Why Methyl B12 Still Matters in Autism and Complex Pediatric Care Transcript

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Opening on Pattern Recognition

So what you're talking is what I refer to as pattern recognition. Yeah. And so it's that pattern, recognition that's really key. When you can view things through that lens, exactly.

You can either compartmentalize certain things, of course, always linking it to the clinical presentation of the patient. I always say we're not treating the labs.

We have to link the lab to what's happening with that individual. But that pattern recognition is absolutely key and not, as again, not getting lost in every single marker or treating one little marker.

It's that pull the lens back and get a broader view. Hi, welcome to the MAPS webinar series, Healing Tomorrow's Future. We are thrilled to be bringing you this series packed with valuable information and education within our community.

My name is Honey Rinusella and I'm the Executive Director of MAPS, the Medical Academy of Pediatrics and Special Needs. Within these webinars, we're able to empower clinicians on the knowledge and tools to support patients facing a variety of health challenges.

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MAPS Webinar Introduction

That's www dot medmapps dot org. Thanks for joining us on this journey towards a brighter, healthier future. So I'm John Gaitanis. I am a pediatric neurologist on the board of MedMaps and we're here at Medmaps in Charlotte, North Carolina, 2026. And joining me is Kurt Waller, who is the chief medical officer from Mosaic Diagnostics, but he actually has quite a few different hats, also a clinician and an educator.

He spoke at this conference on what predated this leukovirin craze, which is methyl B12. has decades of experience in that area. And we'll talk about that, but we will get a little more into just the general of his practice as well.

So Kurt, thanks for joining. Thanks. Pleasure to be here. Yeah. I will let you first, if you want, talk a bit about the patients. It's up to you. But if want to talk to the patient you see, the kinds of conditions that you feel that have experienced the most.

And then maybe we could segue that back to B12, which has been around one of the older and more tried and true therapies that's been out there. Well, I mean, i've been in practice nearly 30 years and really from a functional integrated medicine standpoint, kind of cut my teeth, so to speak in the autism world.

So yeah.

Kurt Waller's Background in Autism Care

When you and I were on a summit, an autism summit recently, I talked a little bit about the fact that I went to my first Defeat Autism Now conference in San Diego, 1997, 1998, which is where I met Dr.

Bill Shaw from Great Plains Laboratory. That's where learned about The Organic Acid Test. So really from the early stages of my independent career outside of medical training, it's been within the autism community.

And when you learn the fundamentals of what we call biomedical intervention, integrative medicine, functional

medicine you can start working with other types of patients.

And so I work with people with chronic fatigue and autoimmune and neurological conditions, but the bulk is with families with special needs kids. And, you know, I kind of came up around the same time.

So what I recall, and this is where it might've been different today, or what we're trying to change is I would order from Great Plains at that time, would do many metal testing, do the hair sample.

I might have done a few of the other panels that they had, but I didn't feel like I had the guidance. that I needed. I was sort of making it up as I went along.

And a lot of my education was actually coming from families. We had the Dan conferences, we had a few conferences but nothing quite as organized as what you've developed and what MAPS has developed.

So I don't know if you want to just talk a little bit about it. In those days, it was very much you're on your own. You'd go to a conference maybe once a year, but there wasn't a lots of guidance beyond that.

Now I picked up some things just consulting with Dr. Schaup, But it really was things on my own, Now, fortunately for me at that time in San Diego, which was interesting, was it was a growing area of what we now call functional medicine.

So I got tapped into another doctor, Dr. Bill Timmons, and he was an naturopathic doctor. He actually did have his training program. So I got kind of rooted with them.

And then I really kind have merged the two fundamentally as the years went on. But today's structure is so much more accessible. You think about, you know, the maps conference with the different tracks and you've got the innovation, You've Got the regular, plenary groups.

you got so many more things online. I mean, I've done hours of webinars, my own academy that I've created, you know, with various courses. So these are things that sort of developed over time, but for a new practitioner, it's much easier now to get help and access this information than ever before.

And I think a big difference, if I order from Mosaic today, I get a meaningful interpretation. It's different than what we had. I sat there alone trying to figure out what to do with these results.

But today I do get more meaningful interpretations, but then I guess I could also access the academy as well if they need a little more of a deep dive on the topic.

