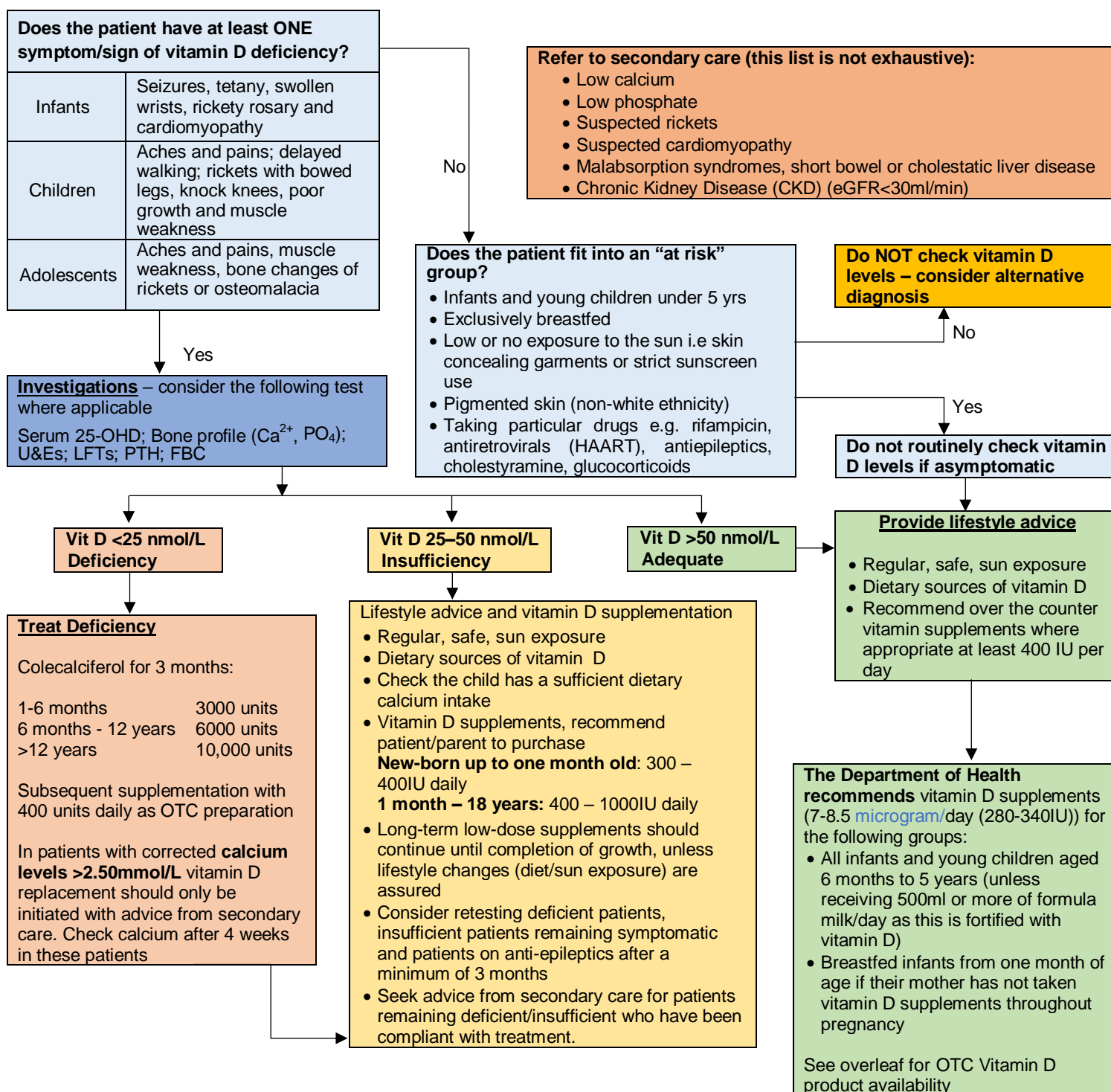


Transfer of Care Pathway for Vitamin D Deficiency for Paediatric (<18 years) Patients with eGFR >30ml/min

Serum 25-OHD concentration	Vitamin D status	Manifestation	Management
<30nmol/L	Deficient	Rickets, Osteomalacia	Treat with high dose colecalciferol
30-50nmol/L	Insufficient	Associated with disease risk	Vitamin D supplementation
50-75nmol/L	Adequate	Healthy	Lifestyle advice
>75nmol/L	Optimal	Healthy	None



If a patient is diagnosed with vitamin D deficiency, the family should be given lifestyle advice and their risk of deficiency assessed - manage according to age appropriate vitamin D pathway.

The majority of cases of vitamin D deficiency can be treated and prevented in primary care. A small proportion of Children and Young People (CYP) would be commenced on treatment for vitamin D deficiency by the paediatric team at BHRUT and 1st 4 weeks' supply would be provided from the hospital pharmacy. Completion of treatment would be in the primary care following this guideline.

