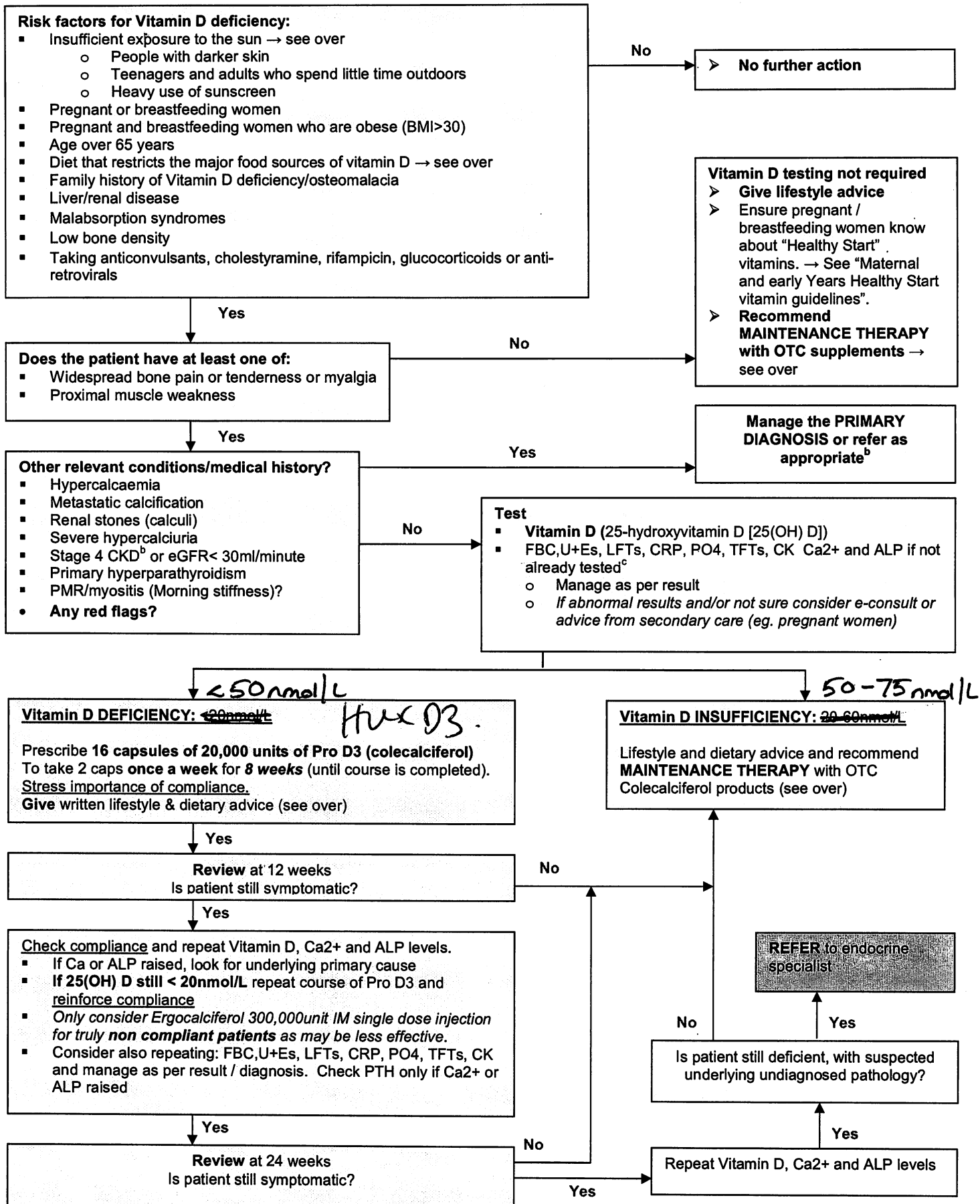


Adult pathway for patients at risk of Vitamin D deficiency in Primary Care (Adults and post-pubertal teenagers^a)



^aThe Children's pathway should be used for all children and prepubertal children

^bCaution is needed in patients with CKD4-5 and with concomitant use of alfacalcidol/calcitriol

^cIf a patient is on calcitriol (1,25-dihydroxyvit D) their serum 25-hydroxy vitamin D levels will be low but this should not be a cause for concern

Further Information

This pathway is intended for use by General Practitioners who see patients at risk of vitamin D deficiency. It is not a screening pathway and Vitamin D testing is not a screening tool. The pathway has been designed in partnership with primary care (NHS Bradford and Airedale) and secondary care (Bradford Teaching Hospitals NHS Foundation Trust and Airedale NHS Foundation Trust). It will be monitored and reviewed in 2013 or earlier if needed.

