Episode 331: Rethinking Health: 8 Predictive Biomarkers for Lifetime Health With Russell Jaffe

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For all you moms listening, these teas are great for gut health. They use a cold-brew crystallization process, so you get more concentrated antioxidants and polyphenols, up to 12 times as many actually with each serving. These are the compounds that are known to be responsible for a lot of those benefits that I listed, and so, that increase is a really big deal. And given that these come in little tea crystals, I can easily add them to my smoothies or to hot or cold water. They dissolve in seconds. And I always carry a few of them in my purse when I travel. They have a range of caffeinated and noncaffeinated options. I love their Organic Jasmine in the morning for energy and for mental clarity while I'm podcasting and I love their Herbal Mint when I need to wind down and relax. Pique is also the first company in history to win three gold medals at the Global Tea championships. You can save 10% off Pique Teas by going to piquetea.com/wellnessmama and using the code WELLNESSMAMA. Note that this does exclude their Fermented Pu'er teas, but it is valid on everything else.

Katie: Hello, and welcome to the Wellness Mama Podcast. I'm Katie from wellnessmama.com, and this episode is packed with practical tips that you can use based on eight predictive biomarkers that are good reflectors of lifetime health. I am here with Doctor Russell Jaffe who is an MD and a Ph.D. He is the founder and chairman of PERQUE Integrative Health which is a company that offers scientifically proven integrative health solutions. He has more than 40 years of experience in these areas of research, contributing to molecular biology and clinical diagnostic research. His focus is now on functional predictive tests and procedures designed to improve both the precision of diagnosis and treatment outcomes and for predictive longterm health. He's authored nearly a hundred articles, and like I said, he is both an MD and a Ph.D. He is board certified in clinical pathology and chemical pathology. And has been the recipient of many awards in these areas, and he's gonna tell his story better than I could, today. But how he went from a full conventional medicine background at the National Institute for Health, to now a very integrative approach to medicine. I know that you're really gonna enjoy this extremely practical episode, so let's jump right in.

Katie: Dr. Jaffe, welcome. Thank you for being here.

Dr. Jaffe: Thanks for the invitation.

Katie: Well, I'm excited for our conversation today. And I know we have a lot to talk about. But to start, you have such an interesting background. And I think that's a perfect place to start. I think our listeners would love to hear a little bit more about you, and specifically, how you made a pretty radical jump from conventional medicine at NIH to where you are today. So can you walk us through briefly what changed in your thinking and how that reflected and how you practice medicine?

Dr. Jaffe: Well, thanks for that question. Because yes, I was a skeptic and I now advocate for what I think is a safer, better, more natural, more predictive, more personalized, more proactive, more prevention-oriented approach. And because as I think others have said better, we are spending more and feeling worse and we call that health care. So I did internal medicine and biochemistry and molecular biology in Boston, I came to the Clinical Center at NIH, enthusiastic as most of us were in the meritocracy of that time. And I fairly quickly realized that we were dealing with people who had fallen into the river of disease and we were hopefully reducing the drowning rate in that river of disease, but we weren't preventing people from falling in.

So I went out to debunk the people who said they had traditional and/or evidence-based approaches to health promotion to real primary proactive prevention to personalized medicine. And fortunately, I picked some really good people to go and debunk because they showed me how ignorant I was, Queen Lu, I went to debunk traditional Chinese medicine and acupuncture and I ended up doing a seven-year apprenticeship with him in Washington. DC. Ramamurti Mishra wrote the textbook of yoga psychology and commentary and Patanjali sutras and an MD PhD, rather broadly trained, I went to debunk him and became his student. And then I heard about a Cambodian Buddhist monk who had decoded a color healing system and non-invasive color healing system that had been given 2500 years ago, practiced for 5 centuries, lost for 20 centuries, 2000 years, and he had figured it out. And from the age of 80, when I met him until 110 when he passed, we were

mostly together and yes, those are the kinds of people where, if you can watch them put their sandals or their shoes on and off, it's a transformative experience, or how they fill the teacup or drink the tea.

