

# Patient Information: Vitamin D Deficiency

What is Vitamin D deficiency and what you can do to help yourself

## **What is Vitamin D?**

**Vitamin D** is a fat-soluble vitamin, which is also known as colecalciferol.

In humans Vitamin D is unique because it is mainly made by the body in response to sunlight on the skin (as Vitamin D<sub>3</sub>) and it is also available from some food sources.

## **Why do we need vitamin D?**

Vitamin D is activated by the body in the kidneys. It regulates the concentration of calcium and phosphate in the bloodstream, promoting the healthy growth of bone.

Adequate Vitamin D levels are needed to prevent rickets in children and osteomalacia in children and adults.

Together with calcium, it also helps to protect older adults from osteoporosis.

In addition, vitamin D also is important for nerve & muscle function, inflammation, and effects genes that regulate the growth of cells.

## **Risks factors for Vitamin D deficiency?**

Vitamin D deficiency means that there is not enough vitamin D in your body.

### **This can happen because**

- The body needs more vitamin D.** For example vitamin D deficiency is more likely in women who have had multiple pregnancies, with short gaps between pregnancies.



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- The body is unable to make enough vitamin from the effect of sunlight on the skin.**

At risk groups include, people who do not get enough sun exposure.

### **For example;**

- Older or housebound people.
- People who remain covered up or who regularly wear sunscreen when outdoors.
- People who have darker skin.

- Not enough vitamin D is taken in the diet** for example a vegetarian or fish free diet.

- Some medical conditions** affect the way the body handles vitamin D. For example patients with Crohn's disease, coeliac disease, liver or kidney disease are all at risk of vitamin D deficiency.

- Certain drug treatments can affect vitamin D levels** examples include: Carbamazepine, phenytoin, primidone, and some anti-HIV medicines. Ask your pharmacist or doctor if you want more information.

## **How can I reduce the risks of vitamin deficiency?**

**Go out into the sun:** 2-3 exposures of sunlight on bare skin per week from April to September should be enough to last through the year. Each episode should be 20-30 minutes to bare arms and face and should not cause redness or sunburn.

**Eat foods with vitamin D:** It is difficult to get enough vitamin D from food alone. However it is contained naturally in:

- Oily fish, such as [Salmon](#), [Mackerel](#), [Sardines](#), [Tuna](#), and fish liver oils, such as [cod liver oil](#),
- Whole [egg](#),
- Beef liver,
- The only [vegan](#) sources of vitamin D are mushrooms and UV-irradiated yeast.

Some foods are artificially fortified with vitamin D such as margarine, fat spreads and some breakfast cereals.

Look out for the RDA (Recommended Daily Amount) of Vitamin D on food packaging. Because the amount of vitamin D made by the body varies greatly between person to person, this often assumes that all of a person's vitamin D is from their diet and that none is made by the body in response to sun exposure.

**Consider taking Vitamin D Supplements:** If your doctor has identified that you have risk factors for Vitamin D deficiency, you may want to consider purchasing your own supply of Vitamin D from health food shops or pharmacies.

The strength or dose you will need is **400-800 units** of Vitamin D daily or 10-20mcg of Vitamin D.

If the doctor advises you to take a different dose of Vitamin D daily, ask your local pharmacist or health food store to advise you on a suitable product

### **Summary**

The following points summarise the advice around what you can do to improve your health and vitamin D levels:

- Increase your exposure to sunlight to advised levels e.g. while walking to the shops or taking the children to school. If you don't want to expose your face and arms in public, try to sit outside in private for a short time each day
- Look at your diet and consider changes you can make to increase the food groups that are high in Vitamin D levels
- Purchase a Vitamin D supplement. Your Doctor recommends the following dose:  
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**If you begin to have symptoms of vitamin D deficiency such as bone or muscle pain, or tenderness, make an appointment to see your doctor**