



VITAMIN D

Building a Strong Foundation

VITAMIN D BASICS

Also Known As: Calciferol

Important for: Bone and teeth development and maintenance, muscles, immune system

Main Source: Sunlight on skin

Animal Sources: Fish liver oils, saltwater fish (sardines, herring, salmon and mackerel) eggs, meat, milk, butter (small amounts)

Grain/Fruit/Vegetable Sources: None

Other Sources: Mushrooms

OVERVIEW

Fat-soluble vitamin D differs from other vitamins because the main source is the sun – vitamin D is produced in the body when skin is hit by ultraviolet light. Nonetheless, vitamin D is recognized as an essential dietary nutrient.

DISCOVERY AND HISTORY

As early as the 1860s, scientists recognized how cod liver and sunlight – both sources of Vitamin D – were viable treatments for the diseases rickets (in children) and osteomalacia (in adults), both of which cause softening of the bones. However, it wasn't until 1918 that vitamin D was officially discovered and in 1932 it was isolated.

VITAMIN D DEFICIENCY

The main cause of vitamin D deficiency is a sunlight-deprived lifestyle. Additionally, dark skin produces less vitamin D, and production of vitamin D decreases with age. Vitamin D deficiency prevents the body from absorbing calcium, resulting in bone diseases, such as osteoporosis (brittle bones), that lead to falls and fractures. Vitamin D deficiency is a serious problem in both developed and developing countries. In addition, vitamin D deficiency increases the risk of a number of diseases such as multiple sclerosis, diabetes and cardiovascular disease. Typical symptoms include:

- Rickets (softening of the bones in children)
- Osteomalacia (softening of the bones in adults)
- Reduced muscle strength
- Bowed arms and legs, other deformations
- Bone loss
- Osteoporosis (brittle bones)

POPULATIONS AT RISK OF VITAMIN D DEFICIENCY

- Premature and low-birth-weight infants
- The elderly
- People with liver or kidney disease
- Vegetarians
- Alcoholics
- Overweight or obese people
- People who are housebound
- Dark-skinned people living far from the equator
- People living at latitudes of 40 degrees north or south in the winter