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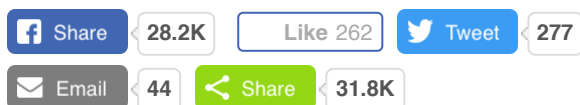
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## Vegan Diets: Sorting Through the Nutritional Myths

By Virginia Messina, MPH, RD | January 24, 2014



With investigations of cruel conditions on factory farms making headlines, and a growing body of research on the benefits of plant foods, vegan diets are looking good to many people. But, for most, it's an unusual way of eating that sits well outside of mainstream habits. It's no wonder that concerns and questions arise about diets that include only plant foods.

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Some of those concerns gain momentum from groups and books that draw from a body of myths that sound reasonable but are lacking in scientific credibility. Often, **myths about vegan diets grow out of a poor understanding of nutrition science, or they are simply based on outdated research.** It's true that there are some nutrients that deserve extra attention from vegans, but being vegan isn't hard and it's perfectly safe. The real science behind vegan diets will set your mind at ease about this way of eating.

## Protein

Myths about amino acid shortages and food combining were put to rest decades ago by experts and researchers in protein nutrition.

**Every plant food that provides protein—which includes all grains, legumes, nuts, seeds, and vegetables—contains all of the essential amino acids that are needed by**

**humans.** Individual plant foods have lower percentages of some of the amino acids relative to needs, but it doesn't matter for those who eat a healthy vegan diet. For one thing, the body maintains its own temporary storage of amino acids.(1) And amino acids from different foods work together throughout the day to produce the right amounts and ratios of these protein building blocks. Back in 1994, two world-renowned protein scientists said this in a commentary in the American Journal of Clinical



*Grains, legumes, nuts, seeds and vegetables all provide protein.  
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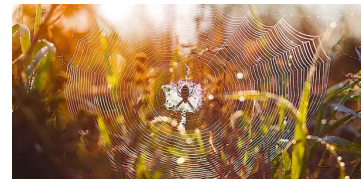
Nutrition: "...consumers do not need to be at all concerned about amino acid imbalances when the dietary amino acid supply is from the plant-food proteins that make up our usual diets." (2) As long as your diet is based on a variety of plant foods that includes a few servings of legumes (beans, peanuts or soyfoods) every day, you'll have no problem meeting protein needs without animal foods.

## Vitamin A

The amount of vitamin A in foods is measured as "retinol activity equivalents," which includes both preformed vitamin A (found in animal foods) and the compounds (called carotenoids) in plants that can be converted to vitamin A. It's well recognized that you can meet needs with either one. Vegans should include daily sources of foods that are rich in vitamin A carotenoids such as carrots, butternut and acorn squash, kale, spinach, pumpkin, sweet potatoes, and cantaloupe. Three-quarters of a cup of cooked carrots or 2 ounces of carrot juice or a cup of cooked spinach will provide enough of the carotenoids to meet your vitamin A needs for the day. The vitamin A precursors require a little bit of fat (not much) for absorption, so top your veggies with some chopped nuts or sauté them in a bit of olive oil. Or toss a few slices of avocado into a smoothie. Carotenoid absorption may be better from cooked vegetables than from raw ones, too.

## Cholesterol

Plant foods don't contain any, but that's okay because cholesterol is not a nutrient. While it's a vital component of every cell in the body, humans can synthesize all the cholesterol they need. The Institute of Medicine, the government organization that



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establishes nutrient recommendations (and is certainly not a pro-vegan organization) says this about why they didn't specify a dietary recommendation for cholesterol: "Given the capability of all tissues to synthesize sufficient amounts of cholesterol for their metabolic and structural needs, there is no evidence for a biologic requirement for dietary cholesterol." (3)

## **Vitamin D**

One common misconception is that vitamin D occurs naturally in milk, cheese, and butter. It doesn't. These foods have vitamin D only if they are fortified with it. While some eggs and fatty fish have vitamin D, nearly all of the vitamin D in American omnivore diets comes from fortified foods. And since even three glasses of milk won't provide enough vitamin D to meet requirements, most people need supplements unless they make adequate vitamin D from sun exposure. The vegan type of vitamin D, called ergocalciferol or vitamin D<sub>2</sub>, is derived from yeast and is absorbed and utilized as readily as animal-derived vitamin D<sub>3</sub> (cholecalciferol) (4). Vitamin D<sub>2</sub> has been used successfully to reverse vitamin D deficiencies. (5,6)