Clinical aspects of treatment:

Some products may contain peanut (arachis) oil, sunflower oil or soya oil. Allergy to these ingredients may lead to severe allergic reactions including anaphylaxis. Healthcare professionals should check for allergies before prescribing or when recommending supplements.

Key adverse effects and actions:

Side effects are rare if recommended doses are adhered to. Side effects are generally associated with excessive intake of vitamin D, leading to the development of hypercalcaemia.

Hypercalcaemia usually presents with symptoms of anorexia, nausea, vomiting, headache, increased thirst, fatigue and muscle weakness. Once diagnosed, treatment with vitamin D is to be suspended and urgent referral to secondary care need to be arranged.

Paediatric Vitamin D Deficiency Pathway Continued

Sun Exposure

- Over 90% of the body's vitamin D is produced from the action of sunlight on the skin. Sun exposure, without sunscreen, between 10am to 3pm from April to October for 5-15mins should be sufficient to improve vitamin D status
- Two or three sunlight exposures per week can achieve adequate vitamin D levels in the summer so long as the individuals have sufficient levels to begin with

Dietary Sources

- Excellent food sources (greater than 5mcg per portion) of vitamin D include 2 teaspoons cod liver oil, 70g sardines, 100g tinned salmon, pilchards or tuna, 110g of cooked mackerel or herring and 130g cooked kipper. Other sources are egg yolks, mushrooms, and fortified foods e.g. some breakfast cereals and margarine. All formula milks are fortified with vitamin D, but plain cow's milk is not fortified in the UK. Breast milk generally contains little Vitamin D

OTC Vitamin D product availability

Routine vitamin D supplementation / maintenance should be purchased over the counter (OTC) from **supermarkets, pharmacies and health food shops**. It is available to buy as oral drops, chewable tablets, capsules and tablets. Healthy Start vitamin drops for children may be an option for patients that are eligible (see information below).

Product	Approx. price	Source	Suitability
Healthy Start Vitamin Drops for Children Vitamin D3 300units/5 drops (also contains vitamin A and C) Licensed medicine	Free if parent meets criteria*	From Health Visitors, Children's Centers some community pharmacies and surgeries. For more info; www.healthystart.nhs.uk	Suitable for vegetarians and free from milk, egg, gluten, soya and peanut residues

*Patients qualify for Healthy Start if they are at least 10 weeks pregnant or have a child under four years old **and** they or their family receive:

- Income Support, or
- Income-based Jobseeker's Allowance, or
- Income-related Employment and Support Allowance, or
- Child Tax Credit (but not Working Tax Credit unless your family is receiving Working Tax Credit run-on only*) **and** has an annual family income of £16,190 or less (2012/13).

Pregnant patients under 18 years old also qualify, even if they do not get any of the above benefits or tax credits.

*Working Tax Credit run-on is the Working Tax Credit you receive in the 4 weeks immediately after you have stopped working for 16 hours or more per week.

Preferred Vitamin D Products for primary care prescribing

- BHR CCGs have agreed that NO routine primary care prescribing of vitamin D for supplementation / maintenance therapy – this should be purchased as advised above
- BHR CCGs have agreed that primary care prescribing of vitamin D will only take place
 - For patients with known vitamin D deficiency
 - For patients with disease related deficiency (specialist conditions as advised by a paediatrician – see shared care guideline for vitamin D prescribing in Children)
- Primary care prescribing of vitamin D should be by brand only. Colecalciferol only products are recommended
- Prescribe treatment/loading courses as a one-off acute prescriptions. Do not put on repeat prescribing systems

• [Please follow this link for the latest recommended brands of vitamin D for primary care](#)

Activated vitamin D

'Activated vitamin D' preparations such as calcitriol or alfacalcidol should not be used for the treatment of simple vitamin D deficiency. They should only be used for the treatment of complex cases by specialists. They are ineffective in treating simple vitamin D deficiency and can cause severe adverse effects, particularly hypercalcaemia.

References

- Vitamin D and Bone Health: A Practical Clinical Guideline for Patient Management in Children and Young People; National Osteoporosis Society: Arundel P, Shaw N (2018): Available at: <https://theros.org.uk/media/54vpzzaa/ros-vitamin-d-and-bone-health-in-children-november-2018.pdf>
- RCPCH. Guide for Vitamin D in Childhood. October 2013. Available from www.rcpch.ac.uk/
- BHR CCGs Spending NHS money wisely www.redbridgeccg.nhs.uk/Our-work/spending-nhs-money-wisely.htm
- MHRA: Drug SafetyUpdate. Antiepileptics: adverse effects on bone: April 2009
- BHR CCGs and BHRuT Shared Care guideline for vitamin D prescribing in Children April 2018
- Adapted from Ipswich and East Suffolk CCG and Ipswich Hospital NHS Trust guidance July 2016