

## Thyroid Hypofunction II - Part Three

Beyond nutrition for thyroid health, we also have to consider regulating and balancing the immune system. This, of course, involves addressing the underlying conditions that provoke or exacerbate immune dysfunction above all else, but diet, supplements, and medication can help as well, of course, a Paleo-type diet at a minimum. There is a strong association between gluten intolerance and thyroid disorders, which I covered in my thyroid e-book and also on my blog, but I'd also recommend that patients try the autoimmune protocol for at least 60 days to see if that helps and then reintroduce foods removed one by one if they did have an improvement.

Beyond diet, some nutrients are especially important for optimizing immune function, such as glutathione and vitamin D. We covered vitamin D elsewhere, so let's talk a little bit more about glutathione. Glutathione supports healthy T-regulatory cell function and thus plays a crucial role in balancing and regulating the immune system. Not surprisingly, people with autoimmune disease often have low levels of glutathione, and increasing glutathione levels in these cases leads to clinical improvement. Glutathione is found in dairy, especially raw dairy, raw fruits and vegetables, and raw meat, a little bit in cooked meat but not as much, but many patients will benefit from glutathione supplementation. Early studies suggested that oral glutathione supplements were not effective, but there has been some recent research that contradicted this. Having said that, clinically I have had the best results with highly absorbable forms of glutathione such as liposomal glutathione, and in that case, the recommended dose would be one to two teaspoons per day.

Curcumin is another beneficial nutrient for immune regulation. It has a positive impact on autoimmune disease in both animal and human studies. It promotes T-regulatory cell function, reduces inflammation, and protects against oxidative damage. Not all curcumin supplements are equal, though. Curcumin is poorly absorbed when it is taken orally. The majority is excreted without being metabolized, and the small portion that is absorbed is converted to forms that are quickly eliminated from the body via the urine. This limits curcumin's ability to reach the cells and tissues outside of the gut and perform all of its beneficial functions. My favorite forms of curcumin are liposomal curcumin in Longvida, and the recommended dose is one to two teaspoons per day of liposomal curcumin or one to two capsules per day of Longvida, which is more of a technology or delivery system that is found in many different brands, so one is Optimized Curcumin from ProHealth, and another is CurcuBrain from Now.

Other important nutritional considerations for balancing the immune system include getting adequate EPA and DHA, probiotics, and prebiotics, which we have covered elsewhere, so I'm not going to rehash that here. Don't forget the role of lifestyle and behavior in immune balancing. These are often just as important, as I said before, as diet and nutrition, and again, I've covered these in detail elsewhere in the course and in my book. We're talking about appropriate physical activity, sleep, stress management, play, pleasure, and social connection. In your new patient intake, pay attention to which of these areas may need attention in your patient, and continue to discuss them throughout the treatment plan. This is where having a health coach on staff who is

working with your patients on this stuff separately can be really helpful because if, as a clinician, you're talking about lab results, treatment protocols, and all of that, it can be difficult to find the time to focus on this as well, and that health coach, in addition to helping them implement your treatment plan, can work with them on this stuff in between appointments.

**Low Dose Naltrexone**

*"I've been on LDN for 2 months for primary progressive MS. For the past year and a half, I have been nearly blind. I would put on a pair of 2.75 reading glasses, then put a second pair of 3.25 on top of that. LDN has restored my vision and I couldn't be more excited, as I'm driving again."*

**LDN: The Latest Research**

**International Journal of Oncology — June 2016**

**LDN Possesses Anticancer Activity**

Wai M. Liu, Katherine A. Scott, et al of the Department of Oncology, St. George's University of London, report that they evaluated the gene expression profile of a cancer cell line after treatment with low-dose naltrexone (LDN), and that "our data support further the idea that LDN possesses anticancer activity."

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**FDA-approved naltrexone, in a low dose, can normalize the immune system — helping those with HIV/AIDS, cancer, autoimmune diseases, and central nervous system disorders.**

**<http://www.ldninfo.org>**

Finally, low-dose naltrexone can be very helpful in balancing and regulating the immune system. At the full dose of 50 mg, naltrexone is used for opiate and heroin addiction because it blocks the opiate receptors and prevents patients from experiencing a high, but at a lower dose of 1.5 to 4.5 mg, it has been shown to promote T-regulatory cell production and differentiation and reduce inflammation in the central nervous system. This function was discovered in the late 1980s by Dr. Bihari, who was treating AIDS and cancer, but since then, LDN has been used for a variety of autoimmune diseases. There is not a lot of research on it, but already there are some studies suggesting that it is effective for Crohn's disease, multiple sclerosis, fibromyalgia, and even cancer. [www.ldninfo.org](http://www.ldninfo.org) is a great central repository of studies and information about LDN.

**LDN dose: 1.5 - 4.5 mg**

Most patients do better at a starting dose of LDN of 1 to 1.5 mg and then gradually increasing to 4.5 mg. Common side effects are headache and sleep disturbance, which usually pass after a few days. Many patients, however, find that their sweet spot for LDN is somewhere between 2 to 3 mg rather than the full dose that was used in the studies of 4.5 mg. Since most of the studies did use that 4.5 mg dose, I do suggest that patients increase to that amount at least once to see how they do on it. Most patients will need to give LDN at least three months before they know for sure whether it will help because responses vary significantly from individual to individual. In some cases, the improvement can be literally overnight, but in others, it can take many weeks if not months. LDN is safe and well tolerated. There are no complications or even side effects compared to placebo in studies. However, in my experience and our experience at the clinic, the two most common side effects, as I mentioned a little earlier, were sleep disturbance and headache.

There are two contraindications for LDN. You can't give it to patients who are taking long-term narcotic pain medications. LDN is an opiate antagonist, so that could cause significant withdrawal issues. The other contraindication is just speculation from people who prescribe LDN a lot, but they believe that anyone who has had an organ transplant and thus must take daily immunosuppressant medications should not start using LDN, which reliably strengthens one's immune system.

## Summary of **immune-balancing interventions**

Nutrient	Comments
<b>AIP</b>	Paleo diet with no eggs, nightshades, nuts
<b>Optimize vitamin D levels</b>	Diet, UV exposure, supplements
<b>Glutathione</b>	Liposomal form best; 1-2 tsp/day
<b>Curcumin</b>	Liposomal or Longvida form; 1-2 tsp/day or 1-2 capsules/day
<b>EPA &amp; DHA</b>	1 lb. of cold-water, fatty fish per week
<b>Probiotics</b>	Soil-based organisms, transient commensals, lactic acid
<b>Prebiotics</b>	RS, soluble fiber, non-starch polysaccharides
<b>Lifestyle</b>	Physical activity, sleep, stress management, play, pleasure, social connection
<b>Low-dose naltrexone (LDN)</b>	1.5-4.5 mg; start with low dose and build slowly

Okay, here is a summary of the immune-balancing interventions. We have the autoimmune Paleo protocol. We have optimizing vitamin D, glutathione, curcumin, EPA and DHA, probiotics, prebiotics, lifestyle and behavior change, and low-dose naltrexone.