Transdermal Supplements: A Breakthrough for Chronic Illness and Gut Issues With Alexandra Karpova Transcript

(Transcripts are generated by AI and may contain errors)

Introduction and guest background

Hello, everybody. Welcome to the Thyroid Pharmacists Healing Conversations podcast. I'm your host, Dr. Isabella Wentz, and today we're going to be talking a bit of a fresh perspective on nutrition, thyroid, gut, helping children and adults thrive.

We're gonna be taking about things like topical vitamins, riboflavin, non-classical origin of thyroid symptoms. And for today's discussion, I have Alexandra Karpova with us.

Welcome, Alexandra. It's so great to have you here. Thank you so much for inviting me. I'm so excited. A little bit of background on Alexandra, she was born into a family of medical doctors and was inspired early on to make a meaningful impact.

After beginning her career in management and marketing, her path shifted when she and her children faced chronic health issues, including thyroid dysfunction, chronic fatigue, and mast cell activation.

Frustrated by limited answers, she turned to biochemistry, uncovering how nutrient deficiencies drive chronic illness. This journey restored her family's health and ignited her mission to help others do the same.

I always say like a mother on a mission is better than any kind of detective, right? She co-founded Science Mamas HQ. to fight modern malnutrition and will soon begin her PhD, working with leading experts to explore integrative nutrition for chronic conditions.

It's so great to have you here, Alexandra. And one of the things that I would love to ask you is, can you tell us a little bit about your personal story and what inspired you to do the work that you're doing today?

Yes, so I am currently based in England. I moved here about 20 years ago to pursue higher education in area that has nothing to do with health sciences, which is what I'm currently into.

So I kind of lived most of my life completely unaware of the fact that some of these symptoms I might be having, which seemed to be common enough, were actually not necessarily normal.

And things escalated for me eventually after having my first child and got actually much worse after my second child, you know, two pregnancies, several years of breastfeeding, several of poor sleep and a lot of chronic stress, they did a trick on me and my health completely crashed.

To top it off, my first child was born with symptoms of muscle activation syndrome. He was having daily allergic reactions that were really difficult to pinpoint initially.

It seemed like he was potentially reacting to foods, but also environmental triggers. except all the tests that we were doing, they were coming back normal.

So it was really hard to understand at that point what was happening. I wasn't really getting much support from the doctors because although I was kind of being listened to, I being told that even if your child might have something like muscle activation syndrome, this is a completely new condition that's poorly understood at the moment.

And that was about five or six years ago now. So things may have changed, but back then it was really difficult to get doctors on board. And at that point, when you're not really understanding the drivers of the symptoms, as a mom, you want to give the diagnosis for something.

It's kind of a confirmation that you are right in thinking that something's up with your child and you wanna get treatment. He was prescribed, even though he wasn't diagnosed with muscle activation syndrome, and he also got diagnosis of autism when he was three, They tried to put him on meds like antihistamines, but the effects were really limited.

When he was three and a half, I had my daughter who was actually born with even worse symptoms than he. She was reacting to absolutely everything under the sun.

Both of my kids had seriously disrupted sleep. As babies, they were very unsettled and crying most of the time, most day, and most night.

Personal health crash and childrenu2019s symptoms

And when you're a first-time parent, it's quite easy to say, OK, you are just an anxious mom. There is no guidebook for how to be a parent. And things will improve by themselves.

You just give it time. Don't worry so much. But it didn't work that way. Actually, my kids kept getting worse, so I did have to find the answers. In parallel, my own health crashed and I was now suffering with symptoms of chronic fatigue syndrome.

I also started reacting to foods and environment. And I've seen Isabella that you also mentioned in one of your prior podcasts that also at some point developed these intolerances, seemingly sudden intolerances to foods and environmental triggers that were quite surprising to you as well.

But when you are in the thick of it, you're thinking, what's going on? I'm not getting the support I need. I somehow have to figure out this. on my own.

And so I dove into research. I started connecting with industry experts and researchers and try to understand some of the drivers behind the negative chronic health symptoms.

So I was talking about myself. Basically, I developed symptoms of chronic fatigue syndrome, muscle activation syndrome. We had COVID and we developed in terms of long COVID as well.

What else? It was like a long list of things, suspected thyroid hormone dysfunction, although tests were sort of coming back clear, I was suffering from temperature dysregulation, mood swings, anxiety, depression on and off every single day, appetite, going from super hungry to really not hungry at all and struggling to get any food into myself, sleep disruptions, weight fluctuations.

So all those things make me suspect issues with thyroid hormones as well. a real constellation of symptoms happening with myself and my family members, and I needed answers.

And the answers we found were essentially in that nutrition changes in your diet and lifestyle, but also most importantly, targeted supplementation with nutrients.

were key to completely transforming our health and I over the last couple of years I went from very poorly functional, I would call myself non-functional, to thriving and so did my kids and this journey has inspired me to help other families find the answers that they're looking for and struggle less because these journeys are so hard, and being able to, you know, I spent the last eight years looking for answers.

