

Have You Had Your Vitamin D Today?

A hot topic in both conventional and alternative medicine is vitamin D deficiency. It appears that the deficiency is widespread and seems to be related to many health concerns including osteoporosis, depression, heart disease and stroke, cancer, diabetes, parathyroid problems, immune function — even weight loss.

Vitamin D deficiency may be characterized by muscle pain, weak bones/fractures, low energy and fatigue, lowered immunity, symptoms of depression, mood



swings, and sleep irregularities. People with renal problems or intestinal concerns (such as IBS or Crohn's disease) may be vitamin D deficient because they can neither absorb nor adequately convert the nutrient.

Evidence from studies tracking the prevalence of disease by geography and nationality shows clear links between vitamin D deficiency and obesity, insulin resistance, heart disease, certain cancers, and depression. Since most of these problems take many years to manifest, vitamin D deficiency has been overlooked by many providers for a very long time.

Dr. Thomas Chapman, of the Clay Platte Family Medicine Clinic, reports that 85-90% of the patients that he's tested are low on vitamin D. Even though awareness is on the rise, many health care providers have received little to no training in medical school for this problem and may not be in the habit of testing for vitamin D deficiency.

What does vitamin D do for the body?

This essential nutrient is called a vitamin, but dietary vitamin D is actually a precursor hormone. It is the building block of a powerful steroid hormone in your body called *calcitriol*.

Vitamin D works with other nutrients and hormones to support healthy bone renewal. When this ongoing process of mineralization and demineralization does not happen it can cause *rickets* in children and *osteomalacia* (soft bones) or *osteoporosis* (porous bones) in adults.

D is also a key factor in maintaining hormonal balance and a healthy immune system. It appears that calcitriol assists in the buildup and breakdown of healthy tissue which to regulate the processes that keeps you well.

Vitamin D requirements

The current dietary recommended daily intake values (DRI's) are 200 IU (International Units) a day for adults 19–50 years old, 400 IU for those 51–70, and 600 IU for those over 70.

Because of growing awareness of how much our bodies rely on vitamin D, experts now agree that the DRI's are way too low, particularly for people who don't get sufficient sun exposure.

Some studies have shown that adults need 3000–5000 IU per day. Others indicate healthy adults can readily metabolize up to 10,000 IU vitamin D per day without harmful side effects. The European Union's Scientific Committee on Food and the US Food and Nutrition Board lists 2000 IU per day as the safety cut-off. But the latest science strongly suggests most adults should be taking more. Unless you are tested and monitored by a doctor, it may be best to not exceed more than 2000 IU per day.

The average healthy body can naturally synthesize about 10,000–15,000 IU of vitamin D3 in the skin within minutes of sun exposure without ill effect. We have natural checks and balances that shut off vitamin D build-up once we get enough. When we eat sources of vitamin D, they enter the lymphatic system through the intestines, bypassing the skin's natural shut-off valve.

Nevertheless, recent studies suggest the body can use large periodic doses of oral vitamin D3 every few weeks or so and not become toxic. Still, this is a practice reserved for the therapeutic setting, where the individual is being closely monitored.

- Any glass windows or sunblock with an SPF above 15 will block the UVB rays necessary for vitamin D conversion. So you may not be getting enough vitamin D if you work inside buildings with glazed windows, wear sunblock or drive instead of walk.
- If you live in a region above latitude 40 (a horizontal line that runs from just below New York City west to northern California), then the sun is only strong enough between May and September to trigger the vitamin D conversion (or the converse in the Southern Hemisphere). This means that a large percentage of the population is at significant risk much of the year for vitamin D deficiency.

Protect Yourself from a Vitamin D Deficiency

There are effective, natural strategies that work in most cases for testing and treating patients for vitamin D. Diagnosis is easy and treatment is easy, safe, and affordable. The following are ways to protect yourself from any deficiency and to let your body balance itself from the bottom up.

- **Allow yourself limited, unprotected sun exposure** for no more than 15 minutes for light-skinned individuals, 40 minutes for darker skin in the early morning and late afternoon.
- **Eat a diet rich in whole foods.** See below.
- **Take a top-quality multivitamin every day** to fill in any nutritional gaps, preferably one that includes fish oil.
- **Vitamin D testing.** With a simple blood test, your vitamin D levels can be determined. Many doctors believe that anywhere from 20–50 ng/mL is normal, but the newest research sets the optimal value at 50–70 ng/mL.
- **Take a vitamin D supplement.** Supplement with vitamin D3 at 1000–2000 IU daily if you do not get testing, especially in the winter months. But you may need higher levels to reap all the long-term health benefits vitamin D has to offer you, so talk it over with your healthcare provider. Then be sure to get follow-up testing to monitor your levels.



