



From Dirty Genes to Healthy Heart

Guest: Ben Lynch

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Dr. Mark Menolascino: Welcome to the Heart Health Summit. I'm your host, Dr. Mark Menolascino, medical director of the Meno Clinic Center for Functional Medicine in Jackson Hole, Wyoming. This is your chance to hear from international experts on how to optimize your health, your vitality, and prevent heart disease.

We're joined today by Dr. Ben Lynch, one of my colleagues. One of my experts in the field that I look up to. And someone who has become a friend for me. Thank you for joining us, Ben.

Dr. Ben Lynch: My pleasure, Mark. Good to be here. And Wyoming is on my list. I've got to get out there.

Dr. Mark Menolascino: Well, we'll take you and your boys right there.

Dr. Ben Lynch: I'm down, let's go.

Dr. Mark Menolascino: Let's do it. So let me tell our viewers a little bit about you, Ben. Again, Ben and I got the chance to sit next to each other at a conference. I've always wanted to meet him. I've heard him lecture, watched his webinars, and podcasts. And I always really enjoy our time together, talking about our kids and our passion for sports and the outdoors. We seem to have really similar value based system. I really respect that in my colleagues.

So Dr. Ben Lynch, he's the best-selling author of *Dirty Genes* and president of Seeking Health. It's a company that helps educate both the public and health professionals on how to overcome genetic dysfunction. He received his doctorate in naturopathic medicine from prestigious Bastyr University. He lives in Seattle, Washington with his wife and three sons.

He has a special interest in environmental medicine, and it's really trying to help people recover from the assaults of chemicals, heavy metals, and other environmental toxins. For all of my colleagues, Dr. Ben is the go-to guy to help us untangle this web of genetic intricacy, personalizations, and how to really optimize everyone's individual health by looking at their uniqueness. So again, Ben, thank you so much for joining us today.

Dr. Ben Lynch: Awesome to be here. You're doing a great thing helping these ladies figure out what's going on and prevent their heart health issues. So let's get into it.

Dr. Mark Menolascino: You know, I think all of us in this passion feel the integrative, naturopathic functional medicine. We all have kind of a story of why we got interested in a part of it that we become experts in. Can you share with us, what was the aha moment for you that you knew genetics were where you wanted to become the expert?

Dr. Ben Lynch: There was not one incredible aha moment. It's funny how when you're going through life, there's something that says, oh, that's really interesting and really cool. And then something later, maybe a year or two or a few years later, it builds on it. Builds on it. So there were a few.

I remember I was working with Dr. Bill Ray in Texas at the Environmental Health Center, Dallas. He was an amazing doc in environmental medicine. We were treating individuals for mold, or heavy metals. Indirect meth exposure, because somebody was cooking it downstairs and all the fumes came upstairs. So we saw a lot of weird, crazy stuff.

So with these people, we were treating them the same way as all the other patients who had indirect meth exposure, or heavy metals, or chemical toxicity, or what have you. Some got better, some didn't. And I remember I asked Dr. Ray, I said, do you think there's a genetic component to this? And he goes, yeah, probably, but I haven't really ever looked into it because it wasn't really available. The technology. So I never looked at it. So that kind of stuck in my head.

I saw the *Tale of Two Mice* on NOVA. So if you Google NOVA, *Tale of Two Mice*, you will see the same video that I saw, and you'll go, oh my gosh! You have genetically identical mice built and bred for heart disease and diabetes and cancer. And the controls ended up getting those things, and the rats that ended up having methylated nutrients, like folate and B12, didn't. And I was like, wait a minute? Hold on. You're telling me these genetically identical mice for heart disease never got it because they were given a few vitamins? Wow! That really changed my mindset. So I really got into it from there.

Dr. Mark Menolascino: I've seen that clip. And the mice are actually different, they look different after they're exposed to those nutrients. That's the power of food as medicine. A lot of people come and see me, oh, my mom has Alzheimer's, my dad has heart disease, I'm just doomed to get those too. And this new concept of epigenetics is, you're not your parents. You have the power to change that.

Dr. Ben Lynch: Yeah. You're not your parents. You're not your brother. You're not your sister. And in fact, you're still you. But you can be a new you. So if you are already having heart disease, oftentimes, you can reverse that, which is awesome. Even calcifications in your blood vessels you can change.

Even if you think, oh, I'm already having these things. And your genes are dirty, and they're contributing to these problems. Your choices are either going to support your genetic expression, or they're going to hinder it. And every day, we make these choices back and forth. And it's like, oh, I want that. It's going to taste really good. And it's going to make me feel really good. I know I shouldn't do it, but I'm going to do it. And then you say, now that I did that, I'm going to go and take a sauna or go exercise or what have you. There's the yin and yang.

I'm not perfect, by any means. I don't think that we should get stuck in the ideology that we have to be absolutely perfect with every single choice because that's a stressor in and of itself. But yes, we absolutely are our own unique selves. Even if your parents or loved ones have cardiovascular disease that are related to you closely does not mean you're next in line.

