

# Which form of vitamin D should I take?

Vitamin D is best supplemented in the form of cholecalciferol (D3), as this is the form naturally made by the body in response to sunlight.

# Why is vitamin K included in some vitamin D supplements?

Vitamins D and K work very closely together. Vitamin D helps the body to absorb calcium from food and supplements, and rather like a chaperone, vitamin K helps to ensure this calcium is used in the bones. Changing eating habits mean that many people don't get enough vitamin K2 from their diet. It is found naturally in high fat dairy products, liver and Japanese fermented foods such as natto. Vitamin D3 & K2 are often found together in supplements to support this dual role.

# Nutri Advanced's Vitamin D Range

Our comprehensive range makes sure that whatever your age, individual needs or personal taste, we've got the right vitamin D supplement for you:

- ✓ **Only D3, the preferred form** - We use only Vitamin D3 (cholecalciferol) the form of vitamin D produced naturally in response to sunlight.
- ✓ **User-friendly options** - For flexible supplementation our vitamin D is available in many forms including tablets, liquid (drops), and delicious lemon melts, which makes taking your daily vitamin D nice and easy across all ages.
- ✓ **Up-to-date dosages** - Dosage requirements can vary hugely, depending on age, risk factors and whether you're looking for a daily maintenance dose or a short-term higher dose to correct deficiency. We have a comprehensive vitamin D range including a vegan liquid D3 formula providing a low maintenance dose of 400IU per drop, a 5000 IU tablet to easily correct deficiency, and everything in-between!
- ✓ **No fuss, low cost** - While many supplements may contain additional nutrients, we know that vitamin D3 alone is a safe, effective way to supplement and keep the cost down.
- ✓ **Maintain with a multivitamin** - Our Multi Essentials range of multivitamins and minerals are perhaps the only multivitamins in the UK to provide 1000iu of vitamin D3 per tablet, making it easier to maintain a healthy daily intake of vitamin D.

# Vitamin D Supplements Summary Table

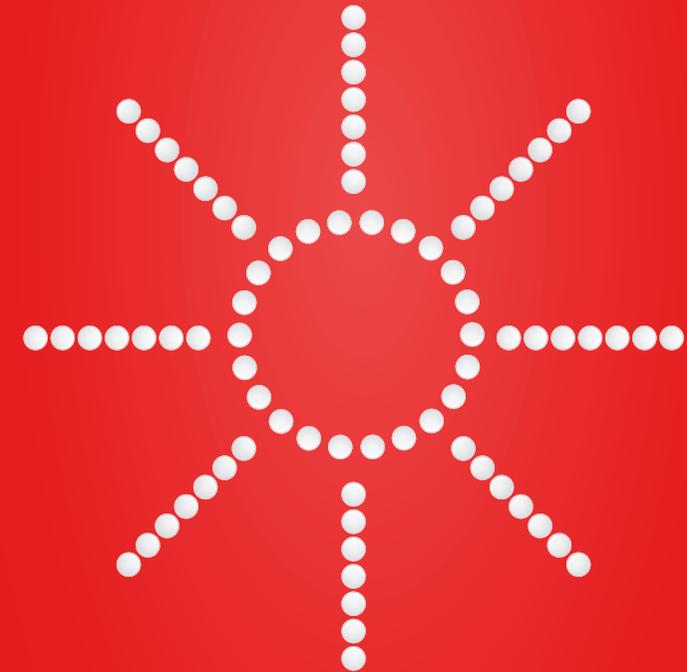
Product	Vitamin D per dose	Features	Product Code
Vitamin D3 Vegan	400iu (10mcg)	Liquid low dose suitable for babies from birth	3404
D3 Drops 1000	1000iu (25mcg)	Liquid for flexible dosing	3400
D3 Drops with K2	1000iu (25mcg)	Liquid D3 with vitamin K2 as MK-7	3403
D3 Lemon Melts 2000	2000iu (50mcg)	Tasty maintenance dose	3430
Iso D3	2000iu (50mcg)	Maintenance dose with isoflavones	44112
D3 5000	5000iu (125mcg)	Higher dose for correcting deficiency	3450

Please speak to your healthcare practitioner if you need help deciding which formula is best for you.

For more information on our expert formulations or any other products, please call us on freephone 0800 043 5777 / ROI 1890 987 505 (low-cost)



Advanced nutrition for better immunity



Vitamin D. The Facts



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# 'Super-Nutrient'

**Vitamin D** is fast becoming known as a 'super-nutrient'. No longer just an important nutrient for healthy bones, research is now finding that low vitamin D may be linked to a wide range of health problems, including some of the most common chronic conditions of modern times.

## What does vitamin D do?

Vitamin D contributes to numerous biological functions in the body, including:

- ✓ **Normal function of the immune system**
- ✓ **Maintenance of normal muscle function**
- ✓ **Cell division**
- ✓ **Maintenance of normal bones**
- ✓ **Normal utilisation of calcium and phosphorous**

## Where does vitamin D come from?

What many people don't realise is that very few foods naturally contain vitamin D. Wild, oily fish is by far the best dietary source, followed closely by fortified milk and egg yolks, but you certainly cannot rely on food to provide you with optimal amounts of vitamin D on a daily basis. In fact, the major source (80 – 100%) of vitamin D is actually the sun! Vitamin D is made in the body when bare skin comes into contact with the sun's UVB rays.

