

# Identifying children in need of vitamin D supplementation

## Indications for testing

Symptoms and signs of rickets (refer to Paediatrics) e.g. progressive bowing of legs, progressive knock knees, wrist swelling, rachitic rosary, craniotabes, delayed tooth eruption and enamel hypoplasia

Long-standing (> 3 months) unexplained bone pain

Muscular weakness-delayed walking, waddling gait, difficulty rising from a chair

Features of hypocalcaemia (tetany/seizures), hypocalcaemia, hypophosphataemia, cardiomyopathy

Bone disease

Chronic disease that may increase risk e.g. malabsorption syndromes, renal or hepatic impairment

Children in at risk groups e.g. reduced sun exposure, dark skin pigmentation, who do not qualify for Healthy Start vitamins due to being over 4 yrs and who are unlikely to receive purchased supplements despite advice

### Assessing the patient

None of symptoms or signs listed above

Testing of vitamin D levels not indicated

Give advice on how to obtain vitamin D through lifestyle and purchased supplements containing at least 400units (10micrograms).

BDA Vitamin D Food Fact Sheet:

<https://www.bda.uk.com/resource/vitamin-d.html>

Children under 4 yrs eligible for the NHS Healthy Start scheme can obtain free vitamin drops

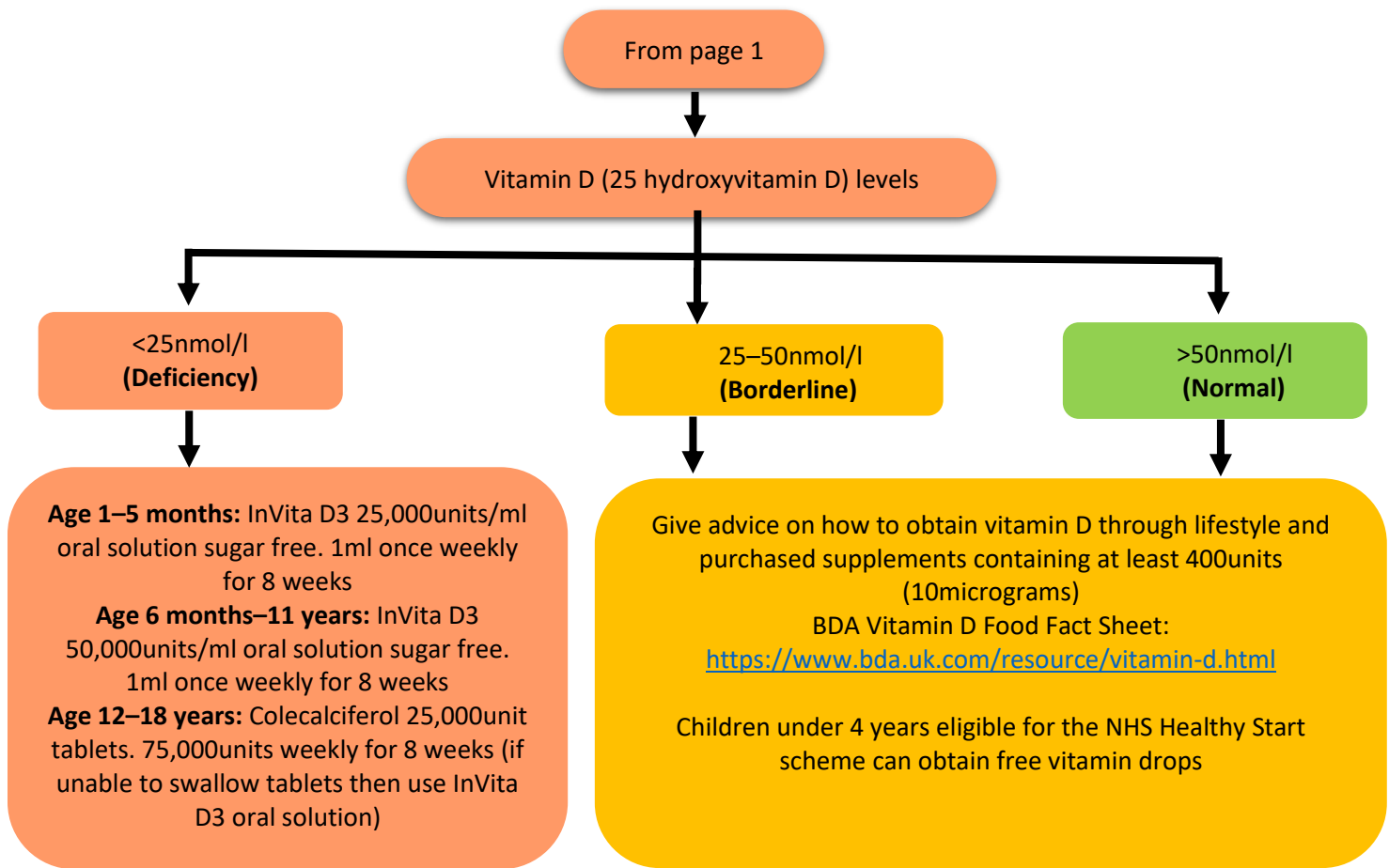
Individuals with the following risk factors may be at greater risk and so giving the above advice should be prioritised: Reduced sun exposure, dark skin pigmentation, poor diet, vegans, inflammatory disorder, anti-convulsants, obesity