Dr. Mark Menolascino: You mentioned this concept of dirty genes. Can you help our viewers understand, is there a difference between a clean gene and a dirty gene? When you say dirty genes, what's the concept that you like to share with that?

Dr. Ben Lynch: I asked my audience. I was curious, after I wrote the book. I asked them, what do you think a dirty gene is. And I got all these answers like a SNP, a gene that's bad. There was one lady that goes, a gene that is not functioning optimally. And I loved that. It's really simple. And it says it all because you can be born with perfect genes. An absolute specimen. And they can come to your clinic and say, Dr. Mark, look at my genetic tests. And you're like, wow, your genes are perfect. And it's like, really, there's nothing you can do for me?

Just because your genes are perfect does not mean they're working perfectly. So it's good that your genes are clean, genetically. You inherited great genes from your parents. The problem is, your choices. Your exposures in your life, or your stressors, have overwhelmed your genes even though they were built to sustain and keep off a lot of pressures. So you're fortunate, because otherwise you'd probably be dead by now. You've got great genes, but we've got to clean them up.

So by cleaning up your genes, what you're doing is you're doing the fundamentals. You're eating a good diet. You're finding stressors and eliminating or reducing them. And stressors can be relationships. It can be overtraining. It can be undertraining. It could be not sleeping deeply enough. It could be an infection. It could be heavy metals, chemicals, so on. You do the fundamentals.

All I ever say is, and Dr. Tom O'Bryan says the same thing. When you have a genetic variation, like MTHFR is one such gene that is well-known. When you find that you have an MTHFR gene, it does not mean that you're destined to have problems, like cardiovascular disease or cancer or what have you. It just shows that you have increased susceptibility and you need to take extra precaution to it.

So I say a dirty gene can be inherited, or it can be just brought on by your own lifestyle choices.

Dr. Mark Menolascino: That's such an empowering concept. What you're really doing is you're giving people information about themselves to empower them with knowledge to help them make behavioral changes to optimize their life. And you've got to have the information to know what to do with it, to know what choices are good or not so good for you uniquely.

Dr. Ben Lynch: Absolutely. And when you boil it down to the genetic level, and your own unique set of genes, what it is does is the individual really takes

ownership of that information. Whereas if you just go to a doctor and they say, look. Your homocysteine is high, and you're like, I don't know what that is. That's a cardiovascular risk factor, ok. You need to take these vitamins. Alright. But they don't really connect to it.

When you show them, and say, look. You have this particular set of genes that, when they are not functioning very well, you have a potential for higher homocysteine. And what this means is, if your homocysteine gets higher, then you have a lot of potential for cardiovascular disease and other things.

So with your set of genes, we need to keep an eye on this, closely. So I've ordered that for you today, and we find that, yeah, your homocysteine is 15. So it shows that your genes are actually needing some extra attention. So, with that said, would you like to take some additional steps to support that. And you're like, heck yeah! Because now they've really personalized it.

Dr. Mark Menolascino: And it's actually actionable. And that's what, I think has been so hard in the past with genes. We've had other speakers talk about methylation, MTHFR, homocysteine. Do you have an easy way for our viewers to try to package what that means to them?

Dr. Ben Lynch: Yeah. You want to start with methylation?

Dr. Mark Menolascino: Sure. They're hard concepts, I think, for a lot of people to put that whole story together. And once you get this story, then it's easier to parlay it like you did in your book. You're able to put all the other genes in a nice sequence that they're able to follow.

Dr. Ben Lynch: That's right. So, there are multiple actions that are going on in our body all the time. Every millisecond. Every nanosecond. There is some process going on. And one of these processes is called methylation. And when you break the word apart, my grandfather would say, when you're trying to explain something, always define it. And it's such a great point.

So, -ation defines an action, right? Acceleration. Mastication is chewing. Excitation is a state of being excited. Methylation is the act of giving a methyl group to something else.

And what's a methyl group? A methyl group is just a compound in the body that, when it binds to something, it changes its function. That's it. It changes its job. So when my hand is shaped like this, I can catch a ball. Or I can shoot

a basketball. But I can't type. So I need to change the shape of how it's going. So now I can type.

Dr. Mark Menolascino: Great analogy.

Dr. Ben Lynch: But I can't catch a ball. So let's say that this is your dopamine in your body. Your dopamine is shaped like this, because compounds have unique shapes. So when you add a methyl group to it, let's say it's now like that. So that dopamine becomes something else.

So, homocysteine, for example, does not have a methyl group on it. There's no methyl group on homocysteine. And homocysteine we know, and you know very well in your clinic. You probably even mention it in your book a number of times. When homocysteine is high, there is, even research papers go back and forth on it. There are issues with cardiovascular disease, for various reasons.

When you add a methyl group to homocysteine, it now becomes methionine, which is methylated homocysteine. And how do you get that methyl group onto homocysteine? From methyl folate, which is your body's number one form of folate, which your MTHFR gene makes, or you consume from leafy veggies or organ meats. Ugh, but they're great. And then there's methylcobalamin. You hear that? Methylcobalamin. You've been hearing these terms all the time but you never took time to recognize these support methylation.

