Low-Dose Naltrexone for Autoimmune and Chronic Pain Conditions: A Special Interview With Linda Elsegood and Dr. Sarah Zielsdorf

By Dr. Joseph Mercola

Dr. Joseph Mercola:

Welcome everyone. This is Dr. Mercola helping you take control of your health, and we are excited today to dive deep into a resource set we've talked about in the past but really have not gone into very deeply before. I'm really excited to do that today because we've got two experts. One is a patient who is an advocate of this approach and has MS (multiple sclerosis) herself, Linda, and she's been doing this for 16 years, has an LDN Research Trust group which puts together seminars, educational interventions, and help spread the word about this intervention which is LDN, which is short for low-dose naltrexone, and we'll describe exactly what that is in a bit, but it's a powerful, powerful, safe and effective treatment for so many diseases that hardly anyone knows about.

Dr. Joseph Mercola:

Then we also have Dr. Sarah Zielsdorf, who is an internist from my neck of the woods up near the Chicago area and has been using this therapy clinically. We're going to get a clinicians-in-the-trenches viewpoint on this. So welcome and thank you for joining us. I really appreciate you being here today.

Linda Elsegood:

Thank you.

Dr. Sarah Zielsdorf:

Thank you.

Dr. Joseph Mercola:

All right. So maybe Linda, why don't we start with you and give us a little historical perspective on this, and then I guess we – I'm not sure who's best to – well, let me just frame this too because one of the reasons we're having this is you've written a new book, which is "The LDN Book," and it's volume two because the first book was written several years ago, but the newer book is recent. It's an interesting book in that you wrote the foreword and then there's a number of chapters, over a dozen I believe, and each one of the chapters is written by a clinician. Dr. Zielsdorf is one of the clinicians who wrote a chapter in that. But I think one of the first chapters goes into history. I don't know who you want to best describe it, but after you describe your experience with this initially, then we can figure out who's going to discuss how this came to being. Okay?

Linda Elsegood:

Okay.

Dr. Joseph Mercola:

All right. Linda, why don't you start?

Linda Elsegood:

Okay. I was diagnosed with multiple sclerosis in 2000 with relapsing and remissive MS, and in 2003, I was told that I was secondary progressive MS and there was nothing more that could be done for me. There was no plan B, there were no suggestions of anything that could help me. So I decided I had to find an answer myself because there was nothing. Nothing was given to me by the doctor or the consultant who was the neurologist I was – how I felt written off. At that point, the left hand side of my body was numb with pins and needles, I'd lost the hearing in my left ear, I had double vision, restless legs, burning limbs, twitching muscles, vertigo, very bad cognitive problems. I couldn't hold a conversation. I was choking on my food. Fatigue was really, really bad.

Linda Elsegood:

My quality of life, if I'd have said it was a half a percent I was probably exaggerating. It was very dire at that time. To sit at the computer, I could do 10 minutes. That's all I could do. It was very tiring. I knew that I wasn't unique, that there must be other people out there in a similar position to myself, and I managed to find some people in the U.S. who were taking LDN and everybody said the same, "If it doesn't do me any good, it's not going to do me any harm." I managed to find a doctor in Wales, the Dr. [inaudible 00:04:10] and he gave me all the information. I think at that point, there were 400 people in the U.K. who were taking LDN. Took the information to my doctor who wouldn't prescribe it, but she said if I could find a doctor to prescribe it, she would monitor me.

Linda Elsegood:

I felt as though I wasn't totally on my own, so that was reassuring. I started LDN the 3rd of December 2003, and I was told I might have initial side effects. I might have sleep disturbance, vivid dreams, upset stomach, headaches. I had nothing and I was disappointed. I wanted every side effect you could have because I wanted to know it was working because I didn't have another plan myself. Three weeks later after having been disappointed that I didn't have any side effects, suddenly it was as though living in my head was like a television set that wasn't tuned in. Couldn't hear properly, see properly, process anything, and suddenly it was as though that television set was being tuned in. I could start to process thoughts, the double vision wasn't as bad, the hearing started to come back. It was amazing, and it took me about 18 months to feel well again, for somebody with MS, to put it that way.

Dr. Joseph Mercola:

Better. Better. Yeah.

Linda Elsegood:

Definitely feel a lot, lot better, yes. In February 2004 I decided, well, I had to decide what I wanted to do from there on. Did I want to keep that information to myself and say, "I'm okay now," and get on with my life? Or did I want to shout it from the rooftops and try and tell those people who were in the deep dark place that I was in? It was a no-brainer I wanted to help other people. It took five months to become a registered charity. It's a nonprofit organization here in the U.K. We work globally helping people, and as you said, we help with information, we organize conferences, we have a radio show, we have user guides, loads and loads of information on our website with prescribers and pharmacists, people who are very knowledgeable in LDN.

Dr. Joseph Mercola:

What's your website?

Linda Elsegood:

It's www.LDNResearchTrust.org.

Dr. Joseph Mercola:

Okay, great. I'm just curious. It sounds like you weren't really doing much prior to the LDN, because there are some interventions that can be used from natural medicine. Things like optimizing your vitamin D levels and omega-3 fats and even excluding potential contributing autoimmune triggers. But you weren't doing any of those, were you?

Linda Elsegood:

Not prior to LDN though. Our Western medicine here doesn't take into account diet supplements or anything like that. Of course, it doesn't count. When I did alter my diet and take supplementations and things, I was actually asked by one doctor why I was doing it and I just lost my mother. I can remember saying, thinking, "Where do I start on this explanation of why I'm doing what I'm doing?" So I just said because it makes me feel better. I thought that'll do.

Dr. Joseph Mercola:

It'll do and it'll avoid arguments.

Linda Elsegood:

Exactly.

Dr. Joseph Mercola:

Yeah. It's interesting because you did the intervention as a solo variable. We know that was the only thing that can cause you to improve, so that's a powerful anecdotal testimony. Let's shift to Dr. Sarah Zielsdorf. If you can discuss with us or describe your journey into this space. You are a conventional medicine [physician], but then I guess are functional medicine [physician] also. Functional medicine physician, and what got you interested in and how long you've been doing this.

Dr. Sarah Zielsdorf:

I have a pretty unique perspective. I always say I am not only the hair club president but I'm also a client. Because I think that anybody who is in conventional medicine has to go through something pretty dramatic and extraordinary to pretty much turn to the dark side. Because it's so easy to not ask questions after your training. For me, it was my own personal health. I was diagnosed with hypothyroidism in around 2003 when I was in college, and just like Linda, I had gotten sick with a virus that had actually gone to my ear, caused a terrible vertigo. When I was doing an internship in the following year, I developed symptoms of hypothyroidism.