So at Mosaic, they have a great clinical education team. As a practitioner, you can order tests and then talk to those people in clinical To my own academy, that's just another resource.

I mean, so I have about nine different mastery courses. My first course was autism mastery. So it's 16 modules, about 35 hours of lecture material. And then in addition to that, there's webinars and other courses as well.

What do you think of, I means, AI is a big thing, right? And I think when clinicians are faced with page after page of testing results, How's that going to play out?

Are we getting close to a point where we could translate that directly into a guided treatment for that patient?

Learning Functional Medicine and Lab Interpretation

Yeah. I mean, I think AI is certainly going help expedite that process. Of course, you have to double check, make sure everything's correct. Yeah, here's the thing about whether it's organic acid testing or you're looking at a stool test or some of the kind of lab, you still have to kind to break it down to the fundamentals and not get overwhelmed by all of information.

So, for example, being at this conference, one of take homes for me has been getting people to understand, getting back to the basics, healthy eating, clean water, clear air, working on gut function, foundational nutrition, which has always been at the root of biomedical intervention for autism.

But I often teach about, just take the organic acid test, there's 76 markers on the test. But there are certain markers that show up very commonly that you can address immediately.

You don't have to get overwhelmed by everything on that test we kind of go after the things that are very common and are immediately accessible from a treatment standpoint.

There's always another layer, as you know, in medicine, but we always have the start with the fundamentals. Yeah. I mean, I think we all have our own approach, right?

What I would say as a clinician, you could tell me too, if your clinical hat guides you this way, but I'm not so much focused on say each organic acid, trying to look for the pattern.

So for example, looking from evidence of mitochondrial dysfunction, or if I am looking at a fecal microbiome sample, I'm not so much thinking about each species individually, but I was just looking for evidence of dysbiosis, and then I am looking to confirm that with low butyrate or low short-chain fatty acids.

And that guides me to say, okay, there is dysbiosis, or on the oat testing, like there's mitochondrial dysfunction. I feel like if I keep it in a general bucket, I can manage that as a clinician, focus too much, too granular as a clinician, it loses me a bit.

So what you're talking is what I refer to as pattern recognition. Yeah. And so it's that pattern, recognition that's really key. When you can view things through that lens, exactly.

You can either compartmentalize certain things, of course, always linking it to the clinical presentation of the patient. I always say we're not treating the labs.

We have to link the lab to what's happening with that individual. But that pattern recognition is absolutely key and not, as again, not getting lost in every single marker or treating one little marker.

It's that pull the lens back and get a broader view. I mean, you know the testing as well as anyone here. Would you say, I'm in the clinical side, the history, because you're a clinician too.

So the, history of the exam findings, it all is important, obviously, but do you feel like we're, for the young or novice person approaching this, do feel they get enough of that clinical slide to match the test?

And how do gauge the importance of each?

AI, Testing, and Clinical Pattern Recognition

Well, I mean, both are critically important. So the test will reveal, like you said, they may reveal certain mitochondrial patterns, or you might pick up on Clostridia toxins that if you didn't know they were there or hadn't tested for, you wouldn't they're there.

And there's a, it's one key point to this. Why I've always advocated for the organic acid test was based on my clinical experience of in my early days, not doing it in certain situations and assuming I could move forward with certain treatments.

A classic thing is an autistic child has a candida overgrowth situation and they're being affected from a behavioral standpoint. I had many situations where I didn't run the test I attempted to treat them and it had the exact opposite effect.

And it wasn't until I actually did the OAT and found out that they had other problems that should have been addressed either prior to that. So the history is absolutely critical.

You can do a physical exam. A lot of us work in the virtual space now. But I take a deep history and get an aspect of what kind of child am I dealing with?

Yeah, I have the test information, but are they sensitive to supplements? What's happening in their environment? what kinda diet? And what are their behaviors?

Do they have sleep problems? All of that is critically important to you. The two have to be merged. So I'm thinking of what are the situations where I might be completely wrong on my treatment approach without the testing?

Because there are a few. I mean, I think about treating the gut microbiome as one where without a little bit of guidance, it might make a wrong decision.

And that might really important. Can you think of other examples where the test you feel has been a critical component in your clinical practice? Well, particularly if you've got certain nutrient deficiencies.

