



## Vitamin D

One of the ways to look after your health as you go through the menopause is to make sure you are giving your body nutrients that support systems vulnerable to changing hormones. Vitamin D is one of those key nutrients. A lack of estrogen weakens your bones as you age; vitamin D works to slow down and minimise the weakening process. Some studies have shown vitamin D can also help stabilise your emotions and moods and it is widely considered to be the most important vitamin for menopausal women.

### The science bit...

Vitamin D works in a different way from other vitamins. It is more similar to a hormone, and it is naturally produced in the body from cholesterol when your skin is exposed to the sun – hence it is sometimes referred to as the 'sunshine vitamin'.

Vitamin D is a fat-soluble vitamin (it dissolves in fats and oils) and can be stored in your body for a long time. It is primarily found in two main forms, vitamin D3 and D2. Vitamin D3 is the more effective type to raise levels of vitamin D in the blood.

Vitamin D's most prominent effects on the cells relate to bone health. For example, it promotes the absorption of calcium and phosphorus from your gut and these nutrients help to keep muscles, teeth and bones strong and healthy.

### How to get enough Vitamin D

There are three ways to get vitamin D: through your diet, through exposure to the sun, and via a supplement.

The best dietary sources of vitamin D are oily fish (such as salmon, sardines, herring and mackerel), red meat, liver, egg yolks, and fortified foods (such as some fat spreads and breakfast cereals). If you are vegan, there are also soy and almond milks and yoghurts, and some orange juices that are fortified with vitamin D, and chanterelle mushrooms (raw) are another source. Dietary sources however don't generally provide adequate amounts and a more effective way for your body to produce vitamin D is by exposing your skin to sun.

Experts suggest a range of 10–30 minutes of sun exposure, particularly between 10am and 4pm, at least twice a week, to the face, arms, hands, and legs - without sunscreen - is enough to produce adequate levels of vitamin D in the body.

In the UK, however, this is not always possible and because of this, NHS guidelines recommend that everyone takes 10 micrograms of a vitamin D supplement, daily, throughout the year, especially in autumn and winter months.

### Vitamin D deficiency

It is estimated that about a quarter of all adults in the UK do not get enough vitamin D. People more at risk are those whose lifestyle, job or abilities mean they are predominantly indoors. Older skin makes less vitamin D (e.g. people over 65 years) and darker skin takes longer to produce required amounts of vitamin D (e.g. those from African-Caribbean and South Asian backgrounds). Individuals who wear clothing that covers their skin fully, for cultural reasons, will also be at risk of not getting enough sun exposure for vitamin D synthesis.

When vitamin D levels are very low, symptoms may include tiredness, weakness, muscle, back and bone pain. You may be more prone to infections and have poorer skin-healing; your mood may be low, and you could be at risk of developing depression. If low vitamin D levels remain for years or even decades, you may be at greater risk of conditions such as type 2 diabetes, heart disease, weight-gain and cancer.

## Health benefits of vitamin D

### Bone Health

The primary benefit of having enough vitamin D is for the health and strength of your bones. Vitamin D helps your body absorb and use calcium, which gives your bones their strength and hardness. Vitamin D has also been shown to improve the strength and power in your arms and legs.

By your late thirties, your bone density – how strong and healthy the bone tissue is - starts to naturally decrease. This loss of bone density makes your bone weaker, less pliable, and therefore more susceptible to breaking.

Women are more affected by a loss of bone strength in the years before, during, and after the menopause, as estrogen - the key hormone for protecting and maintaining bone density - rapidly declines during this time. Your bone is breaking down at a faster rate than the body can grow new bone tissue which is why vitamin D becomes a very important nutrient during these years, to minimise the loss of bone density and help bones absorb calcium to grow new bone tissue.

It is also vital to live an active life involving regular exercise that bears your own weight and impacts through your joints. Doing this will help reduce the risk of injury to your bones, such as a fall, and also reduce the chance of a bone breaking if an accident does occur.

Osteoporosis is identified when the bones have weakened to a severe extent and the risk of them breaking is very high. People with osteoporosis have an increased risk of fractures from minor bumps or even a cough or a squeeze.

### Lifts mood

Many researchers believe that vitamin D is vital to healthy brain function and studies suggest it might play an important role in regulating mood and warding off anxiety and depression.

### Reduces risk of diabetes

Vitamin D can help regulate insulin levels and research has repeatedly found that people with low vitamin D levels have a higher risk of developing type 2 diabetes. Vitamin D supplementation may help lower blood sugar levels in people with type 2 diabetes and reduce the chance of prediabetes (high blood glucose levels but not enough to be classed as diabetes) developing into full diabetes.

## Can you have too much of a good thing?

It is not easy (or common) to get too much vitamin D. Vitamin D toxicity only happens if you take very high doses for an extended period. The main symptoms of toxicity include confusion, drowsiness, depression, vomiting, abdominal pain, constipation, and high blood pressure.

## Vitamin D works best alongside other nutrients

It's important to keep in mind that nutrients work best alongside other nutrients. Many of them depend on one another, and increased intake of one nutrient may increase your need for another. Try and make sure you have adequate amounts of calcium and magnesium to make the most of your vitamin D supplementation. Vitamins A and K2 are also useful to optimise your vitamin D3 intake.