

Blueprint For Brain Resilience: Navigating Alzheimer's Prevention

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Welcome to day two of the Reversing Alzheimer's Summit. It's so exciting to have you here. I'm so grateful that you've joined me on this path to discovering what might be causing your or your loved one's cognitive decline. Many of the things that come up throughout the week, you might be wondering, how do I know if this applies to me? Do I have mold toxins? Do I have heavy metals? Are my adrenals intact? Other things might be really obvious. You know, you're not waking up rested and you know you're not getting optimal sleep. But how do you know? You'll hear some of my guest this week talk about the age-old adage test don't guess. And certainly, if you have the ability to work with a provider or if you're interested in working with us here at our clinic in California or with a Dale Bredesen Recode Train provider, I highly recommend it. One of the things that breaks my heart is when someone waits to test and we know we can categorize as we discussed yesterday, we can categorize the different components that can lead to, remember those six different things that can lead to neurodegenerative disease, these imbalances in toxins in nutrients and stressors and structure, infections, and signaling. And so how do we know? I highly recommend testing. So I want to talk you through today the tests that we do here in my office. And a naturopathic doctor, a functional medicine-trained doctor, and particularly a recode-trained doctor. A doctor like me trained by Dr. Bredesen, can help you with these things.

So, toxins, how do we test for toxicity? We do three different tests. We test for mycotoxins. We use RealTime labs. We test for heavy metals and we use Quicksilver Labs, Quicksilver Scientific. We test for environmental toxins including glyphosate or the chemical used in Roundup. And this we test in my office again through RealTime labs. To test for nutrients, in my office we use Genova's NutriEval. You may work with a provider who uses different brand testing. That's totally okay. These are the tests that I have come to know and love and appreciate because they give me data that I can rely on. And so if you talk to another provider who's using a different testing company, by all means, if they know how to interpret that test, if it works for them, or if you can get something covered by insurance, go with that first. But I just want to let you know what I use in case you want to be able to recreate it somewhere else.

So toxins RealTime, for Mycotoxins as well as environmental pollutants and glyphosate. And then Quicksilver Scientific for the heavy metals. When it comes to nutrients, there are two primary tests I do. One is the Genova's NutriEval which gives us a sense of what's going on with your nutrients. There's also a mini toxin panel where if you can't afford to do some of the more extensive toxin panels in RealTime, you can look at sections or through Quicksilver. You can look at sections of the NutriEval that will also give you a snippet around what's going on with your heavy metals and some of the environmental pollutants. And it's going to let you know a little bit about other indications of how well you're detoxifying. But it's also going to tell us where your nutrient status is both B vitamins, antioxidant, omegas and minerals. And this can be really helpful, particularly if there's a glaring deficiency or if we look at a stool test.

So a stool test is another way to know if we are digesting and absorbing it appropriately. So with this stool test, we can look at what our microbiome is doing. Do we have the right good gut bugs? Do we have potential pathogens, whether they're bacterial, viral, protozoal, parasitic, or fungal? If we have those pathogens in there, we might not be digesting and absorbing appropriately. There might be inflammation, or maybe other issues at play. There also might be an immune response, or an inflammatory response going on. So we can look at, also we can measure in a stool test, not just the microbes, the microbial balance, but also inflammation. Are we inflamed either from an immune perspective or is the gut inflamed itself as the gut leaky? We can measure gut stimulants. We can also measure something called Elastase and see if our pancreas is making adequate enzymes to help us digest food. So that we can then absorb it. Is there excess fat, something called sciatica in our stool to indicate that no, we're not making the flight passer enough of the pancreatic enzymes that are necessary to break down foods. So I use the GI maps test and that's again, that's the one I'm used to using. Also, Genova has a great comprehensive stool analysis. So there are a few different ways that you can do that, but that can give really valuable insight into how you're digesting and processing the food that you eat.

And then, of course, hopefully, a well-trained provider is going to ask you about what you eat. Maybe a food frequency questionnaire or even a 24-hour diet recall where you take them through what you've been eating. Now, at this stage, be honest, right? We all want to share that we've been eating wonderful foods and we want everyone to think that we're eating really healthy. But you're only going to change if we can really assess what's actually going on and know where we're starting from. So the testing for diet and nutrients is going to be what are, you know, the nutrient testing itself, but also the stool testing and getting a sense of what you're eating, what's going into the system. So testing for toxins. We talked about testing for nutrients. We talked about testing for stressors. The best way to do this outside of asking and having a conversation with your provider, maybe you already know that you're extremely stressed out, but what to do about that? There are different stages of stress on our adrenals. At some point in time, if we're relatively new to the chronic stress game, our adrenaline or our adrenal hormones like cortisol will be elevated consistently. Over time though this can make us feel wired sometimes even wired but tired. Over time though, what can happen is adrenal burnout, and

the way that we address those as clinicians, as trained clinicians, is we want to support them in very different ways.

