

The Remarkable Benefits of Low-Dose Naltrexone

Analysis by [Dr. Joseph Mercola](#) ✓ Fact Checked

STORY AT-A-GLANCE

- › Low-dose naltrexone, an opiate antagonist, can benefit most autoimmune and chronic pain conditions
- › LDN is also being used as an adjunct for cancer. Research by professor Angus George Dalgleish and Dr. Wei Lou showed LDN could bring cancer cells into remission using pulsed dosing
- › When microdosed, LDN can help potentiate long-term users of opioids, allowing them to reduce their dependence and lower their required opioid dose
- › Naltrexone only briefly blocks the opioid receptor. Its chief clinical benefit is in the rebound effect, which includes an upregulation of your immune system and subsequent reduction in inflammation
- › Other conditions being treated with LDN include Lyme disease and its co-infections, fibromyalgia, SIBO, restless leg syndrome, depression, dermatological issues and even infertility

This article was previously published December 13, 2020, and has been updated with new information.

In this interview, we review some of the remarkable benefits of low-dose naltrexone (LDN), including the surprising benefits of microdosed LDN. The two experts featured in this interview are Linda Elsegood, a Briton who founded the LDN Research Trust¹ in 2004, and Dr. Sarah Zielsdorf, who has a medical practice in the Chicago area in the U.S.

Elsegood, who was diagnosed with MS in 2000, has been involved in LDN research and public education for 16 years. LDN is a powerful, safe and effective treatment for many autoimmune diseases, yet few, including most health care professionals, know anything about it. Remarkably, LDN may even be helpful in the fight against COVID-19, as it acts to normalize your immune system.²

Elsegood recently published a book on LDN called "[The LDN Book, Volume Two: The Latest Research on How Low Dose Naltrexone Could Revolutionize Treatment for PTSD, Pain, IBD, Lyme Disease, Dermatologic Conditions and More.](#)" Each chapter is written by a medical professional with clinical knowledge of the drug's use. Zielsdorf is one of the contributing authors. Elsegood also hosts a radio show called The LDN Radio Show.³

In the interview, she tells the story of how she discovered LDN and the dramatic benefits she has experienced from it. In summary, beneficial effects became apparent after about three weeks on the drug and, after 18 months, her condition had significantly improved.

“ We use LDN for nearly all autoimmune conditions, as an adjunct for cancer, and as a treatment for chronic pain. We also use ultra-low dose naltrexone to help potentiate pain relief for people who are on opioids and help them to be less dependent on opioid medications. ~ Dr. Sarah Zielsdorf”

Zielsdorf – who has an undergraduate degree in microbiology and a master's degree in public health microbiology and emerging infectious disease – also has a personal health story that brought her to LDN. She was diagnosed with hypothyroidism (underactive thyroid) in 2003. Ten years later, she was diagnosed with Hashimoto's, an autoimmune disorder that affects the thyroid.

"I learned about functional nutrition and triggers for autoimmunity, and started to do all of the things I needed to do to optimize my biomarkers, remove

systemic inflammation, and was able to return to my [medical] training. I had been told that I could never have children and surprisingly became pregnant and had a daughter in my second year of training.

After having her, I [had a flareup]. It was then, in 2014, that a doctor put me on LDN. It changed my life ... Once I graduated from residency, I started treating patients with a variety of issues with LDN. I've treated thousands of patients with LDN."

Naltrexone – A Rare Gem of a Drug

Naltrexone in low or even microdoses is one of the few pharmaceutical drugs I wholeheartedly endorse. Not only is it remarkably safe, it's also a profound adjunctive therapy for a wide variety of conditions. As explained by Zielsdorf:

"Naltrexone is one of the few things that actually enables our own bodies, our own immune systems, to be able to function better and really restore function.

After World War II, they were looking for more opioid medications. By accident, scientists figured out how to block the opioid receptor. They did the exact opposite of what they were supposed to do, which is to find morphine analogs for soldiers.

[In] the 1960s, they were able to synthesize naloxone and naltrexone ... FDA approved it in the 1980s for opioid addiction at a dose of 50 to 100 milligrams, and then in the 1990s for alcohol dependence.