Dr. Sarah Zielsdorf:

Wasn't diagnosed with autoimmunity for 10 years until I got very, very sick on the conventional treatment for hypothyroidism while I was training in med school and then in residency and it culminated in two leaves of absence. I actually was bedbound during my first year of residency and was diagnosed with a variety of maladies and separate – so funny, opposite of Linda, I had started to learn about functional medicine and all of the different therapies for autoimmunity and taking it into my own hands and making those changes. I had regained my health, had found other doctors to help me get on the proper medication as I had lost my thyroid function several years ago.

Dr. Sarah Zielsdorf:

I'd learned how to – learned all about functional nutrition and those triggers for autoimmunity and started to do all of the things that I needed to do to optimize my biomarkers, remove systemic inflammation, and was able to return to my 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. Now after having her, I flared with my Hashimoto's disease. It was then that a doctor had put me on LDN and it got me back to-

Dr. Joseph Mercola:

What year was that?

Dr. Sarah Zielsdorf:

2014.

Dr. Joseph Mercola:

Okay.

Dr. Sarah Zielsdorf:

It changed my life. It was the first time that I had not had chronic pain. I had actually had a congenital birth defect, a tracheoesophageal fistula at birth, and had surgery so I had extensive scarring and a cervical, a vertebral issue from that defect. I had chronic pain and it was the first time in my life that I didn't have chronic pain after taking LDN, and it really changed the course of 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. If I may discuss briefly about naltrexone and very-

Dr. Joseph Mercola:

Sure.

Dr. Sarah Zielsdorf:

-interesting about it. I wrote three chapters in the new LDN Book. Co-wrote a chapter on chronic pain with a pain management expert M.D. from the East Coast, Dr. Neil Mehta. I authored the traumatic brain injury chapter and I also did the appendix on dosing protocols.

Dr. Joseph Mercola:

That is probably the most useful – not useful, but helpful resource in the book. Is it? Because I was reading the whole book and saying [inaudible 00:12:21]

Dr. Sarah Zielsdorf:

Yeah.

Dr. Joseph Mercola:

[crosstalk 00:12:21] take this? And in the very end, it tells you [inaudible 00:12:24]

Dr. Sarah Zielsdorf:

Yeah. The crux of the matter is when I started – so I started with the LDN Research Trust in 2017, I got called at the 11th hour to speak at the Research Trust convention at the conference. At that time, there was basically one strict regimen. We all followed a certain dosing strategy of going from 1 and a half milligrams to 3 milligrams to 4 and a half milligrams. Forward two years later to 2019, three years later to 2019, and there are a myriad of treatment protocols depending on what we are using LDN for. Naltrexone is just such an interesting drug. Dr. Mercola, I read your summary of it from 2011, and I think you hit the nail on the head when you said it's one of the few pharmaceutical drugs that you really endorse as a really profound adjunctive therapy, and I agree.

Dr. Sarah 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. What it does is it's – what's so interesting, after World War II, around that time, they were looking for more opioid medications. By accident, scientists actually figured out how to find something to block the opioid receptor, and of course, I'm sure those guys were nearly fired at the time. They did the exact opposite of what they were supposed to do, which is to find morphine analogs for soldiers. We knew as soon as the, about the '60s, they were able to synthesize Naloxone and naltrexone. Very interesting that – and then in the 1970s, so they started using that for opioid addiction later on.

Dr. Sarah Zielsdorf:

So it was actually FDA (Food and Drug Administration)-approved 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. Bahari and Dr. Ian Zagon in the 1970s who really had this amazing idea that if you took a very small dose of naltrexone, in fact compounding it in a clean way to LDN to a few milligrams, if you briefly blocked the opioid receptor in the central nervous system, very briefly

kissing that receptor and then unblocking, you could upregulate the body's immune system via increasing the opioid receptor's own production, so endogenous production of beta-endorphin and metencephalons.

Dr. Sarah Zielsdorf:

So beta-endorphins help with mood, with pain, with sleep and the immune system, and metencephalons are also known as opioid-derived growth factor, and there are receptors on many different tissues, so including the thyroid, and for me, it was a profound treatment and it is so for many of my patients and for a myriad of conditions. We now use it for nearly all autoimmune conditions, as an adjunct for cancer, as a treatment for chronic pain. We actually use ultra-low dose naltrexone, which I wrote about, to help potentiate people who are on opiates and help them to be less dependent on opiate medications. I've actually been able to get patients off of fentanyl patches and get them off of chronic oxycodone or Norco use where their doctors, 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.

Dr. Joseph Mercola:

Great. Naltrexone works obviously for opioids. So that would typically be heroin or morphine as most of us understand that. But there are these far more potent newer derivatives primarily produced within this century, certainly at the end of last century. Things like Sentinel. You alluded to it, but I suspect that naltrexone is also useful for those too.

Dr. Sarah Zielsdorf:

Absolutely.

Dr. Joseph Mercola:

Yeah. It's particularly intriguing because it's gotten out of the discussion with this COVID-19 nonsense that the opioid epidemic that has killed tens of thousands of people is a serious issue, and naltrexone is actually not only a therapy that can help people resolve that addiction, but it can also acutely prevent them from dying. Maybe you can address that for a moment.

Dr. Sarah Zielsdorf:

Absolutely. Naloxone is actually what is carried on ambulances and what is used in ERs and trauma bays worldwide. It is-

Dr. Joseph Mercola:

What's the different between Naloxone and naltrexone?

Dr. Sarah Zielsdorf:

Naloxone is very short-acting and it is one specific derivative. They're both synthesized. There's a slight difference on one chain basically that makes it Naloxone or Narcan versus naltrexone. It's also the bioavailability. So there's a difference in how it's processed in the body. But Naloxone or Narcan, when you give it at a high enough dose, is a complete blockade. So we use it acutely to get someone out of that overdose situation, someone who's got respiratory

depression and in someone who may be unconscious. It absolutely is a lifesaver, versus naltrexone which is brief blockade and totally different mechanism. In LDN, we're actually looking not at the blockade part, but at the rebound effect over that next 18 hours versus the couple of minutes where somebody has to actually be redosed to high dose naltrexone or Narcan. Or Naloxone, excuse me. It's a little bit different.

Dr. Joseph Mercola:

Let's just go over a bit of the mechanism on how opioids kill you. You mentioned respiratory depression that of course is the clinically correct summary, but I think people don't necessarily understand what that means. Essentially, it shuts down your body's ability to breathe. I think it inhibits these receptors in the hindbrain, I believe. The brain-

Dr. Sarah Zielsdorf:

The brainstem, yeah.

Dr. Joseph Mercola:

-the brainstem that causes, it gives you the reflex to want to breathe. So it's suppressed and you just simply stop breathing. It's not really a toxic reaction where you're being poisoned. It's just stops you from breathing, which is not a good thing. You could theoretically be in CPR and be fine, but someone's got to breathe for you because you stop [crosstalk 00:19:28]

Dr. Sarah Zielsdorf:

The danger is – I'm from the Midwest, I'm actually from Ohio and I have a lot of family members and friends at home and in Franklin County, which is where Columbus is. I get reports of how many overdoses there are from the coroners every week. The problem is people are getting these street drugs, they're getting oxycodone or they're thinking that they are, that they're getting these derivatives, but the problem is that they're being cut with fentanyl which is so much more potent. It's a synthetic opiate that's meant to be only used in the hospital and at a very, very small, small rate. Now we know different famous people who have actually died because they were given this drug inappropriately by their doctors, too.