So yes, I believe that I was trained in the scientific method, which means to be able to look across cultures and across time and across philosophies, but with a common guide, which is let the evidence...now some of it is observational and anecdotal and some of it is organized in a double-blind and some of it is triple-blind, which we can talk about if you want. So yes, I came as a skeptic. I now am very confident that we spend an extra $1 trillion each year out of the 3 trillion we spend on health care to bury a million people early with high suffering and very little value. And I believe we should do better than that. We deserve to do better than that. If we have the right to pursue happiness, which goes back to our nation's founding, then I believe health care has to become, at some point, a right of citizenship, not a privilege of economics.

Katie: I agree with you. And I love that you were willing to question your assumptions. I think that's something that we can all benefit from doing, in anything that we consider a firmly held belief or assumption, because truly, if we're correct, we only then strengthen our belief and if not, that's something we need to evaluate anyway, so I have so much respect that you did that process, even with your work and was something that was so vital to your career. I really have a lot of respect when people are able to do that. And I think that now you have such a wonderful perspective coming from both of those areas, to be able to offer people such unique advice and I'm so excited to get to go deeper on this with you. I know that you talked about how now with this new understanding and seeing kind of the whole picture that our health is very much largely determined by factors like diet and lifestyle, and you use the term epigenetics. So can you explain to us what that is and just how dramatically those factors can influence our life and our health?

Dr. Jaffe: Thank you, I can very easily explain what it's not and then I will explain what it is. So what it's not is your DNA that you inherit from your mom and dad, half from each, that's your genome, that's your DNA. But then the DNA has to get translated through something called RNA and then has to become something called a product or the protein or the glycoprotein or lipoprotein. And it's there that life really gets more interesting. And epigenetics is the 92% of your lifetime health quality, your lifetime quality of life. That is determined by your habits of daily living, determined by what you eat and drink, think and do, the ways in which you choose to live your life. We call these the habits of daily living, sometimes HODL because we like to compress a few words into an acronym that's a little hard to understand.

So, epigenetics turns out to be very important. It was validated in the early '70s when Don Frederickson was running the National Institutes of Health, a consensus conference, 92% is choice and lifestyle 8% is DNA and determined, reconfirmed several times over the decades. So epigenetics is where the opportunity lies and yet, epigenetics and lifestyle is not what we have at the core of the medical education curriculum for physicians and nurses or chiropractors and naturopaths. It's mostly about making the right diagnosis, and then a treatment to reduce the suffering or treat the symptoms. And what I'm saying is really quite different, epigenetics is the chance to change your habits and therefore change your future.

The past is behind us. I think we can agree that the past is behind us. The future has not come. I think we can agree the future has not come. So what are we going to do today so that our habits of daily living choose life and health? That means foods we can digest, assimilate, and eliminate without any burden, that means be well hydrated with water and herbal beverages are your beverages of choice. It means spending a few minutes each day to cultivate gratitude and to cultivate appreciation for your portion, rejoicing in your portion to use a metaphor.

And you do have to move around. So sitting is the new smoking and sugar is the new tobacco. So get up and give up the candy bars and the processed foods and the hidden sugar sources and eat whole foods that you can digest, assimilate, and eliminate without immune burden, and feel and function years to decades younger. You can, by changing your habits and thoughts and activities, feel and function decades younger. And I'm an example, just a personal example of someone who made that transition.

Katie: I love it. And I know when we were preparing for this interview you wanted to talk today about some specifics with biomarkers when it comes to this and particularly ways that we can kind of rethink our health. And then what we can learn from these biomarkers for a lifetime of health and not just lifespan but healthspan. So to start, what do you mean when you say rethink health? I know you've touched on that a little bit, but what does that concept mean to you?