But if you have excess cortisol, we want to help in bringing that down so you can get into a restful state. We would be counseling you to do very different things than if you're in a very burnt-out state. If you're in that burnt-out state we might even consider adding a little bit of adrenal hormone to support you so that you feel more resilient day to day and more awake, less fatigued. So we want to take a look and measure what that stress result looks like. And then also what's fun about testing is that you get tested after the intervention after you do what your doctor suggested after you make that intervention. It's a really fun time to test and see how much progress you've made. So we've covered testing for toxins. We've covered testing for nutrients, we've covered testing for stress testing for structure. My favorite thing here is brain imaging. We often can see the ramifications of a traumatic brain injury. Of course, we want to we want to look at the brain, the structures of the brain. Another structure we might want to look at is the airway. And this can be measured essentially where the rubber meets the road here through sleep, a sleep study, an adequate sleep study.

I love it since COVID that technology has really progressed here. There are at-home sleep studies available that are covered by insurance that get magically beamed up to a sleep medicine specialist somewhere who can then prescribe you a device, a CPAP, or an APAP, or something that works for you to manage that sleep apnea. This is crucially important if you are struggling with cognitive decline. It's one of the interventions I have seen make the biggest impact on some of my more severe dementia patients. So please, please, please test for sleep apnea. If you have any cognitive decline, do not leave that on the table. This is easy to treat from a conventional perspective. It's covered by insurance and it is so important to brain health to be getting enough oxygen to your brain at night. All right. The other piece in structure is the molecular structure. The structure that we discussed yesterday. This is the APOE status. I highly encourage people to test for APOE because if you have an APOE then other people in your family, people who you're genetically related to they might, too. And that information can arm them with the information they need and I know that this can feel really scary, even hesitating here and stumbling over my words because I worry that for some people it feels like a death sentence. It feels like something they have no control over.

And yet for other people, it feels really empowering. Now that I know I can take action, I feel motivated to take control of my health and to do the things I need to do to make sure that I don't suffer the same fate that my dad, my mom, my aunt, or my uncle did. I am going to write a different story. I'm going to go get all the information I need and make the changes so that my brain health is protected and so understanding that APOE status can potentially help you start having those conversations in your family so that those that you know and love are protected. So we've talked about toxin testing. We've talked about nutrient testing, we've talked about structure testing, we've talked about stress testing and we've talked about structure testing. Now, let's talk about infectious testing. So, again, we want to test for HSV one and two. We want

to test for *P. gingivalis* that might be done with a dentist or for gingivitis. We want to test for Lyme and the Lyme co-infections. Again, those are *Borrelia*, *Babesia*, *Bartonella*, *Ehrlichia*, *Rickettsial*, and in that category. The gold standard for Lyme testing in my world is IGenEX test. This is very expensive. So I typically start in my office with a Cyrex array 12. For me, this has been the simplest, easiest way to assess infectious agents and also look for patterns in the immune system. The Cyrex array 12 has a long list of infections, including *P. gingivalis*. It doesn't specifically look for HSV one and two. So I now add that as well, and of course, ask if people have frequent cold sores or herpes outbreaks and then we treat them relatively aggressively for that because it does have a direct impact on the brain. So when we look at this long list of infections for some patients, I'll see that their immune system is lit up all over the place.

For other patients, I might see that the molds they test *Aspergillus*, *Penicillium*, and *Stachybotrys*. I might see that everything's good except all three molds are lit up and positive. That shows me that there's a pattern in the immune system that is lighting up and is actively engaged against a particular type of microbe, in that case, fungus or it might be all of the protozoa or the parasites that can live in the gut, the *cryptosporidium*, and *giardia* in blastocysts. Another pattern is that the Lyme and Lyme co-infections there right now at the bottom, they are all lit up, or all your gut bugs, the *p. gingivalis*. The gut starts in the mouth, right, and health starts in the gut, the gut starts in the mouth. So we really need to optimize gut, mouth, and oral health. And so there's a category there as well. So sometimes I can see these patterns and then we can help support the body to get up and over those immune infections, that immune burden, if you will. We kind of think about toxic burden. I also think about the immune burden. These are things when Dr. Bredesen talks about my brain is stymied when he uses that analogy of your brain as a country when you're in fight and defend mode, it's typically against toxins and infections, maybe inflammation from a traumatic brain injury that we want to get up in over. But when you're in a fight and defend mode, when you're like a country at war, you're not focused on building roads and schools. You shouldn't even be using your energy to build those roads and schools because they might just get damaged. You want to be reserving resources to resolve the conflict, to resolve the infections, to resolve the toxicity, to resolve the inflammation.

