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NHS
Norfolk and Norwich University Hospitals
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Vitamin D Deficiency

Information Leaflet for Skin Cancer Patients

What is vitamin D?

Vitamin D is essential for development and maintenance of healthy bones and muscles, and general good health. Vitamin D regulates calcium levels in the blood, which is essential for the structure of our bones.

Where do we get vitamin D?

The main source of vitamin D (90%) is made in the skin with the help of sunlight (UVB rays). Unlike other vitamins, only a small amount (10%) comes from the food we eat, even if we have a healthy diet. UVB sunlight is available in the UK approximately between 11 am – 3pm from April to September.

What causes vitamin D deficiency?

A low level of vitamin D (vitamin D deficiency) in the body is caused mainly by the lack of adequate sunlight in UK. This is compounded by cloudy weather and a long winter. Adults and children with dark skin and those who cover up their body fully with clothing are more prone to vitamin D deficiency.

- Rarely, low calcium diets can also trigger vitamin D deficiency.
- Adults that are housebound or have limited mobility e.g. wheelchair bound are also at risk of vitamin D deficiency.
- Patients who have been previously diagnosed with skin cancer are particularly at risk of developing Vitamin D deficiency because they are advised to avoid sunlight and wear sunscreen.
- Sunscreens greater than factor 8 will prevent the skin making Vitamin D.

What happens if you don't have enough vitamin D?

Vitamin D deficiency is very common. Most people have no symptoms, or only vague ones such as tiredness or aches. Severe vitamin D deficiency can cause soft bones, known as rickets in children and osteomalacia in adults. Symptoms include bone pains (often in the legs), weak muscles and bowing
of the leg bones in children. Very rarely in severe vitamin D deficiency when calcium is also very low, symptoms of muscle spasms (cramps) and seizures can happen.

Long term vitamin D deficiency increases the risk of developing weak bones (osteoporosis). More recently, vitamin D deficiency has been linked to several health problems such as diabetes and heart disease.

How is vitamin D deficiency diagnosed?
If there are symptoms of deficiency and risk factors for deficiency, a blood test will be done to check the vitamin D level. Vitamin D deficiency is diagnosed if the level is low (below 25nmol/L in adults and below 50nmol/L in children).

What is the treatment for vitamin D deficiency?
The treatment is to take vitamin D supplements. They are available as tablets, capsules, liquid, or injection.

Treatment is usually given by mouth once daily for 1-2 months, followed by a lower dose that is taken every day to prevent the deficiency coming back. It can be taken at any time of the day without food. Your doctor will recommend the dose and the supplements can be bought from a shop or the doctor may issue a prescription. Buying supplements is more convenient than waiting for a doctor's appointment and waiting at the chemist, and is likely to be cheaper than a prescription charge. A repeat blood test is sometimes needed after 6 months to a year to ensure the level is normal.

Are there any side-effects from vitamin D treatment?
It is very unusual to get side-effects from vitamin D if taken in the prescribed dose. In the event of taking too much, symptoms are due to raised calcium levels in blood and these include nausea, vomiting, increased thirst, passing a lot of urine and headache. If these symptoms are noted, please report to the GP or hospital doctor immediately so that blood tests can be arranged.

How can the risk of vitamin D deficiency in the future be reduced? After a treatment course with vitamin D supplements, it is very important to maintain an adequate vitamin D level in the blood by taking the lower dose of vitamin D supplement advised.

Diet is a reasonable source of vitamin D. Vitamin D can be found in oily fish (tuna, salmon, and mackerel), eggs and fortified food like some breakfast cereals. A diet rich in calcium is also important for health; sources of calcium include milk, yogurt and cheese.

Should I just sunbathe instead?
The majority of skin cancers are related to excessive exposure to sunlight. If your doctor has advised you to avoid sunlight because of the risk developing further skin cancers then this advice should be followed. You will need to alter your diet or take supplements instead to avoid vitamin D deficiency.

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