Dr. Jaffe: Yes, when I say rethink health, I mean, making choices that are about primary, personalized, proactive and predictive prevention practice protocols. And if I say that again in a slightly different way, it means to look at the causes, not the consequences. It means to look at are you getting enough of the essential good stuff and are you able to reduce the anti-nutrient toxic bad stuff? And yes, in almost all cases, you can and we have documented in outcome studies in type 2 diabetes, type 1 diabetes, fibromyalgia, muscle pain and other similar conditions that you can, starting from best standard of conventional care today in just six months of best efforts, feel and function much better. And you can document that with a few self-assessments like the digestive trends of time. Your urine, acid-alkaline pH after rest. How much of nature's ascorbate does it take to cleanse the anti-nutrients out of your body at that moment? Are you well hydrated? These are four self-assessments that are very inexpensive, easy to do and come with an interpretation to help you understand what it means so that you can choose more wisely tomorrow than you did yesterday.

Katie: Got it. That makes sense. Okay, so then I can't wait to go deep on these because I'm a big fan of data and being able to track things and measure them and see what's working and what's not. So what are the predictive biomarkers?

Dr. Jaffe: Okay, so what are the predictive biomarkers? There are eight of them. First is hemoglobin A1C. Second is high sensitivity C reactive protein known as hsCRP. The third is homocysteine. The fourth is LRA cell cultures, that's an immune tolerance test. The fifth is that urine pH after rest, that's a measure of how much cellular magnesium you need or have. Then your vitamin D level which turns out to be a neural hormone, then your omega-3 index the balance of essential fats, omega-3 to omega-6 we need both but most of us get too much omega-6 and it's often damaged. We need more omega-3 from whole seeds and nuts and foods.

And then the last, and it's an unusual one, it's an urine test an easy test to do but not a commonly done test yet. That's 8-oxoguanine. Now 8-oxoguanine is the measure of how much oxidative damage is being done in your nucleus to your DNA. That's a very important risk factor or marker. And that's why when we started with 100,000 lab tests, just to find out how many tests we needed to cover all of lifestyle and epigenetics. This is part of our Health and Rethink Health Working Group. We came down to eight tests that can be done for less than $1,000 with interpretation. And you can add life to years and years to life based on those best outcome goal values, not the statistical lab ranges. So we don't care what the lab ranges, we care what the best outcome value is for each of those eight biomarkers. And we want to know whether you are there. If you are, celebrate that you're at your best outcome goal value. And if you're not, here are the habits of daily living that will bring you there in about six months.

Katie: Awesome. Okay, so let's go through each of these and kind of give people a broad picture of what they should expect and what good looks like and then also, if one of these, for instance, were to come back out of range, what they would need to know so they don't freak out. So you started with hemoglobin A1C. Walk me through what that specifically is a measure of and what we want to see when it comes up hemoglobin A1C.

Dr. Jaffe: Yes, in the late 1960s, we discovered that if you have extra sugar inside yourself, it can harm the cell and the body is smart enough to stick that onto protein. And Paul Gallup, mentor of my mentor, actually developed the hemoglobin A1C, he published it in about 1967. So it's been around a long time. And it gives you an average measure of extra sugars stuck on your protein over time, typically a three months timeframe, maybe that or a little bit more. And we know that people who are healthiest and live longest and feel and function best and have a new neurohormonal digestive system that works best. They have hemoglobin A1Cs of less than 5%.

And now you ask the right question, which is let's say your hemoglobin A1C is above 5%, how do you get it to 5% or less and you do it the way I did, which is knowing that you're sweet enough as you are, no added sugar in your diet. Notice I said no added sugar. The average American today takes in one week, in one week, the amount of sugar that our great grandparents took in the year. It's hard to avoid added sugar, it's really hard. It's stuck into a whole bunch of things along with fat and salt that addict your tongue and your brain to what's called the crave factor. We'll talk about that some other time. But you want wholeness, you want nature, nurture and wholeness. You want food you can digest, assimilate, and eliminate without any burden to bring your hemoglobin A1C to less than 5%.