Symptom or sign listed above is present

Request vitamin D and bone profile

Differential diagnoses to consider:  
 Bone pain and/or muscle weakness—bone cancer, soft tissue sarcoma, fracture, osteomyelitis, parathyroid disorders, rheumatoid arthritis  
 Painless muscle weakness— polymyositis, dermatomyositis, thyroid disease, muscular dystrophies

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## Monitoring and follow up of children prescribed high dose vitamin D

Bone profile and vitamin D tests are recommended to be repeated at the end of the course of treatment:

- If the 25(OH)D level is greater than 50 nmol/l and the bone profile is normal: advise supplements containing vitamin D 400units per day and give lifestyle advice.
- If 25(OH)D is below 50 nmol/l: consider non-adherence, drug interactions and underlying disease such as renal disease, liver disease and malabsorption.

If a child's symptoms/signs have not improved despite a satisfactory 25(OH)D concentration, they are unlikely to be related to vitamin D deficiency.

## References:

BDA: Vitamin D Food Fact Sheet. Accessed on 27th April via <https://www.bda.uk.com/resource/vitamin-d.html>

Clinical Knowledge Summaries: Vitamin D deficiency in children—Treatment and prevention. Accessed on 27th April 2021 via <https://cks.nice.org.uk/topics/vitamin-d-deficiency-in-children/>

East Berkshire CCGs: Guidelines for Vitamin D deficiency in children. May 2015.

Healthy Start: Getting Vitamins. Accessed on 27th April 2021 via <https://www.healthystart.nhs.uk/getting-vitamins/>

NHS Choices: Vitamin D. Accessed on 27th April 2021 via <https://www.nhs.uk/conditions/vitamins-and-minerals/vitamin-d/>

NHS England: Guidance on conditions for which over the counter items should not routinely be prescribed in primary care, March 2018. Accessed on 27th April 2021 via <https://www.england.nhs.uk/publication/conditions-for-which-over-the-counter-items-should-not-routinely-be-prescribed-in-primary-care-guidance-for-ccgs/>

North East Hampshire & Farnham CCG: Vitamin D and Bone Health Practical Guidelines for Vitamin D Deficiency in Adults. May 2019.

Royal Osteoporosis Society: Vitamin D and Bone Health. December 2018. Accessed on 27th April 2021 via <https://theros.org.uk/media/54vpzaa/ros-vitamin-d-and-bone-health-in-children-november-2018.pdf>

SPS: Which oral vitamin D products are suitable for people with vegetarian or vegan diets? September 2019. Accessed on 27th April 2021 via <https://www.sps.nhs.uk/articles/which-vitamin-d-preparations-are-suitable-for-a-vegetarian-or-vegan-diet/>