PREVENTING VITAMIN D DEFICIENCY IN AT RISK GROUPS

This guidance covers patients who are considered 'at-risk' of vitamin D deficiency NOT those with a proven deficiency, and follows the CMO's letter advising on vitamin D supplements for 'at-risk' groups[1].

Up to a quarter of people in the UK have low levels of vitamin D in their blood, which means they are at risk of the clinical consequences of vitamin D deficiency.

Vitamin D occurs naturally in the body following exposure to UVB sunlight. Normal summer sunshine exposure should be sufficient for most people to provide adequate levels; however, for certain groups of people sunlight exposure may not provide adequate levels of vitamin D.

Vitamin D deficiency impairs the absorption of dietary calcium and phosphorus, which can give rise to bone problems such as rickets in children, and bone pain and tenderness as a result of osteomalacia in adults.

The following groups of people are at risk of vitamin D deficiency:

- All pregnant and breastfeeding women, especially teenagers and young women.
- Infants and young children under 5 years of age.
- Older people aged 65 years and over.
- People who have low or no exposure to the sun, for example those who cover their skin for cultural reasons, who are housebound or confined indoors for long periods.
- People who have darker skin, for example people of African, African-Caribbean and South Asian origin, because their bodies are not able to make as much vitamin D.
- People with certain gut (e.g. Crohn's, coeliac disease), kidney or liver diseases
- People prescribed certain medicines (e.g. carbamazepine, phenytoin, primidone, barbiturates and some anti-HIV medicines)

Recommendations

Patients presenting with symptoms (rickets, osteomalacia, symptomatic hypocalcaemia, muscle weakness/pains, poor growth in children, fractious child) require further investigation and treatment will normally be with prescription only vitamin D medicines.

People at risk should be given lifestyle advice and advised to take vitamin D supplements. Prescribing vitamin D supplementation to all patients over 65 years could add 4% to prescribing budget (and this is only one group identified as 'at risk') and therefore cannot be recommended with County Durham and Darlington PCT. People identified as 'at risk' should be directed to purchase vitamin D supplementation from a pharmacy[2].

Women and children from families who are eligible for the Government's Healthy Start scheme can get free vitamin supplements which include vitamin D, in the form of tablets for women and drops for children. It is the statutory responsibility of PCTs, the local trust or Health Board to make healthy Start vitamins available locally to women and children on the scheme. Health professionals should familiarise themselves with local distribution arrangements for Healthy Start vitamins.

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Sun exposure:

For a fair-skinned person, 20 to 30 minutes of ('sub-erythematous') sunlight exposure at midday on the face and forearms two or three times weekly between April and October are sufficient to achieve healthy vitamin D levels in summer in the UK. However, for individuals with pigmented skin, and to a lesser extent the elderly, exposure time or frequency needs to be increased two- to ten-fold to get the same vitamin D synthesis (depending upon skin pigmentation). While recognising the importance of avoiding sunburn and sunbeds, total avoidance of sun exposure is a clear risk factor for vitamin D deficiency.

Dietary sources of vitamin D:

- 2-3 portions (100-150g per portion) weekly of oily fish including trout, salmon, mackerel, herring, sardines, anchovies, pilchards or fresh tuna. Because of the concerns of heavy metal contamination in the marine food chain, it is recommended that these amounts should not be exceeded in pregnancy, or in women who may conceive.
- Cod liver oil and other fish oils.
- Egg yolk.
- Some breakfast cereals (mainly supermarket 'own brands' – which are manufactured for the EU market where several countries have obligatory minimum levels in cereals) are supplemented.
- Margarine and infant formula milk have statutory supplementation in the UK

Vitamin D supplements**

Patient group	Daily supplement of vitamin D
All pregnant and breastfeeding women	10 micrograms
All infants and young children aged 6 months to 5 years*	7-8.5 micrograms
Aged over 65 years and people with limited exposure to sun	10 micrograms

*Infants who are fed infant formula will not need vitamin drops until they are receiving less than 500ml of infant formula a day, as these products are fortified with vitamin D. Breastfed infants may need to receive drops containing vitamin D from one month of age if their mother has not taken vitamin supplements throughout pregnancy.

**Please consult separate sheet for full list of available Vitamin D supplements (Note: Although these products are available on prescription, the NHS CDD Drug and Therapeutics Committee recommend that patients are advised to purchase these products).

Caution: Advise patients to always consult their pharmacist or doctor before taking vitamin D supplementation. Too much vitamin D can raise calcium levels in the blood which can be dangerous.

References
1. Chief Medical Officer letter to Healthcare professionals, Department of Health 2 February 2012
2. National electronic Library for Medicines (NeLM): UKMI list of vitamin D products (15 February 2012)

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Management of patients at risk of Vitamin D deficiency

The following groups of people are at risk of vitamin D deficiency

All pregnant and breastfeeding women (especially teenagers and young women)

Should take a daily supplement containing 10micrograms of vitamin D, to ensure the mother's requirements for vitamin D are met and to build adequate foetal stores for early infancy.

Some women will qualify for Health Start :

Over 18

Qualify for Healthy Start from the 10th week of pregnancy or if they have a child under four years old, and if she or her family receive any of the following:

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

Under 18

Qualify for Healthy Start, even if they do not get any of the above benefits or tax credits.

Infants and young children under 5 years of age.

All infants and young children aged 6 months to 5 years should take a daily supplement containing vitamin D in the form of vitamin drops, to help them meet the requirement set for this age group of 7-8.5 micrograms of vitamin D per day.

Need will be determined by type and amount of feeds:

Formula fed infants

Will not need vitamin drops until they are receiving less than 500ml of infant formula a day, as these products are fortified with vitamin D.

Breastfed infants

May need to receive drops containing vitamin D from one month of age if their mother has not taken vitamin D supplements throughout

People aged 65 years and over

Take a daily supplement containing 10 micrograms of vitamin D.

People who are not exposed to much sun

(for example those who cover their skin for cultural reasons, who are housebound or confined indoors for long periods).

Take a daily supplement containing 10 micrograms of vitamin D.

People who have darker skin

for example people of African, African-Caribbean and South Asian origin, because their bodies are not able to make as much vitamin D

Doesn't Qualify for Healthy Start

Vitamin D supplements are available for purchase for those who are not eligible for the scheme
(Please consult separate sheet for full list of available products)

(Note: Although these products are available on prescription, the NHS CDD Drug and Therapeutics Committee recommend that patients are advised to purchase these products).

Does the patient Qualify for Healthy Start ?

- Healthy Start is a UK-wide statutory scheme providing a means-tested nutritional safety net to pregnant women and families with children under four years old in very low income and disadvantaged families. Women and children who are eligible can get free vitamin supplements which include vitamin D, in the form of tablets for women and drops for children.
- Healthy Start provides vouchers for basic healthy foods and coupons for Healthy Start vitamin supplements to women and children in around 460,000 UK families.
- Further information can be found on the Healthy Start website at www.healthystart.nhs.uk

Yes - Qualifies for Healthy Start

Refer to scheme for supply of vitamin D

Taken from: *"CEM/CMO/2012/04, Vitamin D – Advice on supplements for at risk groups, Gateway Ref: 17193, 2nd Feb 2012*