If there is an opportunity to help families look for those answers for less time, with less suffering and pain, that's the best thing that we can do. Absolutely.

You've had quite a journey, My health journey started before I had my son, and so I was able to sort of get myself to a pretty good place by the time I have him.

And then, of course, having children can bring on new onset symptoms for a lot of people. I know a little of the women that I've worked with, they were doing just fine or thriving before they had their children and then pregnancy can be such a big shift on our bodies.

And then those sleepless nights and if our children aren't thriving that just like compounds everything. So, so I really appreciate that everything that you've gone through and the way that your showing up today to help others that are going through the same thing because it can feel like quite a lonely journey when you have little beautiful humans to take care of, they're not doing well and you're doing not well, and doctors aren't really giving us answers, right?

So, they might throw out a couple of diagnoses and maybe some antihistamines or some steroids and it's like there's this progression of let's say a child might have eczema and then they have asthma and they may have skin issues and mast cell activation and that then, they get diagnosed with the condition like autism or ADHD.

And it's very challenging to unwind all of this. I feel like we are seeing a health crisis among children today. As adults, we're not. Most of us are not metabolically healthy unless we're really going against the grain and we see this full impact of chronic illness.

What do you think is driving this in your view? I know you talk about intergenerational deficiencies, the diets that are so depleted, toxins, medications.

I would love for you to give us a little bit of insight on what the driver of this is. Yeah, so if you look at statistics in countries like USA and UK, a large majority of grownups and kids are eating junk food.

Majority of their diet is junk foods, 60 to 70 percent. So there is a shift towards over nutrition when it comes to calories, but under nutrition, when It comes To getting this really diverse nutritional profile of nutrients into your body to be able to optimally function and I think part of the problem is that we are not fully recognizing that as a society.

we're looking, we go to the supermarket and we are being sold these, you know, pretty looking well marketed products, which say low fat, low sugar, but really the nutritional profile of those foods and also the cooking processes and transportation and storage, they all really affect the nutrition that we end up getting from those food.

So It's totally different. What our ancestors were doing 150 to 200 years ago, they were cooking from scratch. And now we are not. We're eating junk foods.

There is limited diversity in terms of what we're getting, plants, fruits. Lots of people are going on elimination diets because not necessarily because they fully recognize that this is what their bodies need, but because there is a trend towards doing that.

If dairy is no longer popular, you're going to be drinking oat milk or something like that, but you don't necessarily know if something, like oatmilk or whatever brand you are buying is the healthiest choice you can be making.

Our lifestyles have completely changed. Most people are spending time indoors, including kids. We're not getting the right sleep, we're spending way too much in front of the blue screens.

Socializing has changed the way develop our relationships and socialize is also a big factor. There is a lot of chronic stress going around and environmental triggers and they're all kind of having this collective negative effect on our body's ability to function well.

And so Nutrition and lifestyle are the biggest factors affecting our health nowadays, I'd say.

Nutrition, toxins, and intergenerational deficiency

This is something that's a little bit under-researched, is that intergenerational deficiencies might also be having an

impact. A mom, like you said, the majority of adults say in the US over 90 percent of adult now have some form of metabolic dysfunction.

How can a mom who has metabolic disfunction have healthy kids? Are we connecting the dots? So, if a mom is unhealthy, are we testing the child for, say, nutritional deficiencies, how well they're making thyroid hormones, and how their gut functions when they are born?

I don't think we are doing that as a norm. Most moms these days might be metabolically unhealthy. If there is metabolic impairment that's being carried over to a child, they're already born at disadvantage and then they are being placed in this environment with imperfect nutrition and dietary choices and lifestyle, and this only over time exacerbates the problem.

So now we're having kids who have one third of kids have pre-diabetes in the US. And this is something that only adults used to have several decades ago.

So things are changing. Despite the fact that there is so much convenience and comfort in our lifestyle these days, we are actually missing the point where We live in comfort, but the chronic disease rates are going way up high.

And what we need to do is to take this holistic perspective on things and try to understand what is actually going wrong to try and reverse that through clever approaches.

Yeah, it's been my experience. We're exposed to just so many more toxins these days than we used to be anywhere from the chemicals that we put on our skin to the toxins that are found in our foods.

The way that our homes are constructed these days. A lot of times we might have higher propensity for things like mold overgrowth and a lot. Of these things they can lead to auto immunity and they.

Can also lead. To something that. I think the term that makes the most sense to me is euthyroid syndrome, ethyroid 6 syndrome or kind of like non-thyroidal thyroid illness, where essentially people will not have Hashimoto's antibodies, their thyroid function might test normal, but yet there is this syndrome of thyroid symptoms.

And I will say in my experience, this can co-occur with Hashimoto's. This can occur with autoimmunity and a dysfunctional, you know, thyroid dysfunction.

