

## Nutrition: Autoimmune Disorders - Part 2

25(OH)D Level, ng/mL	Vitamin D3 Dose, IU
<15	4,000
15-20	3,000
20-25	2,000
25-30	1,500
30-35	500
35-50	0
>50	0

Here's a chart that shows a correspondence between 25 D Level and where you should start in terms of supplementation. So, if their level is below 15, at least 4,000 IU if not more; if their level's 15 to 20, 3,000 IU; if their level's 20 to 25, 2,000 IU, etc. Something that I've seen often is a patient will get prescribed a very high dose of vitamin D by a clinician, and the clinician doesn't tell them when to stop, and then by the time they come to see me, they've been taking a huge dose of vitamin D for an extended period, and they have toxic levels above 100 nanograms per milliliter. And this is a significant cardiovascular risk, and I see it quite commonly, so make sure that when you prescribe a dose of vitamin D to a patient, you tell them when to stop and make sure that you're retesting so that you can determine how effective it was and that they're not going into vitamin D toxicity. In terms of sunlight, fairer skin produces about 10,000 to 25,000 IU in response to 20 to 30 minutes of direct sunlight in the summer at midday, so that's the strongest and most intense period of sunlight. For darker skin, up to two hours of sun exposure at that same time of year and time of day may be required to produce that amount of vitamin D. Having said that, there's some evidence that suggests that people with dark skin are more efficient at converting 25(OH)D to 125 calcitriol, which is the active form, and they may not require as much sunlight or vitamin D in the diet to obtain biologically active vitamin D levels that are adequate, so that's something important to keep in mind.

Patients can choose a daily smaller supplementation or higher once-a-week supplementation. There's not really evidence to support one over the other; it just comes down to personal preference. So for example, if their level is less than 15 nanograms per milliliter, they could take 4,000 a day, or they could take 30,000 once a week, and it doesn't really make a difference.

Other nutrients to promote proper immune function include niacin, riboflavin, B2, pyridoxine, which is B6, vitamin C, magnesium, iron, copper, zinc, and manganese. And the best way to ensure proper intake of these is to eat a nutrient-dense diet focusing on intake of organ meats, herbs and spices, nuts and seeds, cacao, fish and seafood, fresh veggies, red meat, pork and poultry, eggs and dairy if tolerated, and sea vegetables.



Turmeric and curcumin are also a good choice for those with autoimmune disease. It promotes regulatory T cell function, decreases inflammation, and reduces oxidative damage. As dosing varies between brands, we generally recommend 400 to 600mg capsules one to two times daily. A good target daily dose is between 1,400 and 1,800mg daily, divided into two doses, although if the problem is acute and you're wanting to provide more immediate relief and suppression of inflammation, doses of up to three to four grams per day have been used in studies.

Also, note that when using a botanical compound, many herbalists, myself included, believe that it's often more effective to use the whole plant rather than an isolated component. In this case, it would mean using turmeric as the whole plant rather than just curcumin, which is an isolated compound found in turmeric that some scientists believe is the most active part of that plant. But this is a very Western view, which is the idea that there is one active compound, and if we isolate and amplify that compound, we will get even more benefit. In traditional herbalism, we recognize that there are many compounds within a plant that are beneficial, and often they work in synergistic ways to support the activity of one or two compounds that may have more of an effect. If you isolate the one or two active compounds without including the other synergistic compounds, it may not work as well. This is why I believe that products like Turmeric Supreme from Gaia that use the entire turmeric plant can sometimes be more effective than formulas that isolate curcumin and amplify it, like Theracurmin and others. Certainly you can experiment yourself and see what ends up working best.

Next dietary approach for autoimmune disease is to increase the intake of foods that help support a healthy gut microbiota. So, probiotics help to regulate and balance the immune system and



promote the function of T regulatory cells, and in fact as I've discussed elsewhere, I think the best way to think of probiotics is as immune regulators, not as a way of quantitatively increasing the beneficial bacteria in the gut, but as a way of tuning and regulating the immune system, whereas, on the other hand, prebiotics actually feed healthy bacteria that's already in the gut and will increase those levels over time. So patients should consume both prebiotic and probiotic foods, and if necessary, prebiotic and probiotic supplements, provided they don't have other conditions that warrant excluding them.