So methyl folate is a really good form of folate. Folic acid is not methylated, whereas methyl folate is. And methylcobalamin is methylated. And these two nutrients help support taking homocysteine and making it nontoxic for your body, in healthy amounts.

Dr. Mark Menolascino: I have a lot of people come in taking B12, and they're taking the cyanocobalamin. And really, whether you know your genes or not, is there a role for cyanocobalamin in anybody?

Dr. Ben Lynch: No. There is no physiological role for cyanocobalamin, and there is no physiological role for folic acid. These two compounds have to be transformed by the body in order to be utilized. And that's exactly my point with *Dirty Genes*.

If you are consuming something that requires work by your genes, that's ok as long as they're not overworked. When you come home, and your son or your

daughter says, mom, dad, can you help me with my homework? Sure. Then the next kid comes home, dad, I've got to go to practice. Mom, I've got to go to practice. And then the laundry piles up. Where are my socks? Is dinner ready? And you're starting to go like that.

Your genes are the same way. If you consume cyanocobalamin, and you're consuming folic acid, and you have high homocysteine, and you didn't get enough sleep last night, and you have heavy metal toxicity, and you're taking medications like nitric oxide from the dentist, and you don't have enough antioxidants like glutathione, your genes are going to be like, I'm sorry. I can't work. And therefore, your homocysteine level gets built up just like the laundry buckets in the laundry room. They just can't do the work. You've got to free them up.

Dr. Mark Menolascino: I love as a family man the analogies you have that are so real world. You make it easy. Ben, you were kind enough to sign one of your books and give it to me at the conference we were at together, to my nutritionist. I actually took it for the first several days, and read it. I'd looked at it and kind of read it. But after meeting you, I went deep and read it.

You have so many great, easy to follow analogies. And I think that's something that really separates the good clinicians from the great ones. They are able to take difficult concepts and make them understandable. And once people understand them, they're actually interested in doing something about them.

What in this gene story for you has been the hardest for you to get, or to explain to clients or to physicians?

Dr. Ben Lynch: That's a great question. There are a number of them.

Dr. Mark Menolascino: I thought there might be.

Dr. Ben Lynch: One is the internet. You can explain things as you do in your book where you've done the research, you've done the homework, you've practiced and seen absolute results over and over again with your patients. It's proven, there's no doubt. The biggest problem I am seeing is, I have this SNP. What do I do about it? What supplement do I take for it?

They're not understanding that just because you have a SNP, or genetic variant, does not mean there's an issue. I was at fault for that for a couple of years when I was working with genetics myself. I would work with all individuals, and they would have MTHFR, heterozygous, homozygous. I would

vary my recommendations for supplements based upon how significant their SNP was. And sometimes it worked beautifully, sometimes it backfired awfully. Horribly.

So then I came to learn, it's like. Huh. Your homocysteine is actually ok. Yeah, your MTHFR is 677 homozygous. It's pretty significant. Your MTHFR gene is slowed down. It's pretty dirty by about 80%. But 20% of it is still functioning, and you're not overwhelming it. You're eating a lot of leafy greens. So you're fine. Don't need it.

So I would say the biggest one is, don't treat the SNP. Make sure you treat and support the individual. And if you're not a doctor, please do not take your genetic report and say what vitamin or supplement do I take? Because you're going to see that all over the internet. And yes, Facebook groups are fabulous. But they're also, at the same time, very time-sucking, and they can put you down rabbit holes and make you sicker than when you first got started and you get more confused. So just don't treat the SNP.

Dr. Mark Menolascino: I think you're right, Ben. Dr. Google can be a good thing, and Facebook. It's great for people to get information. It's how they package it and use it for themselves, it gets a little bit dicey, pulling something off the internet.

I know you do some work where you help people to understand what these huge tests mean. What's the benefit of someone doing one of these genetic tests, and then what's the harm of someone doing them? How can they best use that information?

Dr. Ben Lynch: That's a loaded question.

Dr. Mark Menolascino: I know.

Dr. Ben Lynch: First off, you have to ask yourself, are you ready to peek under your own hood? Are you ready to lift the skin off and look inside of your own body?

If you're willing to do that, and you're excited to see, then go for it. However, if it terrifies you to know which genetics you have, then don't because what you're going to do is you're going to focus and obsess over them, and it's going to create more fear. And that more fear is going to dirty your genes. So if you're ready, go. If you're not ready, just don't.

Or, what you could do is you could do genetic testing and give it to your doc and say, doc, look at my genes. You make the decisions for me. And then maybe at some point I'll be ready for it. But you have to be mentally ready.

Now, that said. Let's say you're excited to get your genetic testing done and peek under the hood. I equate this to being, we see outside of ourselves all the time. We can't see inward, we always see outward. We can try to think inwardly, but that's tough. We can't see our own genes. When you do a genetic test, you basically find out if you're a Prius, front-wheel drive car, a rear-wheel drive car, a four-wheel drive car. Low clearance. Your acceleration is 0 to 60 in 10 seconds or 0 to 60 in 3 seconds. You find out these things.