Dr. Sarah Zielsdorf:

It should only be used by anesthesiologists under a really controlled situation. But basically the street drugs are getting cut with this highly potent fentanyl. Just a tiny amount, something that would fit on less than an eraser head, would kill you. We're getting young people who are taking this drug and getting an acute overdose and not being able to be revived. It's just killing people. On the other side, you have people who become dependent on opiates and they require larger and larger and larger amounts of it to be able to have pain relief. They're getting chronic constipation, their bowels are shutting down, they have all sorts of other problems aside from going into withdrawal, just from not having that drug, which is a really terrible experience for people. So they will do anything to just not have the withdrawal.

Dr. Sarah Zielsdorf:

So they will go into a state of dependence where they just have to take the drugs so they don't go into withdrawal but they're not necessarily getting pain relief because they're dependent on the

medication. So it's a lose-lose strategy. Patients are trying to get something that will help the pain and they're in a dire situation. We're seeing this effect especially where we're from. Now I just think that it's a travesty that LDN is not being used or ultra-low-dose naltrexone is not used as a standard of care for these patients. Now, I know there's a drug that's a combination with ultra with a little bit of naltrexone in it that is under review for the FDA for that reason, so they do know about this.

Dr. Joseph Mercola:

Great. As you mentioned earlier in the '80s, Bahari used this treatment primarily for AIDS patients in New York City.

Dr. Sarah Zielsdorf:

Yes.

Dr. Joseph Mercola:

Obviously AIDS patients have a severe, profound depression of the immune system, so that worry is where he's the – I think we owe a deep debt of gratitude to Dr. Bahari for discovering this. That really seems to be the impetus for applying it for immune disorders. I'm wondering a few things. One is, yourself personally with the Hashimoto's, and then Linda too, if you've applied – I mean, since you've been using the LDN, if you're using other autoimmune strategies like the vitamin D, the omega-3 and also elimination of potential triggers, which I want to talk about. But why don't we talk about the vitamin D and omega-3 first?

Dr. Sarah Zielsdorf:

Absolutely. I can speak for myself that in myself and in my patients, every single one of my patient, is optimized for vitamin D status, and I look at markers of lipid peroxidation, I look at markers of a weight [crosstalk 00:23:12] ratio.

Dr. Joseph Mercola:

We should probably look at the [crosstalk 00:23:15]

Dr. Sarah Zielsdorf:

Sorry?

Dr. Joseph Mercola:

Which marker of oxidation for H&E or?

Dr. Sarah Zielsdorf:

Yeah. 8-hydroxy-deoxyguanosine-

Dr. Joseph Mercola:

Okay. [crosstalk 00:23:23]

Dr. Sarah Zielsdorf:

-and then sometimes, yeah, peroxides and then omega-6 to omega-3 ratios. We look at those. I want to get that optimized. I get them on a Mediterranean paleo diet, a template, or oligoantigenic elimination diets. So an elimination diet for all of my autoimmune patients. Getting them detoxified as much as we can by meaning, just getting all of their cells to work as best as we can, optimizing liver function, kidney function, skin, microbiome. I am a microbiologist and I do a ton of advanced testing and then we start looking deeper at triggers.

Dr. Joseph Mercola:

You were a microbiologist before med school?

Dr. Sarah Zielsdorf:

Correct. I have an undergraduate in microbiology, I have a master's degree in public health microbiology and emerging infectious disease, and I was going to be an infectious disease specialist but I got sick on the way.

Dr. Joseph Mercola:

Well, that is fascinating. So do you improve their immune status and biology prior to implementing the LDN or you do it concurrently?

Dr. Sarah Zielsdorf:

It's interesting. I used to put everybody on LDN first, but now we know that certain patients will flare because their immune system is so suppressed that because of due to coinfections and we see it most with Lyme disease and with yeast, at least I do, with yeast overgrowth. If I suspect or I have tests that confirm that a patient has one of these things, or their immune system is super suppressed that I'm concerned for Lyme disease, I'll work on their microbiome before I start LDN.

Dr. Joseph Mercola:

Okay. I wanted to discuss the antigen elimination because clearly ... I mean, the reason why people have an autoimmune disease is that they're exposed to something in an environment, an antigen, which is a protein usually embedded on the cells, that causes the body to recognize it as a foreign invader, and then as a result it attacks it with its own immune system. If you can avoid those antigens, I mean, you can pretty much suppress the symptoms without anything because you're removing the stimulus for it. I never had a chance to apply this clinically because I stopped seeing patients toward the end of last decade, well before the end of last decade, and didn't know and understand this very well that this was a cause.

Dr. Joseph Mercola:

But recently I began to appreciate that simply excluding many ostensibly healthy foods, like vegetables, could be a real big trigger for this. There is the daughter of Jordan Peterson, Mikhaila Peterson, who had or has severe juvenile rheumatoid arthritis (JRA), and I had treated probably about 3,000 patients with rheumatoid arthritis, which is quite extraordinary for a primary care physician. Of that 3,000, I would say a handful, less than 10, maybe five. JRA is pretty uncommon. She had one of the worst cases I had ever seen and was really quite debilitated, had surgeries and was on really strong medications for it.

Dr. Joseph Mercola:

But what she had encountered was the carnivore diet, and literally it performed a miracle in her life and she had tried so many other things. This just literally put her into a complete remission. Then I encountered Dr. Paul Saladino who wrote the book, "The Carnivore Code." He's had similar experiences in his clinical practice, and I'm wondering if you've ever implemented that type of strategy or do you have an alternative oligoantigenic approach?

Dr. Sarah Zielsdorf:

Long story short, yes, I have. I was going to namedrop Dr. Saladino as well. I'm glad you brought him up. His approach of nose-to-tail carnivore, whole animal fats, supplementation basically, and diet is a way of basically offloading and simplifying what antigens the body is seeing. I have implemented this in my patients. There were a whole bunch of docs who are doing variants of this. You had the Paleo Mom, Dr. Sarah Ballantyne, and some of the other, one of my good friends, Jessica Flanigan, wrote a book, "The Loving Diet," so back around between 2012 and Terry Wahls, Dr. Terry Wahls as well.

