20 µg) calciferol daily; for average caucasian with intact fat soluble vitamin absorption other groups may require higher dose e.g. up to 2000 units (50 µg) for some patients. **Medicine containing supplementary Ca\(^{2+}\) should only be prescribed if dietary Ca\(^{2+}\) intake insufficient or unwilling to increase intake; **Do not initiate Ca\(^{2+}\) or if taking supplement DEPRESCRIBE if sufficient Ca\(^{2+}\) in diet**

When NHS maintenance prescribing is **not supported**  † Patients should be encouraged to self-care; advise patients to speak to their local pharmacist or hospital specialist. Pharmacies, health food shops and supermarkets sell various products in various strengths. **EXCEPTIONS** Maintenance vit D\(_3\) for patients with osteoporosis, chronic hypoparathyroidism or prescribed cinacalcet

**FOLLOW UP**

Repeat vitamin D\(_3\) testing is generally NOT required, but additional tests may be requested by specialist for patients receiving specialist anti-resorptive drug
**NB: Treatment for hypoparathyroidism is life-long**
†Discontinuation for other patient groups should only be considered if significant changes made to lifestyle; e.g. regular exposure to sunlight, consumption of oily fish or bariatric surgery reversal if answer is NO continue

**NGCCG denosumab DES includes advice on rapid high strength replacement**

**Referrals:** eGFR <30ml/min, failure to respond to treatment, doubt about diagnosis, atypical biochemistry, persistent focal bone pain; concurrent hypercalcaemia, investigation of unclear underlying cause
**Secondary care requests** to test/treat outside of this guidance – discuss rationale with requesting clinician