## **Vitamin B12**

All vegans need to supplement their diet with vitamin B12. And guess what? So do many omnivores. B12 experts advise all people over the age of 50 to get vitamin B12 through supplements or fortified foods. (7) This is because changes that occur with aging make it harder to absorb B12 from the animal foods in which it occurs naturally. But the B12 in supplements and fortified foods is in a form that is more easily absorbed. It's believed that many of the issues associated with aging—such as problems with hearing and memory—are due to suboptimal B12. (8) Savvy



vegans are already taking B12 supplements when they enter their 50s, though, so should be at lower risk for these problems.

## Antinutrients and mineral absorption in vegan diets



*Pumpkin seeds are just one of many plant foods rich in iron. Photo: Creative Commons/flickr user jaxzin*

Plant foods are so rich in iron that vegans often have much higher iron intakes than the average meat-eater.

However,

grains and

beans contain phytates, naturally-occurring organic compounds that bind both iron and zinc and reduce their absorption. Phytates are a mixed bag, though, since they are also antioxidants and may be associated with a lower risk for heart disease and cancer. (9) In fact, the ideal situation may be a diet that is high in phytate-rich foods along with factors that boost absorption of minerals from these foods.

Including vitamin C-rich foods in meals improves absorption of minerals dramatically. In one study, the addition of just one-half cup of cauliflower to a vegetarian meal boosted iron absorption by two-and-a-half times. (10) Other organic acids in fruits and vegetables help in this regard, too. (11) When grains are made into bread that is leavened with yeast or a sourdough starter, minerals also become more available. (12) The same factors that boost iron absorption can also improve bioavailability of zinc.

Vegans need to be sure they are consuming good sources of zinc, however, which include legumes, wheat germ, nuts and seeds.

Oxalates in spinach, beet greens and Swiss chard interfere with calcium absorption. But calcium absorption from low-oxalate

vegetables like kale, broccoli, and Chinese cabbage is

extremely high—higher than absorption from milk, in fact. (13) Other good sources of well-absorbed calcium include calcium-set tofu, figs, fortified juices and plant milks.

Finally, compounds in soybeans called trypsin inhibitors, which can technically interfere with protein digestion, are to a large degree inactivated when soybeans and the foods made from them are heated. In fact, studies have shown the digestibility of soy protein to be well over 90 percent. (14)

## Speaking of soyfoods

The amount of research on soy is downright staggering, with hundreds of studies published every year. **Studies in humans—which are the studies that matter—have overwhelmingly shown soy to be safe for all healthy individuals with the exception**



*Kale is a great source of calcium. Get the recipe for this amazing salad at Healthy Happy Life: <http://kblog.lunchboxbunch.com/2013/01/green-power-tower-salad-tahini-citrus.html>*

**of those with soy allergies.** There is also evidence that soy consumption, especially in childhood, can lower lifelong risk for breast cancer. Both the protein and fatty acids in soyfoods help to lower blood cholesterol, too. Both fermented and unfermented soyfoods have been a regular part of Asian diets for centuries with usual intakes of a serving or more per day. For a thorough overview of the soy safety issue, see [“Soy: What’s the Harm?”](#) by dietitian Jack Norris.

## **When vegans get sick**

**A well-balanced vegan diet can provide all nutrients required for human health.** But that doesn’t mean that all vegans are healthy. Like anyone eating any type of diet, vegans can make poor food choices that lead to illness. And it’s not just “junk food” vegans who get sick, either. Diets based on all raw foods or only very-low-fat foods can sometimes morph into a pattern that is too restrictive and that sometimes makes it difficult to meet nutrient needs. Although some people may be tempted to add meat back to their diet when this happens, a better choice is to simply give your vegan diet a protein and fat boost, and to make sure that all nutrient needs are being met.

A word about eating disorders: Some studies have suggested that self-described vegetarians (who often are not truly vegetarian) have higher rates of disordered eating patterns. But vegans or vegetarians are no more likely to develop an eating disorder than anyone else. Instead, vegan or vegetarian diets are sometimes adopted as a way to limit food or mask disordered eating. (15,16) There is no evidence that girls who choose vegetarian or vegan diets are at higher risk for developing an eating disorder.