And I'm glad to tell you that when I weighed 65 pounds more, I was pre-diabetic by that measure. And now, since I've lost that weight and it's been off now for years, I'm not going to find it again. My hemoglobin A1C for the last several years has been below 5% and that says that I am likely to live long and well within immune neurohormonal and digestive and nervous systems that work for the entire lifespan.

So hemoglobin A1C is important, there are nuances. We have written up review articles and published chapters in books about this for people want more information, but your hemoglobin A1C should be less than 5%. And we know how to get you there by reducing your intake of simple, which means empty calories sugar that is hidden in many processed, packaged and crisp foods. So when I was taught by Beatrice from Hunter was shopping around the edge of the store, that's where the real food is and be careful about going down the aisles because that's where the packages and the cans are.

Katie: Got it. And as another marker, I know that the hemoglobin A1C is one that you do have to go into a lab to get tested and I think it's more accurate like you said because It's kind of that average over time. I also am a big fan of using a glucose monitor at home and just relatively often taking my fasting glucose, which is not, that's just a snapshot but it is a predictor as well, and it's something that we can do at home. I'm curious if you know of any confounding factors when it comes to fasting glucose and hemoglobin A1C because I've heard from and seen labs for several patients who despite eating a very low carb diet and no processed sugar whatsoever, we'll still see those numbers elevated. Are there other things that can come into play in those kinds of, like outlier scenarios?

Dr. Jaffe: Well, yes, thank you. Outlier scenario is the right kind of terminology. Let me start with the conclusion and back into why. Fructosamine, like fructose amine. Fructosamine is a measure of extra sugars stuck on to a protein and that changes quickly like, within a month or so, rather than waiting longer. And what are the complications about hemoglobin A1C? Well, it's based on how long your red cells live, and your red cells and a healthy person live three or four months. But sometimes red cells don't live three to four months. And then you can have, a few people have published articles about confounding variables that influence hemoglobin A1C. So when we became aware of that, we went out and looked at what is the test that you can do even if the red cells are more fragile or are being taxed one way or another by immune complexes or whatever? And the answer is fructosamine.

So yes, there are just exactly what you said, outliers. And where we try to do our best is to help both consumers and clinicians understand why the outliers exist and what to do about them so you can get an accurate measure and not be confused. Now, with respect, you can do a hemoglobin A1C on a little lancet drop of blood put onto a little piece of filter paper and sent to a lab. So you don't have to have a phlebotomy to get an accurate hemoglobin A1C.

And the other side, most of us are familiar with white coat hypertension, you know, like, just drawing blood or going in to see someone who has a white coat on and a stethoscope around their neck and the smell of a clinic and so forth. For many people, it triggers a change in their blood sugar. So since we measure blood sugar and insulin and hemoglobin A1C, in our outcome studies I can tell you the hemoglobin A1C is a good measure for most people and fructosamine fills in when hemoglobin A1C is inadequate. And yes, you should be less than 5% on the corrected hemoglobin A1C or on the fructosamine, which means you're at the lower end of the lab range.

Katie: Got it. Okay, that's really helpful and it makes sense. And that one seems like a relatively straightforward and definitely, anything with glucose is definitely tied to the dietary factors as well. Are there any supplements that you recommend or that kind of go hand in hand with healthy levels?

Dr. Jaffe: No, no, again, a very good point in regard to nutrients or essential cofactors that your body cannot make that improve sugar regulation. It turns out there are a number of herbs and several minerals. The minerals are chromium. And you can have the chromium in the picolinate form of the citrate form. And then vanadium and vanadium ascorbate especially. But it turns out that chromium and vanadium separately help the body regulate blood sugar uptake and metabolism end to end.

And then it turns out there are four herbs. I'm not sure how much time we have to go into them. But some of these go back to the Old Testament, like Mara, or bitter melon. Some of these are contemporary, like, you can get them in a Chinese restaurant and most traditional parts of at least America if not the Pacific Rim. And so there are herbs and minerals that can be combined into mycelized soft gels and taken as part of glucose regulation. And we've helped pioneer some of these safer, more effective all-natural approaches.

