

<https://www.nhs.uk/conditions/vitamins-and-minerals/vitamin-d/>

Vitamin D helps regulate the amount of calcium and phosphate in the body.

These nutrients are needed to keep bones, teeth and muscles healthy.

A lack of vitamin D can lead to bone deformities such as [rickets](#) in children, and bone pain caused by a condition called osteomalacia in adults.

Coronavirus update

Consider taking 10 micrograms of vitamin D a day to keep your bones and muscles healthy.

This is because you may not be getting enough vitamin D from sunlight if you're indoors most of the day.

There have been some news reports about vitamin D reducing the risk of coronavirus. However, there is no evidence that this is the case.

Do not buy more vitamin D than you need.

Good sources of vitamin D

From about late March/early April to the end of September, most people should be able to get all the vitamin D they need from sunlight.

The body creates vitamin D from direct sunlight on the skin when outdoors.

But between October and early March we do not get enough vitamin D from sunlight. Read more about [vitamin D and sunlight](#).

Vitamin D is also found in a small number of foods.

Sources include:

- oily fish – such as salmon, sardines, herring and mackerel
- red meat
- liver
- egg yolks
- fortified foods – such as most fat spreads and some breakfast cereals

Another source of vitamin D is dietary supplements.

In the UK, cows' milk is generally not a good source of vitamin D because it is not fortified, as it is in some other countries.

How much vitamin D do I need?

Babies up to the age of 1 year need 8.5 to 10 micrograms of vitamin D a day.

A microgram is 1,000 times smaller than a milligram (mg). The word microgram is sometimes written with the Greek symbol μ followed by the letter g (μg).

Children from the age of 1 year and adults need 10 micrograms of vitamin D a day. This includes pregnant and breastfeeding women, and people at risk of vitamin D deficiency.

From about late March/early April to the end of September, the majority of people should be able to get all the vitamin D they need from sunlight on their skin.

Should I take a vitamin D supplement?

Advice for infants and young children

The Department of Health and Social Care recommends that:

- breastfed babies from birth to 1 year of age should be given a daily supplement containing 8.5 to 10 micrograms of vitamin D to make sure they get enough
- formula-fed babies should not be given a vitamin D supplement until they're having less than 500ml (about a pint) of infant formula a day, as infant formula is fortified with vitamin D
- children aged 1 to 4 years old should be given a daily supplement containing 10 micrograms of vitamin D

You can buy vitamin D supplements or vitamin drops containing vitamin D (for under 5s) in many shops, including pharmacies and supermarkets.

Women and children who qualify for the Healthy Start scheme can get free supplements containing the recommended amounts of vitamin D.

See the [Healthy Start website](#) for more information.

Advice for adults and children over 5 years old

During the autumn and winter, you need to get vitamin D from your diet because the sun is not strong enough for the body to make vitamin D.

But since it's difficult for people to get enough vitamin D from food alone, everyone (including pregnant and breastfeeding women) should consider taking a daily supplement containing 10 micrograms of vitamin D during the autumn and winter.

Between late March/early April to the end of September, most people can get all the vitamin D they need through sunlight on their skin and from a balanced diet.

You may choose not to take a vitamin D supplement during these months.

People at risk of vitamin D deficiency

Some people will not get enough vitamin D from sunlight because they have very little or no sunshine exposure.

The Department of Health and Social Care recommends that you take a daily supplement containing 10 micrograms of vitamin D throughout the year if you:

- are not often outdoors – for example, if you're frail or housebound
- are in an institution like a care home
- usually wear clothes that cover up most of your skin when outdoors

If you have dark skin – for example you have an African, African-Caribbean or south Asian background – you may also not get enough vitamin D from sunlight.

You should consider taking a daily supplement containing 10 micrograms of vitamin D throughout the year.

What happens if I take too much vitamin D?

Taking too many vitamin D supplements over a long period of time can cause too much calcium to build up in the body (hypercalcaemia). This can weaken the bones and damage the kidneys and the heart.

If you choose to take vitamin D supplements, 10 micrograms a day will be enough for most people.

Do not take more than 100 micrograms of vitamin D a day as it could be harmful. This applies to adults, including pregnant and breastfeeding women and the elderly, and children aged 11 to 17 years.

Children aged 1 to 10 years should not have more than 50 micrograms a day. Infants under 12 months should not have more than 25 micrograms a day.

Some people have medical conditions that mean they may not be able to safely take as much. If in doubt, you should consult your doctor.

If your doctor has recommended you take a different amount of vitamin D, you should follow their advice.

You cannot overdose on vitamin D through exposure to sunlight. But always remember to cover up or protect your skin if you're out in the sun for long periods to reduce the risk of skin damage and skin cancer.