



What is vitamin D?

Vitamin D is a fat-soluble vitamin that is made when the skin is exposed to sunlight. It helps the body absorb calcium from food and supplements to support the maintenance of healthy bones cells. Apart from this it plays a role in the immune system, reduces inflammation, regulates blood pressure and supports cardiovascular health.

What causes vitamin D deficiency?

- Being indoor – less or no exposure to sunlight
- Pollution – can absorb some of the sun's rays, so reducing scope to make vitamin D.
- Using large quantities of sunscreen - block vitamin D producing UV rays
- Darker skin - need more sunlight exposure to absorb enough vitamin D.
- Diet - not eating foods rich in vitamin D.
- Liver or kidney disease - tend to have lower vitamin D levels.

What are the symptoms of vitamin D deficiency?

An infographic with a dark background and a wavy top edge. At the top, the text 'What Are The Prominent VITAMIN D DEFICIENCY SYMPTOMS In Adults?' is displayed, with 'VITAMIN D DEFICIENCY SYMPTOMS' in large, bold, blue letters. Below this, there are two columns of symptoms, each with a number and the symptom name underlined. A white arrow points from the center of the two columns towards the top text. In the background, there is a photo of a woman with long dark hair, wearing a striped shirt, holding her neck with her right hand, appearing to be in pain.

What Are The Prominent **VITAMIN D DEFICIENCY SYMPTOMS In Adults?**

1. <u>Fatigue</u>	6. <u>Hair Loss</u>
2. <u>Muscle Weakness</u>	7. <u>Impaired Wound Healing</u>
3. <u>Bone Pain/Tenderness</u>	8. <u>General Malaise</u>
4. <u>Increased Susceptibility to Infections</u>	9. <u>Exacerbation of Chronic Pain Conditions</u>
5. <u>Mood Disturbances</u>	

Many people with a vitamin D deficiency may have no symptoms or may go many years without experiencing symptoms. However, Vitamin D deficiency can lead to one or more of the following conditions, if left untreated.

- **Muscle Weakness and Pain:**

Vitamin D deficiency can cause muscle weakness, pain, and spasms, potentially leading to difficulty with movement and increased risk of falls.

- **Fatigue:**

Vitamin D deficiency is often associated with fatigue and general malaise.

- **Increased Risk of Infections:**

Vitamin D deficiency lowers one's immunity and can lead to increase in risk of infections, particularly respiratory infections.

- **Cardiovascular Disease:**

Research indicates a potential link between vitamin D deficiency and an increased risk of cardiovascular problems, including high blood pressure and heart disease.

- **Autoimmune Diseases:**

Some studies suggest a possible association between vitamin D deficiency and an increased risk of autoimmune diseases.

- **Certain Cancers:**

Some research suggests a link between vitamin D deficiency and an increased risk of certain cancers.

- **Developmental Delays in Children:**

In children, vitamin D deficiency can lead to developmental delays, including delayed walking and bone changes.

- **Hypocalcaemia and Hypophosphatemia:**

Severe vitamin D deficiency can lead to low blood calcium and phosphate levels, which can have various health consequences.

- **Hyperparathyroidism:**

The body may compensate for low vitamin D levels by producing too much parathyroid hormone, a condition called hyperparathyroidism, which can lead to bone loss and other problems.

- **Increased Risk of Falls:**

Muscle weakness and bone pain associated with vitamin D deficiency can increase the risk of falls, particularly in older adults

Strategies for increasing vitamin D levels:

Increase exposure to natural sunlight: The risks of sun exposure might be greater than the risks of vitamin D deficiency for people vulnerable to sunburn, with a history of skin cancer, or with very pale skin. They should talk to a doctor about whether spending more time in natural light is a good idea or not.

Eat foods rich in vitamin D: Fatty fish such as tuna, salmon, and mackerel, as well as fish liver oils, are excellent natural sources. Beef liver, cheese, and egg yolks contain small quantities of vitamin D. Milk is fortified with vitamin D, as are many cereals.



Take a vitamin D supplement: These are readily available over the counter. A doctor may also prescribe a supplement or multivitamin. For most adults, the recommended dietary allowance (RDA) for adults is 800 IU. For children under 12 months, it is 400 IU.

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