But sometimes it's sort of its own entity where you might test your thyroid function and it comes out normal, but you still have all of these symptoms that would classically fit.

Can we talk about that kind of thyroid health piece and what driver it might have in, you know, adults as well as children, including potentially children that might be on the spectrum with autism.

Yeah, absolutely. And you made a really good point because oftentimes you get tested because you have symptoms, but your results come back normal and you think, where do I go from here?

And one of the things that I have discovered based on my personal experience and also supporting other moms and families going through similar journeys is that the test results don't always give the full picture if you're suffering with some form of metabolic dysfunction.

Perhaps your thyroid hormones are not being cleared from your system well enough so that what's actually showing up in the bloodstream is not what is being put to use by cells.

So processes like sulfation or glucuridation, which are involved in detoxification, including successful optimal clearance of thyroid hormones may not be functioning optimally.

This is something that needs to be proven through research. It's totally hypothetical, but it does make sense. If your body is metabolically unhealthy, those processes may part of the problem, then acquired resistance to thyroid

hormones could potentially be another.

It's something that used to be seen as completely genetic and there is now research coming out suggesting that this may not be the case and that people may actually develop resistance What does that mean then?

How do we put this in practice? Those findings and knowledge and practice to try and understand what someone's thyroid hormone results may mean when they don't feel well and they're having symptoms of some form of thyroid hormonal dysregulation, but it's just not showing up the way you'd expect it to on testing.

Yeah, I definitely agree with you. I know with sulfation and glucuronidation, these are things that I have seen with my clients. And I do a lot of functional medicine testing.

It's kind of my love language is to look at a variety of lab tests. People do have impaired solvation, and they might find that they have skin issues or they're reactive to things like an acetylcysteine or eggs or sulfur products, or people might have issues with glucuronidation, they end up having symptoms like estrogen dominance, breast tenderness, excess weight that their carrying on them.

Some of the lab tests that I've done can point to that. And in my experience, a lot of people with thyroid issues and thyroid symptoms, even when their quote unquote thyroid function is normal, they're still going to have a I'm a big proponent of is liver support, where we use targeted amino acids and nutrients and a lot of times things like herbs, like milk thistle that are, they're very gentle, but they really help to support all of those liver detoxification pathways, including the sulfation and glucuronidation.

And sometimes people do that for two weeks. And they feel so much better with that. And it's just something that I really think requires a lot more research because these days people will say like, oh, well, my liver is just fine.

I don't need liver support or your liver should be able to detoxify on its own. It does all of these things. Yes, it does. All of the things on paper.

But when we look at people as individuals and we start looking under the lens of what's driving chronic illness symptoms, a lot of the times it is these.

Thyroid symptoms, detox pathways, and functional deficiencies

subtle nutrient deficiencies or imbalances that can really limit our bodies' ability to naturally detoxify. A lot of the nutrients can act as cofactors for clearing various toxins.

And so I think this is a really, really important area, and I'm so glad that you are going to be doing more research on that. I am so excited for that Another nutrient is molybdenum.

It's very important for sulfation, but as we've discussed, sulfate is involved in thyroid hormone metabolism. And so you often talk about mollipdenon on your Instagram page as well, I've noticed, and it can be a really helpful nutrient for helping manage thyroid hormonal metabolism aswell, because it's involved through sulfating processes.

So that would help ensure optimal clearance of thyroid hormones that are being produced by the body. Yeah, absolutely. With regard to molybdenum, I've seen a lot of people with sulfation issues and issues with sulfur and whatnot.

They will start on mollipdenon, and that helps to really support that pathway. And we do see a lots of symptoms really improve and vanish. It's been one of the things that's a really big game changer for people.

Now, you have noticed some different surprising patterns. in the population that you work with, that use support when it comes to nutrition, thyroid function, and gut health.

I'd love for you to share some of your insights that we've learned about. Yeah, so one of the things that, on which

research is quite, remains quite fragmented, but what we're seeing with the community of chronically unwell moms and families is that Some of the nutritional deficiencies, they may be functional, meaning that they might not come up on conventional testing.

So say you are testing blood levels of nutrients like vitamins and minerals, and that may not provide a full picture of what's actually going on because if there is some form of metabolic dysregulation, then there's a fair chance that those nutrients may not be being optimally utilized by the body.

And so this is one of the things that I'm really keen to look at for research is whether we can prove the existence of functional nutritional deficiencies and If that's the case, if they're being driven by underlying metabolic dysfunction, then are there certain nutrients which may act as key regulators of the functionality of other nutrients and whether targeted supplementation with those can help restore metabolic function and improve functionality about the nutrients.

So one example is say you are your blood zinc or magnesium levels are low and you're supplementing those nutrients, but your levels that just stubbornly stuck, they're not coming up.

Is it possible that there might be some primary nutritional deficiencies that are preventing you from being able to replete in those nutrients that coming up low on your blood testing.