Soil-based organisms or transient commensals can be particularly useful for those with autoimmunity, since they were prevalent in traditional cultures, but our exposure to them in soil and water has dropped in our more sanitized environment, and they have important roles in T regulatory cell function. As for prebiotic, I use Prebiogen\*, which is available on my website [ChrisKresser.com](http://ChrisKresser.com), in my store, as a prebiotic with good success. It's a mixture of non-starch polysaccharides that have been shown to support beneficial bacteria, but there are many options, both food-based and supplements, so just make sure that the patient's getting a good blend of both prebiotics and probiotics in their diet, and possibly through supplements.

*\*Note: Prebiogen is no longer available. As a replacement, consider using BiotaGen from Klair Labs.*

There are, of course, several lifestyle factors that strongly affect the immune system. Exercise should be encouraged for those with autoimmunity, as physical activity has been shown to increase glutathione levels. It also increases endorphin production, which can help mitigate pain and regulate the immune system, but the amount of exercise needs to be appropriate. Too much exercise can induce a catabolic state or cause breakdown in patients that are already under a significant amount of stress because of their autoimmune disease, so it needs to be an appropriate level of physical activity.

Pleasure and social connection have also been shown to increase endorphin production. Pleasure and connection with people in your life have also been shown to decrease the pain and social isolation that can come with dealing with an autoimmune disease. So, it's important to discuss this

with your patients, especially if they are isolated socially, and discuss ways that they can reconnect with other people and find support and pleasure in their life, as this will improve their quality of life, and it will also improve their disease status.

Acupuncture can be a helpful adjunct for those suffering from autoimmune disease. It's been shown to restore the balance between cellular and humoral immune response. If you're an acupuncturist, you can of course provide this treatment yourself, or you can refer out to an acupuncturist or community acupuncture clinic if you're not. Community acupuncture, I think is a great resource for patients because it's less expensive than typical acupuncture treatment. It usually ranges between \$15 and \$45 or \$50 on a sliding scale per treatment. That makes it possible to get treatment two or three times a week initially, which I think is really important in terms of making progress, and it's more consistent with how acupuncture has been delivered traditionally.

Let's look at a case study here. K.S. is a 32-year-old male with rheumatoid arthritis. When he first came to see me, he was eating a pretty good diet, had already taken out gluten, soy and most dairy products. His goal was to improve his rheumatoid arthritis through the most natural means possible; he wasn't interested in taking some of the immunosuppressive drugs that are often prescribed for this condition. A few days before starting with me, he had begun low-dose naltrexone based on the recommendation of another practitioner, which I think is a really effective medication for autoimmune disease.

First thing I recommended to K.S. was to do an autoimmune Paleo protocol. He was already pretty comfortable with a standard Paleo approach, so doing AIP wasn't a huge step for him. I also recommended that he focus on gut-healing foods like bone broth, organ meats, cold-water fatty fish and more gelatinous cuts of meats that need to be slow-cooked for glycine and gut support, and I also suggested that he get stool testing, breath testing, and HPA axis testing.

We got K.S.'s test results back, which showed low counts of beneficial bacteria, Lactobacillus was no growth, SIBO breath testing was negative, and the HPA axis testing was negative, but his vitamin D was low.

I recommended that he continue his autoimmune Paleo protocol diet, along with adding in some prebiotics in the form of Prebiogen\*, probiotics, or soil-based organisms, Prescript-Assist in this case. For vitamin D, we used extra-virgin cod liver oil, which contains both vitamin D and vitamin A, which is important for immune function, as well as EPA and DHA for inflammation. We also used a combination of boswellia and curcumin to help control the inflammatory process—think of it as an ibuprofen substitute, it can be helpful especially with joint pain—and curcumin also has an immuno-regulatory effect and is helpful for the autoimmune process, as I mentioned, and then we included liposomal glutathione as well.

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Within three months, K.S. had a significant decrease in stiffness and pain and was able to taper off the NSAIDs he was using to manage his rheumatoid arthritis. He continued on this plan and did well; a year later, he came to see me about a different issue, sinusitis. His rheumatoid arthritis was still being well managed by the diet, supplements, and the low-dose naltrexone he was taking.

Okay, thanks for watching. In the next presentation, we're going to talk about HPA axis dysregulation, a.k.a. adrenal fatigue syndrome. See you then.