

80/20ing nutrition

If you really want to maximize your nutrition you need to try a wide variety of foods and train your introspective ability to recognize and seek out exactly what micronutrients you need. That's a lot of work, so here's a document about how to get some of the benefits and stave off scurvy with much less work.

Who this is aimed at:

- People who have done little to no work on nutrition so far.
 - Note: sometimes people think their doctor has thoroughly checked them for nutrient deficiencies when they only tested for one or two. Look at your lab results and see what nutrients were actually checked.
- People with restrictive diets, especially veganism
- People with digestion or psychological issues that impair nutrition
- People who eventually want to reach nutrition nirvana, but need some help with the first bootstrap pull.

YOU ARE RESPONSIBLE FOR YOUR OWN HEALTH. I am not a doctor or nutritionist, this is not medical advice, do not wait for my okay before doing what you think is best for you, especially if that means stopping something you think might be hurting you.

Testing

1. call [walkinlabs](https://walkinlabs.com) at 800-539-6119
2. ask for GD3200 (Genova Metabolomix+) with add-ons GD3204 (Comprehensive Urine Elements- has the iron testing) and GD5201 (SNP- MTHFR). The total will be \$613.
 - a. They may tell you to order on the website. They are lying because they are incompetent, you can't order add-ons on the website. Explain you want to order add ons that can't be done on the website and insist on the a phone order.
 - b. >1/2 of participants so far have gotten undetectably low iron results and I'm suspicious there's a problem with the test. If you're up for a blood draw as well, you can skip GD3204 and order a [ferritin test](#) on walkinlabs, and while you're at it throw in [vitamin D](#).
 - c. If you're on a budget and are vegan I tentatively believe doing just the ferritin+vitamin D test is the highest value of this. Iron deficiency (which ferritin levels test for) is by far the most common problem I am seeing, iron + vitamin D are two of the primary vegan deficiencies (along with B12), and both are dangerous if taken in excess.
3. If I've approved it, submit for reimbursement at <https://rationality.org/expenses> (CFAR fiscally sponsors lightcone which is fiscally sponsoring me). Select "2022 Elizabeth Van Nostrand Nutrition" as the program, everything else should be intuitive.

4. Kit will arrive in 1-2 weeks with instructions.
5. You complete the test
6. Receive a brightly colored pamphlet outlining shortages and successes, share with me.

General Rules

Nutrition science is crap, individuals vary a lot between each other and within themselves over time. If you want truly optimal nutrition you're going to have to both cultivate an introspective ability to notice what you need and run a lot of experiments. This document is focused on 80/20ing by fixing severe deficiencies, but leaves some seeds for future experiments if you're interested.

Food > sublingual vitamin ~ powder > pill. Food contains a variety of nutrients and cofactors that pills don't.

Unless they say otherwise take pills with food. If the pill is a gel cap or fat-soluble (vitamins A, D, E) it's better to take it with fatty food.



Shopping List

One common failure mode of nutritional improvement is getting overwhelmed by options and defaulting to doing nothing. This section is intended to avoid that by providing minimum viable action steps for people who are already oriented. It is at the top to increase accessibility as much as possible.

Another common failure mode of nutritional improvement is grabbing a bunch of stuff without considering what you need or how your needs differ from others. This section is about the worst thing in the world for people in that situation. **Please skip this section unless you have already oriented on nutrition.**

Amazon links are affiliate links. For more detail on how specific brands were chosen see the brand recommendation section.

These lists were optimized in part for coming in small sizes, since you may not stick with everything.

Vegans and Near Vegans

List substantially taken from examine.com's [guide to veganism](#). Items on this list have been checked and are vegan-compliant.

- B-12 ([liquid](#), [pill](#)). note: you can take way less than the recommended dosage, this is far more than you need.
- [Iron with vitamin C](#): if menstruating or you know your levels are low. Iron is easy to overdose on, don't take too much.
- Omega-3 (from algae) ([powder](#), [pill](#), [amazon](#))
- Vitamin D ([liquid](#), [pill](#))
- Acetyl L-Carnitine ([powder](#), [pill](#), [amazon](#))
- Creatine ([powder](#), [pill](#), [amazon](#))

General

[B-vitamins](#) (vegan). These are particularly likely to give you an energy boost so take in the morning

[Magnesium](#) (vegan): helps with stress, sleep and muscle relaxation in particular. Relaxing the digestive tract can cause diarrhea so work your dose up slowly. Take in the evening to help you wind down

[Vitamin A](#): This is fat soluble so be careful with overdoses.