So this is one of the questions that I'm really keen to be able answer at least partially and understand more. And it's The idea of functional deficiencies is fragmented.

The interest is picking up now, because I think a lot of people are realizing that conventional testing just does not give the full picture. And this is one of the reasons why there is a rise in functional testing.

This is something that you yourself look into quite often, organic acid testing and all sorts of other things to try and understand what's actually going on.

So, the presence of functional deficiencies is one thing, but also I feel like a lot of healthcare professionals and practitioners, they tend to pick a specific interest, say, thyroid hormones or gut health or, I don't know, nutrition and their interest is isolated to that specific thing and you're just not looking at how those things are connected.

And when you look at the community of chronically unwell people, you can see that there is some sort of interplay going on. So if you start addressing one thing, then There is a shift in the other thing.

So the safe thyroid hormone metabolism, it depends on the presence of sufficient levels of nutrients like iodine, selenium, iron, zinc, copper, and more.

And so if those are missing, then you cannot really expect your body to be able to optimally make thyroid hormones in the first place. And then if you've got dysbiosis in your gut, if your liver is not working well, then your buddy may not be to effectively convert T4 to T3, the active hormone.

All these organs and pathways, they're so interconnected and very often have bidirectional relationships. And so looking at the bigger picture and how things are connected is something that I'm really keen on and find very interesting because I think that that's what gives us a better understanding of how Now, you mentioned that some of these nutrients that might be deficient, that may be needed for all these processes to take place, they might not actually come out on a standard blood test.

And that's been my experience as well. I love using the organic acid test by Mosaic Diagnostics, which is essentially a urine test, Somebody pees in a little cup their first morning's urine and you send that off to a lab and the lab can analyze metabolites of various nutrients and actually pathogens as well from your urine.

Then they can tell you an average person who is deficient in riboflavin would have this amount of this metabolic agent in their urine. And so if you see that level is off, then you know that you're going to be deficient in, let's say,

riboflavin.

But it doesn't test for all of the nutrients that we mentioned. So how do you determine? Do you use other types of testing to determine if somebody might be deficiency?

So, I'm not a practitioner, just a researcher, but I think this is something that requires further investigation. We need to understand how to be able to functionally to do.

functional testing to try and understand what nutrients someone is deficient in, or if someone really does have impaired thyroid hormone function, how do we identify that?

One of the ways to look at those things, especially the nutritional profile, is through enzymatic function and also at the cellular level. Things like spectra cell, where you look cellular levels of nutrients that could be helpful.

But I think right now we've got more questions than answers and we need to do more research to try and clarify whether there are indeed functional nutritional deficiencies and what are the ways in which we can test for those, identify those well and address through say targeted supplementation or dietary approaches or perhaps a combination of those that would be the best strategy for, say, improving the quality of life of autistic children or people with other complex health conditions like chronic fatigue syndrome or muscle activation syndrome and more.

Yeah, I love the SpectraCell test. I think that can be a very great test, and Genova's Neuchavelle test is also really, really helpful. i've also been looking into hair tissue mineral analysis testing. I was a intern at a lab that would do hair testing for all of their clients, then they did work with mental health issues and chronic fatigue syndrome, as well as kids on the spectrum.

And they would analyze hair samples and they will look at whether you had certain toxicities or certain nutrients that were deficient. So I feel like there's so much more out there that we can utilize to figure out if we're deficients.

And there are some nutrients are generally going to be pretty safe for most people to utilize. I know we had talked a little bit about riboflavin. and hoping we can get a little bit deeper into that.

I know I've seen it to be a really big game changer for a lot of my clients with fatigue issues, with migraines. What else? It's just great for supporting mood.

It does turn your urine bright yellow, which is a bit of an alarming thing that you may not realize. If you see that, you might think there's something going on with you when you start supplementing.

Am I really dehydrated or what? Yeah, some people are like, oh my gosh, I must be so dehydrated. But it's almost like a… like a neon yellow color. So I would love for you to share.

You had some really fascinating research on riboflavin.

Riboflavin, transdermal nutrients, and testing

I'd love to learn more about that from you. Yeah, before we go into that, can I quickly go back to comment on HTMA on hair mineral testing? One thing I found interesting through a personal experience is that when levels are elevated for, say, certain metals or certain nutrients, but specifically for nutrients.

Does that mean that the nutrient is basically there is an excess of it or is it just not being utilized because something is blocking its utilization?

And those questions we cannot really answer just by looking. So if we probably need a combination of tests and then also go by symptoms, by how a person is feeling, looking, you know, sleeping, what they're eating, and put those together and try to get a better picture of it all.

With viboflavin, yes, it's a magical nutrient involved in so many important processes in our bodies, including supporting energy production and mitochondrial function.

It also helps reduce oxidative stress markers. So, riboflavin is very interesting because it can support activation of other B vitamins, say B6, B9, and B12.