And that's cool to know because if you've been a Prius this whole time, driving off-road, and you start moving your Prius back to the highway, and your charging it frequently instead of trying to put diesel in it, you're going to get a lot further in life. And that's the beauty with genetics. You start figuring out exactly how your genes like to operate.

Because when you see that you have MTHFR, a significant variant, I need to eat leafy greens, I must avoid folic acid. And then you get another gene that's NOS3, and it's homozygous. And you're like, wow. That explains a lot behind the cardiovascular risk in my family. The MTHFR and the NOS3. I really need to take care, how do I do that? That gene gets dirty really, really quickly. I need to figure out how to support it and what it really needs and what it loves to do and what it doesn't want me to do.

So you start figuring these things out, and you can take action on it. And you need to find out that the actionable steps are the fundamentals. But they're fundamentals tweaked. And that's the beautiful thing. You're already practicing the fundamentals, at least you should be because no supplement is going to cure you 100%. Far from. A supplement is defined to add or enhance, and the fundamentals take precedence.

Dr. Mark Menolascino: That's why I've loved your approach. You see supplements as just that, they're supplemental to your good lifestyle choices. They help get you there and keep you there if you need to be. But really, if you're not doing all the other homework on the backend, it doesn't really matter.

In medicine, we have these bell shaped curves of normal that are average ranges. And we kind of regress individuals to the mean of a population

because it's easy for us. And we want everybody to fit into this certain narrow range.

We all see people who are outliers who don't fit in those ranges, and they need this special attention. Do you feel like looking at the genes is really a way to understand why you're an outlier, or why you need more sleep than your best friend does? Or why you can't have coffee and they can? They can have a triple latte at dinner but you can't. It helps you understand some of these things about yourself.

Dr. Ben Lynch: 1000%. That's the beauty of genetic testing. Let's say you have been practicing the fundamentals, and you've been doing a really thorough job. I mean, not kind of thorough, but very thorough. Yet, you are still that person that drinks green tea, why is everybody loving green tea? It makes you super anxious. And you just can't tolerate it. Yet, your partner is sucking down three cups a day and gentle as a lamb. You're like, what the heck?

You've always been kind of a night owl, and more of an introvert. And they're really outgoing, and they're always trying to drag you to these events. And you're like, man, I just want to stay home. So your genes are built like this, potentially. And when you do genetic testing, you can find these things out. When you're under the care of someone who truly understands them. 100%.

So for me, I basically had life-long low white blood cells. Every time my doctor, I would go to the doctor, I would see WBCs. And they wouldn't be super low, but it would have an L. And I'm like, dang it! What is wrong with me? And I did not know that that was connected to methylation, and MTHFR. Me not consuming my leafy veggies, and I was not really taking supplements. Now my white blood cells are fine. It's been gone.

And I remember, when I was asking the doctor, I said, what is up with this doc? They keep coming back with an L. And my doc was a naturopath, and he was like, well, some people are just outliers. And I didn't like that comment.

Dr. Mark Menolascino: We see a lot of people with low white blood cells, and we don't really have an answer. We do the medical evaluation, looking to be sure it's not leukemia or something scary. I know we try to blame it on nutrient deficiency, but what you're telling me is that for a lot of these people it's actually in their genes.

Dr. Ben Lynch: It can be. Or the genes just aren't working ideally. I did not love and respect my genes. I was a kid. I was 20s, and teens and then in my 20s and late 20s. And I just, I was impenetrable. I do what I want, and when I wanted. Alcohol, I could never tolerate. And that was one thing I learned pretty quickly in college. My friends could drink, and I couldn't. And I'm not built for alcohol. My genetics just say no.

Even if I drink one drink, I'm a bit slower the next day. It's harder for me to get going in the morning. So I just don't drink anymore. It's just a choice that I made. Yeah, I could supplement my way out of it. But, it just really, really slows me down. And I can have a good time at a gathering and not feel pressured to have to drink. So if I did feel pressured to have to drink, then that's not my circle of friends.

Dr. Mark Menolascino: That's such a great point. I think a lot of viewers listening can relate to that. A lot of times, like we mention with the coffee. One alcoholic drink and you're hungover the next day. You can't have coffee after 10 a.m. or you're wired all night. When you put gas in the car, you can't stand by the car, you have to go off to a clear open ventilated area. When there's a woman with heavy perfume on the elevator, you can't get on it. You have to take the next one.

All kinds of little pearls that tell people they aren't as efficient with their genes. Or that they may have some of these dirty genes. Are there other pearls that you hear people say that you kind of go, oh, aha. It's one of these.

Dr. Ben Lynch: Yeah. I love the cold hands. The cold hands, my hands are warm right now but I used to have pretty cold hands. And my middle boy, Matthew, will have freezing ice hands. And when I was listening to Patrick McKeon of the *Oxygen Advantage*, I think he wrote that book.