[Vitamin E](#) ([Amazon](#)): This is fat soluble so be careful with overdoses.

Brand Recommendations

You have two concerns when picking vitamins: purity and bioavailability. Purity can sometimes be checked at [consumerlabs.com](#),

Bioavailability means your ability to actually digest the vitamin. Most micronutrients come in many forms, and your body absorbs some much more easily than others. You can investigate this by checking the exact form of the vitamin listed on the bottle and googling it, but there are interpersonal variations that mean you may need to play around with things. If the bottle doesn't list the specific form of the vitamin it contains, it probably used whatever is cheapest, which is fine for some things and bad for others.

Some people have mutations in the MTHFR gene that make them worse at processing B vitamins, and need methylated forms of B6 and B12. These are slightly more expensive than other B vitamins but it's not otherwise harmful to take them when you don't need them. The testing instructions include testing for the mutation by default but if you want to skip straight to the more expensive vitamins that's fine

Brands my doctors consistently recommend:

- Thorne
- Life Extension
- Design for Health
- Pure Encapsulation
- Integrative Therapeutics
- Quicksilver
- Nootropics Depot
 - this one isn't a doctor rec. I trust this guy on purity a lot, he has an absolutely autistic drive to test for contamination. He's also a naive toddler when it comes to efficacy claims. Do not trust his pitches for what helps with what, and don't assume his vitamins are in the correct bioavailable forms, but you can strongly trust that his vitamins contain what he says they do and nothing else.

Multivitamins

Most multivitamins are bullshit. They use cheap, nonbioavailable forms of vitamins. Even if you fix that, they're not balanced in general or your needs in particular. How much balance matters is a matter of debate: most people think you pee out any excess unless you're consuming truly harmful amounts, but it turns out to matter a lot for me (my body would rather be starved of everything than leave one vitamin behind). You'll have to experiment to see what's right for you.

Frequent blood loss (e.g. menstruation) changes your nutritional needs a lot, especially for iron. If you're menstruating be careful that you're getting enough iron in your multi, or take a direct supplement. If you're not menstruating and you eat red meat, make sure you're not taking multis

aimed at women: the amount of iron they have may be dangerous to you. If you're not menstruating but don't have a strong dietary supply of iron look at your test results.

Protein

I don't have a source I trust for what amount of protein is right, and of course it varies a lot by individual. Ballpark aim for 70 and increase as you get more active, especially if you're increasing muscle mass or are injured (I ate 350 grams the two days after an injury). The FDA recommended amount is 50g/day, which everyone believes is too low.

Protein consists of 20 amino acids. 11 of these your body can make on its own and just needs sufficient raw materials. 9 of them (histidine, isoleucine, leucine, lysine, methionine, phenylalanine, threonine, tryptophan, and valine) are not synthesized by humans and you need to consume them. It's possible to be eating an abundance of protein and yet be deficient in a particular amino acid. The test I recommend will give some guidance on this but it's also worth tracking your food intake for a few days to get a ballpark.

It's totally possible for vegans to get enough protein, but it's harder. Vegan protein is a little scarcer, less digestible, and less likely to be a complete protein (meaning it doesn't have all the essential amino acids). You can get enough protein on a vegan diet, but it will probably take thought.

For most people the [easiest proteins](#) to digest are egg and whey (milk). If you are vegan or allergic to the most popular replacements are soy, pea, and hemp. Mushroom protein scores as highly digestible but is generally less available and more expensive. I also really like algae powder, although compared to the others it's relatively low in protein.

If you are vegan for ethical reasons, you might consider if that extends to insects, who are quite dumb yet count as animals for nutritional purposes, or mussels, who literally lack a nervous system. If that sounds ethical but gross consider powdered insects or mussels.

Protein powder are often sold in large quantities, and are pretty expensive. The office has several, consider starting with those rather than buying your own.

[Seeking Healthy Pea and Rice](#). My doctor's favorite vegan powder. Also has iron for some reason.

[Design for Health PaleoPure \(collagen based\)](#). Collagen is not a complete protein so be careful about depending on this. Also they've lost a lot of the micronutrients bone broth usually has.