It's also involved, although research is fragmented, there is some interesting research showing that riboflavin, its active forms, are involved in supporting thyroid hormone metabolism.

So there is this enzyme iodotyrosine diiodinase, which is FMN-dependent. There are two active form of vitamin B2 or riboflavin FMM and FID. The first active form of B2 is FMN, and it's involved in supporting the function of that enzyme.

It's been proven since 1950s that impaired function or iodotyrosine diiodinase can result in symptoms of hypothyroidism, goiter. Essentially, it is the enzyme that helps recycle iodine, but you do need sufficient B-2.

B2 is involved in many important processes. There is some recent research also showing that it's involved helping calm down muscle activation syndrome symptoms.

So there is a bunch of research coming out on its effects and usefulness. And yes, for myself and my family members, it has been one of those nutrients that's been completely transformative for our health.

I think you mentioned that you've had success supplementing that nutrient with your family members as well Isabella. When my son was a baby, I tested him with an organic acid test and I was working with Dr.

Erica Pearson who works with a lot of children. She's a naturopathic doctor and we found that his riboflavin was low so I actually started taking it via breast milk so that it could be transferred and he was kind of having a lot of anxiety about walking, I guess that would be the best way to say it.

And within a few days of taking that, he just became so much more confident and a little bit like, it was like he was more fussy, and then he became less fusty and almost like.

He was missing just some, a bit of that riboflavin to just really get his energy and his confidence and happiness going. You know, when I was taking it, It was, and I tend to get like the winter blues if I don't spend a lot of time out in sunshine.

And I remember feeling myself like I'm taking this for my son, so it transfers in the breast milk. I wasn't depressed, but I feel like my mood is so much better.

So this was very, very interesting for me. And now one of the things that has always been tricky for with my own son is like getting him to take supplements.

Like, you know, obviously, I no longer breastfeed and he's like almost seven years old. So that that's not necessarily an option. But you've actually I was looking into I remember looking into some of the vitamins I used to compound various topicals and a lot of B vitamins can be utilized topically, which is such an amazing option for children, right, to not have to give them a pill to swallow or even a liquid that they might spit out.

You know, you can essentially when they're taking a nap, You could rub some topical beef items on them. And what you had some really interesting insights is that that was your route of administration.

It wasn't oral B2 that really made a big difference for you. it was topically. I'd love for You to share more with people on that. Yeah, I did attempt oral supplementation earlier or on in the health journey and it just was not very effective.

And I think some of the factors that go into whether oral is going to really work or not is whether your stomach acid

levels are low or are they normal.

If stomach acids levels allow, your body is gonna struggle to absorb and utilize those nutrients and this also goes for impaired gut nutrient utilization, which is often the case in people with chronic health issues and impaired metabolic function.

Also, whether your immune system is reacting appropriately or not, and this is going to depend on its interactions with the gut microbiota and its metabolites.

So oral supplementation can really either not work or backfire if you are just not in the right place, in right time, essentially. And this was me and my family members.

There was an option to try a transdermal approach, trans dermal delivery. It was pioneered by this Australian biochemist, Dr. Greg Russell-Jones. He actually developed a protocol, nutritional protocol.

that made a big difference in my own and my family's health journeys. It was a great starting point, except later on, I realized that strict adherence to his protocol was not working.

Essentially, what he's saying is that you need iodine selenium and molybdenum to activate vitamin B2, which then activates vitamin b12, and b 12 is his favorite molecule.

For me, the most transformative nutrients administered transgermally have been iodine, selenium, molybdenum, and B2. They've made the world of difference.

Dr. Grek pioneered this transdermal delivery approach through water and oil microemulsions, which a lot of chronically unwell people have found transformative for their health.

But there are all sorts of other brands out on the market. You've got patches, which it's not really clear whether they do work or not. I think there is very little research into that.

Right now, you've micro needles and other things. But the method we've used, the transdermal method through micro emulsions have been tremendously helpful.

And it actually helps bypass to an extent the issues that you're having with the absence of optimal gut microbiome, gut inflammations, and low stomach acid levels where you're not able to absorb and utilize the nutrients, you get them delivered to your bloodstream and utilized by the cells as needed.

That was really helpful. We're actually looking to collaborate with this company, Phoenix Vitality, that's based in Australia for the research project because we want to see whether we can utilize transdermal approach for autistic children, knowing how much they often struggle with sensory sensitivities and inability or dislike of taking oral supplements.

So this could be an interesting way to test the effectiveness of this approach on nutritional replication, essentially, and overall well-being of autistic Thank you so much for sharing that.

And if you could tell us again, the Australian, was it micro emulsion transdermals? Is there a company? Yes, it's a companies called Phoenix Vitality.

They're based in Australia. I think it is a pretty new company. But I thing people should be able to get in touch with them and get on the waiting list because basically they've put a lot of research into formulating a really amazing product.