He talked about nose breathing versus mouth breathing. And this is super important for cardiovascular disease. If you are a mouth breather, you are not producing nitric oxide. And nitric oxide you need to make your blood vessels widen. And when your blood vessels widen, you can deliver blood flow to various areas. When you breathe through your nose, for some reason the passage of the air through your air will stimulate the genes to produce nitric oxide, and they will widen and have your blood flow.

So if you have really cold hands and feed, that's a cardiovascular risk susceptibility. If you are a mouth breather, that's a cardiovascular risk susceptibility. So the next time you find yourself going like this, or your kid, or

your loved one. Say, hey. I just learned that you should be breathing through your nose. How are your hands right now? And you feel them, yeah, they're ice.

So focus on breathing through your nose just for 5 minutes. Not fast, slowly. Slowly in, and you shouldn't even really feel the air going in or out of your nose. Nice and slow and in but not to the point where you freak out and get nervous about breathing. And your hands will warm up that fast. It's amazing.

Dr. Mark Menolascino: I have three clients I'm going to try that with, three women that really suffer from that.

Dr. Ben Lynch: Breathing is an underrated thing because it's automatic. But we take it for granted because it's autonomic. So we've got to, as clinicians and as humans, our selves. There's something called female apnea too. If you find yourself holding your breath, or sometimes all of a sudden just breathing really deeply, you've been holding your breath. So the next time, if you're yawning a lot. Have this huge influx of air, a big breath in or a sigh. You're holding your breath.

Dr. Mark Menolascino: That tells you that your nervous system, sympathetic and parasympathetic are not balanced.

Dr. Ben Lynch: Exactly. Well said.

Dr. Mark Menolascino: So, one of my favorite things, and I think if I went back I'd probably be a naturopath as well. You're taught, and you have learned yourself, to be very observational of the body. You listen to people, you look at people. Are there things that you can see in the physical exam, or a nutritional physical exam that you do that you see pearls that give you hints, things may not be operating at full efficiency?

Dr. Ben Lynch: Yeah, a lot. Nails. Nails should be strong, not brittle. And you should have halfmoons in your nails. I shouldn't use the middle finger. You should see half moons there. They shouldn't be curved down. You shouldn't see a lot of fungus there. The skin shouldn't be splotchy.

The tongue, when you lift the tongue under, you should not see big, distended veins. If you see big distended veins, then there's a lot of backpressure. And backpressure can be a congested liver. It can be congested blood flow.

And what you typically see with the distended veins under the tongue, because if you lift the tongue, you'll see the veins under there. And you'll see them, they'll be big, and puffy, and blue if they're distended. And then you look at your face and it might have a purplish hue to it. And women like that will have clotting. They'll have menstrual pain. They'll have PMS. And they'll be quick to irritability.

So when I ask these things, I'll say, lift up your tongue, please. And I look, and I hold their hands. And I ask them, do you have clotting with menses? Are you quick to being irritable? Are you slow to calm down? All these things. And they're like, wow. That's pretty powerful.

So yeah, there's a ton of these things. Cold hands. How they're positioned when they're sitting. Are they leaning really far forward? If you're leaning really far forward you might have difficulty breathing, and all these muscles might be super tight, so they're actually reducing the strain. Are they breathing up here versus down here? Is the color of their skin mottled? Kind of white or dark colored? Again, lack of blood flow. Is their neck twisted?

My neck is kind of turned. It's kind of pulled down right here, a little bit. And I have to do that to straighten it. And that's muscular because I'm really tight here. So look at their gait. There's a ton of things.

Dr. Mark Menolascino: That observational medicine, you actually just taught me several pearls I have not heard before. I feel like I'm very observational in my visits, but that makes me want to look at other things, too. I don't think I appreciate the breathing.

It's funny you say that about the breathing, because I teach everybody to meditate. And what I tell them to do is put their right hand on their belly, take a few belly breathes. And they all lift their shoulders. And to breathe out their belly, we have them do it three times, in and out. And I tell them, guess what. You just meditated. It's that easy. Do it with every meal. Get the body ready.

So it doesn't take a lot of work. You don't have to sit in your underwear for an hour or two to get that benefit. Are there ways that you can assess this genetically that someone is more predisposed to these type of nervous system imbalances? Where I'm leading to, Ben, is I'd love to talk about, if we could, genes and anxiety and genes and ADD because ADD is such a rampant condition going on. And so many women deal with anxiety. And the solutions for both of them are not very good in the medical world.

Dr. Ben Lynch: No.

Dr. Mark Menolascino: The naturopathic is a lot safer, and I think more effective. But I think that's a real burden on our kids and on all of us.

Dr. Ben Lynch: Yeah, it is. And the dirty genes here is really impactful. They did a study where I don't know exactly how the study was made. But the bottom line was, organophosphates are very, very prevalent in fruits and vegetables. They're a compound that's sprayed in the fields. They found that children who ate strawberries that were not organic were way more likely to be ADHD than children who ate strawberries that were organic.

So just the chemicals that we are all exposed to will increase your susceptibility to this, big time. And why is that? Organophosphates are a compound that require our genes to stop what they're doing to process it and get it out of the body. So if I had, I'm talking with you now, but my kid came in with a bleeding, broken arm, I'd be going to deal with that.