I have found a number of kids who've got various B vitamin deficiencies, thiamin deficancies, for example. And if you try and push them too much with either supplementation or antifungal treatment, if they're not quite ready for it, so that you have to go back and work on those foundational aspects to support their detox system, support, their cellular chemistry.

There's a lot of those kinds of examples. I think sometimes we can get lost in assuming that they all have the same problems. Food sensitivity testing is another real one, in that you're sort of assuming that maybe there's just a few things they need to avoid, but you might miss a specific food that their highly reacted to that is not a common finding and it turns out to be a significant factor for a child.

I mean, it sounds like you're able to, from your clinical skills, you can use the history exam to create a clinical phenotype. Use the testing to sort of a testing phenotypes.

Correct. And sometimes they're aligned and that's beautiful because you have a very clear path. Sometimes they seem a little divergent and you'll have to figure out how to balance.

Right. You probably noticed this too with testing, sometimes testing rules out what you don't have. Yeah. I've done environmental toxin testing. I'm like, oh, well, we really don't have a major problem with heavy metals, or we don' have some other chemicals.

And that becomes important too, because you can start to cross things off your list that you don t have to deal with, and it allows you to focus on other areas.

That said, though, you probably still do use some impaired trials, I would think, on the clinical side. I mean, so one, this is really towards the B12, for example.

So using methyl B-12 which is a therapy that for some kids, they get very hyperactive and that's always a challenge or they have insomnia. And we know that to be a side effect, but some parents might interpret that as a true worsening.

And for many times it's an empiric trial that we're using it. And so that's always a question. Do you push through? How do you pushed through is that one that you would kind of say is still a very worthwhile trial for the clinician.

Using History and Testing Together

The reason I did the lecture here is I wanted to go back and talk about those fundamentals, talk these innovative treatments that were from years past that tend to get overlooked or forgotten and not really talked about much

anymore.

And if you look at some of the core aspects from a biochemical standpoint, impairment in biochemistry with the methylation cycle and oxidative stress, you really can't ignore methyl B12.

Yeah. And we could get into the nitty gritty of all the reasons and the enzyme reactions, but fundamentally it's been one of those therapies that over the years has consistently held the line as having a really positive influence.

And yeah, some kids will get hyperactive and some will start to have mouthing behaviors and they may have some sleep disturbances. Usually they're short-lived.

They kind of pass through it. The thing for me, when it comes to really any treatment, is I don't want to see aggression, and particularly I want see self-injurious behavior.

You might have a child that gets a little bit more agitated or frustrated, but if you suddenly kind of cut down maybe below the surface a bit, you start to realize that the B12 is opening up their vision, opening their awareness.

They're now more willing to do things. But because of their limitations, they get more easily frustrated. That could be perceived as a negative reaction, but it's really a positive.

So I would say for most part, it'd be even true, as you know, with leukovorin, there's an element of pushing through maybe softly. Yeah. But if we're having a child that's completely dysregulated and they're, again, self-injurious or very aggressive, that to me is a, we got to dial this back, reevaluate, what else have we missed?

Is there something else maybe going on? And I'll go ahead. I know. Yeah. What I was going to ask is as a clinic, this is my question as the clinician that I asked myself.

But I'm curious how you approach it. So of all the treatments, when I ask families who've tried a lot of therapies, the one therapy that, I get a universal, yeah, that works is methyl B12.

And I hear that enough that not all those families had checked MTHFR, so they don't always know their genetic status. Not all even had a homocysteine.

But almost, I wouldn't say universal, but with a very high percentage have shown improvement. That always raises, as a clinician, it raises the question, do I have to check Mthfr?

Do I to have check homocistine? Or is the improvement so common that I could try it empirically and I can always assess those things down the road, but maybe the improvements itself is really the key feature I'm looking for.

That's been my approach. I mean, we're talking probably a good 80% of the kids get really good positive results. And so again, not everybody can afford the heavy genetic testing.

And the reality is with some of these things, you don't need to do it in everybody. We've had good success with the gluten casein free diet for example, for years for foundational nutrients.

So, Methyl B12 has a great track record of positive response in a really good healthy percent of the kids. My feeling is, is based again on clinical history and judgment, It's a worthwhile thing to try and without getting lost in complex testing all the time.