And I think they're about to start rolling it out. So it's a pretty novel method of delivery of nutrients. It's in its early stages, basically. I thinks transdermal delivery is going to be revolutionary in the future, but it is only just picking its pace right now.

This is one of the brands that I personally recommend because I've used it and I have had a lot of success with it myself. Yeah, thank you so much for sharing that.

So I've been using transdermal delivery systems as a pharmacist for 20 plus 30 years, where we make them as compounds by prescription. And so there's various ways to formulate that, but it's generally not available to the public.

So having a company that actually makes transdermal vitamins can be a really big game changer. Otherwise, you'd have to find a knowledgeable physician that can write a prescription and knows how to, and know which compounding pharmacy to send you to work with.

And that could be so many different steps where sometimes if you can get something from a company that just manufacture it and try it, especially for things like riboflavin and topical magnesium, these are generally going to be very, very safe.

With regard to iodine and selenium, we know that they're both narrow therapeutic index nutrients. Some people with Hashimoto's, they can get an increase in thyroid antibodies and worsening of symptoms when they take iodine, especially when you take it without selenium.

And some people can also have adverse reactions, though that's more rare with selinium, some Do tend to feel worse with it. A lot of times I find if they have salvation issues and so a lot times it is helpful.

When you do utilize both of those together and I, I found with with Hashimoto's, it's like, generally you want to micro dose them. I don't know if that's been your experience as well with.

with utilizing them with people that maybe have thyroid symptoms without having Hashimoto's or without a thyroid condition per se, is there a dose range that you've seen may be safe and effective?

Yeah, I was going to say that people who aren't formally diagnosed with Hashimoto's or some form of hypothyroidism, which is often driven by Hashimoto's, they tend to do pretty well with iodine, but you do have to pair it with selenium.

And also, if at some point you're supplementing both and you find that you are going backwards, perhaps you need to be also taking some of the nutrients that help utilize those nutrients even better, like molybdenum, or zinc or magnesium.

I think starting with RDA dose, which is perfectly safe, is a good starting point, and then depending on the testing, Because you do want, especially if you are supplementing your child, you want to test their levels before you start and also throughout and going by symptoms.

You then make a decision on whether you wanted to increase the dose. If you're seeing a lot of symptom improvement and benefit to increasing the does, then you just have to make that individual judgment call.

As you do it, I do not recommend a specific dose because I think it's just going to be very individual for myself. I've seen huge improvement by going above RDA dose for both of those nutrients.

Sonu2019s transformation and sleep support

Essentially, I'd say that iodine and selenium have actually been the key nutrients in my health recovery journey that then enabled me to utilize other nutrients better.

So yes, it's pretty individual. And also with kids, that can be such a worry. You don't want to do anything wrong, right? You want take them to a doctor if you're able to, do the testing.

Then based on symptoms, you just decide what they need. Thank you so much for sharing that. Speaking of

children, I know that your son has gone through quite the transformation, so I was hoping you could share some specific changes that you saw and maybe nutritional things that incorporated just to kind of share your experience.

Yeah, absolutely. So as a baby, he was really unsettled. He cried a lot. It was having these non-specific allergic reactions that were really difficult to pinpoint.

Was it due to specific foods or environmental triggers? His sleep was extremely disrupted. I'm not joking when I say that for the first three years of his life, he was waking every 20 minutes during the night, and he would normally be up for for rest of the day somewhere between three and five a.m.

So not only his sleep, was disrupted, my sleep is extremely distracted as well. And it made functioning so much harder. And there were options to start supplementing things like militonium, which we struggled to do and we didn't go down that route because I just couldn't get him to take supplements in the first place when he was little.

After a while, I actually realized that you can give your body what it needs to make things like melatonin that's mostly produced in the gut by itself.

There are nutrients involved that support melotonin production, and this is what has really helped make a difference to my son is realizing that nutrition, dietary changes alongside targeted supplementation can really make huge difference.

So going back to his symptoms, he was having allergic symptoms. His sleep was really disrupted. He was always in this sensory overload state, hyperactive, which over time, say between ages one, two to four and five shifted to more pronounced chronic fatigue syndrome symptoms where he no longer had energy or stamina to even go outside for a short walk.

Things were just starting to look really bleak. His diet was extremely limited and the fact that he was reacting to foods was only making things worse.

And things like antihistamines or trying mussel medication was producing this limited effect. It was not really, it was only masking symptoms. I was addressing the root cause and the cause was metabolic dysfunction driven by these nutritional assets.

And I'm not saying my son is no longer autistic. He sees the world differently. he relates to people differently, but he's made a huge leap in terms of even his social skills and his language.

You know, when he was five, he really struggling to reply with even one or two words. phrases back to me, he would say yes or no, and that was it. Right now he speaks in full sentences, can talk about politics, geography, math.

He can calculate three-digit figures in his head within several seconds, something I've never been able to do and I never had any sort of diagnosis to my name.

Though the transformation has been incredible and I still find it hard to believe how nutritional approaches can really transform children's lives. I do think that age matters when you start implementing these things, the younger the better.