Dr. Sarah Zielsdorf:

Between 2008 when Terry Wahls got out of ... when she got out of her wheelchair with relapsing remitting MS to Sarah Ballantyne's paleo diet, Jack Kruse writing about Epi-paleo template, we got on this paleo and AIP template, autoimmune paleo. Autoimmune paleo, and Jessica Flanigan took it a step further by doing low histamine, low FODMAP (Fermentable Oligosaccharides, Disaccharides, Monosaccharides and Polyols) and starting to introduce these things. But again, it was restricting and again eliminating the highly antigenic foods, things like nightshades, which again, in my patients with rheumatoid arthritis, there is a subset who are exquisitely sensitive. What's so interesting, then you have Dr. Gundry who started looking at lectins.

Dr. Sarah Zielsdorf:

I actually do a lot of testing, and so I test everybody's gut, and what I see universally is you get this hyper-intense intestinal permeability in these cases, we get the making of antibodies zonulae, actin and occludens, which are these tight-junction proteins in the gut. We actually make these proteins in the brain too. What's so interesting is a leaky gut equals a leaky brain, and we overwhelm that immune system. I do see this. The first step is getting them off the most common triggers, and sometimes I'll be testing for those lectins too. A most common thing that universally I say for all of my autoimmune patients is that they can't eat wheat.

Dr. Sarah Zielsdorf:

There are over 150 antigens in wheat that you can be sensitive to, and our wheat in the U.S. especially is Frankenwheat. It is also desiccated with Roundup, with glyphosate right before processing, and so we get that extra toxicity. I test my patients for their environmental toxic load. I see a lot of patients with glyphosate toxicity as well. The wheat that we used to eat 10,000 years ago at the beginning of agriculture is not the wheat that are – it's not even the same chromosome number as what our bodies ate in small amounts as hunter gatherers that were traditionally prepared.

Dr. Sarah Zielsdorf:

To answer your question though, yes, there are some patients who are so sick and so overwhelmed, and they also can make antibodies against aquaporins, which are water channels that are contained in foods such as tomato and spinach and corn, and those can cause much more brain symptoms and gut symptoms, especially for traumatic brain injury patients. But in those kinds of cases, if they are so sick or a juvenile rheumatoid arthritis case, or they're just so overwhelmed where they can't eat anything, putting them on a carnival style diet or where they're flaring, some of my histamine patients, I will get rid of all of those antigen and do put them on a very nutrient-dense carnivore protocol, at least while we're working on their gut.

Dr. Joseph Mercola:

Yeah. Because it seems to me that's the ultimate intervention. A nose-to-tail carnivore diet from healthy meats with the exception that you have to be really careful about limiting or avoiding monogastric animals, which would be animals with one stomach that would be – the best examples would be chicken and pork. Because for a number of reasons, the primary one is the quantity of omega-6, primarily linoleic acid, in their tissue, which can also metabolically wreck and devastate a person's health. If you think you're doing carnivore and eating a lot of chicken and bacon, you are not doing your body service at all.

Dr. Joseph Mercola:

You really need to restrict it to animals with multi-stomachs so that when they eat these grains and other foods in the environment that are loaded with these omega-6 [fats], they have bacteria in these other stomachs that can break it down and digest it to a healthier fat. That would be things like buffalo, beef and lamb, which would be the healthier form of meat. But if you're eating – it seems to me, I'm wondering if you could share your experience where you had people who did this paleo diet, which strictly is not carnivore at all, that they had somewhat failed that, and then when you apply the more rigorous carnivore intervention, nose to tail.

Dr. Sarah Zielsdorf:

We see so many pitfalls with people eating a paleo-esque diet. Either they're creeping in with other antigenic foods, vegetables that aren't prepared well, they're eating too many raw vegetables that aren't broken down. When people eat vegetables, I have them eat groups that they'll be less sensitive to, and I have them cook them and prepare them traditionally in stews and things like that. I will have them pressure-cook lectin-rich foods so that their bodies can break them down and make sure they're using a lot of digestive enzymes. But still I'll have some who are reacting, either they're letting other things creep in or they're just too sensitive and it necessitates going to a stricter approach.

Dr. Sarah Zielsdorf:

But I would say we run the risk if we go and we narrow too much. We also have patients that have eaten a paleo or an AIP (autoimmune protocol) diet and they're down to 10 foods or five foods. They lose oral tolerance, which is a much worse phenomenon because they actually have a coinfection, they have a chronic infection and their immune system is trashed, and then they also have more food sensitivities and even chemical sensitivities. They've lost oral tolerance, they've lost tolerance to chemicals and you have to really restore their microbiome and you have to really go – they have a much bigger problem with histamines and all sorts of things. As a

microbiologist, I start with the gut first now. That's my preference so that we don't narrow it too fast. We treat the gut, we restore it, and I truly do believe there is a place for these different diets.

Dr. Joseph Mercola:

Yeah. Well, a beautiful thing about using a carnivore diet is that you basically are treating the gut because you're eliminating most all different foods. I mean, it's a FODMAP diet on steroids because there's really no FODMAP, non-recommended foods in that. I'm wondering, there's an intervention I recently learned about with respect to healing a leaky gut and facilitating the body's ability to repair the damage. I'm wondering if you've heard or used it, and that is alkalizing the body's blood pH and doing that with something as simple as bicarb, somewhere on the order of half a teaspoon three times a day, and titrating the dose to the point where you can measure a random urine sample.

Dr. Joseph Mercola:

And the pH of that urine tested with simple litmus paper is about 7.0. Because some people may need less than that, some people may need more bicarb. The fine tuning of it is [inaudible 00:34:55] than using baking soda to use something like potassium bicarb, which is a little more difficult to find but I think metabolically a lot healthier than sodium bicarb, which is baking soda. I'm wondering if you had any experience with that, because purportedly it is supposed to heal those leaky gut, loss of tight junctions that are supposed to be there in the gut.

Dr. Sarah Zielsdorf:

I don't have a lot of clinical experience, but I have been reading a lot of my colleagues' work on it. I just haven't had the chance to really employ it yet as a standardized protocol. I have had a few patients utilize bicarb in their process and have found it helpful. I haven't standardized it. Again, I go for looking at that microbiome. So one of the-

Dr. Joseph Mercola:

Sure.

Dr. Sarah Zielsdorf:

One of the interesting things too is that I'm seeing a lot of metabolic endotoxemia. You not only get this leak, you get certain – with our Western diet, we get an overgrowth of gram-negative bacteria, which the biggest-

Dr. Joseph Mercola:

Are you measuring LPS, lipopolysaccharides?

Dr. Sarah Zielsdorf:

Yes. Yes. But we also measure actual groups of bacteria. So we measure these Firmicutes that overgrow in a Western diet with bad fats, and then certain gram-negative bacteria, the family Enterobacteriaceae, the most famous of which is E. coli. When we see those markers, we want to bind up that LPS that's coming through. Just aside from working on the gut and working on all the nutrients that can help that, patients will have profound depression and profound immune

system dysregulation, inflammation, from that LPS signal. If the whole bacteria gets through, that's how we get bacterial septicemia. But at this micro level, I'm seeing a dramatic amount of it, which is just – it's just profound to actually be measuring this, and it just causes such a catastrophic domino effect.