[Algae Powder](#): I am as confused as you are that this works but it's tied for my favorite

[Cricket flour](#): No brand recommendation. Rich in animal vitamins like A and B12.

[Beef Liver powder](#): Similarly rich in animal vitamins. I've poked around with other organs and not gotten the same rush.

Meal Replacements

[MealSquares](#) are excellent nutritionally but not vegan. They're nutritionally balanced and almost 100% of the micronutrients come from actual food (with cofactors intact) rather than being yeast-produced. I trust the founder a lot and he's been very responsive to questions and suggestions. I don't think any monodiet is healthy but if I had to eat 90% of any one thing, I'd pick MealSquares.

There are a variety of nerd meal replacement shakes. Overall my sense is they're not sufficiently concerned with bioavailability, and they all have cringey ingredients to enhance texture and taste. But if they're better than what you're doing right now don't let the perfect be the enemy of the good.

Food Powders

Powdered versions of food work really well for me, and my nutritionist says they're a reasonable compromise- not as good as fresh-picked produce, but plausibly better than something that has sat on shelves and in transport for weeks at the grocery store (the same is true of frozen btw- frozen is often as good or better than "fresh").

I got extremely into powders and have a full home lab of test tubes filled with various powders, and a makeup-style [carrying case](#) carrying [smaller vials](#) for when I leave the house. TODO PHOTO.

If you're using a lot of powders on the go you might want TODO KIT and a shaker bottle. I haven't quantified the risks of doom with plastic versus metal but try to use a [metal one](#), or [glass](#) if it seems safe. If that doesn't worry you [the plastic amazon ones](#) come with adorable accessories to attach your powder to the bottle.

[Mussel powder](#): this is a fantastic choice for ethical vegans because it's nutritionally meat but neurologically a plant. Everything aimed at humans comes in a pill, probably so you don't have

to taste it. Unfortunately the pills are small and expensive, so even though this is reasonably rich in protein (30% by weight), it's more a way to get animal vitamins than protein.

[ENOF](#): is not a complete multivitamin but it does have a healthy chunk and is food-based (from freeze-dried, powdered produce).

Kencko smoothie powders: a mix of produce in convenient smoothie sized packets.

There are so very many produce powders around. Look for ones that are freeze dried.

I want to do this with food though

[Cronometer](#) was the winner of my fairly short search for food diary software. It has a large database that makes it easy to add things, tracks all micronutrients (not every food entry does, so watch out for that), and has pretty good visualization tools. It also has a tool (under food->ask the oracle) that gives you suggestions for foods with specific nutrients.

If you just want the last thing <https://tools.myfooddata.com/nutrient-ranking-tool/> is pretty good, although its search options are less configurable.

Useful non-vitamins

[Oral probiotics](#): the data on digestive probiotics is kind of ambiguous and there are a lot of bad brands. But oral probiotics [check out in research](#) and they worked well enough on me that my dentist commented (without knowing I had changed anything), which is more than you can say for flossing.

[Theanine](#): an amino acid that reduces anxiety, improves sleep, and takes the edge off caffeine without blunting the good parts.

[Creatine](#): primarily a body builder supplement, but persistently rumored to improve cognition in vegans TODO JAN'S STUDY. Note that creatine causes more glycogen to be stored in your muscles, which can lead to water weight gain. It's not fat and it will stop after a few pounds.

[Digestive enzymes and stomach acid](#): your stomach digests food with a mix of enzymes and raw acid. If you are short on these you will struggle with every nutrient, and vitamins may not help. However if you have enough stomach acid, taking more will give you heartburn. This is extremely easy to test: take one HCl pill with a protein heavy meal. If you don't get heartburn, congratulations on your new diagnosis.

Enzymes are trickier but there's also less downside to taking extra, so I recommend just taking this combo HCl/enzyme pill [TODO LINK](#). Note: this contains animal products. If you are vegan consider TODO.

[Ketone esters](#): for some people (including me) taking KEs while fasting leads to epic improvements in energy and focus (but also help me sleep better). Most people find it makes no difference at all.

Antioxidants: these are a snake oil minefield and if they work at all it's on a long timescale. They're out of scope for 80/20ing, but the Metabolomix+ test does cover some of them and if you're interested I can say more.