But we started adopting these nutritional practices and strategies when he was five. He wasn't that young at that point, but even the changes we've seen in the last three and a half years make me believe that anything is possible.

When he diagnosed at age three, his diagnosis report said that he had severe challenges across every single criteria. against which they make that decision to diagnose child with autism.

And at that point, we were even struggling to attend sensory therapy or language therapy sessions because he

was just inside this constant sensory overload state.

He was not handling the therapy center environment, other people talking to him. He was just not coping at all. This has completely changed. And yeah, he's a different child.

His happy, his thriving, quality of life has dramatically improved. and this is what we want for our kids, right? We want to love them the way they are, but we also want them to set them up in the best way for healthy lives.

Nutrition is one of those things that can really make a huge difference, coupled with the right lifestyle changes of course you. And also people go thinking like okay supplements work, supplements can make big difference but they will only go as so far if you don't try to change the diet.

If the child is still eating junk food and their diet is super limited supplements will or produce a limited effect, they might help, but you really have to look at the bigger picture and address that overall diet, address the lifestyle.

Are they sleeping well? Are the spending too much in front of the screen? are they spending enough time outdoors? We really are not. Most adults in developed countries like US or UK, including kids, spend most of their time confined to, essentially indoors and very often confined office tables or, you know, sofas, watching Netflix and whatnot.

I'm so glad that he's doing so well. I know sleep is such a big challenge for parents and definitely parents with children with neurodevelopmental issues.

Remember, I used to work as a consulting pharmacist for families with special needs and I held a forum to discuss the use of melatonin with children just because this was such a common struggle.

And you mentioned that there are things you can do nutritionally to produce melotonin. Could you tell us what those are without actually taking a meletonin supplement?

Yeah, and this is something that I originally learned from the biochemist that they mentioned, Dr. Greg Russell-Jones. He talks quite a lot about the the compounds that our bodies should be producing but aren't when we are chronically unwell.

And melatonin is one of them. Some people assume that most of the melotonin that's made in the brain, it's actually made, most it is made on the gut. If the function is impaired, then the body is going to struggle to produce those compounds effectively.

And so, nutrients like B12, which then depends on B2 for activation, and which potentially depends the nutrients that are involved in thyroid hormone metabolism, like iodine, selenium, but potentially others are going to be very helpful in helping restore melatonin production, and it's not only involved in supporting good sleep, it is also involved supporting immune responses as well.

It's just one of the examples of things that our bodies should be making, but very often are not doing so effectively when we are metabolically unwell.

I sort of put anxiety and sensory overload in a similar bucket. I understand that a lot of times they can be driven. They can by many things, but histamine is one of them.

Would it be the same? Yeah, so for my son, pretty much similar to what I have found to be really effective for myself. For my symptoms, I found very similar things for him.

So minerals like iodine, selenium, zinc, Iron, magnesium, omega-3s are very important as well. And then B vitamins, those have been especially in the transdermal form.

Well, the minerals and vitamins haven't tried the megas in trans-derma form, They can really affect our mood and

things like anxiety levels, depression levels.

These can in part be driven by thyroid hormone dysfunction, which as we've discussed can be quite difficult to diagnose. So even correcting nutritional deficits that support thyroid hormones production can help in itself.

And we also have discussed that nutrients like iodine can be tricky, but for those who don't find that nutrient tricky to supplement, especially when combined with selenium, that can really be helpful.

And then magnesium often has calming effects on people. People who have anxiety, heightened anxiety levels find magnesium to be calming. It also often helps with sleep.

Histamine, anxiety, and practical next steps

I found zinc to be very helpful with addressing sensory issues in my son, especially when it comes to sensory food aversions. What else? The histamine connection is very interesting.

DAO, one of the enzymes involved in histamine metabolism is actually FID-dependent, so its DAOs enzyme actually depends on sufficient levels of second active form of vitamin B2, F-ID.

You do want to have your B-2 levels in check if you want deal with histamines effectively. And histamine can on its own act as histamines and our body's inability to effectively eliminate excess of it can can, on it's own, be a driver of anxiety related symptoms as a lot of people come to realize.

Yeah, absolutely. That histamin can be very much. a big driver of anxiety symptoms, and sometimes there are ways you can use antihistamines, but also nutrients can help with breaking it down properly and helping it balance.

In my experience, I've also found that mold, toxicity, as well as various infections, including H. pylori and some of the protozoal infections. that affect many people with Hashimoto's, they can be very powerful histamine producers within the gut.

Sometimes addressing those infections, just you lower the histamines bucket. I think what I really want to share with people is we're sharing a lot of research right now, and I and your goal is to let them know what's possible and not to feel hopeless because there are so many different things we can do support ourselves and support our children with chronic illness.

I know this can oftentimes feel very completely overwhelming for people, whether it's themselves or their children that are going through this journey.

