Podcast Introduction and Guest Welcome

Your genes hold the answers to your family's overall health. I'm Dr. Paula Kruppstadt and on the Get to the Root with Hope for Healing podcast, I sit down with experts in genetics, functional medicine, and family care to explore what's really going on beneath the surface so you can stop guessing and start healing.

From personalized insights to practical tools, we bring you whole family wellness that starts at the root. Welcome to the Get to The Root podcast. I'm your host, Dr.

Paula Kruppstadt, and joining us today is Steve Hofarth. Steve, thanks for joining me. Yeah, thank you so much for having me, really great to be here.

Yeah, Steve is the host of the Trusted Pharmacists podcast, and he's the owner of Magnolia Compounding Pharmacy. Steve, we're going to take a deep dive today into low-dose naltrexone, but I wanted you to explain to everyone that's listening.

First of all, you are a PharmD. What does that mean? Yeah, that's for sure. So, doctor of pharmacy is what that means. It's just we take a deep dive, not only into pharmacology, but a PharmD actually allows me to have a little more advanced degree.

Obviously, we do all the pre-pharmacy stuff, just like medical school and those type things, But we took a deeper dive into medications, how they affect the body, Not only with just medications but supplements.

metabolic pathways and those type things. And I think the big thing for me as a pharmacist in terms of having a PharmD that's allowed for is actually going back to school and having more patient involvement, but more importantly being a bigger part of the healthcare team because we're taught a lot more how to integrate the health care team to bring the value in the terms the pharmacognosy how drugs affect the body and turn the overall health care plan.

And that's kind of where I think a PharmD comes in. We have a lot more rotations and a lots more specialty areas than I did back when I actually initially got my BS.

Yeah. So as far as like pharmacies go, can you also explain to everyone what a compounding pharmacist is?

What a PharmD and Compounding Pharmacy Do

Yeah, so it's going back to the things that pharmacists did back in the day. So keep in mind, early pharmacy days, there weren't commercially available pills in a bottle on the shelf.

You just grab out and count and put them in bottle. I think that's, many people think, that what a pharmacist does. We just went to school to learn how to count.

Well, not what we did. And the compounding pharmacy takes it a step beyond because what you've learned is, especially, and you know this in your practice, as we get down the road, there's a lot of personalization when it comes to medicine.

In much medicine nowadays, it isn't in of one. It's like ends of tens of thousands. And that's where we've gone to. Well, Compounding Pharmacy goes back to initially what pharmacists did.

That's coming out with customized formulas specifically for patients for specific reasons, allergies, dosing mechanisms, certain mechanisms of action.

So a compounding pharmacist allows you to be able, as a practitioner, customize exactly what you want for a patient. Let's say somebody has an allergy to something, a dye in a product, we can take that out.

Lets say a child needs a medication that only comes available for an adult, We can turn it into a liquid. Those are the things that compound pharmacy does and allows for customization and specialization.

where unfortunately just pills in a traditional pharmacy just don't allow for sometimes. Yeah. I tell you, I love compounding pharmacies. It has helped us treat so many people, especially kids with special formulas.

Now, we get a lot of folks that come to our practice and they say, you're holistic, your functional, why are you prescribing a drug to me? And then they're like, aren't all pharmaceuticals bad?

And we kind of go through all of this and I'm thinking some of the common things that we prescribe are based on what people's precision genetics show us.

And you are a low dose naltrexone expert and have hosted a lot of people that have talked about this. So I am going to hit you playing the devil's advocate with some the questions that I get And I would love to hear your take on this.

And so it's not just people hearing from me over and over again. So, okay, so here we go. What is low-dose naltrexone? Isn't it an opioid? Yeah, that's a good one.

That's what we get all the time. I even have doctors call me like, Oh my God, I can't write for that. It's actually an anti-opioid. it's the exact opposite.

And so what happens is this drug was developed back in the day when we had people who had opioid addictions and different other types of addicitons. because we've learned this opioid receptor plays a big role in the brain in terms of our addictive natures and things, especially opioid medications.