Dr. Joseph Mercola:

Yeah. Yeah. The nice thing about it is it's almost free. I mean, especially if you're using baking soda, gosh, here's where the therapy is, probably 25, 50 cents. So if you start this, I would really appreciate you getting back to me and see what you find, because I think this is such a powerful, simple and strategic intervention. Not only does it work for this, but it will also help reduce osteoporosis because if your urine's too acidic, you have to neutralize that acidity and the way you neutralize it is sucking minerals out of your bone to balance that pH of the urine. It's a simple, simple way.

Dr. Joseph Mercola:

One of the things you can use – I put two of those doses that I take in my smoothie because it almost is like a fizz and it's got carbonate. But normally drinking baking soda and water, most people have had that experience. It's not very pleasant, so the compliance would be a bit of a challenge. So for those who find that offensive and are unwilling to do it, what you can do is make a capsule of it. We have these triple zero capsules you can get and fill them up with the bicarb and just swallow the capsule and you don't have to worry about the taste or anything. So the compliance goes through the roof. Fortunately, you can't buy this, those capsules anywhere. You have to make them yourself. But boy, if you could give that a try, I'd really appreciate the feedback from your patient population.

Dr. Sarah Zielsdorf:

Yeah, absolutely.

Dr. Joseph Mercola:

All right. Well, why don't we talk about something – we've been focusing on the autoimmune diseases. You mentioned some others diseases, especially other infections like Lyme and the coinfections that are typically encountered with Lyme. So why don't you discuss some of the other approaches that LDN can be useful for?

Dr. Sarah Zielsdorf:

Linda, do you want to talk about – I'd like to break – Linda, would you talk about some of the documentaries that the trust has done? I know the trust has done some on Lyme and I'll chime in about those. But I think it's really interesting we've gotten doctors from around the globe now using LDN for a myriad of conditions, huh?

Linda Elsegood:

We have. The first documentary was "The LDN Story," so that laid the foundation for the next documentaries. We had one on Lyme disease. We interviewed about six different physicians who were using LDN for Lyme disease. We then had "The Game Changer – LDN and Cancer," and that was really interesting. We spoke to many cancer oncologists who were using LDN. At that

time, just after filming, Professor Angus George Dalgleish, who is an oncologist from St. George's in London and one of his colleagues, Dr. Wai Liu, in the laboratory they found that once they could get cancer cells with LDN into remission, they could actually cause cell death by using pulse dosing.

Linda Elsegood:

Now, it took them a while to get the paper published, which was a shame because it would have been good, but to have that in there. But at the bottom of the documentary, there's a link to that paper so people can actually read it themselves. The holdup was that the results were just so astounding nobody would believe them. So they redid it a second time, which they had exactly the same results. Then again, they went back and they did it a third time to prove three sets of results that it wasn't a fluke that it actually worked. Then we had the opioid documentary. We interviewed, I said five the other day, but it was six pain specialists who are using LDN exactly as you were saying, Sarah.

Linda Elsegood:

If people aren't familiar with how that works with patients who are on very high levels of opioids and have been for 20 plus years, Dr. [inaudible 00:41:24] got me to meet some of his patients and they were explaining to me how – when ultra-low dose, micro doses, I mean, we're talking really minuscule, 0.001. I mean, it's such a tiny dose [crosstalk 00:41:42]

Dr. Joseph Mercola:

0.001 milligrams?

Linda Elsegood:

Yep.

Dr. Joseph Mercola:

Micrograms.

Linda Elsegood:

Micrograms, yes. So they were using that alongside the opioids, the dose they were on, and these people on a score of 1 to 10, their pain was at a 10 even though they were taking such high doses of opioids. But they couldn't reduce it, they couldn't come off it, but it wasn't working either. Some of these people were on cocktails of opioid medications. What the protocol is, is that you take it with whatever dose of opioid you're on, and slowly you increase it by 0.001, and you titrate one up and it makes the opioid far more effective so you're able to then titrate the opioid down. So you titrate one up, one down until it gets to the point it's LDN.

Linda Elsegood:

I had one lady and she was in tears telling me her story. She'd been dependent for 20 years. I think she'd had a car accident or something, which started off her journey on opioids, which then just kept increasing. She was a nurse, and I think she persuaded, Dr. [inaudible 00:42:56], who is a pain specialist, to do it a little bit faster than he would really have liked. But she said she knew

her body and she got off of the opioids completely, she was on LDN which was working more effectively for her, and she didn't go through withdrawal at all.

Dr. Joseph Mercola:

Wow.

Linda Elsegood:

He got so many patients telling me the same thing. I mean, it was unbelievable. Then all these people [crosstalk 00:43:24]

Dr. Joseph Mercola:

There's actually a better British word for it, classically British word – brilliant. It's actually brilliant.

Linda Elsegood:

Yes. That too. But it was amazing to listen to these stories that people had to say. When I say stories, they're factual. They weren't made up stories. To say that it was life-changing for these people doesn't even begin to explain how they were feeling.

Dr. Joseph Mercola:

That's terrific. Thank you for sharing it.

Linda Elsegood:

Absolutely wonderful.

Dr. Joseph Mercola:

Dr. Sarah, can you share some of your clinical stories with respect to – you had mentioned previously your ultra low dose and-

Dr. Sarah Zielsdorf:

Yes.

Dr. Joseph Mercola:

I was going to ask you about that, but [crosstalk 00:44:08]

Dr. Sarah Zielsdorf:

Absolutely.

Dr. Joseph Mercola:

Then actually also comment on – and we'll talk about cancer, but comment on the – because somewhat it's been displaced from the media because of COVID, but I suspect that the number of deaths from opioid overdose has actually increased this year, not decreased.

Dr. Sarah Zielsdorf:

Those are the trends in the Midwest that I'm seeing directly. I mean, I'm looking at the reports in my neck of the woods and in Illinois, especially in rural areas and definitely in Ohio, that's the pulse that I have on it. Absolutely, people have been unemployed, people have been away from their supports, and there's been a significant amount of despair.

Dr. Joseph Mercola:

Sure. [crosstalk 00:44:59]

Dr. Sarah Zielsdorf:

Yeah, people are really suffering.

Dr. Joseph Mercola:

Absolutely not surprising. I want you to describe the protocol and your experience with it, and then if you're watching this and you know someone, and you probably do know someone, because this is another epidemic in some ways even more significant than the COVID pandemic, you can share this information and send them this link, this video, so they can know how to get off of this, and they don't have to die prematurely from an overdose.

Dr. Sarah Zielsdorf:

So you-

Dr. Joseph Mercola:

What was your experience?

Dr. Sarah Zielsdorf:

You can find this information on the Low Dose Naltrexone Research Trust, also in "The LDN Book," too-

Dr. Joseph Mercola:

Okay, good.