So we want to understand what infections are there. We want to understand what the immune system is doing to everything we can give it the extra nutrients it's going to need. All of that requires resources, right? When a country is at war, it requires a huge amount of resources. We want to make sure that that's available to the brain and the body and then we can shift into the regeneration mode. Sometimes we do this in two steps. Sometimes they just do it all at once, give the body tons of nutrients, give the body tons of ability to fight back for those infections, whether it's through immune support or actually through bug killers, appropriate bug killers like antifungals, antibiotics, antivirals, and antiparasitic. Whatever it takes to get rid of those things, or at least get that burden down so that then the body can free up resources to go towards signaling. Our last topic here is the last category of causal factors when it comes to neurodegeneration. So in that sixth category and signaling, there's a few different ways that you can test this over time, I've come to rely on my blood markers for testing thyroid, vitamin D, and

sex hormones. So we tend to replace sex hormones. We see that it has a beneficial effect on the brain. I've seen my patients, when we add them, they kind of brighten up. They feel more useful. They have more energy, they sleep better. We get these really positive benefits. They can make more muscle, which can lead to more brain-derived neurotrophic factors or BDNF going to the brain.

And so measuring these things, potentially supplementing with them depending on your risk-benefit analysis that you discuss with your provider, these things can have a positive impact. And again, that signaling tells the brain to make neurons and make new connections between them. The testing that I do for cycling females is day 21. If you're past that stage of life, you can test those hormones at any time. We test the thyroid, we test TSH both free and total T3 and T4. We tested anti-TPO and Anti-thymocyte globulin. Anti-thyroid Peroxidase is anti-TPO. ATG or Anti-thymocyte globulin is another one that looks for Hashimoto's and we also test reverse T3. Many conventional providers will just look at TSH and T4. You want to get a more robust thyroid picture because there might be room to optimize that signaling with hormones. I typically get FSH and LH, especially for premenopausal or perimenopausal women, and after that, those numbers are going to be high. And then estrogen, estradiol, and estriol are three different types of estrogen that you can measure, and then, alone progesterone, DHEA, and testosterone. And with testosterone, you can measure it with kind of varying degrees of nuance. You can get free total bioavailable, you can get dihydrotestosterone, which is going to be your break down product of testosterone that's more associated with embarrassing zit beards and acne and the male pattern balding, also that dark hair growth and potentially aggression even. So we want to make sure that we're showing you all of the benefits without the side effects.

I recommend that all women who are on any sort of estrogen replacement have breast screening annually. Some breast imaging is typically a mammogram or an MRI. We want to make sure that any risk of potential cancer that might be not caused by bio-identical hormone replacement but might just make it grow faster. If there's an estrogen receptor-positive cancer, we want to find it early, start the hormones and we can mitigate that risk relatively easily by looking at imaging. Testosterone is something that we replace regularly in both men and women as they age again because it helps with muscle building and that is so helpful for both bone and brain health. And then progesterone for women who are struggling with sleep with mood. This can be a game changer. I don't think there's anything else that I prescribe in my office where more people tell me this is my new best friend. Progesterone can be so helpful for insomnia or for other sleep issues, especially the ones that come on around the time of menopause. So thyroid, progesterone, vitamin D levels again, vitamin D is a hormone. We call it a vitamin, but it is a hormone and it's one of the ones that stimulates our brain to support neuronal growth. And so optimal vitamin D levels are usually between the 50 and 90 range, depending on your doctor. And so we want to get those levels up and keep them there for maintenance of both brain health, but also immune health and bone health.

I hope you found this really helpful. We have discussed testing for toxins, testing for nutrients, testing for stressors, structure, infections, and signaling. So hopefully you're able to start plugging these different talks into this structure and thinking about, I wonder if that particular piece is important for me when we talk through how to get started. I want you to start thinking now about what is the thing I already know. Maybe even without testing, I already know. I'm really inflamed. I already know that I don't eat right and my nutrients aren't great. I already know I have a really sedentary lifestyle and I'm not getting enough stress and maybe meaning in my life from an exercise perspective. When's the thing where you know there's a big delta or you could get a big change by making that shift in your life, you get a big change in your health. The other thing is what's easy? Where do you know? Maybe it's with your sleep. You get pretty good sleep. You could get even more restful sleep if you just go to bed at 9:30, it'd be pretty easy. There's nothing really keeping you from doing it. It'd be a small shift. Or maybe you're already going to church on Sundays and there's a Bible study on Tuesday and Thursday. You've been thinking about doing it and you're feeling kind of socially isolated, and that extra time spent with those people studying the Bible would make you feel more connected, more at peace, and it'd be a quick, easy thing to do to call your son or your daughter and ask for a ride there a couple of times a week. What is that small change that you can make that might have a big impact and make you feel like you've got a win? If that big thing, if that big shift feels too overwhelming right now what's that small thing and what can you change today? What can you take action on today to start putting all of this information, and your learning into action where it really makes a difference in your health? Can't wait to see you tomorrow on day three of the Reverse Alzheimer's Summit. Thank you so much.