Katie: Perfect. And then moving on, I'd love to talk also about C-reactive protein and you mentioned a specific marker to test for with C-reactive protein. For anyone who's not familiar, can you explain what C-reactive protein is, what a healthy range looks like and then what we need to know if ours shows up out of range?

Dr. Jaffe: Yes, thank you. So, C-reactive protein is an inducible protein, it goes up when your body is not able to repair when your body is crying out because of the repair deficit, often misunderstood as inflammation. When your body has a repair deficit and C-reactive protein goes up. And Paul Ridker and Nadir Refai and other colleagues have shown that at the low end, you get a lot of useful information. So there's a hsCRP or high sensitivity CRP, where the lower end of the range is more accurately analyzed by the lab and the healthy value for hsCRP is less than 0.5, people who have inflammatory chronic repair deficit or autoimmune conditions have elevated hsCRPs and we want them to get back to their best outcome ability to repair a non-deficient condition where the hsCRP is less than 0.5.

Katie: Got it. Okay, perfect. So if that does come out of range, what are some of the strategies that you would recommend to help the body get it back into normal range?

Dr. Jaffe: Well, to enhance repair you need the maternal antioxidant known as ascorbate, but you need the L-ascorbate, nature's form, not the synthetic form the work-alike that doesn't work. So you need fully-buffered, fully-reduced L-ascorbate based on the polyphenolics as Alberts and Georgie pointed out in the 1930s as a synergistic, or a multiplicative benefit, when you have the correct flavonoids and flavanols, quercetin dihydrate, insoluble OPC to work along with the L-ascorbate that's fully buffered and fully reduced because it's been produced under a nitrogen blanket in the old traditional way.

Then, in addition, you need magnesium. And today you need to enhance the uptake of magnesium with chromium-citrate so that you can activate ATP, the energy currency of the human body, you can protect the mitochondria with both magnesium and ascorbate, you can keep the what's called proton gradient so that the cell functions efficiently and effectively. Too many of us are in chronic acidosis due to lack of magnesium in ourselves. We are in chronic oxidative stress because of antioxidant death, principally ascorbate, where you could, with the C cleanse, find out how much you need. And so we have developed and others along with us have developed functional tests that allowed people to decide and find out how much they need at a given moment in time, and then how much you take on a daily basis until they recheck how much they need on a more systemic basis.

Katie: That's awesome. And I love that you brought up magnesium. That's something that I learned about many years ago and have been taking regularly and making sure that I get enough of since that time, and I definitely notice a difference from doing that. In my research, I've read that magnesium is useful for literally hundreds of reactions in the body and that because of, for instance, depleted soil levels, and changes in our food supply, many of us don't get enough without even really realizing it, and it's a difficult thing to get an accurate test for. Whereas in general, from what I read, it's something that we can take in moderate levels relatively safely. So is that something that you also take regularly?

Dr. Jaffe: Oh, yes. I tell you how much I take on a daily basis in a moment, but my colleague Dr. Ron Elin showed about 15 years ago, that if you're in the lower half of the serum magnesium range, you are chronically deficient, and he called it CLMD chronic latent magnesium deficiency. Others, including ourselves, have proved that if you have evidence of low magnesium, which means high blood pressure, kidney issues, liver issues, etc., you're likely to have serum magnesium in the lower half of the range. And if you'll have healthy magnesium in your cell, you'll be in the upper half of that serum range.