So the body wants to rest and repair and regenerate, but it has to deal with something like organophosphates, it's going to do that. And it's going to run you at a risk for neurotransmitters not to work very well. And that's what we're exposed to. So you've got to do these simple things because your genes, they can't do two things at once. They've got to choose. So you eat nonorganic foods, or you want to think clearly. That's the choice.

Dr. Mark Menolascino: It's that simple.

Dr. Ben Lynch: It's that simple.

Dr. Mark Menolascino: We've heard a lot on this series about toxicity and organophosphates, and mood issues. As much as I don't want to admit how big a deal toxicity is, because it scares me to think how many people are affected. And are woefully ill equipped so many people are to detoxify. So once you get things like organophosphates, they're in you for 15-20 years.

Genetically, you may be less likely to get rid of them. Is that correct?

Dr. Ben Lynch: Absolutely. And I don't know the exact pathway for organophosphate elimination. There is a gene called PON1. It's paraoxonase-1. And this gene also works with a compound called homocysteine thiolactone, which is a very, very reactive component of homocysteine. And it can lead to seizures and so on.

If you're homozygous for this PON1 gene, I don't talk about it in my book. Not many people talk about it at all, actually.

Dr. Mark Menolascino: Yeah, I don't know it. I've not heard about it.

Dr. Ben Lynch: But if you're homozygous for it, you better be avoiding organophosphates. And Matthew, my middle boy, is homozygous. And this gene is associated with autism risk. Dr. Robert Naviaux talks about PON1 in his research. So PON1 is a big one. And it is tied to cardiovascular disease as well.

Dr. Mark Menolascino: You're right. Now I know what you're talking about. So, not to share personal information, but if your son has that homozygous, besides getting organic strawberries, what are some of the other things that as a family you guys do to be absolutely sure you minimize exposure to that?

Dr. Ben Lynch: It's a lot of me being the bad guy. It's teaching the kids, too. Empowering them to make choices. I was very authoritarian when my kids were young. It was like, no you're not eating that, and that was that. Now that they're older, my job is to teach them, this is what happens if you eat it, and I do not recommend it. Your choice now. I'm not authoritarian, as much. But I let them make these choices, because I want them to fail in my own home.

If they fail in my own home, and they do end up getting ADHD, or sicker. I can say, let's backtrack. What happened? What choices did you make? And I use that as lessons for them. It's like, oh yeah. And then they get it. And the next time when the offer comes up, to have strawberries at a party, they're like, no I'm good. Thanks because they might have a sporting event the next day.

So let me give you an example. My oldest son, Tasmin. Good looking, tall kid. Fit, athlete. Smart. Just an awesome boy. He's almost 16. And he loves Chick-Fil-A. Loves Chick-Fil-A. I was that authoritative parent most of his life. And I was like, no. They didn't even know what McDonald's was. Somebody asked them where McDonald's, I think they were 4 or 5. They asked, what's McDonald's?

So he's been eating Chick-Fil-A periodically, and he gets zits all over his face. And he goes, dad, I've got zits. And I didn't know he was going to Chick-Fil-A because he'd sucker his mom into it after soccer practice. So we'd give him some liver support, the zits would go away. And he's like, oh, sweet. I can have my cake and eat it too.

So what did he do? He had more Chick-Fil-A. The supplement couldn't compete with it, so now he has zits all over. And he's like, the supplement doesn't work. I was like, no, you're eating too much. It can't handle it. So his skin was really clean on homecoming. He was zit free. This is a teenage boy. Zit free. And I was like, Taz because I saw a photo of them from homecoming. I was there, I didn't really pay attention. But his complexion was super clear.

And he goes, god, I'm so excited. Now I can have Chick-Fil-A. I said, what do you mean? He goes, I avoided fast food and all junk food for two weeks so I could have a clean complexion for homecoming. I was like, yes!

Dr. Mark Menolascino: So even with the best information, we still sometimes make not the best choices.

Dr. Ben Lynch: That's right because how much pain is it going to cause you? Well, I don't want zits for homecoming. I'm ok with having a periodic zit walking down the halls of school on a normal day. So, that's ok. Now, if you're being treated for cancer and you're still smoking, maybe you do want to die. And that's ok. But if you don't, then it's your choice.

Dr. Mark Menolascino: You know, Ben, the very first time I did a genetic test in my practice was 20 years ago, a woman whose mother had Alzheimer's, and she'd read about the APOE gene and wanted to know what her status was. And I'm going to say, mistakenly, I ordered it for her. And it came back as one of the two being the bad one. It was like 3/4. You don't want the 4/4, and you don't really want a 3/4. But she had the 3/4, and she immediately felt like she was doomed to get Alzheimer's. And there was nothing she could do on it. And she was on the highway to dementia. And I felt helpless as a practitioner. I had all these other things we could work on, but she was focused that her destiny was her gene. I didn't have this epigenetic knowledge that we do now. And I felt helpless as a practitioner for her.

