

Where are vitamin D supplements available?

Vitamin D supplements are widely available to buy from chemists/pharmacies, supermarkets and health food shops as well as online. Although they are relatively cheap to buy, they can cost the NHS much more on prescription. Therefore, NHS England now recommends that all such vitamin supplements should not be prescribed on the NHS but instead should be bought by people directly as part of their responsibility for their own self care.

Some women who are pregnant or breastfeeding and children aged six months to four years may qualify for Healthy Start vitamins which contain vitamin D. The vitamins are available in tablet form for the mother and vitamin drops are available for babies. Ask your health visitor for more information about Healthy Start.

Can I take too much vitamin D?

Taking a vitamin D supplement as well as eating foods rich in vitamin D and spending a lot of time outside in sunshine is not a problem. However, unlike some vitamins, our body can store vitamin D so do not take more than one supplement containing vitamin D (including cod-liver oil) as you could exceed your recommended dose. Always choose a supplement tailored to your age group or condition as fish liver oils and high dose multivitamin supplements often contain vitamin A, too much of which can cause problems, especially in very young children, pregnant women and the elderly.

Further Information

assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/537616/SACN_Vitamin_D_and_Health_report.pdf

www.bda.uk.com/foodfacts/VitaminD.pdf

www.gov.uk/government/news/phe-publishes-new-advice-on-vitamin-d

www.healthystart.nhs.uk/

www.nhs.uk/conditions/osteoporosis/

www.nhs.uk/conditions/vitamins-and-minerals/vitamin-d/

www.nice.org.uk/guidance/ph56

theros.org.uk/media/1777/vitamin-d-and-bone-health-a-practical-clinical-guideline-for-patient-management-nov-2013-web.pdf

www.bda.uk.com/foodfacts/Calcium.pdf

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GLCCG.Pals@nhs.net

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Vitamin D

What is vitamin D?

Vitamin D is made under your skin when you are outside in daylight, which is the reason vitamin D is sometimes called the 'sunshine vitamin'. A vitamin is something that helps our body function – a 'nutrient' – that we cannot make in our body. Vitamin D is different because even though we call it a vitamin, it is actually a hormone and we can make it in our body.

What does vitamin D do in my body?

Vitamin D works with other nutrients like calcium and phosphorus for healthy bones, muscles and teeth. Even if you have a calcium-rich diet (for example from eating plenty of dairy foods and green leafy vegetables), without enough vitamin D you cannot absorb the calcium into your bones and cells where it is needed. Vitamin D may have other important roles in the body, but there is not enough evidence at the moment to make any conclusions.

Sun safety

It is the sun's ultraviolet rays that allow vitamin D to be made in the body. The amount of vitamin D you make depends on how strong the sunlight is. In the UK, ultraviolet light is only strong enough to make vitamin D on exposed skin (on the hands, face and arms or legs) during April to September. You will make more vitamin D in the middle of the day, when the sun is strongest. You will also make more when you are in direct sunlight than in the shade or on a cloudy day. You do not have to sunbathe to make vitamin D. Strong sunlight can burn skin so we need to balance making enough vitamin D with being safe in the sun - take care to cover up or protect your skin with sunscreen before you turn red or get burnt. Find out more about sun safety on the NHS Choices website: www.nhs.uk/livewell/skin/pages/sunsafer.aspx

During the autumn and winter, we get vitamin D from our body's stores and from food sources but these may not be enough to keep up our vitamin D levels. The UK government has recommended that the only way to ensure you have enough vitamin D is to take a supplement.

Who is at risk of low vitamin D levels?

Some groups of people may be more likely to not get enough vitamin D;

- Babies and young children
- Children and adolescents who spend little time playing outside
- Pregnant women and breastfeeding mothers
- People over 65 years old
- People with darker skin tones - that is people of Asian, African, Afro-Caribbean and Middle Eastern descent – living in the UK or other northern climates
- People who always cover most of their skin when outside
- People who live in northern England, Ireland and in Scotland.
- Anyone who spends very little time outside during the summer – the housebound, shop or office workers, night shift workers.

What happens if I don't get enough vitamin D?

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. Long term vitamin D deficiency is linked with osteopenia and osteoporosis (where bones become brittle/fragile and more susceptible to fractures).

Osteopenia

This is the stage before osteoporosis, when a bone density scan shows you have lower bone density than average for your age, but not low enough to be classed as osteoporosis.

Osteopenia does not always lead to osteoporosis. It depends on many factors.

If you have osteopenia, it is recommended that you purchase vitamin D supplements to improve your bone health. The recommended dose for people diagnosed with osteopenia is 400 IU (10mcg) of vitamin D per day.

Osteoporosis

Osteoporosis is a condition where bones become thin and their strength is reduced. This makes them more likely to break. It affects both men and women but is most common in women who have gone through the menopause.

People with a diagnosis of osteoporosis can obtain vitamin D supplements on prescription from their GP practice.

You may also be offered calcium supplements: however you may not need these if you are having at least 1000mg calcium per day in your diet. The British Dietetic Association has a fact sheet with further advice on how to increase the calcium in your diet. You can access this online at <https://www.bda.uk.com/foodfacts/Calcium.pdf>

Where else can I get vitamin D?

You can help your body get more vitamin D by eating plenty of vitamin D rich foods, including:

- Oily fish such as salmon, sardines, pilchards, trout, herring, kippers and eel all contain reasonable amounts of vitamin D
- Cod liver oil contains a lot of vitamin D (don't take this if you are pregnant)
- Egg yolk, meat, offal and milk contain small amounts but this varies during the seasons
- Margarine, some breakfast cereals, infant formula milk and some yoghurts have added or are 'fortified' with vitamin D

You can also purchase vitamin D supplements to increase your vitamin D levels

There are 2 types of vitamin D available. These are known as:

- Vitamin D3 (Cholecalciferol), usually made from sheep's wool
- Vitamin D2 (Ergocalciferol), made from plants

Vitamin D3 (cholecalciferol) has been reported to raise vitamin D levels in the body more effectively than vitamin D2 (ergocalciferol) and you should take this type if possible.

What strength of vitamin D supplement do I need?

Vitamin D is measured in both international units (IU) and micrograms (mcg/µg). How much you need will depend on your age, condition, how likely you are to become deficient and whether you have previously been treated for vitamin D deficiency. You can speak to your Health Care Professional (such as your GP or Pharmacist) if you would like more information.

Age	Dose
<ul style="list-style-type: none">● Babies up to the age of 1	340 - 400 IU (8.5 - 10µg/mcg) Note - Children who have more than 500ml of infant formula a day do not need any additional vitamin D as infant formula is already fortified with vitamin D.
<ul style="list-style-type: none">● Children aged over 1● Adults wishing to prevent deficiency who are not at particular risk● Pregnant women	400 IU (10 µg/mcg)
<ul style="list-style-type: none">● Adults who are at particular risk of developing a condition associated with lower vitamin D levels (such as osteopenia or osteoporosis)	400-800 IU (10 - 20 µg/mcg)
<ul style="list-style-type: none">● Adults who have had treatment for vitamin D deficiency and need to maintain their levels.	400-1000 IU (10-25 µg/mcg) Some specialists may recommend up to 2000 IU's for certain groups of people. You will be advised if this is something you need to do.