So yes, magnesium is mostly inside the cell. Only a little bit is in the blood. But thanks to Ron Elin, Mildred Seelig Burton Altura and others, including our work. We now know how to find out whether you're at risk, which is you're in the lower half of the serum magnesium range and what to do about it, which is enhanced uptake of magnesium with choline citrate. No other choline works, must be choline citrate, not choline bitartrate must be choline citrate. Now you enhance the uptake, chaperone delivery and the cellular retention of magnesium. So that instead of one third, which is the maximum you get today from the best of the best of the best of the best of the magnesium, one third comes into the body through the ion channel, and frankly, it tends to run out almost as fast as it comes in. So one of the things that we pioneered was enhanced uptake in chaperone delivery and retention of magnesium. And over the last decade or so, we have reconfirmed what Ron Elin postulated, and I'm glad to say he and I are still colleagues from our days at NIH many years ago.

Katie: Got it. Makes sense. Okay. Then moving beyond there you also mentioned homocysteine, which I've read about and heard as a marker related to heart health, for instance, but explain what homocysteine is and what it tells us about what's going on internally.

Dr. Jaffe: Well, homocysteine is an amino acid that Kilmer McCully put on the map in the 1960s because of the link between elevated homocysteine and accelerated atherosclerosis, coronary artery disease, stroke, and other cardiovascular risks. Since then, it's been proven to be an all-cause morbidity, mortality indicator, which means it's even more important that and what's really important is the relationship between methionine and homocysteine. You want your methionine to be up so you can methylate at will and as needed. You want your homocysteine to be down to protect you from cardiovascular and other chronic diseases. And the best outcome goal value for homocysteine is less than six. And you get there by having a high sulfur diet, that's GGOBE, garlic, ginger, onions, brassica sprouts, and eggs. And by having enough of the cofactors, including magnesium ascorbate, polyphenolics that we were just talking about, to make sure that your methylation systems are working efficiently. So it's a little complicated, but we can use nature, nurture, and wholeness to guide us using smarter systems. And that's what we're talking about today.

Katie: Okay, great. So let's go through because those were the ones I was more familiar with. There was a couple that you mentioned that I am not as familiar with, the first being I think you said LRA cell cultures. Can you explain what that is?

Dr. Jaffe: I sure can. LRA means lymphocyte response assay, LRA, lymphocyte response assay, and lymphocytes are white blood cells that carry memory. So some of your white cells remember when you were in childhood and had childhood measles, mumps or whatever childhood infections you had and protect you because of remembering that you've had that and recovered. And then there's another aspect of these white blood cells called T-cells that respond without what are called antibodies.

So there are different aspects of cell cultures and what you need is an ex vivo test. Ex vivo means the blood reacts in the laboratory just as it reacts in the body. And LRA happens to be a 35-year-old, but just coming into its own recognition lymphocyte response assay that's ex vivo has very high precision. Less than 3% variance on blinds with samples and has been used in more outcomes, successful studies of autoimmunity and remission and restoration of immune tolerance and reduction in inflammation and improvement in repair competency, than any other assay. We have 80,000 cases in our database of 25 million cell cultures accomplished. And we're glad to acquaint your listeners with the testing, you know, they may not be familiar with.

Katie: Okay, what about the urine pH? What does that tell us about what's going on inside the body?

Dr. Jaffe: Well, there's one time of day and that's after six or more hours of rest when the fluid in your bladder equilibrates with the cells in the genital urinary or bladder system, and you get a non-invasive measure of cellular acidosis or alkaline adequacy. Akaline means magnesium, acidosis means magnesium deficiency. If your cells are acidic, then your urine pH will be below 6.5. The healthy range of 6.5 to 7.5. If it's consistently above 7.5, we have a different conversation about Tenenbaum illness, but most people are below 6.5, meaning they need more magnesium in their diet and supplements. And usually enhanced uptake in chaperone delivery magnesium, which is an area that has been a particular research interest in documentation tools.

Katie: Gotcha. Okay. So if either of those are out of range, that one it sounds like does very much directly tied to magnesium, are there other factors that we need to optimize as well?