What to Eat and Why Foods Containing Vitamin D

It is best to get you vitamin D from the sun however food can be another source. Unfortunately, very few foods in nature contain vitamin D. The flesh of fatty fish (such as salmon, tuna, and mackerel) and fish liver oils are among the best sources. Small amounts of vitamin D are found in beef liver, cheese, and egg yolks. Some mushrooms provide vitamin D in variable amounts.

Fortified foods provide most of the vitamin D in the American diet. For example, almost all of the U.S. milk supply is fortified with 100 IU/cup of vitamin D (25% of the Daily Value or 50% of the AI level for ages 14-50 years). Other dairy products made from milk, such as cheese and ice cream, are generally not fortified. Ready-to-eat breakfast cereals often contain added vitamin D, as do some brands of orange juice, yogurt, and margarine. Maximum levels of added vitamin D are specified by law.



Selected Food Sources of Vitamin D	IUs per serving*	Percent DV**
Cod liver oil, 1 tablespoon	1,360	340
Salmon, cooked, 3.5 ounces	360	90
Mackerel, cooked, 3.5 ounces	345	90
Tuna fish, canned in oil, 3 ounces	200	50
Sardines, canned in oil, drained, 1.75 ounces	250	70
Milk, nonfat, reduced fat, and whole, vitamin D-fortified, 1 cup	98	25
Margarine, fortified, 1 tablespoon	60	15
Ready-to-eat cereal, fortified with 10% of the DV for vitamin D, 0.75-1 cup (more heavily fortified cereals might provide more of the DV)	40	10
Egg, 1 whole (vitamin D is found in yolk)	20	6
Liver, beef, cooked, 3.5 ounces	15	4
Cheese, Swiss, 1 ounce	12	4

*IUs = International Units.

**DV = Daily Value. DVs were developed by the U.S. Food and Drug Administration to help compare the nutrient contents of products within the context of a total diet.

The DV for vitamin D is 400 IU for adults and children age 4 and older. Food labels are not required to list vitamin D content unless a food has been fortified with this nutrient.

Foods providing 20% or more of the DV are considered to be high sources of a nutrient.

For more information visit:

<http://www.nal.usda.gov/fnic/foodcomp/search/>

<http://ods.od.nih.gov/factsheets/vitaminD.asp>

http://www.mayoclinic.com/health/vitamin-d/NS_patient-vitaminD

<http://www.webmd.com/food-recipes/features/are-you-getting-enough-vitamin-d>

Ask Deirdre

Have a question?

Contact us by email at deirdre@fitwell-lifestyles.com

Q. Are tanning beds a safe source of vitamin D?

A. Some tanning salons might like you to think so, but don't be fooled. Indoor tanning is not an advisable source of vitamin D.

Both the sun and tanning beds emit two types of ultraviolet light rays, UVA and UVB. Both types of rays contribute to the health risks associated with excessive sun exposure, such as the risk of developing skin cancers. However, UVB rays also trigger the synthesis of the vitamin D precursor in the skin, and thus are solely responsible for the healthy benefits of sunshine.

Tanning salons are more interested in UVA rays because overexposure to UVB rays, which affect the surface layers of skin, quickly causes sunburns. Most tanning salons calibrate their tanning beds to emit approximately 95 percent UVA rays so people can achieve a golden-brown tan with minimized risk of burning. Unfortunately, it also minimizes the amount of vitamin D that can be metabolized relative to the exposure to damaging ultraviolet rays.

Most tanning beds put you at risk of unnecessary, excessive exposure to dangerous UVA rays and are by no means a substitute for old-fashioned sunshine. 15–20 minutes of sunshine a day, several times per week, provides sufficient UVB absorption for most Caucasians to optimize their vitamin D levels; however, the darker your skin, the more time you need. In addition, this natural mechanism does not work equally well at all latitudes and seasons and in all people. If you are unsure of the amount of sunshine needed, you can get your vitamin D levels tested and consider supplementing your vitamin D3 intake.



What's your Excuse?

I'm on vacation

Since you treated yourself to a vacation, treat yourself to exercise, too. This is a great time to exercise. You have more time on your hands than usual and no work or prior commitments.

If you stay in a hotel, choose a place with a gym, pool, or tennis court or other exercise facilities. If there are no facilities where you are staying, you can exercise in your room with bands, tubing or a bodyweight routine. You can also look for a local gym. Check if your gym membership at home can transfer to other gyms where you are staying. If it doesn't, tell the gym manager you are visiting the area and you would like to get a temporary pass.