Source of Vitamin D	Amount (IU)
Wild salmon (100g) (grilled)	988 IU
Herring (100g) (grilled)	644 IU
Salmon (100g) (farmed, grilled)	332 IU
Eggs (100g) (whole, boiled)	128 IU
20 – 30 minutes bare skin midday summer sun exposure (without sun cream)	10,000 IU

## Why are so many people low in vitamin D?

The simple answer is that we don't get anywhere near as much sun as we used to. Our ancestors lived and worked outdoors, with lots of bare skin sun exposure, which helped to ensure continual replenishment of the body's vitamin D stores. Nowadays, we work and play inside, our bodies are covered up, we travel in cars and live and work in cities where buildings block the sun. Liberal use of high factor sunscreen, whilst needed to protect against skin cancer, has an unfortunate downside, as it reduces vitamin D production in the skin. It's easy to understand why low vitamin D is a significant global health problem. Severe cases of vitamin D deficiency continue to be reported and more worryingly, many may go unrecognised.

### Latest National Diet and Nutrition Survey Results

"There is evidence of low vitamin D in all reported age/sex groups. Around a fifth of adults aged 19 – 64 and a sixth of children aged 11 to 18 years, and adults aged 65 years and over had levels below the threshold." National Diet and Nutrition Survey. Results from Years 5-6 (combined) of the Rolling Programme (2012/13-2013/14) A Survey carried out on behalf of Public Health England and Food Standards Agency.

## How do I know if I'm low in vitamin D?

Many private labs offer inexpensive vitamin D testing direct to the public, most of which simply require a blood spot sample you can easily do at home. Alternatively, your GP may offer a vitamin D test if you have specific concerns or are at higher risk. Results are usually presented in a range as per the table below. With vitamin D, it's advisable to aim for higher 'optimal' levels rather than just the basic minimum needed to avoid deficiency. If you are unsure how much vitamin D3 to supplement with please speak to your healthcare practitioner

## Vitamin D Reference Ranges

Range	SI Units	Conventional
Deficiency	< 50 nmol/litre	<20 ng/ml
Insufficiency	52-72 nmol/litre	21-29 ng/ml
Sufficient	>75-150 nmol / litre	>30-60 ng/ml
Toxicity	>374 nmol/litre	>150 ng/ml

The Endocrine Society Expert Committee (2011)

## What are the latest government guidelines?

The latest advice from Public Health England is that:

- ✓ **Adults and children over the age of 4 should consider taking a daily supplement containing 400 IU vitamin D, particularly during the autumn and winter months.**
- ✓ **People who are at higher risk of deficiency, including babies under 1, and all children aged 1 – 4 are advised to supplement all year round\*.**

## Who is at higher risk of deficiency?

- ✓ **Pregnant women, breastfed babies and all children under the age of five\***
- ✓ **Increasing age** – Your body's ability to make use of vitamin D falls by at least half between the ages of 20 – 80 years
- ✓ **Limited time outside** - Anyone frail or housebound, hospitalised or in a care home and spending minimal time outdoors
- ✓ **Body fat levels** – Both obesity (high body fat) and underweight (low body fat) put people at higher risk

- ✓ **Skin tone** – The paler your skin, the easier it is for you to make vitamin D. People with darker skin, including African & Asian populations, are therefore at higher risk
- ✓ **Clothing** – Those whose skin is always covered for religious, or any other reasons
- ✓ **Where you live** - The further away from the equator you live, the more challenging it is for your skin to make vitamin D
- ✓ **Time of year** - Vitamin D production in the skin drops significantly between Oct – March

## Why government guidelines may be set too low...

The current daily recommendation for vitamin D is 400iu. However, if you consider that the skin will naturally produce around 10,000iu vitamin D in response to 20 – 30 minutes of summer sun exposure, you can easily see how 400iu may be considered too low by many health experts. There are varying opinions on vitamin D daily requirements and supplement dosage, and this can be confusing as some sources recommend much higher doses than others. Here's our definitive guide to vitamin D supplements.

**We recommend following the new Public Health England guidelines on supplementation in babies and young children. However, for older children and adults, we recommend *The Endocrine Society's Clinical Practice Guidelines* as we consider these to be more in line with the latest research on vitamin D.**

## Nutri Advanced - Definitive guide to vitamin D supplements

### Vitamin D supplements in babies & young children

Babies & young children	Daily requirement*	When to supplement?
0-6 months	340 -400 IU	All year round
6-12 months	340 - 400 IU	All year round
1-4 years	400 IU	All year round

Public Health England 2016

\*Exceptions are babies receiving 500ml or more fortified formula milk daily, or breastfed babies where mum is certain that her breast milk contains optimal daily amounts. Getting enough vitamin D via breast milk is a challenge however and for most breastfed babies, a daily supplement will be required.

### Vitamin D supplements in children over the age of 4 & adults

Children & adults	Daily Requirement	When to supplement?	Daily optimum
<b>4-18 years</b>	600 IU	Oct - March	1000 IU
<b>19-70 years</b>	600 IU	Oct - March	1500 – 2000 IU
<b>&gt;70 years</b>	800 IU	All year round	1500 – 2000 IU
<b>Pregnancy</b>	600 IU	All year round	1500 IU
<b>Lactation</b>	600 IU	All year round	1500 IU

The Endocrine Society Clinical Practice Guidelines 2011