

Vitamin D

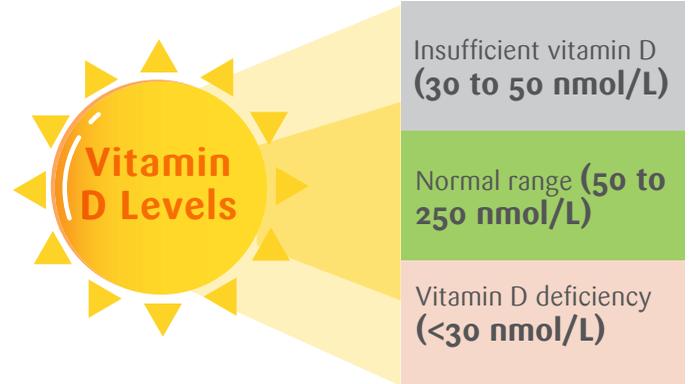


مؤسسة الرعاية الصحية الأولية
PRIMARY HEALTH CARE CORPORATION

الخطوة الأولى لصحة عائلتك
The First Step to your Family's Health

What is vitamin D and its importance for human health ?

It is a fat-soluble vitamin that has many functions in the body, as it important for cell growth , regulates the work of some genes in our body. It also helps in the absorption of calcium, and regulates the concentration of calcium and phosphate in the blood, which contributes for the health of bones and teeth .



The recommended daily amount of vitamin D

CHILDREN 1-18Y TO ADULTS 19-70Y	600 IU / day
ELDERLY OVER 70	800 IU / day

The main symptom of vitamin D deficiency

There might be no obvious symptoms of vitamin D deficiency, but it can lead to:

- Bone problems
- Rickets in children
- osteoporosis
- softening of the bones in adults

Vitamin D sources

- Sun is the main source of the vitamin (Exposure to the sun from 15-30 minutes, during the hours of 10 am to 3 pm)
- Foods rich in Vitamin D .
- Nutritional supplements



List of foods rich in vitamin D

FOODS RICH IN VITAMIN D	VITAMIN D QUANTITY
COD LIVER OIL (ONE SPOON)	1360 IU
SALMON (3 OZ.-85G)	570 IU
MUSHROOMS (1/2 CUP)	366 IU
VITAMIN D FORTIFIED MILK (ONE CUP)	120 IU
VITAMIN D FORTIFIED OAT, SOY AND ALMOND MILK (1 CUP)	100-144 IU
VITAMIN D FORTIFIED BREAKFAST CEREAL (1/2 CUP)	80 IU
SARDINE (2 PIECES)	46 IU
EGG YOLK (ONE)	44 IU
BEEF LIVER (3 OZ.-85G)	42 IU

FOODS RICH IN VITAMIN D	VITAMIN D QUANTITY
TUNA, CANNED IN WATER, (3 OZ.-85G)	40 IU
CHEDDAR CHEESE (1 OUNCE-28G)	40 IU
CHICKEN BREAST (3 OZ.-85G)	4 IU

How many types of vitamin D are there?

There are 2 main forms of vitamin D:

VITAMIN D₂ (ERGOCALCIFEROL) - made by plants, with wild mushrooms and those grown under a UV light being the best source

VITAMIN D₃ (CHOLECALCIFEROL) - made by our skin when we're exposed to enough sunlight. Animals products like fish, meat, eggs and dairy as well as a vegan-friendly fungus called lichen also naturally contain this type of vitamin D

Is vitamin D₃ better than vitamin D₂?

Vitamin D₃ has been proven to be better absorbed and utilized by the body than vitamin D₂

Supplements available at the health centers of the Primary Health Care Corporation

(Prescribed according to the doctor's prescription and evaluation)

1- TABLETS

- Vitamin D₂ 50,000 IU, once-twice a week (based on doctor's prescription)
- Vitamin D₂ 1000 IU, 1 time per day (pregnant women)

2- INJECTIONS

(can be taken oral or taken through injection)

- Vitamin D₂ 600,000 IU, once a month
- Vitamin D₃ 300,000 IU, once a month

3- FOR CHILDREN (TAKEN AS DROPS)

- Vitamin D₃ 100 IU, daily (or as prescribed by your doctor)