## The vegan advantage

Nobody knows the one-and-only healthy way to eat — if there even is any such thing. There are probably a number of different dietary patterns that can support optimal health, but findings definitely suggest a few advantages for vegans. For example, in the EPIC-Oxford Study, a large research project in Great Britain, people who ate meat were 2 1/2 times more likely to have high blood pressure compared to vegans. (17) No single factor has been shown to be the reason for this, so researchers believe that it's some combination of factors in vegan diets that is protective.

Not surprisingly, vegans tend to have much lower blood cholesterol levels than those who eat meat (and even than lacto-ovo vegetarians and people whose only meat consumption is fish). (18) Other research suggests that vegans are less likely to have diabetes than either meat-eaters or lacto-ovo vegetarians. (19) Finally, changes in overall lifestyle that include a vegan or nearly-vegan diet have been very effective in improving the health of people with both heart disease and diabetes. (20,21) That's not to say that a vegan diet is the only healthy way to eat, but it does say something about the importance of plant-based meals for overall good health.

**The most compelling reason for going vegan, however, is ethical.** Since there are no nutrients in animal foods that can't be obtained elsewhere, a vegan lifestyle is an obvious choice for those who value and respect the lives of animals and strive to eat as compassionately as possible. Although some farming practices provide better lives for animals than others, advocacy group Mercy for Animals says this about animal food production: "Animal agriculture,



even free-range or organic animal agriculture, is by its very nature cruel. Any time an animal, even a free-range animal, is used as a commodity to be consumed — or treated as a piece of property — corners are cut and the animals lose.”

## Planning a Healthy Vegan Diet



*Meals like this are easy, delicious and packed with nutrients. Get the recipe for this Vegan Macro Bowl at Healthy Happy Life:*  
<http://kblog.lunchboxbunch.com/2011/12/vegan-macro-meal.html>

Healthy and conscientious diets always take a little bit more planning than those based on whatever is easily at hand.

Vegans need to give

some attention to calcium and other minerals and, like many omnivores, they need to supplement with B12 and sometimes vitamin D. On the flip side, many people see their health improve through lower blood pressure and a drop in cholesterol when they go vegan. This quick checklist can help you plan an optimal, health-supporting vegan diet.

- Eat generous amounts of fruits and vegetables, including those that are good sources of vitamin A.
- Include foods that are rich in vitamin C at every meal.

- Keep protein requirements covered by including at least 3 servings of legumes (beans, soyfoods and peanuts) in your daily menu.
- Choose foods rich in calcium such as fortified juices, fortified plant milks (almond, rice, coconut, hemp seed or soy), calcium-set tofu, sesame tahini, collard and turnip greens, kale, broccoli and figs.
- If you don't get adequate sun exposure, then—just like omnivores—you'll need to take a vitamin D supplement.
- If you don't use iodized salt, consider a supplement providing around 75 micrograms of iodine two or three times per week. (Omnivores and vegetarians get theirs in part because milk is contaminated with iodine-containing cleaning solutions—not exactly a “natural” source.)
- Don't skimp on fat. Higher-fat plant foods like avocados, seeds and especially nuts should be a regular part of vegan diets. Moderate use of olive and canola oils can improve nutrient absorption and make your vegan diet more satisfying and healthful.
- Take a vitamin B12 supplement or use foods that are fortified with this nutrient. Choose a chewable or sublingual type of cyanocobalamin and take at least 25 micrograms every day.

## Further reading on vegan nutrition

- [Vegan for Life](#) by Jack Norris and Virginia Messina. 2011, Da Capo Press.
- [Simply Vegan](#) by Debra Wasserman and Reed Mangels, 2006, The Vegetarian Resource Group.

- [Becoming Vegan: The Every Day Guide to Plant-Based Nutrition](#) by Brenda Davis and Vesanto Melina, 2013, The Book Publishing Company
- [The Everything Vegan Pregnancy Book](#) by Reed Mangels, 2011, Adams Media
- [www.veganhealth.org](http://www.veganhealth.org)
- [www.vrg.org](http://www.vrg.org)

You can browse all of Free from Harm's vegan health and nutrition posts, [here](#).

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*An earlier version of this article appeared in [The Wedge Community Co-op](#). Reprinted with the author's permission.*

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