Dr. Jaffe: Well, during the day, it turns out there are at least 25 different things that influence your urine pH. It's only after six or more hours of rest, that the urine pH correlates tightly with cellular magnesium needs. And that's why we measure it after rest, and usually at home, keeping a daily log, and then bring that to your health coach or health professional who can help you understand? What does it mean about Do I need more magnesium? Or do I need more choline-citrate, how many doses a day? And generally, it's an extra dose, for every half pH unit below 6.5. Because pH turns out to be logarithmic and what that means is that a little change makes a big difference in biology and physiology.

Katie: Okay, got it.

This podcast is sponsored by Jigsaw Health, my source for magnesium. You probably know, if you've read my blog, that magnesium is responsible for over 300 biochemical reactions in the body. It impacts blood pressure, metabolism, immune function, and many other aspects of health, including hormones. It's known as the master mineral and it's one of the few supplements I take regularly. And I have found a specific way to take it that works best for me in very specific forms because if magnesium is taken in the wrong way it can lead to digestive upset or if it's taken too quickly it can cause all kinds of problems. So, I take two supplements. One called MagSRT which is a slow release form of the dimagnesium malate. The slow release technology makes it easier on the digestive system. So I don't get any of the digestive disturbance that comes with some forms of magnesium. I take this form in the morning and at lunch. So, two capsules with breakfast, two capsules with lunch. And at night, I take a different product MagSoothe, which is magnesium glycinate which is magnesium bound with the amino acid glycine to help sleep. And in combination, I noticed the biggest effect from those two particular products. You can check them both out and save by going to jigsawhealth.com/wellnessmama. And the code wellness10 will give you $10 off any order.

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For all you moms listening, these teas are great for gut health. They use a cold-brew crystallization process, so you get more concentrated antioxidants and polyphenols, up to 12 times as many actually with each serving. These are the compounds that are known to be responsible for a lot of those benefits that I listed, and so, that increase is a really big deal. And given that these come in little tea crystals, I can easily add them to my smoothies or to hot or cold water. They dissolve in seconds. And I always carry a few of them in my purse when I travel. They have a range of caffeinated and noncaffeinated options. I love their Organic Jasmine in the morning for energy and for mental clarity while I'm podcasting and I love their Herbal Mint when I need to wind down and relax. Pique is also the first company in history to win three gold medals at the Global Tea championships. You can save 10% off Pique Teas by going to piquetea.com/wellnessmama and using the code WELLNESSMAMA. Note that this does exclude their Fermented Pu'er teas, but it is valid on everything else.

And then now I want to switch gears and talk about one of my favorite things that I've been reading about recently, which is vitamin D. And I'm so glad that you mentioned this is one of the predictive biomarkers. There's so much data across the board that I've read, and I'm sure even more that you've seen on all of the various ways that vitamin D is vital to overall health and right now in a very timely way toward reduced risk of complications from respiratory illness. I've also personally seen studies on the link between optimal vitamin D levels and lower risk of certain types of cancer. I think this is a really big deal and a marker that a lot of people should be testing and probably are not. But from your perspective, walk me through why vitamin D is so important. And what level do we want to see when we test for that?

Dr. Jaffe: The best outcome goal value for vitamin D properly measures 50 to 80 nanograms per mL. What that means is that the country, United States, in general, people have between 15 and 25, which more than triples their cancer risk. And if you take that vitamin D under your tongue as drops, you can get into the brain before the body and get it in. Whereas Dr. Michael Holick, a colleague who's known as Dr. Sunshine points out that millions, maybe 40 million Americans do not absorb vitamin D from their intestines because of maldigestion, dysbiosis intestinal problems. And so these are people who can swallow a lot of vitamin D and get very little benefit.

So we know what the best outcome goal value is 50 to 80, that provides a safe range. We take as many drops under the tongue as needed to get you into the 50 to 80 range, and then you celebrate because it's a neurohormone. We call it a vitamin, but it's not really a vitamin, it's a neurohormone and you're right, it does a lot of things, both outside and inside the cell. And you need other cofactors with it, including magnesium and various kinds of vitamin K. But vitamin D is very important and the best outcome goal value is 50 to 80. That dramatically reduces your cancer risk and improves your all-cause morbidity, mortality, it reduces your cardiovascular risk, it improves your neurohormonal balance because it is a neurohormone itself. So 50 to 80 is your goal value, you can get there with drops under the tongue.