Again, you can always come back and assess later if you need to. But I mean, we go back almost the same timeframe. Some of this testing wasn't around 20 years ago.

Right. We didn't have that benefit. And we were implementing these things and seeing the good percentages back then that we are now. Yeah. So the way I would always rank order it, I think about some of the downsides of any treatment, if I'm doing it empirically, but I'd think, okay, what are the medical risks?

What's the financial costs? And then what's sort of, the time cost as well, because that could be a lost opportunity for other therapies. And I wouldn't say methyl B12 on my list.

ranks pretty high across the board in terms of safety, being good, cost is not exorbitant, and the time investment's not so bad.

Methyl B12 as a Practical Therapy

You have certain things like gluten-casin-free diet that I put pretty as well. And I think leukovorin now is also one. I mean, these are things that, I would say, when you look at the safety profile versus either the financial cost or medical risks, It seems like a pretty good balance on those three.

Those seem to rise to the top. I would 100% agree. Yeah. Are there others you would put early on like that, like sulforaphane or? Well, I mean, foundational nutrients are key.

If you look at the work of Jim Adams and Julie Matthews, who's done studies on looking at foundational, nutrients, that's always important. We know these kids have compromised gut function.

They're often have very self-limited diets. You can look at their testing. Often they've got deficiencies in nutrients. So I've taken the approach. It's like, listen, let's start with the foundations.

Let's with improving the quality of diet. Whole food, real food diet, if we've gotten certain sensitivities, we pull those out as we're talking at this conference, clean water, trying to reduce pesticides, fundamental for everybody.

And then on top of that is good foundational nutrients. Could be essential fats, could be a multivitamin, for example. You don't have to get too complex.

I talked to parents this way. It's like, you want to try to improve nutrition, obviously through diet, but we know these kids are so far behind in many regards with certain nutrients, we can fill in the gaps nutritionally with good supplementation.

Get that baseline set. And then you can work on gut function. Do we have imbalances in the microbiome? Do have yeast? We have clostridia. And typically when you do this, when your layer in methyl B12, or you layer-in leukophore, you tend to often get a more consistent response.

We get good consistent responses just by sometimes going straight at methyl-B12. But it's often, I think, more long-lasting if we've established those foundations as well.

Okay. So, Leucovorn made a lot of news recently. A lot families seek Leukovorn itself, but I think you and I both agree here. There's not a single treatment.

It's really looking at that, just the larger picture of, and agree the foundational piece, nutrition, exercise, sun exposure, clean air, you know, clear food, water.

Those things are critical, right? But then as you go beyond that. I wouldn't necessarily treat a kid just with lukewarm. I would think so. Methyl B12 and lucavorn actually go really well together.

Mitochondrial cocktail dovetails into that nicely. And then treating the gut microbiome. All these things are really complimentary. We don't set up our clinical trials that way, right?

I mean, if you really want to have sustained effect or look for the maximal effect, I feel like with the clinical experience, what informs me is that there's not a single treatment.

It's combining all the different things that act on those mechanisms that we know under lioautism to improve sustained effects over time. I mean, I think the Luke Warren story, the percentages are kind of playing out.

Again, it's like B12. You're getting a really good high percentage of kids that are responding to some degree. Yeah. And then you're having other, a few, maybe 15%, 20%, 25%. where they're not tolerating it.

You have to needle into that a little bit and say, well, what does not-tolerating mean? Is that somebody's perception because maybe they are a bit hyper or maybe having some disruption in sleep?

To me, that's something you might see with Methyl B12. If you just be patient, let it ride out and let the body adjust. They might do fine with it moving forward.

It's the kids who are very compromised where they're, again, if they get very agitated, their hyperactivity is to the point where their not functional.

it's not that the treatment is bad. Maybe they are not ready for it. Or maybe the dose is too high. And that's where you have to kind of step back and say, let's reevaluate the situation.

I totally agree. The leukovorin and the methyl B12 complement each other beautifully. If you just think of it from a biochemical standpoint of what's happening at the methionine synthase, that bridge between the methylation and folate cycle, these things come together and have that influence in a very profound way in many of the kids.