So when somebody back in a day got addicted to an opioid, the way they found out to do things was give them an opiod blocker, which is what naltrexone is, to set on that same opioid receptors and compete at the same time.

What Low-Dose Naltrexone Is and How It Works

You could take a narcotic or you could this and this blocks it and makes it non-effective. And that's what the drug was originally developed for. Now, you mentioned this term, but Steve, it's a pharmaceutical.

We try to be more holistic and integrative. Why would we do this? Because that what makes drugs unique. Drugs have something called hormesis. and it's this bell curve.

And what happens is, depending on what we're trying to use the drug for, at low doses we may not see much. We get to the upper edge where we start seeing the benefit, but then if we give too much of a drug, we started seeing a negative effect.

The way that I like to explain that is with low dose naltrexone, there were some early studies early on saying not giving it at like 50 to 300 milligrams, which were used to take and prevent somebody from taking an opioid, were talking like, three milligrams, four milligrams maybe six milligrams at a low dose, it affects the immune system in a certain way.

So as you mentioned, one way the drug does work is low-dose nutric zone blocks that opioid receptor for a short period of time. What happens is your body makes natural opioids.

Believe it or not, that's what's kind of crazy. It's weird how things in nature work where a plant can produce certain types of compounds that look like these opioids, but your body makes the same thing.

So what happens is, is the theory is was initially we take, and we'd take and block that opioid receptor for a short amount of time. Low dose naltrexone has a half life, which means you put it in your comes out very quickly.

And then whenever it comes and leaves the body, that opioid receptor now is back alive again. It's like, hey, I'm not being blocked. Your body bursts out a certain amount of these natural opioids that your body makes called endorphins.

These have a benefit because what most people don't realize is your immune system has the same opioid type receptors on them. So that's one of the things it does.

The theory is it has the ability to help your body make your own natural endorphins. By boosting the level by temporary blocking, it boosts up. But the thing we found out over time is this low dose also plays with something called TLR, toll-like receptor.

And tolac receptor is a certain systems in the body that has inflammatory, that means creates inflammation, and anti-inflammatory called cytokines. These are signaling molecules that tell all these processes in body to do.

And if there ever was a reason to understand why functional medicine exists, this stuff's complicated. If you don't look at these mediators across all of these systems, then you kind of miss the boat.

And that's the other thing that low-dose naltrexone does. It modulates or works on these TLR receptors that control good inflammation, bad inflammation to modulate T L R.

So it actually has a dual mechanism that it can do in terms of opioids and T R and that is where the real benefit comes. Yeah. You know, you bring that up and that's one thing that we do here, especially when we're thinking about children on the autism spectrum or people dealing with autoimmunity, potentially infertility or chronic inflammatory conditions.

We do their precision genetics and the Wellness Blueprint is what we do here through Fagran, and we identify those challenges that those individual people have.

And we don't use it for everyone. Someone was saying, well, they recommend it to everybody. No, we didn't recommend for everybody, but the majority of sick people who come to us have those receptors that aren't working properly.

So, all right, so low dose naltrexone versus high dose. So you mentioned three, you can even go really ultra low too, right? Yeah, that's the unique thing.

There was a lot of studies back out in the 80s and 90s that talked about using low-dose naltrexon. And there was actually a doctor in New York named Dr.

Bahari. What he found out is he was treating patients with HIV. And if you understand about anything with HIV, the virus itself suppresses this immune system and it makes it where you can get what's called opportunistic infections, pneumonias and different things.

Because HIV isn't what kills anybody. It's an immune systems that can't take care of these things we're exposed to all the time. And he read that low doses, like we said, commercially available, it was about 50 to 300 milligrams was used to help with opioid addiction.

But he red this thing between like this three to maybe six and maybe even nine to 12 milligrams. There's this ability for this low-dose dot-trexone to take and control the immune system.

Now, what's really interesting is you and I are probably going to talk a lot about using low dose dot trexon to calm an overexcited immune. But he actually used the drug to help stimulate the system for people with HIV so that their immune systems could then attack these opportunistic infections and help them live.

