



# Guideline for the management of children and young people with suspected Vitamin D deficiency

**WHO TO TEST**

Do not routinely test children and young people for vitamin D deficiency, unless: signs and symptoms of rickets or other musculoskeletal symptoms, clinical features of hypocalcaemia (e.g. irritability, tetany, seizures) or conditions associated with vitamin D deficiency (e.g. infantile cardiomyopathy), abnormal bone profile, radiological features of osteopenia, rickets or pathological fractures, suspected or diagnosed bone disease (e.g. osteomalacia), metabolic or chronic conditions (e.g. renal/liver disease)

**INTERPRET**

## 25OH vitamin D (nmol/L)

**>50**  
Sufficient

**25-50**

At least until the completion of growth  
Inadequate

**≤25**  
Deficient

Maintain vitamin D through safe sun exposure and current diet.

Children above the age of 1 month a dose of 10 micrograms (400 units) daily at least until the completion of growth, unless there is significant lifestyle change to improve vitamin D status. NHS 'Healthy Start' vitamin drops are available if eligible.

<https://www.healthystart.nhs.uk/for-health-professionals/vitamins/>

**Treat**

**TREAT**

### Maintenance

- Lifestyle advice on maintaining adequate vitamin D levels - safe sunlight exposure and diet.
- Ensure dietary calcium intake is adequate
- Signpost to Healthy Start scheme if eligible.
- Advise purchasing an age-appropriate OTC vitamin D supplement, e.g. Abidec/Dalavit®.
- Consider prescription only if (c) and (d) not appropriate.

### Invita D3 2,400 IU/ml oral drops (1 drop contains 67 IU)

- 0-1 years 400 IU/day (6 drops)
- 1-18 years 600 IU/day (9 drops)

In young people aged 12-18 yrs, **Invita D3 25,000IU caps, one capsule every 6 weeks** may be considered.

### Treatment of deficiency with symptoms

Age	Daily Dose	Duration (weeks)	Prep and Dose	Quantity
1 to 5 months	3000IU	8	Thorens 10,000IU/ml 0.3ml daily	20ml
6 months to 11 yrs	6000IU	8	*Thorens 10,000IU/ml 0.6ml daily	40ml
12 to 18yrs	10000IU	8	*Thorens 10,000IU/ml 1ml daily	60ml

#### \*Thorens dose is off label

In children and young people 12-18 yrs and concerns about adherence, **Invita D3 25,000IU caps, one capsule twice weekly for 6 weeks** may be more convenient.

**Maintenance** dose of 400 – 600IU daily may be considered after completion of treatment

**FOLLOW UP**

A repeat bone profile and 25-hydroxyvitamin D concentration (and a PTH test if the patient has rickets or hypocalcaemia) should be performed shortly after completion of treatment for deficiency (2-3 months after commencement of treatment) to ensure that any biochemical abnormality has resolved, and that the serum 25-hydroxyvitamin D concentration is >50nmol/L.

## Refer to secondary care if:

- repeated hypocalcaemia (with or without symptoms) or persisting low plasma phosphate or low/high alkaline phosphatase
- medical conditions predisposing to hypercalcaemia (e.g. sarcoidosis, TB, metastatic bone disease or primary hyperparathyroidism)
- abnormalities associated with rickets
- malabsorption disorder, severe liver disease or end of stage CKD
- active or history of renal stones
- poor response to treatment despite adherence
- concerns about vitamin toxicity
- pregnancy

## Lifestyle advice

- Safe exposure to sunlight is the main source of vitamin D. Aim to follow current NHS guidance on sun exposure for babies, infants children and young people. <https://www.nhs.uk/conditions/pregnancy-and-baby/safety-in-the-sun>
- Dietary source of vitamin D include oily fish, dairy products, liver and egg yolk. [Foods high in vitamin D](#)

## Primary care guidance

- If being prescribed on an FP10 then vitamin D preparations, then to be prescribed as the brand name 'InVita D3' or 'Thorens' to ensure the correct licensed preparation is dispensed in line with local formulary choice.
- Healthy Start vitamins are available from all children's centres in Doncaster and are free to families eligible for Healthy Start vouchers for children under the age of four. <https://www.healthystart.nhs.uk/for-health-professionals/vitamins/>
- Vitamin D preparations are available as a health food supplement i.e. Abidec or Dalavit could be used as prevention/maintenance therapy and can also be purchased from community pharmacy, health stores or supermarket.

## Calcium Supplementation

Always consider the need for improving calcium intake. Many children and young people with vitamin D deficiency will have a depleted calcium status and/or a poor calcium intake and may therefore benefit from advice about dietary calcium intake. [Calcium - BDA](#)

## References

1. National Osteoporosis Society (NOS) guideline Vitamin D and bone health: a practical clinical guideline for management in children and young people [National Osteoporosis Society, 2015]
2. The National Institute for Health and Care Excellence (NICE) guideline *Vitamin D: supplement use in specific population groups* [NICE, 2014]
3. RCPCH Guidance for Vitamin D in Childhood Oct 2013.
4. Sheffield CCG Guidelines for the management of children with suspected vitamin D deficiency in primary care setting.
5. SACN [Vitamin D and Health](#) 2016
6. NICE CKS [Vitamin D deficiency in children](#) 2016
7. [Invita D3 2,400 IU/ml oral drops, solution SPC](#)
8. [THORENS 10 000 I.U. /ml oral drops, solution SPC](#)
9. [Diagnosis | Diagnosis | Vitamin D deficiency in children | CKS | NICE](#)
10. [Scenario: Management | Management | Vitamin D deficiency in children | CKS | NICE](#)

**These guidelines have been developed by the SY ICB Medicines Optimisation Team Doncaster Place in collaboration with DBTHFT and Primary Care Clinicians. V3.0 September 2025**

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