But it was Dr. Bernard Bihari and Dr. Ian Zagon in the 1970s that had this amazing idea that if you took a very small dose of naltrexone, compounding it in a clean way [down] to a few milligrams, it would briefly block the opioid receptor in the central nervous system – very briefly kissing that receptor and then unblocking it.

This upregulates the body's immune system by increasing the opioid receptor's own production of beta-endorphin and met-enkephalins. Beta-endorphins help with mood, pain, sleep and the immune system, and met-enkephalins are also known as opioid-derived growth factor, and there are receptors for these on many different tissues, including the thyroid.

We now use it for nearly all autoimmune conditions, as an adjunct for cancer, and as a treatment for chronic pain. We also use ultra-low dose [microdosed] naltrexone, which I wrote about, to help potentiate pain relief for people who are on opioids and help them to be less dependent on opioid medications.

I've actually been able to get patients off of fentanyl patches and get them off chronic oxycodone or Norco use where their pain specialists said, 'You will never ever get off these pain medications.' It's been an incredible journey and I'm a huge advocate of it."

Naloxone Versus Naltrexone

Naloxone (Narcan) is what is carried on ambulances and used in ERs and trauma bays as an antidote to an opioid overdose. When given at a high enough dose, naloxone or Narcan acts as a complete opioid blocker, which is why it's used acutely when someone has taken too high a dose of an opioid.

Naltrexone blocks the opioid receptor only briefly, and by a different mechanism. When used in low dosages as LDN, the chief benefit is actually in the rebound effect, after the opioid receptor has been briefly blocked.

Foundational Treatment Strategies for Autoimmune Diseases

With regard to autoimmune diseases, it's important to realize there are other, equally important, foundational strategies that will benefit most patients with a dysfunctional immune system. These include optimizing your vitamin D level and omega-3 index, for example.

It's also important to eliminate potential triggers. The reason why people have an autoimmune disease is because they're exposed to something in the environment which serves as an antigen that their body recognizes as a foreign invader, and as a result attacks it. If you can avoid those antigens, you can often suppress and frequently eliminate symptoms without anything, because you've removed the stimulus.

One common autoimmune trigger is lectins, found in many otherwise healthy vegetables. Zielsdorf will typically place her autoimmune patients on a Mediterranean-style paleo diet or an oligoantigenic elimination diet to optimize detoxification, liver and kidney function, and the microbiome.

Others may be placed on a nose-to-tail carnivore diet. As noted by Zielsdorf, it's "a way of offloading and simplifying what antigens the body is seeing." Other helpful diets in this respect include the autoimmune paleo diet and the low-histamine or low FODMAP diet.⁴

"I am a microbiologist and I do a ton of advanced testing, and then we start looking deeper at triggers," she says. "I used to put everybody on LDN first, but now we know that certain patients will flair because their immune system is so suppressed due to co-infections.

We see it most with Lyme disease and with yeast overgrowth. If I suspect or I have tests confirming that a patient has one of these things, or their immune system is super suppressed ... I'll work on their microbiome before I start LDN ...

I test everybody's gut, and what I see universally is you get this hyper intense intestinal permeability in these cases ... What's so interesting is a leaky gut equals a leaky brain, and we overwhelm our immune system. I do see this. The first step is getting them off the most common triggers, and sometimes I'll be testing for lectins too.

Universally, for all of my autoimmune patients, is that they can't eat wheat. There are over 150 antigens in wheat that you can be sensitive to ... It is also desiccated with Roundup, glyphosate, right before processing, so we get that

extra toxicity. I test my patients for their environmental toxic load, and I see a lot of patients with glyphosate toxicity.

The wheat that we used to eat 10,000 years ago at the beginning of agriculture is not the wheat [we now eat]. It's not even the same chromosome number as what our bodies ate in small amounts as hunter gatherers."

Why You Should Avoid Monogastric Animal Meats

As mentioned by Zielsdorf, a nose-to-tail carnivore diet can be an excellent intervention in some cases, especially for those whose immune function is severely suppressed. However, you should avoid monogastric animals, meaning animals that have only one stomach.

Whereas cows have two, chickens and pigs have only one. The reason for this recommendation is because conventionally factory farmed chicken and pork will be very high in the omega-6 fat linoleic acid. This is because they are typically fed corn, which is high in this type of fat, and a high linoleic acid diet can metabolically devastate your health. So, a diet high in chicken and bacon is not doing your body any favors.