Yeah, and I think this even applies to adults too, if you think about it. I mean, elevated homocysteine, say, is not good for our cardiovascular health.

Foundational Nutrition and Combined Treatments

There are a lot of downstream effects, so sometimes the adults might forget about the same, you know, some of the very same things that are improving their kids might be important for later life health too.

So I don't know if apply that sometimes or think that in adult medicine and disease prevention on a much larger scale. I always look and say, well, we're dealing with a child now, but what is their health moving forward and the consequences for sure?

We have to be thinking about that. I mean, I had just mentioned, it was last night talking about the fact that when you can greatly improve the health of a three or four-year-old child.

Perhaps even recover, they lose their diagnosis. You're talking about a human being who now has a lifespan, perhaps living in that more of neurotypical space for 70, 75, 80 years.

Now that I've been doing this a few decades as well, the kids get older. They sort of fall off of some of the therapies they used. they might still need that support down the road.

And so many times we revisit things that they tried when they were younger, as they're entering young adulthood and still seeing benefit. At least I do.

I feel like there's still value to remembering the very basics. Of course, the core pillars of nutrition and sleep, but beyond that, methylcobalamin using flenic acid, they still have value in a lot of my patients, even in their 20s.

Well, and that's one of the really cool things about the genetic testing is we have the ability to do that kind of testing now to say, okay, here's sort of your genetic template.

Here's kind some areas that maybe are some weak points for you. It doesn't mean you have a disease. These are things that you can fundamentally work on throughout your life.

We do the same kind testing for other patients. So it just gives more insight into sort of this blueprint, for example, of kind of what's happening with you of just some things to pay attention to.

On the other end of it, like, so we've probably have seen, you must have done testing on a lot of kids who are in bad metabolic health. So kids have been on the antipsychotics for years, kids that have metabolic syndrome.

Are you seeing results come in on kids you've really been metabolically in a very bad shape and partly related to treatment? Well, I think we're looking at an entire society that's somewhat metabolically dysfunctional.

What I'm noticing, and I've talked to a number of other practitioners, you're probably seeing it too. is that the complexity of some of the kids seems to be increasing, whether it's mitochondrial-based, where there's other metabolic imbalances, hormonal.

I think we have an increased level of toxicity that we're exposed to, that there seems be just more kids that are responding to treatment. It's just taking longer.

or maybe higher doses of things or more things done simultaneously, that I am noticing a trend.

Leucovorin, Genetics, and Long-Term Care

I've seen this trend with regards to just treating fungal infections or clostridia problems over the past, even over six, seven years. So the microbiome is becoming more deranged.

And it's making things more difficult, not impossible, but we're difficult. I mean, I'll close on this thought, you wonder if industry can answer certain questions that you can't do in an academic setting.

So one example would be you think back to Great Plains and then into Mosaic. But if we do testing over longitudinally over decades, i wonder If we could start to appreciate these population level changes that have happened, it would really present an interesting way to look at the health of society and kids going forward.

I'd love to be able to go back and tap into lab tests from 30 years ago. I think what we're seeing, obviously, is that when we have the ability to do more type of environmental testing, we are seeing the level of toxins going up.

But those underlying patterns, as we just mentioned, are certainly present. Yeah. And then it's linked with the abnormal gut microbiome and a lot of the derangements like evidence of mito dysfunction.

I think, you know, I do agree. Like, there's a general trend for those going up. So I feel like our job on the clinical side is to make sure the kids we see don't go down that pathway.

And that's where the, again, the testing comes into play to be able to look for the until you get a foundation. So where, where's the foundation now? Of course you got to try to repeat test over time.

You and I have been doing this a long time, you could, pretty much get started people on a good diet, Beth will be 12, et cetera, implement these things, get good positive response.

Yeah. the testing helps to create a platform. And the reality is this lab testing also is a great motivator for many people, particularly from a dietary standpoint.

So I think the tests, both are important. Trialing things, of course, but doing laboratory testing as a way to guide and a ways to reassess upon retesting.

I thinking all of those things has to be merged. Yeah. Create the baseline and then really track the progress over time. Right. Absolutely. Yeah, so with that, I appreciate your time today.

It was a great conversation. I appreciated it. Thank you. Thanks. Great.