Plan a vacation where you get to sightsee by bike or walking. Ask your travel agent or the hotel about backpacking, horseback riding, and kayaking trips. Whenever possible, plan to walk as much as possible instead of taking cabs, trolleys, or rental cars.

Consider going on a cruise. Many cruise ships have exercise programs throughout the day and port excursions that can be physical. Read the company's brochure or call for a schedule of workouts, so that you will know what to pack.



Consider spending your vacation at a fitness, wellness or weight loss spa. It is a great way to jump-start an exercise program. Spas are wonderful places to learn how to live healthier lifestyles and even kick nasty habits like smoking. One caution though; beware of the caloric intake that you are allowed each day. Some spas go dangerously low (below 1200 calories per day). Find out before you make a reservation.

It does not take much of a break from exercise to lose the physical gains that you worked so hard for so make it a priority to maintain your exercise program.

Be careful if you had not been exercising before vacation. Exercise at your own level and not so hard that you have to spend the week after vacation recovering.

Kansas City Fitness Magazine
Deirdre is now a regular contributor to Kansas City Fitness Magazine.
<http://www.kcfitmag.com/>

Upcoming Articles:
Best Habits to Control or Lose Weight

Deirdre & Chris's Weight Loss Success Story

50 Most Influential People Changing the Face of Kansas City

Many of life's failures are people who did not realize how close they were to success when they gave up.

- Thomas Edison

Do Alcoholic Drinks Have a Place in a Healthy Eating Plan?

Over the last few years, the health benefits of moderate drinking have been in the headlines. This has caused some confusion for many people. Does alcohol have a place in a healthy eating plan? While one may choose to include a moderate amount of alcohol in their diet, it's important to understand why that might not be such a good idea.

The first thing to remember is that ethanol, the kind of alcohol that we drink, can be tolerated by the body when sufficiently diluted but it is a toxin. But poisoning your body isn't the worst of it since alcohol is a drug that can modify one or more bodily functions and affect the metabolism of nutrients – particularly thiamin, folate and vitamin B12.



Alcohol is processed by the liver at about ½ ounce of alcohol per hour so negative effects can last for hours depending on how much was consumed. It alters protein metabolism in the liver so a protein deficiency can develop with excessive alcohol consumption. But even without excessive consumption, some proteins important to immune system are no longer synthesized, weakening the body's defenses against infection. While the liver is processing alcohol it is also storing excess fatty acids as triglycerides in other tissues. This can contribute to coronary artery disease and obesity.

Alcohol acts on the central nervous system (CNS) as a depressant, so drinking alcohol impairs performance, increases risk of injury, causes early fatigue and less total work output. Additionally, it is a diuretic, causing the loss of important minerals such as magnesium, potassium, calcium, and zinc. The dehydrating affect of alcohol can potentially hamper the body's ability to regulate internal temperature during exercise thus decreasing performance.

Can a person achieve their weight loss or maintenance goals without giving up their nightly cocktail? Maybe but it will be harder. Alcohol is a concentrated source of calories, providing 7 kcal/gram, or nearly 200 calories per ounce. And that doesn't include mixers that can significantly increase calorie count. For example, a margarita has 600 calories, a martini 250, and a beer 150. It's easy to see how a just a few drinks can pack on the pounds.

Alcohol is also nutrient poor so it is easy to add a lot of calories to one's daily intake without adding any nutritive benefits. Since it is displacing nutrients from the diet,

particularly on low calorie diets, there is a potential of malnutrition.

Alcohol consumption should not be a regular part of a weight loss diet for another reason. Too often people will fall into old eating patterns or disregard the health goals when that glass of wine or mug of beer lowers their blood sugar and affects the judgment center of their brains.

But the headlines are promoting the health benefits of drinking. So what's that about?

Popular opinion is that alcohol is recommended to reduce the risk of heart disease and stroke but it is not quite the benefit that many people believe. The latest evidence does show that men who consume light to moderate amount of alcohol have increased HDL levels (the good cholesterol). However, these possible benefits begin only after age 40 for men. If there are HDL level benefits for women, they would begin after menopause. In addition, similar studies have shown increased risks in prostate cancer for men and breast cancer for women even when consuming only a couple drinks each day. Another problem is that since calorie requirements decrease as people get older, possible nutrient deficiencies and their consequences are possible.

So if you do want to consume alcohol, how do you do it safely and causing the least amount of harm? Studies show that in order to gain the greatest benefits without increased risks of cancer, men should have less than two drinks per day and women should drink less than one drink per day. Even moderate drinking is not recommended for women who are pregnant or thinking of becoming pregnant, or to people who are under 21. The studies don't indicate that teetotalers should take up drinking or that infrequent drinkers should start drinking more.