Dr. Sarah Zielsdorf:

-where we talk about ultra-low-dose naltrexone. For people who are opioid-dependent, we traditionally use 1 microgram twice a day to start and we look for that to start to help a patient to be able to use up to 60% less of their medication.

Dr. Joseph Mercola:

Wow.

Dr. Sarah Zielsdorf:

In some cases, we're able to, as Linda said, up titrate to increase that ultra-low dose to go to say two twice a day, 2 micrograms as we work on weaning that dose. It depends. Now, other patients

who are on low dose naltrexone but also take an opioid medication, say for fibromyalgia, they just have to separate. With low-dose naltrexone you have to separate the opioid medication by four to six hours so it doesn't displace that dose. You really have to work with a specialist. I have a friend in Portland, Dr. Geneva Lipton, who has fibromyalgia, who owns The Frida Center for Fibromyalgia and she works with patients who have been on a myriad of opioid medications and uses low-dose naltrexone and ultra-low-dose naltrexone as well.

Dr. Sarah Zielsdorf:

I also want to say that thanks to the work of Dr. Angus Dalgleish, oncologists, they've done amazing work elucidating how we can use low-dose naltrexone and very pure cannabidiol, so CBD, as well for both cancer and for autoimmunity. So they work synergistically together, which I'm so impressed with Dr. Dalgleish's work. He's done some amazing work. In Britain, I know, basically, he told the story of patients who are diagnosed with stage IV cancer, given absolutely no hope, and then they walked down the street and go to Dr. Dalgleish and they have a treatment for stage IV, say pancreatic cancer, which is pretty incredible. He's been using a very high dose of a CBD, actually a synthetic CBD, which I don't believe they've reported it yet, along-

Dr. Joseph Mercola:

How many milligrams?

Dr. Sarah Zielsdorf:

It's a lot. It's a lot.

Dr. Joseph Mercola:

Like grams?

Dr. Sarah Zielsdorf:

I don't even know because I've been trying to get a hand on his paper and I don't have it yet. But it's a large dose, as well as naltrexone, low-dose naltrexone, and he's had some amazing reports.

Dr. Joseph Mercola:

The LDN taken away from the CBD because it may hit similar receptors?

Dr. Sarah Zielsdorf:

No, it actually works synergistically. So we've got that-

Dr. Joseph Mercola:

[crosstalk 00:48:16]

Dr. Sarah Zielsdorf:

... that beta endorphin pathway, those endorphins and the cannabidiol pathway, that endocannabinoid pathway are just that – it doesn't interfere. It's actually synergistic. Now, I have been using it with my patients at a lower dose, we're talking say 25 milligrams at night and then

sometimes dosed three or four times during the day as well for patients with chronic pain along with LDN, and it has been a game-changer. So I did want to plug that we're doing work with CBD and LDN as a really big powerhouse of basically reestablishing and resetting those receptors and those pathways, which are incredibly powerful for healing. I mean, just incredible.

Dr. Sarah Zielsdorf:

With respect to Lyme disease and CFS/ME, these are really big deals because there aren't a whole lot of – certainly nothing in conventional medicine that you can just take a pill for say fibromyalgia or CFS to help that mitochondria heal and to give your body a chance to be able to deal with infections. The big thing with Lyme disease that I see is that it's so hidden. The tests won't come up positive because the immune system has been so hijacked that it can't respond. So patients won't even make antibodies, say if they've got autoimmune thyroid, they won't make antibodies to their thyroid anymore. Their immune system is so depressed. We actually utilize naltrexone as a way for the immune system to actually be able to recognize these agents and say, "Oh my gosh, we have a chronic infection," and that's a place to start. I mean, it's a really powerful game-changer.

Dr. Joseph Mercola:

That's probably one of the reasons why vitamin D works so well because it does – that's one of its primary mechanisms, is upregulate and modulate the innate [inaudible 00:50:16]

Dr. Sarah Zielsdorf:

400 genes [crosstalk 00:50:18] plus, absolutely.

Dr. Joseph Mercola:

Well, it's actually closer to 2,500, I think. I just wrote a paper onto this, so at least that's the reference I had. It's a lot of genes, nevertheless, and is epigenetically modulates and optimizes them. So it downregulates some and upregulates others. So it's really, really astounding, the benefit of that. I'm wondering how you're using the LDN with cancer patients because that's really intriguing. Now, before you answer that, I am sure you will agree with this. This is not, not a magic bullet for cancer. It's an adjunctive therapy to treating the primary foundational issues. I'm sure [crosstalk 00:50:55]

Dr. Sarah Zielsdorf:

Absolutely.

Dr. Joseph Mercola:

Yeah. Don't get confused folks. This is not the magic bullet.

Dr. Sarah Zielsdorf:

It's not a panache, that's what we always say as LDN prescribers. I'm a medical and research advisor to the LDN Research Trust, and I work with people like Dr. Dalgleish and other oncologists who have a lot of experience using this. Dr. Akbar Khan is at the Medicor Cancer Centres in Toronto and has amazing case studies and does amazing work with cancer, works

with other naturopathic oncologists on the [inaudible 00:51:26] and utilizing all of the wonders of conventional medicine and naturopathic medicine, and you can leverage just a tremendous amount of healing by doing this.

Dr. Sarah Zielsdorf:

Now, LDN, what's so fantastic about it is that if we found – and this is not always the case, but Dr. Dalgleish and other people have basically pulse-dosed it to allow these receptors to reset to basically then get enhanced cell death, as Linda said, when we use some of these other treatments, even including chemotherapy. Then if we combine that with other things such as ketogenic diet and therapeutic ketogenic diet or other medical diets, again, according to that patient's specific cancer and to their tie their own personal epigenetic story, then you have this just powerhouse treatment, this personalized treatment.

Dr. Joseph Mercola:

Well, great. What type of doses are you looking at? This is the same treatment strategy and dosing recommendations as for conventional?

Dr. Sarah Zielsdorf:

Yes. We actually are looking at 4.5 milligrams, often, for cancer therapies. Some people dose it once every three days, some people do six days on and one night off, some people take it all the time. It really depends on the case, and that's where in the next years that we want to work with all of the prescribers and the researchers to really feel out what is best and what can help.

Dr. Joseph Mercola:

As you mentioned earlier, you wrote the appendix chapter in "The LDN Book: Volume Two" of how to use it. So can you briefly summarize the process, if someone is intrigued with this and how they go about identifying a clinician to prescribe this and what the typical dosing strategy is?

Dr. Sarah Zielsdorf:

The LDN Research Trust has a wonderful site for pharmacies, both compounding pharmacies and clinicians who consult and prescribe naltrexone. That's the best place that someone who's looking to find a knowledgeable person should go. They should definitely go to the LDN Trust site. Then once they find that clinician, there is also a grouping of guidelines which I actually wrote with my team from this fall on, there's a prescriber guide, there is a clinician guide and there's also a patient guide. So it's pretty helpful to say, okay, what clinical processes might LDN be used for and how can we go about dosing that?