Now that we have this information, and you can make these good decisions, where do people turn to? Should they be doing these tests on their own? Do they find a practitioner? How do you know if someone really knows what they're doing with this? Is there any way for our viewers to have some confidence in who they choose to help them with this?

Dr. Ben Lynch: That's an awesome question. And I learned the answer to that from one of my folks in our Facebook groups. I did not know how to answer this question. And this lady, somebody asked this. Dr. Lynch, of all these doctors, how do I know which one of them are good? And this lady goes, you

just ask them how they treat MTHFR. And if they say, well, knowing that MTHFR is very useful information, but let's look at the whole rest of you. That's a good doctor.

Dr. Mark Menolascino: That's great.

Dr. Ben Lynch: If they say, well, we'll look at your MTHFR and your other genes, and we'll figure out what supplements to put you on according to that. That's a doctor to stay away from. So if they look at genetics as susceptibilities versus diagnostic things to treat, that's the differentiation. So if a doctor wants to fix your genes by giving you a supplement or a medication, 99 times out of 100 that's the wrong thing to do.

Sometimes there are SNPs that do say that yes, you should have a nutrient for that. At least a special form, all the time. Like FUT2 is Bifidobacterium problem. So if you're FUT2, you're a nonsecreter and you probably should be taking prebiotics and Bifidobacterium probiotics just point blank. You just take them. So that's one of those rare genes. And I don't talk about that yet, publicly, so there you go. First hand.

Most of the time, that's how you figure it out. And I think that was a great way to do.

Dr. Mark Menolascino: You know, you brought up two great points. One is, I love when our clients teach us something. And these Facebook groups, and the kind of work you're doing with that, I love that. I think these forums to share are so powerful. And the way women share with each other is beautiful. It's great how they help each other and support each other.

I completely agree with you. I have people come to me for second opinions, or they call me, like they do Mark Hyman. The doctor of last resort, because I live in this resort capital. But they've been to 12 doctors, and they're coming to us, and they're read to give up. But when I see these genetic reports, and one thing circled and a supplement written right next to it, I know right away that that was probably not the most optimal practitioner for that person to see because it's a lock and a key mechanism, not a pathway and a journey that they take together. So I love that answer because it's a journey. And it's not an if this, then that. It's not as binary. It's more the art of medicine.

Dr. Ben Lynch: It is the art. There was a great comic, and it was alarming but true. They basically had a curve of accessed information skyrocketing going up this way. And we have tremendous accessed information right now. For

example, your summit. People are getting tremendous value, and tremendous information from this that would have taken forever to be able to gather in the past. Impossible. Now it's just right there on their phone. Amazing.

But, the ability to practice common sense is inverse. Directly inverse. And the punchline on the bottom is, we're going to be the most well informed extinct species on the planet.

Dr. Mark Menolascino: That's great. I love that.

Dr. Ben Lynch: The amount of predatory stuff that's going on in terms, when there's a pain point. There's always going to be someone there to solve your pain with something. And a lot of people will do it the quick way, which isn't the right way, and they'll make a lot of money from it. And they're thinking of the short term game, not the long game. And if you're the individuals taking the short game, then you are supporting these predatory type companies, of which there are many.

So if you're getting a genetic test and a genetic report, and it says that you have this genetic variant, take this supplement and this supplement. And you have this one, take this supplement and this supplement. And there are supplement companies doing the same thing. Big name supplement companies are saying, upload your 23AndMe data for free and we'll tell you what supplements to prescribe to your patients. And they're teaching doctors this.

That's what I say, what's one of your biggest hurdles, this is one of my biggest hurdles because the amount of misinformation and the lack of common sense. Doctors also want fast, because they're busy. It's tough. And you've got to be, as your own self, as a patient, you have to be educated. So I love that you're putting this summit together to be able to provide individuals that information. So when a doctor does that, it's like, thank you very much. Out you go. You're done. They're fired.

Dr. Mark Menolascino: Well, sometimes you do have to fire your practitioner and start over and find one. And finding good ones are hard.

Dr. Ben Lynch: Yep. Keep going, though.

Dr. Mark Menolascino: You've got to keep going. You know, it's interesting. I think we were able to make an atomic bomb in our country before we actually cracked the code on DNA. And what was it, 15 years ago, it was \$10 million to

sequence your DNA, and now it's under \$1000 to do it. This technology and information is blossoming so fast. Ben, where do you think this is headed? Are we close? Where do you see this all going as far as how we use genetics to make decisions on a day to day basis for our healthy lifestyle?

Dr. Ben Lynch: Well, you're asking a naturopathic physician. And my ideal future of this, of genetic testing, is prevention. So if we understand truly of what genetics mean, and what their functions are, and we can tell people from an early, early timeframe. I.e., prior to getting pregnant, so they can optimize their unborn child with the right nutrients and their own choices. So that baby will be born into the world because they've got the future mom and dad have genes which increased risk for deficiency or increased risk of various chemicals or they shouldn't take certain medications at all. And they know this information.