That's the power of LDN at low doses. It modulates that immune system. So if it needs to be calmed, it'll calm it down. But if needs be stimulated a little bit, It'll stimulate it.

but it's only at these low-doses. As a matter of fact, I've read some studies showing that higher doses of naltrexone, and this isn't to scare anybody on here, Higher doses naltrexones actually have a very negative effect on the immune systems.

And that's the crazy part. That's why you have to work with a practitioner and a compounding pharmacist to understand the precision of doing this to get those doses right.

I know you do that in your office. And we'll talk a little bit about dosing, but you're right, the average person that I see falls in that three to four and half milligram range mostly.

It's a little, I see a lot more variability now than we used to, because we'll talk about the reasons why. But yes, three to four and a half milligrams versus 50 to 300 milligrams, and that's what makes it low-dose naltrexone.

Thanks for that explanation. One thing that I think our society, our culture is so used to is effect. So I always tell people that the changes that you're going to experience are very subtle.

You're not necessarily going notice anything immediately. So, as far as ramping up on the dosage and also common side effects, what are some common effects that people may experience with it that you hear as a pharmacist?

So what you just brought up is the problem I see with low-dose naltrexone now. A lot of doctors hear about it or you and I talk about and they go to another practitioner And they're like, I need this LDN thing.

Steve said 3 to 4.5 milligrams. But that's where they end up at. That's not where the start at and I can tell you from my own experience, i don't think anybody can't take LDM.

I think many people are started too high or have a tolerance to it and they didn't work up properly. So back to your question, common side effects if you get too much low-dose.

LDN Dosing, Side Effects, and Titration

trexone to start with, or you hit what's called this magic, I call it like the magic dose or your sweet spot dose, most common thing that I see is headaches.

And that's how I tell patients, and I'd tell the patients all the time, your doctor should start you at a low dose. I can tell you, you and IRC in sicker and sickier patients that have hypersensitized immune systems from all types of conditions, so we can talk about those in a second.

But that hypersoncitized system, what I have learned is those patients need to start lower and lower. When we used to Start LDN back, probably we started doing this 15, 20 years ago, was we would start at like 1.5 milligrams one.

I've got patients now that are so sensitive that they're starting like at 0.25, sometimes even 0,1 milligram, because they can't tolerate it. And you would think, come on, Steve, like 0.1 milligram.

If you saw how small 0,1 milligrams is, you couldn't even see it with your naked eye. You wouldn't see that. But there are some people that can start that low and are that sensitive, and they'll get this headache.

What I tell patients as they're working up is if you're rocking and rolling along and everything's going good, I always tell people to ask three questions every time they start it or they increase the dose.

Question number one is, hey, I feel better. And as long as you're feeling better, we'll keep going up on the dose.

Second question is I don't notice anything.

I've taken this for a week or two. If I notice a thing, no problem at all. Number three is hey I have no side effects. As long you can answer yes to those three questions, you go up.

But what will happen is you'll typically go up and then you have side effects. And I'm going to talk about, to me, what I call side-effects and, then, inconveniences.

A side effect means we've overshot you. With that, I'll say that commonly is a headache. That's our muscle aches and pains and fatigue. My indication is we're doing something with the immune system, with naltrexone, that we have gone too high.

For that patient, you just back it down a little bit. or you started them too high and you need to go back. That's what I've seen because sometimes we'll start people in one milligram and they will be sensitive to it at one.

We go to 0.25 and work up slowly and sometimes they can get to one milligrams. So fatigue, tiredness, headaches, that's my sign to overshot you. The other big side effect is, and I don't always look at it as a side-effect, I just look it at as an inconvenience and you gotta do with it what you want to, is crazy vivid dreams.

Yes, it can affect your sleep, but I do not see it so much as affecting sleep. What I see is this has the ability to do amazing things in your brain, reducing inflammation, memory recall.

There's so many things that LDN is used for for PTSD. But one of the things, this is the way I explain it is. You'll take LDN at night before you go to bed.