Dr. Sarah Zielsdorf:

Now, depending on the case, if a person has chronic pain, they may need to use higher doses and may need to multidose and be more aggressive. We're finding patients with severe pain, sometimes even mass cell conditions. They need to take it a few times a day. Low-dose naltrexone is a mass cell stabilizer, so we use that. It also helps with the gut. Dr. Leonard Weinstock's work, we use it not only to help stabilize mast cells but also to help as a motility

agent for SIBO (small intestinal bacterial overgrowth). It's pretty fantastic, and we use it for restless legs, we use it for so-

Dr. Joseph Mercola:
[crosstalk 00:54:56]

Dr. Sarah Zielsdorf:
We use it for so many conditions.

Dr. Joseph Mercola:
Let me stop you there for a moment. LDN helps with SIBO?

Dr. Sarah Zielsdorf:
It can, yes because it helps on that migrating motor complex. It helps with mortality.

Dr. Joseph Mercola:
Wow. That's a-

Dr. Sarah Zielsdorf:
So it's a-

Dr. Joseph Mercola:
-real good point.

Dr. Sarah Zielsdorf:
I give a great deal of credit to Dr. Leonard Weinstock. He's been doing this for a very long time out of WashU (Washington University in St. Louis), and he's a very conventional doc, a gastroenterologist who found that this just helped this group of patients so much, in addition to treating the bacteria. Again, you get these fistfights in the community now whether this is a vagal nerve problem or a migrating motor complex issue or a bacterial issue, and I say, it's the chicken or egg. It's all of it, and you're wanting to restore all of these things, which is why it's so important to focus on improving vagal motor tone and having patients get rid of that sympathetic nervous system overdrive. But we want to stabilize mast cells and we want to help with motility.

Dr. Sarah Zielsdorf:
A lot of these patients with SIBO have chronic hypothyroidism and they will have sluggish bowels, so you want to improve motility aside from correcting their hypothyroidism. It's pretty astounding. But anyway, with a general pain condition, we may use that 1 and a half to 3 to 4 and a half milligrams strategy. 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. For patients with mood conditions, because there was actually an important paper that came out showing LDN as an important agent for depression, for patients who fail those meds or as an adjunct to antidepressants.

Dr. Sarah Zielsdorf:

I actually, in my clinic, if I see a patient with elevated CRP (C-Reactive Protein) or sed rate, I believe that they have an inflammatory basis for their depression and I use LDN first, and we think lower for those treatments, 0.5 to 1 milligram for those patients. Now, PTSD (post-traumatic stress disorder) patients may have to go higher. There are all sorts of strategies and you just need to find a doc who's really, really well-versed in that according to the pain condition.

Dr. Joseph Mercola:

Do you find LDN decreases inflammation at hs-CRP (High-sensitivity C-reactive Protein)?

Dr. Sarah Zielsdorf:

Absolutely. Dr. Jared Younger actually conversely found that the number one predictor for fibromyalgia patients was if they had an elevated sed rate. Those patients did better if they had an elevated sed rate. I find that it dramatically improves biomarkers, but it doesn't always work right away. If a person, for instance, has an inflamed gut or especially a dermatologic issue like psoriasis, you really have to work on the gut but that can take up to 18 months to heal. It can take quite a long time.

Dr. Joseph Mercola:

Excellent. Excellent. I'm really glad that you came down with the Hashimoto's because that's what it requires, and you're actually one of those rare physicians who really just doesn't rely on conventional training, and despite your training and brainwashing, you went outside the box to find solutions that really indeed work.

Dr. Sarah Zielsdorf:

I paid a price for it.

Dr. Joseph Mercola:

Yeah. Yeah, but that-

Dr. Sarah Zielsdorf:

And when I became a really big black sheep in my residency, they knew I got better, but when I started to describe how I got better, nobody wanted to hear about it and I actually had to leave my private practice and start my own practice and be completely on my own.

Dr. Joseph Mercola:

Wow.

Dr. Sarah Zielsdorf:

Completely on my own to practice what I preach.

Dr. Joseph Mercola:

I'm assuming, as I said, I hadn't been practicing for a long time, but even before I left doing that, there was a migration away from seeing your own patients in the hospital. That care was transferred to the hospitalists. I think that's a wise strategy because it's just too darn hard to be proficient at both areas of medicine, office-based medicine and hospital, where there are two different specialties. I'm assuming you don't see patients in the hospital. You refer those out.

Dr. Sarah Zielsdorf:

I don't. I don't. But I really keep – I hear about if I have a patient hospitalized, I do my best to liaison. As long as that if a hospital is willing, or ER, to talk to me, I want to talk to them about what's going on with my patients.

Dr. Joseph Mercola:

How are your professional relationships with your colleagues at this point? Are you still viewed as the black sheep or did they come to learn and respect what you're doing because you're getting patients better that they can't even touch you with a 10-foot pole?

Dr. Sarah Zielsdorf:

I think that the tide is turning. I think there was a lot of skepticism of what I did, definitely in residency in the first several years. I'm about six years out and practicing. I'm still a relatively new attending as they say. But people are now referring to me, people who know me, they are referring their tough patients to me. They say, "I don't know what she does exactly, but she's getting results." I have some colleagues as rheumatologists, other people, and what's really – what's so hard is sometimes I will need a conventional doc too, and I will ask-

Dr. Joseph Mercola:

Absolutely.

Dr. Sarah Zielsdorf:

So I'll ask my colleagues. For instance, I'll give you an example. I have a Sjogren's patient who – there's some studies on Sjogren's that if you use DHEA (dehydroepiandrosterone) and we look at their hormones to make sure that they've got a pathway that would be favorable, to use DHEA that it's actually a lack of androgens that can cause this problem with production of the saliva in the gland. So interesting. So dry eyes, dry mouth. I asked my colleague, I said, "Hey, have you ever used DHEA on any of your Sjogren's patients?" And he said, "Well, I had a couple of patients who asked about it. So I referred them to an endocrinologist, but the endocrinologist didn't read that paper." The problem is there's no crosstalk.

Dr. Sarah Zielsdorf:

I have a lot of animosity between me and a lot of the endocrinologists in my area as far as how I treat hypothyroidism and how I go about looking at the whole picture. Most doctors who I know they still won't agree that diet has any place in chronic illness and I don't know where I can start. I use LDN for infertility as well, based on the work of Dr. Phil Boyle. He's out of Galway, Ireland. I've had to actually write consultative letters to reproductive endocrinologists who have threatened my patients that their baby would go through withdrawal for being on an opiate medication, and I had to say, "Excuse me, this is not an opioid medication."

Dr. Joseph Mercola:

Anti-opiate medicine.

Dr. Sarah Zielsdorf:

This is an opioid antagonist. That all being said, I'm giving the horror stories, but there are some good people out there and they are referring to me and they basically view me as an enigma. That's how it is.