It's like, oh, wow. I'm low on that nutrient. Yeah, I'm taking those medications right now. And yeah, I want to get pregnant. And they fix all that, and then they get pregnant, that kid's genes are going to be superior, because they're going to be a lot cleaner, and they're going to have the right tools, and that baby is going to be more apt to sustain themselves in an otherwise potentially, well, very polluted environment.

So, I think when that happens, that's going to be really cool. Also, I think it will be great for occupational choice. It's not, what do you want to do for a living? It's like, how are my genes built? What am I best for? For example, we talked about ADHD. So individuals who are more prone to ADHD of the type of lack of focus, because they don't have enough dopamine in their brain.

These types of people are risk takers, and they perform fantastic in high pressure situations. Surgeons, ER docs, firemen, fire women. They excel in high pressure situations. They can handle the stress because when the stress comes, now they've got the right amount of dopamine in their brain. If I was in that role, I would have excessive amounts of dopamine in my brain and I would freak out. So, I'm no ER doc. And when I looked at my genes, I was like, that explains it.

My oldest, Tasmin, he has genes increased risk for ADHD. He's a daredevil when it comes to sports. He's like, hey dad, follow me. We're skiing. And I look down, and I'm like, hell no! It's like that, you know. Matthew and I are both looking down there, Matthew and my genes are the same. And we're looking at each other like, how did he just do that? I said, Matthew, he's got more

dopamine than you or I now. And if we went down there, we would have excessive amounts. That's where I see it going.

Dr. Mark Menolascino: You know, listening to you talk, Ben, like your cartoon analogy. As our toxic environment goes up, our knowledge about it decreases that pain may go down to find an optimal level. We had Joe Pizzorno in our conversation the other day talking about the organophosphates in breast milk and how it lowers the IQ of kids. And you can really build a story of how as a civilization, we're really kind of starting to circle down because of this toxic burden on all of us.

As we understand, I love your story, your metaphor. But as we understand how to build the next healthier, and help women provide this environment around them and in them to nurture the child right for their genes, their child's genes may actually be healthier. Or cleaner. And that's an exciting message, I think, for everyone listening. That that's possible.

Dr. Ben Lynch: Yeah, you increase resiliency. Think of a rubber band. A brand new rubber band that's about a half inch thick. You can pull it, and it's pretty resilient, it will come back. Now if you take that same half inch rubber band, and it sat out in the sun for a long time. It starts to fray around the edges. And that was the first time you got it, and you bought it at the store, you'd be like, hey, give me a new one.

But a lot of our babies, and our kids, are being born already frayed and tattered. And then we wonder why when we give them, we put them in cribs with mattresses that are off-gassing, paint and carpets that are off-gassing. Folic acid formulas, and vaccine schedules that are super-super aggressive. They're already vitamin D deficiency because the mom was inside all the time and not outside. Wasn't absorbing her fats. So that baby was already weaker.

So just start thinking of it that way. And your choices really, really matter.

Dr. Mark Menolascino: Ben, I've always enjoyed listening to you as a speaker. You're a teacher of doctors. You're a teacher of patients. You're a teacher of really everybody. In a concept that, even as an educated physician who works hard, this is still a difficult subject for me, and you make it easy. I love the way you explain these.

For all of our viewers, if they wanted to connect with you and learn more about the work you're doing, how do they find you? How do they learn more about this?

Dr. Ben Lynch: I think the best place is our Facebook and my Instagram. DrBenLynch.com can take you to both of those places. My kids say, dad, your Instagram feed sucks. So what. It's not pretty pictures on my feed. It's informational. Sorry. You want pretty pictures, sub to NatGeoTravel or something. Or watch your summit, and see those beautiful mountains behind you.

Dr. Mark Menolascino: Ben, what are you excited about next? What's on your learning plate? Where are you going next with all of this?

Dr. Ben Lynch: Continuing to create tools that make it actionable. Continue to create tools where people actually can get their genetic information and apply it and experience results. And having targeted recommendations based upon that that are complete. There's too much focus on just single genetic variations. Like MTHFR. Or NOS3. Or PON1. But what happens when you have all 3? Right? What happens if you have all three of those? Then your increased susceptibility for cardiovascular disease is even higher.

So what my role is doing now is we're creating our own genetic chip. And we're going to be creating reports that are focused on combinations of genes. And then putting tons of lifestyle actionable information in there. For example, cardiovascular risk. We'll have a cardiovascular risk panel. And people will have all the genes there, and we'll have the actionable steps. So people will see their own susceptibility to that. And labs, and all these other things.

It's not going to be supplement mill, by any means. In fact, we probably won't even recommend supplements. We'll talk about nutrients, but we won't talk about supplements. And optimizing lives of unborn children is definitely my passion. So continuing to work to optimize pregnancy is where I'm going.

Dr. Mark Menolascino: That's been a common theme throughout this series, how to really optimize that. It helps us, it really helps the next generation. I think for all of us, I know yourself included, that's our big passion. How do we make it a better place and have more knowledge for those to come?

Dr. Ben Lynch, again, my appreciation and gratitude is huge. I loved having you today. Thank you so much for being here.

Dr. Ben Lynch: Pleasure, Mark. Thanks for the invite.