

Vitamin D deficiency/insufficiency – Summary Treatment Choices for Children

- Refer to full guideline for further information on investigation and treatment of Vitamin D deficiency and insufficiency
- Refer to UKMi Medicines Q&A documents for further information for specific allergy and dietary requirements (see **References page 3**)
- Refer to East and South East England Specialist Pharmacy Services Vitamin D deficiency and insufficiency document, using appropriate available products (Aug 2014) for further information on available products [[LINK](#)]

Vitamin D level	Recommended treatment and choices	Dose:
<p><30nmol/L (deficiency)</p>	<ul style="list-style-type: none"> • Refer to specialist but where appropriate consider commencing treatment in primary care until seen by specialist • High loading dose (LD) treatment course followed by long term maintenance + give lifestyle advice • Prescribe loading dose product by BRAND and on ACUTE prescription only. <p>Rx: Thorens colecalciferol (licensed) 10 000 IU/ml oral drops (1 drop contains 200 IU colecalciferol) <i>Suitable for vegetarian, vegan. Free from peanut oil, soya, lactose, gluten and gelatin. Kosher and Halal certified.</i></p> <p>Thorens is supplied with a dropper syringe for doses in drops. For doses in ml ensure a 1ml oral syringe is supplied. Drops are olive oil based.</p>	<p>Treat for 90 days:</p> <ul style="list-style-type: none"> • <3 months to 12 months: 2,000 IU daily (10 drops = 0.2ml) • >12 months to 12 years: 3,000-6,000 IU daily (15 to 30 drops = 0.3ml to 0.6ml) • >12 years 6,000 IU daily (30 drops = 0.6ml)
<p>30-50 nmol/L (insufficiency)</p>	<p>Advise patient to buy or access free supplies of vitamin D supplement OTC + give lifestyle advice</p> <ul style="list-style-type: none"> • Vitamin D supplements are available to buy at most pharmacies, health food shops and supermarkets. • Advise patient to raise allergies & dietary restrictions before purchasing to ensure the product content is safe & appropriate. • Low dose vitamin D supplements should not routinely be prescribed. <p>OTC available Multivitamin drops containing vitamin D:</p> <ul style="list-style-type: none"> • Healthy Start Children's Vitamin (vitamins A, C, D) drops [5 drops contain colecalciferol 300 IU, vitamin A 700 units] <i>Suitable for vegetarians. Halal & kosher certified. Free from milk, egg, gluten, soya and peanut residues</i> • Abidec® (vitamins A, B, C, D) drops [0.6ml contains ergocalciferol 400 IU, vitamin A 1333 units] <i>Halal & kosher certified. Not suitable for patients allergic to peanut or soya and those patients with lactose intolerance.</i> • Dalivit® (vitamins A, B, C, D) drops [0.6ml contains ergocalciferol 400 IU, vitamin A 5000 units] <i>Suitable for vegetarians and vegans. Free from peanut oil and soya.</i> <p>Colecalciferol only product (prescription only):</p>	<p>Oral prevention of vitamin D deficiency:</p> <ul style="list-style-type: none"> • Neonates to < 12months: 340-400 IU daily • All other ages: 400-600 IU daily

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	<ul style="list-style-type: none"> • Thorens (licensed) 10 000 IU/ml oral drops (1 drop contains 200 IU colecalciferol) <i>Suitable for vegetarian, vegan. Free from peanut oil, soya, lactose, gluten and gelatin. Kosher and Halal certified.</i> 	
>50nmol/L (sufficient)	<p>Provide reassurance & give advice on diet, safe sun exposure and buying or accessing free supplies of vitamin D supplement OTC</p> <ul style="list-style-type: none"> • See below as per advice for general population including at risk groups • Low dose vitamin D supplements should not routinely be prescribed. 	See below
Unknown (advice for general population)	<p>Provide reassurance & give advice on diet, safe sun exposure and buying or accessing free supplies of vitamin D supplement OTC</p> <ul style="list-style-type: none"> • Vitamin D supplements and multivitamin products for children that contain vitamin D are available to buy at most pharmacies, health food shops and supermarkets. • Healthy start vitamins are vitamin supplements that contain vitamin D (children vitamin drops provide 300 IU/5 drops). They are recommended and available free of charge from Hertfordshire Children's Centres for children under 5 years old. For further information www.healthystart.nhs.uk ; To find your nearest children's centre go to: www.hertsdirect.org/childrenscentres • Advise to raise allergies & dietary restrictions before purchasing to ensure the product content is safe & appropriate. • Low dose vitamin D supplements should not routinely be prescribed. <ul style="list-style-type: none"> ○ Breastfed babies from birth to one year of age should be given a daily supplement containing 8.5 to 10mcg (340-400 IU) of vitamin D. ○ Babies fed infant formula should not be given a vitamin D supplement until they are receiving less than 500ml (about a pint) of infant formula a day, because infant formula is fortified with vitamin D ○ Children aged 1 to 4 years old should be given a daily supplement containing 10mcg (400 IU) of vitamin D ○ Children over 5 years should consider taking a daily supplement containing 10 micrograms (400IU) of vitamin D particularly during the winter months (October until the end of March). From late March/early April to September most should be able to get enough vitamin D from sunlight, so they may choose not to take a vitamin D supplement during these months ○ Children over 5 years who have low or no exposure to the sun e.g. those who are housebound; are in an institution; usually wear clothes that cover up most of their skin when outdoors; who regularly use high-factor sunscreen should take a daily supplement containing 400 IU of vitamin D throughout the year. ○ Children over 5 years from minority ethnic groups with dark skin, such as those of African, African-Caribbean or South Asian origin, might not get enough vitamin D from sunlight and should consider taking a daily supplement containing 400IU of vitamin D throughout the year. 	<ul style="list-style-type: none"> • Breastfed babies from birth to one year of age should be given a daily supplement containing 8.5 to 10mcg (340-400 IU) of vitamin D. • Babies fed infant formula should not be given a vitamin D supplement until they are receiving less than 500ml (about a pint) of infant formula a day • Children aged 1 to 4 years old should be given a daily supplement containing 10mcg (400 IU) of vitamin D • Children over 5 years: 400 IU/day (throughout the year or winter months only depending on risk)