We'll talk about whether or not you should do that later. Take it at nine, go bed, if you're, let's say your dog passed away like a year ago, and you will have such crazy vivid dreams at nights when you got to be, you'll wake up in the morning, like, oh my gosh, where's my dog?

Like, my dogs is back alive. Some people just don't like that. depending on what the trauma is or what dream is about. And if that's the case, there's things we can do.

So the crazy vivid dreams is the other thing that I see that sometimes can be a little nuance-y. Then the last thing is, is if you take it by mouth, I do have some people complain of like nausea or constipation, but that the part where a compounding pharmacy can help you have success and eliminate that also.

I'm really glad you went all over that. So one of the things that I see is I See people with disrupted sleep, so I'll go ahead and use it in the morning But also you mentioned this before the LDN goes away But then the body makes its natural endorphins and med encephalins.

And so when do we need that? we needed that during the day when we're facing the challenges of I just learned something new from you and it really makes sense as far as people being a lot more sensitive to the higher amounts.

So I tell folks, you know, if you're really fatigued, and if your constipated or you are having headaches, try to stay there if it's not debilitating, you kind of went between, side effects versus inconvenience.

And a lot of times that fatigue will pass. But I guess if I think about it, I'm having kids that were even doing topical that we're having to back down a little bit more and start or just hold them at say one milligram instead of being able to go up.

So thanks for going through that. Now, what are the different forms of low-dose naltrexone that you can make? It's kind of unlimited. I would say the most common, obviously, for adults is capsules.

We do lower capsule, we start out low, work up slowly, and then ultimately we combine it all into one capsule, so

that's one option. Option two is we can do liquids, then you have the ability to easily titrate the dose, pull it out, up the dose slowly based upon the same product you have versus having to change.

That's another option. We can do sublingual liquids. Sometimes we do a smaller dose and instead of taking the liquid by mouth and swallowing it, we hold it in our mouth, and allow it to get absorbed through the oral mucosa, which gets in the system a little faster, but also can eliminate some of the stomach issues, and so that's number three.

And then in your practice, which I think is really pretty cool, is doing topical. We have the ability to put naltrexone in bases, naltrexones an easy molecule with a certain type of base to drive it across the skin.

So instead of it going through your stomach to get your body, it actually goes to your skin to getting your but you see the benefit. So those are probably the four biggest ways that we do naltrexone.

And the neat thing is they all have their own unique advantages and abilities to titrate, to be specific for that patient. Now, let's compare common pharmaceuticals and the antibiotic compared to lotus naltrexon.

Can you just compare and contrast when people say, well, it's a pharmaceutical agent, what's an antibiotic doing versus what LDN is doing to our gut? Yeah.

So as a pharmacist, I would say everything's risk benefit. And we all know with anything, you know, there's a fine balance of how much is good versus how is bad.

Now, antibiotics, now you got me on that one. That was a challenge. Antibiotics are great when you need them. I mean, without modern medicine and acute infections, antibiotic save lives.

Not having antibiotic stewardship or using them when they aren't needed. But here's the way I would explain LDN if you want to think of it, because it is a pharmaceutical and some people are like, I'm not for pharmaceuticals, and I won't do it.

But let me do my best to try to explain it so one, think about something like exercise. We know a little bit of exercise done precisely, exact in a certain way creates a certainly amount of stress, which the body benefits, it makes all these good chemicals, we have repair, We have more health, but we to have some of to be successful.

If you over exercise, you create stress and it tears down things. The next thing is, I think about like we have certain small stressors in life that we know a small amount of stress provides benefit.

You look at trees that are put in a bubble that never have wind and they don't have all those type things.

LDN Forms and Comparison to Antibiotics

There's been these studies, if you get you feed the best food and everything, those trees are actually unhealthy because they do not have the stress of life.

So a little stress is good. We don' t want a hurricane or a tornado. That's bad, right? I also look at it something like allergy, like immunotherapy, right?

We give a super small dose of an allergen to try to get that immune system, to it used to things, get it moving in the right direction, modulate it where it needs to be.