Vitamin D Diet plan 1,500 CALORIES

Choose one option from each group



BREAKFAST 550 IU	<ul style="list-style-type: none"> • Starch group: a cup of breakfast cereal fortified with vitamin D 80 * 2 • Milk group: A cup of low-fat milk, yogurt, or yogurt (fortified with vitamin D) 120 • Protein group: 1 boiled egg with yolks 44 • Vegetable group: 1 cup of fresh vegetables (½ cup 366 mushrooms) • Fat group: 1 teaspoon of olive oil, 6 nuts, 8 olives, ½ tablespoon peanut butter, or 2 tablespoons of avocado
SNACKS 1 30 IU	<ul style="list-style-type: none"> • Fruit group: a fruit (an apple, orange, pear, pomegranate cup, or quarter cup strawberry) • Milk group: ¼ cup of low-fat milk (fortified with vitamin D) 30
LUNCH 570 IU	<ul style="list-style-type: none"> • Starch group: 1 cup of rice or pasta or half a loaf of brown • Protein group: 90 grams of salmon (570) • Vegetable group: a cup of fresh vegetables + a cup of boiled vegetables • Fat group: 1 teaspoon of vegetable oil
SNACKS 1 30 IU	<ul style="list-style-type: none"> • Fruit group: a fruit (an apple, orange, pear, pomegranate cup, or quarter cup strawberry) • Milk group: ¼ cup of low-fat milk (fortified with vitamin D) 30
DINNER 13 IU	<ul style="list-style-type: none"> • Starch group: a slice of toast, samona, burger bread, ¼ medium-sized slice of bread (equivalent to 30 grams), cup of oats, cup of mashed potatoes, or ½ cup of any type of legumes (chickpeas-beans) • Protein group: 90 grams of tuna (13) • Vegetable group: a cup of fresh vegetables + cup of boiled vegetables
SNACKS 3 60 IU	<ul style="list-style-type: none"> • Fruit group: an apple, orange, or pear, cup pomegranate, or cup strawberry • Milk group: Half a cup of low-fat milk (fortified with vitamin D) 60

Vitamin D Diet plan 1,800 CALORIES

Choose one option from each group



BREAKFAST 690 IU	<ul style="list-style-type: none"> • Starch group: a cup of breakfast cereal fortified with Vitamin D 80 * 2 • Milk group: A cup of low-fat milk, milk, or yogurt (fortified with vitamin D) 120 • Protein group: 1 boiled egg with yolks 44 • Vegetable group: 1 cup of fresh vegetables (½ cup 366 mushrooms) • Fat group: 1 teaspoon of olive oil, 6 nuts, 8 olives, ½ tablespoon peanut butter, or 2 tablespoons of avocado • Fruit group: an apple, orange, or pear, cup pomegranate, or cup strawberry
SNACKS 1 40 IU	<ul style="list-style-type: none"> • Starch group: a slice of toast, samona, burger bread, or medium-sized bread slice (equivalent to 30 grams) • Protein group: 30 grams of low-fat cheese or two tablespoons of low-fat labneh 40 IU • Fruit group: an apple, orange, or pear, cup pomegranate, or cup strawberry
LUNCH 570 IU	<ul style="list-style-type: none"> • Starch group: 1 cup of rice or pasta or half a loaf of brown • Protein group: 90 grams of salmon (570) • Vegetable group: a cup of fresh vegetables + a cup of boiled vegetables • Fat group: 1 teaspoon of vegetable oil
SNACKS 1 120 IU	<ul style="list-style-type: none"> • Fruit group: an apple, orange, or pear, cup pomegranate, or cup strawberry • Milk group: A cup of low-fat milk, milk, or yogurt (fortified with vitamin D) 120
DINNER 404 IU	<ul style="list-style-type: none"> • Starch group: a slice of toast, samona, burger bread, medium-sized slice of bread (equivalent to 30 grams), cup of oats, ½ cup of mashed potatoes, or of any type of legumes • Protein group: 90 grams of tuna (40) • Vegetable group: ½ cup mushrooms (366) • Fat group: 1 teaspoon of vegetable oil
SNACKS 3 120 IU	<ul style="list-style-type: none"> • Fruit group: an apple, orange, or pear, cup pomegranate, or cup strawberry • Milk group: 1 cup of low-fat yogurt (fortified with vitamin D) 120

Warnings of vitamin D and D₃

Vitamin D toxicity may occur with excessively high doses. Symptoms could include nausea, vomiting, loss of appetite, constipation, dehydration, fatigue, and confusion. Due to the fact that vitamin D is a fat-soluble drug, the effects of vitamin D therapy can last 2 months or more after therapy is discontinued. It is also important to know the vitamin D content of other supplements you may be taking, such as a daily multi-vitamin. You should not take high doses of vitamin D supplements without your doctor's instruction.