Do you have any suggestions, maybe what parents can do without feeling overwhelmed? Yeah, so I guess the biggest thing you want to do is to focus on making small, consistent changes.

You don't want make drastic changes and suddenly put, say, yourself or your child on a multivitamin, which you are not even sure if it's going to work well for you, for your biology or not, or dramatically change your diet.

go on say low salicylate diet all of a sudden without fully understanding the consequences of doing so, because any elimination diet, even if it may be necessary in some cases, will inevitably result in the person getting a lower nutritional profile from.

from the food that they consume. So just trying to understand the consequences of those steps that you want to make to help support your family's health is important and making these small changes.

If you find through testing and symptoms that your child has some sort of nutritional deficits, then it's a good idea to start supplementing those singular nutrients to see how your body reacts to it before, say, jumping on a multivitamin.

I often prefer to try the single nutrients in supplement form just to the nutrient form will work well because say magnesium, there are so many different forms and they have different sort of effects on your body.

So without being sure if that's going to work for you, you don't want to make dramatic changes essentially and jump into supplementing all sorts of things without trying if it works for your first.

I guess that would be the first biggest step and then try and Understand whether your current dietary approaches or your lifestyle beats in terms of supporting your overall health.

Do you go to bed late? Do have a lot of chronic stress that requires better management? What are your relationships like? do you spend a lots of time outdoors or not?

what is your diet like Do you consume a lot of whole organic foods or do you mostly buy ready meals from the local supermarket and feel that this is healthy enough?

So all those things, they add up and just basically trying to understand whether what you're currently doing is actually helping support your health is a big step forward in my books.

Thank you so much for sharing that I wanted to ask you more if you could tell us about your work that you're doing with science mama's HQ research and how we can get find out more information about you and support your With other like-minded moms, we set up this non-profit organization based in the UK called Science Mamas HQ last year, and it's focused on building community and educating moms and families on the importance of nutrition, but also lifestyle in helping support families' health.

We also set up a sister organization called Science Mamas HQ Research, which aims to drive and fund impactful research into complex health conditions and to investigate how the interplay between nutrition, thyroid, gut health and metabolic health plays into the pathophysiology of those conditions, and what can be done to help improve symptoms and quality of life.

Science Mamas HQ research and closing rapid fire

So, we are currently looking to fund the first research project that, and there is quite a large team of research collaborators and mentors for this research that we're planning.

It's going to be focused on understanding the interplay between nutritional status, thyroid and gut health in autistic twins based in the UK. And yeah, we're currently looking for funding.

We've made several grant applications. One is looking very promising, but if you're listening to this and if would like to give us some support, then go to sciencemembershq-research.co.uk to donate to help make this research project happen.

The first step will be the proof of concept study to look at the interplay of these factors that I've mentioned with a follow-up intervention study that will look whether supplementation with specific nutrients in transdermal form and also dietary approaches, but also a combination of both can have the most impact on improving the overall health and metabolic health of autistic children.

And this work is being supported by influencers as well. There is this wonderful UK-based nutritionist, Yalda, who runs Eat, Burn, Sleep initiative in the UK.

She is involved in helping shape the nutritional intervention for the follow-up study. We're also working with Kiran Krishnan, the US- based microbiologist.

and he's acting as informal mentor for this project to better help us understand how to assess gut health in autistic children and do the gut microbiome profiling, things like this.

So it's very exciting and currently we're focused on this one project, but there are many more being planned and hopefully this will help move research forward and also help change and save lives.

Thank you so much for sharing that and for doing the work that you're doing. I know it's gonna be helpful to a lot of people. And I knew a a of the things that have been shown to help children with autism actually help a lots of individuals, adults with autoimmunity.

They help people, children, and adults, with ADHD, Hashimoto's. So I this research is going to reach a and it's going to help a lot of people within the autism and chronic illness community and beyond.

This has been a really wonderful healing conversation. Thank you so much for joining here, Alexandra. Before I let you go, I wanted to put you on the spot, perhaps ask you a few rapid fire questions.

If you had the supplement police come to your house and they said you have to give up all of your supplements, but you can keep one, which one would you keep?

I guess at this stage where I am right now with my health, I'd keep vitamin B2 in my supplement cabinet. Before, I really benefited from iodine and selenium, the combination of both, so I wouldn't have been able to give up one.

Those two were really, really important. But B2 has been great lately, and I would like to keep it in my cabinet. Fantastic. So riboflavin B2 it is, you get to keep it.

And are there any wellness hacks that you refuse to participate in? Yeah, I'd say cold plunge would be one. It looks, it sounds great in practice, but I just I couldn't do it, because I would always worry that my heart would stop.

Yeah, that's been a popular answer on my podcast. And I think a lot of us do have thyroid issues that come on on the podcast, so I'm there with you on that.

Thank you so much for taking the time to join us and for everybody listening. I hope this has been A Healing Conversation as part of your healing journey.

Until next time.