That's the way I look LDN and all these. It's just enough to a therapeutic benefit, but not so much to cause a side effect. And we've got a lot of long-term data on LDM to show that it's pretty darn safe long term.

Not like something that just showed up yesterday that we don't know much about. Yeah, I have a family that their child is suffering from pretty severe eczema and allergies.

And they asked their allopathic pediatrician about LDN and they said they just didn't know enough. I'm thinking I've written thousands of prescriptions for LDM.

and seeing the benefit in children. And it just grieved me because I was thinking this child would benefit so much from LDN based upon their precision genetics.

Now, Steve, you know, a lot of people ask me, well, how long do I have to take this? And, that's kind of a loaded question. So as a pharmacist, How would you answer that?

and then we can kind dialogue a little bit about that. Yeah, that one's a little loaded. Here's what I see with most people with LDN. When it comes to just, like, I say outlook on life, quality of life.

A lot of people who are highly inflamed, within the first couple of weeks of LDM, they feel like if it's working, reducing inflammation, especially for the ones it is going to work on, They notice, oh my gosh, I have a little more energy.

I don't notice my aches and pains, but for a lot of people, that's not really what we're chasing, But this chronic inflammation they have, That's one of the big things that just sets them up for failure.

So I would say people feel better, especially like Hashimoto's I'll use for example. Most of those people don' have the headaches, the fatigue, and the tiredness, And they're like, Oh my God, this makes a difference.

But to be honest with you, for most of the medical conditions you and I are talking about, and especially in your children that you're doing precision genetics for, this is a lifelong thing.

And what I've seen, especially like for autoimmune conditions, long-term like COVID, those type things, we look at most people I see it needs about once we find the sweet spot dose, about three to six months.

That's kind of my give it a chance. Some people are like, I don't notice anything. I'm like well I can promise you it's not hurting anything, LDN is relatively inexpensive.

There's a lot more things we could spend money on, but if we can spend it on this, let's try this and give it six months. Now, the one thing that I will tell you in my experience that i've seen is if you're using LDM for skin conditions, specifically eczema, psoriasis, I'm not saying it's going to be sooner, But on those conditions I've just seen because I just feel like there's just deep seated inflammation.

Some of those patients I'll say, give me a year. I know it sounds kind of crazy, And then, like you said, six months to a year on skin conditions. What I found is this, many people will get on it, they'll take it for years, and they're like, you know, I don't think it does much anymore.

And they what happens is they like I'm not going to get that prescription filled. They don' fill it. Then the next thing you about six month later, the call me up is like You know what?

I didn't that LDN was doing anything. But all of a sudden, that's what's unique. You don's stop it and it doesn't stop working tomorrow. The stop and then about three to six mounths are like oh my gosh, this came back or that came right.

I didn't realize how well it was making me feel it's because it subtle. It's not like it going to magically change the needle. And you and I, I'm sure we'll talk about it.

One piece of this integrative puzzle. Not the end all be all, but you put it with other stuff. Yes, that's so true. Like all of our patients with autoimmunity, we try to put them on that.

And then especially people with inflammatory bowel disease like Crohn's, ulcerative colitis, any type of colitus at all, because it also has this migrating motor complex type thing.

Would you care to just talk a little bit about that, the benefits of taking it orally when you've got gut stuff? Yeah, 100%. So there's a lot of really good information.

Well, let's back up your gut. If it's inflamed, I don't mean to be mean. And I've interviewed so many people, it all starts in the gut if you don' work on fixing that gut, you're just gonna you know, whether like you just mentioned your precision genetics says where it's going to wear its ugly head if you're gut sick.

For some people, it is skin, for some, people it s cardiovascular, or for people its cognitive issues, autism, you name it, but it all starts there. And I have seen LDN be so powerful in terms of calming an inflamed gut.

LDN for Autoimmunity, Gut Health, and Inflammation

Like, its important there, and I think because keep in mind you've got a massive amount of opioid receptors in your gut, so you get that direct effect not only We're counting like the direct benefit from the gastrointestinal inflammation, but in terms of also then you get absorbed, then get the systemic benefit.

