How to Calculate your Personal Vitamin D Dosage

Vitamin D Dosage needs to be tailored to each person. This is partly because the dose you need depends on the vitamin D level you are trying to achieve.

This is what we mean by vitamin D levels

25(OH)D Blood levels		
Vitamin D Status	**ng/ml**	**nmol/L**
Severely Deficient	0-10	0-25
Deficient	11-20	26-50
Insufficient	21-32	51-81
Adequate	33-49	82-124
Optimum	50-65	125-163
High, but not toxic	66-100	164-250
Toxicity possible	above 100	above 250

The optimum range is where vitamin D most effectively promotes good health and fights disease.

Would you like to learn how to maintain this optimum level? It will take less time than drinking a cup of coffee!

In fact, you only need to know two things

1. Your body mass
2. How much sunlight reaches your skin.

There are two steps.

Step 1 – Basic Dose

Use this simple rule to calculate your basic vitamin D dosage, based on your body mass. The answer will be in International Units of vitamin D, or IU.

Basic daily vitamin D dosage = Body mass in pounds * 27

(Or Body Mass in Kilograms * 60 if you prefer metric.)

Examples

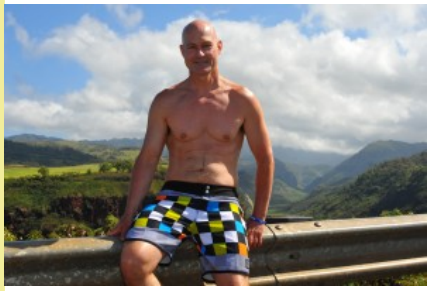
Body Mass	Calculation	Daily Vitamin D (IU)
200 pound adult	200 x 27	5400
100 pound teenager	100 x 27	2700
50 pound child	50 x 27	1350

It works for any size of person, any age, male or female, pregnancy included.

Why 27 IU per pound? Well, that's the amount most people need to keep their 25(OH)D blood level near the optimum level of 50 ng/ml, without any help from sunlight.

If you don't ever allow direct sun on your skin, or don't have access to strong sunshine, then you can skip step 2.

Step 2 – Adjust for Sunlight



Here is how you adjust for sunlight:

1. Estimate how much of your total skin area is exposed to strong, direct sunlight every day, on average. Would it be 5% or 10% or 20% or some other amount?
2. Double that percentage
3. Reduce your basic vitamin D dosage by that **doubled percentage.**

That's it, you're done!

Sunlight Adjustment Example

Suppose your basic vitamin D daily dose (from Step 1) is 5400 IU, and you expose around 30% of your skin area to strong direct sun (wearing T-shirt and shorts) most days, in summer.

You double that percentage which makes 60%, and calculate your sunlight adjustment as 60% of 5400 IU, which is 3240 IU.

Now subtract the sunlight adjustment from your basic daily dose. Like this

5400 – 3240 = 2160 IU.

So your personal vitamin D dosage would be 2160 IU of vitamin D by mouth per day. Pretty simple, huh?

What did you say? You can't buy pills that size? Right! We'll get to that problem a little later.

First, let's make sure we explained this sunlight adjustment properly.

Type of Sunlight

 Strong, direct sunlight means

- The sun is high in the sky
- Your shadow is shorter than you
- You are not behind glass
- You are not wearing sunscreen.
- Air is clean and clear
- Sun is not obscured by cloud
- You are not in the shade!

Exposure Time

How long should you stay in the sun to make your vitamin D? That depends on your skin type

- 10 mins – Very light skinned Caucasian
- 20 mins – Mediterranean
- 30 mins – Middle Eastern
- 40 mins – Southern Asian
- 60 mins – African (dark-skinned)

You may not find an exact match for your skin type in this list. Just see where you fit best, or slot yourself in between. For example, a medium skin tone Caucasian person might use 15 mins.

These exposure times will help to give you some idea of how long your own skin needs to make its maximum dose of vitamin D3.