• **Disclaimer:** statements present in this guideline regarding halal or kosher certification are objective and fully reflective of information supplied by product manufacturers. The authors of this guideline cannot be held responsible for verifying this information according to individual's religious beliefs, which are known to vary considerably. Individuals can be supplied with manufacturers contact details to contact them directly to find out whether products comply with their individual belief systems.

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- **Unlicensed products:** As with all unlicensed medicines, all clinical and legal responsibility lies with the prescriber rather than the manufacturer (unless it can be proven that the product was faulty). Informed consent should always be obtained from patients before prescribing in these circumstances.

Lifestyle Advice

Dietary Sources Advice	Egg yolk, cod liver oil, oily fish (2-3 portions a week), fortified cereals, margarine and infant formula. See full guideline for further information. Dietary Advice for patients available at: www.nhs.uk/Conditions/vitamins-minerals/Pages/Vitamin-D.aspx
Safe Sun Exposure Advice	<p>General Advice</p> <ul style="list-style-type: none"> • The body creates most vitamin D from modest exposure to direct UVB sunlight. • Our bodies make vitamin D when our skin is exposed to summer sunlight (late March/early April to end of September) so during the winter months it can be particularly difficult to get enough. • During the winter (October to early March), we get vitamin D from our body's stores and from food sources as sunlight doesn't contain enough UVB radiation for skin to be able to make vitamin D. • The amount of time you need in the sun to make enough vitamin D is different for everyone. Most people will make enough vitamin D if they have a short daily period of sun exposure with their forearms, hands or lower legs uncovered and without sunscreen during the summer months (late March/early April to October), mostly between 11am and 3pm. Exposing yourself for longer is unlikely to provide any additional benefits. • People with dark skin, such as those of African, African-Caribbean or south Asian origin, will need to spend longer in the sun to produce the same amount of vitamin D as someone with lighter skin. • The longer you stay in the sun, especially for long periods without sun protection, the greater the risk of skin cancer. You should always take care to cover up or apply sunscreen (SPF at least 15) before any exposed skin becomes red or begins to burn. <p>Specific Advice for Children</p> <ul style="list-style-type: none"> • Children aged under six months should be kept out of direct strong sunlight. • From March to October in the UK, children should: <ul style="list-style-type: none"> ○ cover up with suitable clothing (including wearing a hat and wearing wrap-around glasses) ○ spend time in the shade (particularly from 11am to 3pm) ○ wear at least sun protection factor (SPF) 15 sunscreen. <p>Sunshine advice for patients available at: http://www.nhs.uk/Livewell/Summerhealth/Pages/vitamin-D-sunlight.aspx</p>

<p>References</p> <p>UKMi Medicines Q&As (check LINK for more up to date versions):</p> <ul style="list-style-type: none"> ○ Dose of vitamin D to treat deficiency [LINK] (06/05/2015) ○ Vitamin D supplements for vegetarians and vegans [LINK] (05/03/2015) ○ Calcium and vitamin D supplements for vegetarians and vegans [LINK] (19/09/2014) 	<p>Other references</p> <ol style="list-style-type: none"> 1. National Osteoporosis Society: Vitamin D and Bone Health: A Practical Clinical Guideline for Patient Management (April 2013) https://www.nos.org.uk/document.doc?id=1352 2. NCL Osteoporosis Service Guidelines on Management of Vitamin D Deficiency in Adults with Low Bone Mineral Density http://ncl-jfc.org.uk/uploads/3/2/0/9/3209562/ncl_vitamin_d_guidelines_final.pdf 3. Barking and Dagenham, Havering and Redbridge CCG vitamin D formulary guidance, Sept 14 4. Derbyshire joint prescribing committee (JAPC) guidance on the prevention, diagnosis and management of vitamin D deficiency in primary care, Oct 15 5. Coventry & Warwickshire area prescribing committee clinical guideline CG019, vitamin D prescribing guidelines
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| <ul style="list-style-type: none">○ Dose of oral vitamin D during pregnancy [LINK] (12/09/2014)○ Vitamin D products for patients with peanut or soya allergy [LINK] (21/06/2013)○ Information on Kosher and Halal medicines [LINK] (10/01/2014) | <ol style="list-style-type: none">6. East and South East England Specialist Pharmacy Services Vitamin D deficiency and insufficiency document, using appropriate available products (Aug 2014)7. PrescQIPP Vitamin D: Deficiency and insufficiency practical information for GPs8. DOH, Scottish Govt, Welsh Govt, Health and social services and public safety – Vitamin D advice on supplements for at risk groups9. Public Health England (PHE) updated advice on vitamin D, July 2016. https://www.gov.uk/government/news/phe-publishes-new-advice-on-vitamin-d |
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