But you mentioned the migratory motor complex. There's also some thoughts about some peristalsis issues. All of these things that are so important to gut health and gut integrity.

Because if we have a lot of inflammation in the gut, that just drives other inflammatory processes later. Leaky gut. That peristalsis issue in migraine motor complex sets us up for gut dysbiosis.

There's that whole host of things. And I'll tell you out of all the conditions at LDN that I've seen people on heavy duty biologics. These are drugs that shut the immune system off, but they put them on these drugs to help their gut symptoms like Crohn's.

I've seen a lot of patients with LDN with diet, with lifestyle do these things and be able to actually get off their biologics, working with their providers.

And to me, that is powerful because if you can get somebody off of biologic, That is a game changer when it comes to your immune system and your overall long-term health.

Yes, we've seen that and that's what we aim for. But man, if you've got to use a biologic to really kind of cool things down. It just totally shuts down the immune system and then you're vulnerable.

Thank you for answering so many of the questions. I just think that, well, autoimmunity and infertility. Steve, would you be able to tell us a little bit about LDN and its use in infertilty and conceiving and safety in pregnancy?

Yeah, that's a good one. And this happens all the time. What will happen is, let's say you have a patient who's got Hashimoto's, autoimmune condition of the thyroid.

Obviously, there's inflammation driving that. A lot of those people are low in vitamin D and iron and all these other things. to help with that condition.

But in the process of being put on LDN for that conditions, we start working on gut. We start workin' on diet. we started optimizing vitamin D, using omega-3s, all those different things.

The next thing you know, she turns up pregnant. Because guess what? The body's pretty amazing to protect itself in terms of not getting pregnant, while all of a sudden you start cleaning things up, the body is like, hey, let's be reproductive and let that happen.

It's amazing how nature does that. So then I get that question of, oh my gosh, Can we keep taking LDN? What do we do? And I will tell you, the majority of the doctors that I have found with those patients will leave them on LDM.

There's some pretty good data out there to show. I don't think I've come across anything that says absolutely no,

and especially the low-dose naltrexone, because the other thing is there are some thoughts about using LD in early in pregnancy for these ladies who have inflammation to make sure they have a good, successful pregnancy.

because you know this as well as anybody. If you have a lot of inflammation, especially if you got thyroid conditions and a lots of information early on in pregnancy, that could turn into some pretty bad things throughout the trimesters down the road.

And then once a child is born, then you're dealing with a whole host of other things. So that's a great call out. I get that question all the time is, can I continue it?

And I'm usually like, well, That's the discussion to have with you and your doctor. But if it was me and my wife, I think you probably ought to stay on it.

That is a good callout. Yeah, yeah. Dr. Boyle, he is a doctor over in Scotland, I think, that has published extensively on the use of LDN and infertility.

And then, you know, the LDM Research Trust, if you're familiar, spoken for them, but man, it's amazing stuff. What you mentioned at the very beginning, Steve, is so important about hormesis.

It's a little bit, may not be enough, and then you reach the sweet spot, then if you've got too much. That's a principle with so much of what we do. And I really like what you had to say too about, yeah, maybe you'll be on it the rest of your life.

I think the most common thing that I hear is, Yeah, I stopped doing my LDN and then my joints are aching and I'm getting the arthritis worsens and they're like, Oh, think I need to go back on again.

What do you think about, like, if I ramped someone up and they were on, say, 3 milligrams or 4.5 milligrams for a long period of time when off of it, what do think just restarting them at that higher dose?

Yeah. So my rule of thumb is, and keep in mind, there are certain times you have to get off of it. I'll give you an example. Let's say you had to go in for a surgery and you know they're going to use a narcotic, those patients have come off LDN because it'll block the narcotics from setting on the opioid receptor and they won't be effective.

So in that patient, to me, my rule of thumb is as long as you're not on it or off of it for more than two weeks, I think you can jump back on right where you were.

If you are off it more then two, believe it not, you will still feel pretty good. Most people I found get six to eight weeks after being off before things start sliding back where they are.