Factors that can undermine your vitamin D level

THE LATITUDE WHERE YOU LIVE

At higher latitudes, the amount of vitamin D-producing UVB light reaching the earth's surface goes down in the winter because of the low angle of the sun.

THE AIR POLLUTION WHERE YOU LIVE

Carbon particulates in the air from the burning of fossil fuels, wood, and other materials scatter and absorb UVB rays. Ozone absorbs UVB radiation, so holes in the ozone layer could be a pollution problem that winds up enhancing vitamin D levels.

YOUR USE OF SUNSCREEN

Sunscreen prevents sunburn by blocking UVB light, so theoretically, sunscreen use lowers vitamin D levels.



THE COLOR OF YOUR SKIN

Dark-skinned people tend to require more UVB exposure than light-skinned people to generate the same amount of vitamin D.

THE TEMPERATURE OF YOUR SKIN

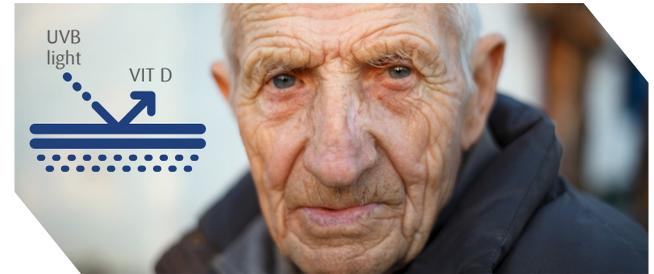
Warm skin is a more efficient producer of vitamin D than cool skin. So, on a sunny, hot summer day, you'll make more vitamin D than on a cool one.

YOUR WEIGHT

Fat tissue sops up vitamin D, so being obese is correlated with low vitamin D levels and that being overweight may affect the bioavailability of vitamin D.

YOUR AGE

Compared with younger people, older people have lower levels of the substance in the skin that UVB light converts into the vitamin D precursor, and there's experimental evidence that older people are less efficient vitamin D producers than younger people.



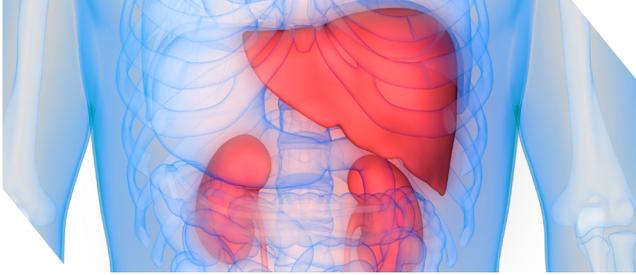
THE HEALTH OF YOUR GUT.

The vitamin D that is consumed in food or as a supplement is absorbed in the part of the small intestine immediately downstream from the stomach. Stomach juices, pancreatic secretions, bile from the liver, the integrity of the wall of the intestine — they all have some influence on how much of the vitamin is absorbed. Therefore, conditions that affect the gut and digestion, like celiac disease, chronic pancreatitis, Crohn's disease, and cystic fibrosis, can reduce vitamin D absorption.



THE HEALTH OF YOUR LIVER AND KIDNEYS

Some types of liver disease can reduce absorption of vitamin D because the ailing liver isn't producing normal amounts of bile. With other types, steps essential to vitamin D metabolism can't occur — or occur incompletely. Levels of the bioactive form of vitamin D tend to track with the health of the kidneys, so in someone with kidney disease, bioactive vitamin D levels decrease as the disease gets worse, and in end-stage kidney disease, the level is undetectable.



EAT HEALTHY OILS

If you are on a strict diet and have been avoiding healthy fats, then vitamin D will never be able to penetrate deep in the body. because vitamin D is a fat-soluble nutrient, it needs healthy fat for better absorption.