Vitamin D2 is known as ergocalciferol and Vitamin D3 is known as colecalciferol. Colecalciferol, although unlicensed in the UK, is the treatment of choice¹ because it is the active form of vitamin D. It is licensed and widely used in Europe and the United States with no indication of safety concerns. It has also been easier to obtain colecalciferol over the last three years than it has ergocalciferol. For patients with lactose intolerance and/or poor dietary intake additional supplementation with calcium is recommended.

The **Pro D3 range** is marketed as a food supplement in the UK and can be prescribed (including FP10). Pro D3 20,000 capsules contain colecalciferol 20,000 units. Pro D3 is the most cost-effective Vitamin D preparation available and should be prescribed by name. Pro D3 is suitable for vegetarians, Muslims and Jews and are gelatine free. They are also safe to use in patients with a peanut allergy. Pro D3 is available from AAH (0247 643 2000), Phoenix (+49 721 1208 150) or direct from their manufacturer Synergy Biologicals (0845 519 7401)

NOT RECOMMENDED: Dekristol (an unlicensed Colecalciferol preparation) should NOT be prescribed as it is NOT cost effective. Additionally, named patient liquid 'specials' of vitamin D (unlicensed) for adults in primary care should also NOT be prescribed as they too are not a cost effective choice, and detract from limited stock used in infants.

Vitamin D tests are listed as a biochemistry test.

Examples of colecalciferol supplements which can be bought from pharmacies or health food stores for self-management of insufficiency (20-60 nmol/L) or as maintenance therapy for those who have previously been treated for deficiency. Recommended dose 1000 units (25 micrograms) daily. Other supplements may be available. As a rough guide, a year's supply of OTC supplements usually costs less than £20. The community pharmacist is able to provide advice on these products. **These products should not be prescribed on FP10.** Combination Vitamin D3/calcium products can be prescribed on FP10 for patients who are also calcium deficient but this may require monitoring.

NB treatment of deficiency can (rarely) lead to vitamin D toxicity; this may present with symptoms similar to hypercalcaemia.

Example Products	Strength and form	Source	Relevant dietary/allergy information*
SunVit	1000iu/25µg tablets	D3 Vitamin LLP	NIL – suitable for vegetarians
Sunvite Vitamin D3	1000iu/25µg tablets	Holland and Barrett	Soya, gelatine (bovine origin)
Vitamin D3	1000iu/25µg tablets	Boots	Soya bean oil, gelatine, glycerin
Vitamin D3	1000iu/25µg tablets	Nature's Remedy	Rice brain oil, gelatine, glycerin
Vitamin D3	1000iu/25µg tablets	Nature's Remedy	NIL – suitable for vegetarians
BioLife Vitamin D3	1000iu/25µg tablets	Lifestyle Natural Health	NIL – suitable for vegetarians
Vitamin D3	1000iu/25µg softgels	Solgar	Gelatin, glycerin
Pro D3	1000 & 2500 iu capsules	Synergy Biologicals	NIL-suitable for vegetarians and kosher diet.

* Colecalciferol in supplements is derived from wool oil (lanolin); Products with soya are not suitable for those with nut allergies.

1000IU = 25 micrograms

Lifestyle and dietary advice checklist:

Sunlight: The amount of sun exposure that people need in order to make sufficient vitamin D varies according to a number of environmental, physical and social factors. Generally, going outside most days without sunscreen between 11am and 3pm in the Summer (April –September), for less time than it takes for the skin to redden, and taking care not to burn, should be sufficient. For people with fair skin, more care needs to be taken to prevent burning, and for people with darker skin it will take longer for the skin to manufacture vitamin D².

Diet: Vitamin D is only found in a few foods, and not in sufficient quantities for a balanced diet to meet vitamin D requirements. Foods include herrings, tuna (but not tinned versions) sardines, mackerel, salmon, egg yolks, evaporated milk, and some powdered milks. In the UK, margarine and some breakfast cereals are fortified with vitamin D (check product labels)².

¹ Armas L, Hollis B & Heaney R. Vitamin D2 is Much Less Effective than Vitamin D3 in Humans. *The Journal of Clinical Endocrinology & Metabolism* 89(11):5387–5391

² Cancer Research UK, National Osteoporosis Society, British Association of Dermatologists, Diabetes UK. Consensus Vitamin D Position Statement (2010). Available from: http://www.sunsmart.org.uk/prod_consump/groups/cr_common/@nre/@sun/documents/generalcontent/cr_052628.pdf