LDN in Fertility, Pregnancy, and Long-Term Use

If you own like a three, four and a half and you've worked up to that and it's been more than a couple of weeks, I probably would recommend to start lower.

Now you kind of know where you can get to quicker and maybe able to ramp back up, but I do think that's fine. I'll tell you the other thing I think I'm seeing a lot more now is people are on the drug more long term.

There's a lotta daddy I've been going to conferences here and people talk about doing an LDN holiday. and actually not taking it every day, because it's the same type thing, you know, and it is like the bodies.

The body really doesn't do anything the way at the time of the day. There's circadian rhythms to hormones, to insulin, the cortisol, there's all these circadian rhythms.

And there are some thoughts are, if we kind of do the thing with LDN, this opioid receptor, maybe it doesn' get as sensitive. So there is some thought about pulling it off, letting it kind redo its thing and putting it back.

I've seen some of that. But there's a lot of really unique ways because sometimes people will be on it for two, three years and like all of a sudden, oh my gosh, it stopped working.

It gets complicated because a lotta things can affect the immune system. But I'm seeing a lot more people talking about like a little bit of an LDN holiday, coming back to it, but I will tell you, most people who do really well with it like you said, stay on at long term.

And in your case, you mentioned you're doing it with children who have precision issues that really long-term probably need to be on that. And I could understand how a parent might be, oh my gosh, I'm putting my child on this now.

How long can they stay on it? And from what I've seen and know, they can be in it indefinitely as long as they're being monitored. Because you mentioned some of the biggest risks.

The only things that I see one opioids The other thing that I've seen in adults, if I have somebody that's on high-dose prednisone for something really kind of strange, or the other one I won't touch is if somebody is a transplant patient.

If they've had like a liver transplant, a kidney transplant or something, we don't want to do something. They're on these transplant drugs and that is all immune-mediated, so I'm like, We dont touch that one at all.

But honestly, beyond that, those are the only things, like Ive seen people on LDN, even with biologics, at the same time. So there's a lot of things that I don't think people realize that you can take LDN with that it really can be synergistic and may help and not be harmful.

Yeah, you know, a lot of times the thing that we talk about is what is our goal, when if somebody comes to us and they're terribly inflamed and we're trying to get them out of the hole and throw everything at them, then maybe we could pull things away down the road.

But we want to have things in there like, like you said, vitamin D with K2 and omega-3s and some other immune modulators for inflammation for the different systems.

You know, we've got cannabidiols. We've endocannabinoid system that we can modulate. But like you said, the toll-like receptors and then the JAKSTAT system too.

There are things that, you know curcuminoids and other things we could use. So, well, I want to thank you again, Steve, for just kind of unpacking that and hearing from you.

And where can people find you? Yeah, no problem at all. So probably the easiest way is magnoliopharmacy.com. We go to our website. I'm on a lot of social media platforms, from Instagram, TikTok, and Facebook.

You can find me there. Constantly doing a lots of this type of information share as a pharmacist, giving my perspective on traditional medications, supplements like you just mentioned, how they all work together, because they have a purpose if you use them for the right things.

And so those are probably best places to find out about what we do with Magnolia Pharmacy Great. And the name of your podcast, The Trusted Pharmacist Podcast?

You got it. Yeah. The trusted pharmacist. You can find me on YouTube, Spotify, Apple podcasts. We're there. So just a lot of good wellness talks I've had you on.

It's just fun share of like-minded individuals that are working to help bring health to people in a special way by really understanding the truth about how the body works.

Where to Find Steve Hofarth and Closing Remarks

I want to thank you again, Steve, for just educating people who are listening to understand a little bit better the safety of lotus naltrexone and what you see as a pharmacist.

Wow, the lights went off. Perfect timing. All right. Well, thanks so much. And if you like what she heard, just be sure to write us a positive review.

Thank you so Take care. You're welcome. Thanks for joining us at Get to the Root with Hope for Healing. If this episode helped you, follow and share it with someone who needs it and leave a review.

It helps others find us too. For a free consultation, visit our website at gettotheroot.com with a number two and schedule a welcome call. We'll see you soon.