Animals with two stomachs are able to fully process omega-6-rich grains and other foods, as they are equipped with gut bacteria that can break it down into a healthier fat. Aside from bovines, this includes buffalo and lamb.

What Can LDN Treat?

Aside from autoimmune diseases, LDN is also used in the treatment of the following conditions. Bear in mind this is not a complete list. Some of these conditions have been featured in various documentaries⁵ produced by the LDN Research Trust. You can find links to those documentaries in the references.

Cancer⁶ — Research by professor Angus George Dalglish and his colleague Dr. Wei Lou showed LDN could bring cancer cells into remission using pulse dosing.⁷ LDN

also works synergistically with cannabidiol (CBD), and works well for cancer, autoimmunity and pain conditions

Opioid addiction, dependence and recovery⁸ – Using microdoses of 0.001 milligrams (1 microgram), long-term users of opioids who have developed a tolerance to the drug are able to, over time, lower their opioid dose and avoid withdrawal symptoms as the LDN makes the opioid more effective.

For opioid dependence, the typical starting dose is 1 microgram twice a day, which will allow them to lower their opioid dose by about 60%. When the opioid is taken for pain, the LDN must be taken four to six hours apart from the opioid in order to not displace the opioid's effects

Lyme disease and its coinfections⁹

Fibromyalgia

Small intestinal bacterial overgrowth (SIBO)

Restless leg syndrome

Depression

Dermatological issues

Infertility

General Dosing Guidelines

Dosing will, of course, depend on the condition being treated, but there are some general guidelines that can be helpful. [Downloadable guides](#) can be found on the LDN Research Trust site, and are available in several languages. Keep in mind that LDN is a drug, not something you can buy over the counter, and you need to work with a knowledgeable physician who can prescribe it and monitor your health.

"With a general pain condition, we may use 1.5 to 3 or 4.5 mg. With Hashimoto's, we start lower and slower because patients with Hashimoto's may actually have to reduce their thyroid hormone medication if they're on it because they get reduction of that inflammation and they can produce more of their own thyroid hormone. So, we usually start at 0.5 mg.

For patients with mood conditions ... 0.5 to 1 mg. There was an important paper that came out showing LDN is an important agent for depression, for patients who fail those meds or as an adjunct to antidepressants. PTSD patients may have to go higher. There are all sorts of strategies and you just need to find a doctor who's well-versed in that condition."

More Information

The [LDN Research Trust's website](#) is an excellent resource for all things LDN. It has a variety of resources to guide patients, prescribing doctors and pharmacists alike. It also has a page where you can [find LDN-literate prescribers](#) around the world.

Of course, to learn more, be sure to pick up a copy of "[The LDN Book, Volume Two: The Latest Research on How Low Dose Naltrexone Could Revolutionize Treatment for PTSD, Pain, IBD, Lyme Disease, Dermatologic Conditions and More](#)," and/or "[The LDN Book: How a Little-Known Generic Drug — Low Dose Naltrexone — Could Revolutionize Treatment for Autoimmune Diseases, Cancer, Autism, Depression and More](#)," which is the first of the two volumes.

Both [books are also available on the LDN Research Trust website](#), along with videos featuring all of the doctors that contributed chapters to the books. You can also check out The LDN Radio Show.¹⁰ Last but not least, LDN Research Trust is a nonprofit that depends on public donations, so if you would like to contribute to the Trust's LDN research and education efforts, please [make a donation](#).

Sources and References

• ¹ [LDN Research Trust](#)

- ² [Lowdosenaltrexone.org](#) March 22, 2020
- ^{3, 10} [The LDN Radio Show](#)
- ⁴ [American College of Gastroenterology](#)
- ⁵ [LDN Research Trust LDN Documentaries](#)
- ⁶ [LDN Research Trust, The Game Changer, LDN & Cancer](#)
- ⁷ [Angus George Dalgleish, Dalgleish The Role of LDN in the Treatment of Cancer](#)
- ⁸ [Vimeo, The Pain, Opioid and Ultra/Low Dose Naltrexone \(LDN\) Documentary](#)
- ⁹ [Vimeo, Bullseye - Low dose naltrexone and Lyme disease](#)