Dr. Joseph Mercola:

Shocking, but I guess maybe not shocking that some physicians can be that professionally ignorant of the pharmacological basics.

Dr. Sarah Zielsdorf:

It's also this is just this fear response, and all I can say is, "Please, please just be open to education." I'm using a conventional medicine. Naltrexone is as conventional as it comes. We're repurposing it and it has a profound scientific mechanism of action, and there's a whole burgeoning science of naltrexone. Dr. Jared Younger's out of University of Alabama, Birmingham. He was trained out of Stanford. He's got one of the few labs that's devoted to naltrexone, and the goal is for the research trust to be raising lots of money so that we can start doing these trials. The problem is there's no money in it, so we're on our own.

Dr. Joseph Mercola:

Well, one last question for you and then we'll get back to Linda. I'm just personally curious how the Hashimoto's is going with your [inaudible 01:03:33], and if you been able to wean yourself off the medication, got that controlled now, for what? Six years?

Dr. Sarah Zielsdorf:

Unfortunately, I suspect that I had hypothyroidism since I was a child, and I had a whole lot of trauma in my life. I was not even diagnosed with hypothyroidism until I was close to 20 and then was poorly treated with Synthroid for 10 plus years. That all took a tremendous toll, and I had a significant atrophy of my gland.

Dr. Joseph Mercola:

Wow.

Dr. Sarah Zielsdorf:

That being said, I was told I would never have children. I have two healthy, beautiful children. I was able to reverse other conditions that they said that I might continue to get worse from and I could practice medicine. I was bed-bound with terrible pain, and I get up every day and I have no pain. I mean, that is just ... I mean, it is profound, the things that I've been able to do. That being said, I still take thyroid medication.

Dr. Joseph Mercola:

Now, it was very clear to me that one of the most powerful differentiations between a clinician or physician who practices natural medicine and conventional medicine is a type of thyroid medicine prescribing. Your conventional docs are going to almost universally prescribe Synthroid or levothyroxine while the natural medicines prescribe a desiccator, thyroid hormone extracted. I suspect you're taking the latter.

Dr. Sarah Zielsdorf:

What's so interesting is there's a whole huge science and I have a book outline that's 35 chapters long currently that I want to write. But-

Dr. Joseph Mercola:

On thyroid? Was the book on thyroid?

Dr. Sarah Zielsdorf:

Yeah. Thyroid and just my experience on medical training and turning to the dark side and all about just this experience. I'm one of the few clinicians in this country, probably more than this country, who has a very scientific approach to hypothyroidism, including the art of thyroid hormone replacement. Now there are certain patients who won't tolerate natural desiccated thyroid. Plus we have a big problem with our natural desiccated thyroids going on right now. There've been a lot of recalls. It's been tremendously stressful for my thousands of patients-

Dr. Joseph Mercola:

All right.

Dr. Sarah Zielsdorf:

-and for myself.

Dr. Joseph Mercola:

We won't go the details and we'll save that for the next interview.

Dr. Sarah Zielsdorf:

But anyway, there's an art – so I either prescribed very clean synthetic and often compounded T3 and T4 or natural desiccated thyroid plus minus T3. But in general, we need to replace all of the thyroid hormones, that's T4 and T3-

Dr. Joseph Mercola:

Yes. T1.

Dr. Sarah Zielsdorf:

-T2,T1, calcitonin trace amounts of iodine. It's all in there.

Dr. Joseph Mercola:

Yeah. Yeah. It just astonishes me that the regular physicians don't understand that. It's not just simply T4, which is what almost, I would say over, 95% of thyroid patients on thyroid replacement therapy are getting.

Dr. Sarah Zielsdorf:

Correct.

Dr. Joseph Mercola:

Yeah. It's crazy. Well, this has been a delight. Linda, let's go back to you, and if you have any closing comments or points you'd like to emphasize and how people can support your work at the LDN Research Trust fund.

Linda Elsegood:

Yes. Not only is it, let's say, alternative doctors who are prescribing LDN as in the naturopathic doctors. We have many MDs who are into traditional medicine who have found that they weren't able to help their patients. They've gone on to do extra training in functional medicine, integrative medicine, and people will say, "Oh, but that's all very well." But when a consultant's going to start prescribing LDN, we know gastroenterologists, dermatologists, pediatricians, gynecologists and rheumatologists who are prescribing LDN. Now that has been a big “wow,” and oncologists, too, to get people of clout behind LDN. It makes it more believable when you have the big guns behind you.

Dr. Joseph Mercola:

Sure, sure.

Linda Elsegood:

But if you look on the website, we've got lots of-

Dr. Joseph Mercola:

Which is LDNResearchTrust.org?

Linda Elsegood:

Yep.

Dr. Joseph Mercola:

LDNResearchTrust.org.

Linda Elsegood:

You can actually find the “LDN Book” one and two, and “LDN Book Two,” there is a short video of all the doctors that took part in writing chapters. You can listen, each of them do a summary of the book. If anybody is interested in helping and supporting us, we do have a donate button. We are a nonprofit. Everybody works as a volunteer and we don't get any funding from anywhere. So we-

Dr. Joseph Mercola:

Of course not, no.

Linda Elsegood:

-struggle.

Dr. Joseph Mercola:

Well, maybe you could submit a grant request to the Bill & Melinda Gates Foundation. I'm sure they'd be happy to support you. Not.

Linda Elsegood:

You sure?

Dr. Joseph Mercola:

I'm sure. No, that was sarcasm. But anyway, I wanted to deeply express my deep gratitude for all your commitment and dedication and the resources you've compiled and provided over the years and what you've been able to put together to coordinate, that's no small task. I hadn't seen it before in other areas specifically my work with rheumatoid arthritis, where they had a similar patient group who was coordinated who really did a lot of good work. That's where it comes from. Usually the professionals are too busy with their own practices in life to put something together like this, and it requires a patient organization to collaborate and provide the resources that are so necessary for this type of important intervention to spread, because it's not going to be spread by pharma. The drug reps are not going to go to doctor's office and start pushing LDN because there was no money to be made in this. Again, thank you because a lot of this would have never happened without your diligence and dedication. I really deeply appreciate your work.

Dr. Sarah Zielsdorf:

Linda pulls her hair out. She has to herd the clinicians around. It's pretty much herding cats to get all of us on deadline to write for the trust and to get us all together for our conferences. I mean, she does just – she's an unsung hero.

Dr. Joseph Mercola:

Yes, indeed. [crosstalk 01:10:06]

Linda Elsegood:

I'm good at nagging.

Dr. Joseph Mercola:

Yeah. Well, we need that. We all need that. Someone's got to do it and thank you for taking up the banner and doing that process, so deeply appreciate it. Again, the website, lots of great information there, folks. LDNResearchTrust.org. So you keep up the good work and I'm sure we'll be in touch.

Linda Elsegood:
Thank you.

Dr. Sarah Zielsdorf:
Thank you.