

The 1, 2, 3s of Vitamin D

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There is so much buzz out there about vitamin D. I think everyone knows it is good for our bones. It actually helps the calcium we eat in food or supplements be absorbed. Without Vitamin D, calcium is not absorbed to make our bones denser and stronger. Vitamin D becomes much more than just a synergistic friend to calcium, recently it has been linked to immune health. What does that mean? There is finally substantial research indicating that having the right amount of vitamin D levels in our bodies helps keep our “gut - intestines – digestive –system” strong enough to fight off infection and disease better (Optimal levels 20-60nm/ml(1)). Huh, our “food digester” helps us stay healthy? Yes, our intestinal tract is one of the largest immune organs in our bodies. If our intestinal tract is not strong and healthy we have a much harder time fighting off infection. When we do get sick having strong immune organs helps us heal faster. So, bring on the Vitamin D.



Absorbing enough Vitamin D increases our immune health by keeping the healthy good bacteria strong. If these bacteria are strong, we absorb more vitamins, minerals, and nutrients from our food. It is a cyclic process. We can also react more rapidly to bad bacteria or germs that come into our bodies. If our good bacteria is strong it can react, attack, and get rid of bad bacteria before we ever have a chance to become sick.

Healthy vitamin D levels have also been linked to many chronic illnesses. In the United States the rates of bladder, breast, colon, ovary, and rectal cancer doubled from south to north. North-south gradients of autoimmune conditions, such as multiple sclerosis, Crohn's disease, and type 1 diabetes also increased (American College of Microbiology). This means that as blood levels of vitamin D became lower in each region of the country, the diseases became more prevalent. We all know heading south we are usually guaranteed more sunlight. Now we know this sunlight that provides Vitamin D3 has a significantly positive effect on our health. The Good news is you do not have to move! Keep reading to find out why.

There are two forms of vitamin D. D2 and D3. D2 is found in foods and supplements. Most of us know milk (any kind) is fortified with vitamin D. Even if it is not as clear, the low fat and fat free milks are just as fortified as whole milk, so please choose low fat. Naturally, only some fatty fishes (Cod, Cod liver oil), and some eggs from hens that are fed fortified feed provide a decent source. What else can we do since it is not found in very many foods naturally? Look for items that are fortified. They will either have it printed on the front of the container as advertising or listed on the label. Many companies are catching on and adding vitamin D to their dairy products such as yogurt(3). Yogurt can be extremely good for you with its own immune benefits from

Calcium & Vit. D Recommendations

Age (yrs)	Calcium (mg/day)	Vitamin D (IU/day)
1-3	500	400
4-8	800	400
9-18	1,300	400-1,000*
19-49	1,000	1,000-2,000*
50+	1,200	1,000-2,000*
Pregnant or Breast Feeding	1,000-1,300	1,000-2,000*

Note: You should not consume more than 2,500 mg of calcium or 2,000 IU of vitamin D per day from foods and supplements, unless you are instructed to do so by your physician or nurse practitioner.

*Preferably with vitamin D3. The range depends on vitamin D fortified milk intake, skin pigmentation, and sun exposure.

good bacteria, its own calcium source and now with added vitamin D, you almost cannot beat it. Just be careful to avoid ones with added sugars. They are the ones that have the “fruit” on the bottom. This is so processed that is usually just corn syrup, food coloring and a little fruit. Add your own jam to plain or vanilla yogurt or try an all natural brand.

Another good source this time of year is orange juice. Many main stream brands now have vitamin D and calcium in them. Make sure it is 100% juice and only have 8 ounces or less to avoid excess sugars. Remember 100% orange juice also has a naturally high source of vitamin C. When we talk about synergy, the above products are excellent examples of that. You can buy one product that

FOOD SOURCES FOR VITAMIN D

FOOD SOURCES FOR VITAMIN D	IU of D
halibut, cooked, 3 oz.	510
catfish, cooked, 3 oz.	425
salmon, cooked, 3 oz.	360
oysters, cooked, 3 oz.	272
shiitake mushrooms, dried, 4	249
tuna, canned, 3 oz.	200
shrimp, cooked, 3 oz.	149
orange juice, vitamin D fortified, 1 cup	100
milk, vitamin D fortified, 1 cup	100
soymilk or rice milk, vitamin D fortified, 1 cup	100
yogurt, low-fat, vitamin D fortified, 6 oz.	80
margarine, fortified, 1 Tbsp.	60
ready-to-eat cereals fortified with vit. D	40--50
egg, 1 whole	26

Source: USDA National Nutrient Database

providers you more than double the benefits. Shop wisely for your health and your wallet.

Lets not forget about vitamin D3 which is what you synthesize from Sun! Yes it is true, 10 minutes of sunlight daily is enough to get all we need! So we do not need to move, but we do need to get outside as often as possible for just ten minutes of true sun light. Unfortunately many of us do not get a solid ten minutes daily. So get your sunlight while the getting is good. Do not pass up those gorgeous fall days even if you are only outside for ten minute. Walk to the grocery store, farmers market, or anywhere you can stock up on those fortified goods for the winter. If going outside is not a practical option for your health, make sure you get a supplement that has vitamin D and try to eat fortified foods daily. The vitamin D3 we get from the sunlight is more easily absorbed and transformed by our body for use. It is turned into a hormone that is used through the body for the above mentioned tasks. The vitamin D2 we get from food is harder for our bodies to synthesize or breakdown and convert into a usable form. A balance of both vitamin D forms throughout the days and weeks is the best we can ask for. The balance of which form you absorb with the seasons may shift and that is okay as long as we avoid dropping below a healthy level. Stay strong inside and out with a daily balance of vitamins D rich foods, fortified foods, sun light, and exercise. Visit the attached link below for specific numbers and values per age and food type.

1. See your local Dietitian for more information and read the attached link.

<http://lpi.oregonstate.edu/infocenter/vitamins/vitaminD/>

2. Infection **and** Immunity, September 2008, p. 3837-3843, Vol. 76, No. 9

[American Society for Microbiology.](#)

3. International Journal of Sports Nutrition and Exercise Metabolism. 2009: 19;18-33

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