Skin Exposure Percentage

To help with estimating your skin exposure percentage, here are some examples:

Skin %	Dress Mode
11%	Sun on arms and hands (wearing T-shirt, slacks and hat)
18%	Sun on face, neck, arms and hands (as above, no hat)
32%	Sun on face, neck, arms, hands and lower legs (wearing shirt and shorts)
53%	Sun on top half of body (stripped to waist)
73%	Sun on whole body except for one-peice bathing costume (ladies)
88%	Sun on whole body except for swimming costume (men) or bikini (ladies)

Your sunlight adjustment will be greater in summer, less (or probably none!) in winter, so your calculated dosage will change.

> Did you notice that if you exposed 50% (or more) of your skin to strong sunlight every day, your vitamin D supplement dose would drop to zero? That's right, it would and should.
>
> **If you got that much sunlight on your skin, your body would be making enough vitamin D to get you into the optimal vitamin D range without having to supplement.**

Don't stress about this sunlight adjustment. Just estimate it as best you can.

How often should you recalculate and adjust your vitamin D dose? Twice a year is enough. Calculate one dose for summer and another for the rest of the year.

How much vitamin D from other sources?

You might already be taking some vitamin D in a multivitamin or other supplement, so you would want to subtract that from your calculated vitamin D dose.

If you take cod-liver oil, you need to read the label to see how much vitamin D you are taking, and subtract that too.

Finally, you can also subtract the vitamin D you get from food, although it is a small amount – 150 IU per day is average for a good diet.

What is your current vitamin D status?

If you are already at an optimum level for vitamin D, this personalized maintenance dose will keep you at optimum.

But if you are currently deficient in vitamin D, a maintenance dose is not really enough to overcome your deficiency. Eventually it would, but it might take between six months and a year before you would reach optimum vitamin D blood levels.

That is why we recommend that people who are vitamin D deficient should take a larger dose of vitamin D for 60 days, to quickly bring their vitamin D blood level to optimum. See vitamin D deficiency treatment.

The best way to know your vitamin D status is to take a vitamin D blood test. This is also the only way to be certain of your new vitamin D status once you start supplementing. We recommend a blood test three months after starting supplementation, and thereafter once a year.

If you don't take a blood test, you can estimate your vitamin D status, but because people vary (quite a lot) in the way their bodies make and use vitamin D, your estimate may not be completely accurate.

Vitamin D Co-Factors

Everyone who is aiming to maintain optimum vitamin D levels needs to know about vitamin D co-factors because optimum vitamin D can only be fully effective if other nutrients are also present in the right quantities in the diet.

Also optimum vitamin D, while being hugely beneficial overall, may increase the harmful effects of deficiencies of in your diet.

As you know if you've already visited our home page, I suggest that people who are not ready to research vitamin D co-factors should take a smaller dose of 2000 IU daily, rather than going for full vitamin D optimum status.

2000 IU will probably get your vitamin D blood level into the 25-30 ng/ml range.

So you might want to know if it is worth going for Optimum – if it requires so much care with other aspects of your nutrition?

The answer is "Yes, it is worth it" because your risk for many serious diseases has been shown to be much lower (in some cases only half as much, and in others even less) if you maintain Optimum Vitamin D.

Check out this Grassroots chart which shows how near-optimum vitamin D blood levels perform against a benchmark vitamin D level of 25 ng/ml in the prevention of several major diseases.

How to Take Vitamin D

Most of the time, you won't find a vitamin D capsule which is exactly the same size as the daily dose you want to take. I said we would deal with that problem, and it's not hard.

But I want to explain it properly, so have covered it in detail in another page – Tips for Buying Vitamin D.

Got more questions? We have answers!

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Vitamin D Co-Factors

Optimum Vitamin D

Vitamin D RDA

Vitamin D Safe Upper Limit

Vitamin D Toxicity

How to Get Tested for Vitamin D

How to Estimate Your Vitamin D Level

Vitamin D Deficiency Treatment

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photos by: Helga Weber & Chris Hunkeler, Tambako the Jaguar

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How much vitamin D do you supplement?

- ○ More than 5000 IU per day
- ○ From 4001 to 5000 IU per day
- ○ From 3001 to 4000 IU per day
- ○ From 2001 to 3000 IU per day
- ○ From 1001 to 2000 IU per day
- ○ From 1 to 1000 IU per day
- ○ None
- ○ Don't know

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