Katie: Gotcha. So just to clarify, this is one that you would absolutely recommend testing for and then supplementing with to get into those proper ranges. I know I've seen that as well that in the U.S., especially

many, many people are deficient. And this is a tremendous risk factor, like you said, for a lot of problems that can much potentially much more easily be avoided if we optimize some of these things.

Dr. Jaffe: Well, all the predictive biomarkers are important, vitamin D especially so we now know what the safer, better outcome goal value is. And that's where I want everyone to be. Now I have read even in "The New York Times" by distinguished scientific journalists, that because the country is deficient, it's normal, statistically normal. That's a statistical term having nothing to do with the common-sense meaning normal, but it's statistically normal for people to be deficient. So that's the way it is and don't test and don't stop them. As I think you can tell from the tone of my voice, I rather profoundly disagree with that point of view, you should test you should know, and you should be in the healthy 50 to 80 nanograms per mL.

Katie: Yeah, I think that's another really important point that you just brought up. And I noticed that when I was going through Hashimoto's and trying to get my levels back into normal range and to get into remission, which I now have. But that was something my doctor told me was that even within the range of quote unquote, normal thyroid hormones, you can still be having issues because those are based on averages. And the people who get tested for thyroid problems suspect they have thyroid problems. And so sometimes even what we're seeing within the normal ranges are not optimal. And so that's a really important distinction, I think, when we're looking at labs as a marker of health is understanding that difference between just okay, and in normal range, and what optimal should be. And I love that you make that distinction in your work as well.

Dr. Jaffe: No, as someone who used to run the Clinical Center Labs at the National Institutes of Health, that's something I can talk about. What we call the statistically normal or statistically usual range has to do with populations as you've correctly said. What we're talking about today, though, has to do with individual personalized, proactive care. So if you know what the best outcome values are for each of these predictive biomarkers, the ones that cover all of epigenetics, I think you would want all of them to be in your healthiest outcome range, which means you have a 99 plus percent chance of living 10 or more years, as opposed to a 10% or 15% chance of living 10 plus years. I choose to be in the minority of people who are going to live and be dancing at 120 with their friends around.

Katie: I love that. I'm with you on that too. You also mentioned omega-3 and this is another area I would love to get your take on and to go deep on because Certainly, I'm a big fan of the National Institutes for Health. And I spent a lot of time in PubMed reading studies. There's a lot of data about the benefits of omega-3s when we see populations that live a long time. That's a common factor that they mentioned even in Blue Zones. But then I've also seen some information that you have to be careful with the sourcing of these because that's something that can easily go rancid. So let's start with testing. How can we know if we need more omega-3s? And what are good levels look like in the body?

Dr. Jaffe: Right, what are good levels look like? Now you look at Bill Harris' work and others, and the answer is more than 8% omega-3 in the membranes of cells. This too can be done on a lancet, just the drop of blood on a piece of filter paper. And I remember the day when I was visiting with my colleague, Patti Bursar at the

Military Medical School and Bill was there talking with her about how hard it was to find people who are taking in healthy amounts of healthy omega-3 essential oils.

Having pointed to me, he took a lancet out, took a drop of blood, and in about 10 days he sent me back reports that said my index, my omega-3 percentage, my omega-3 index was 13. So I called him up. And I said is this...I know 13 is higher than 8, that I understand. Is 13 better than eight? Or is it worse? He says, we don't have enough people who are above 11. You know, you're our poster child." Now, you made a critical point. You can buy a lot of fish oil that is rancid and toxic. Rancid because air oxygen has damaged the essential fats and because it was not distilled under nitrogen. The omega-3 that I recommend is in a mycelized soft gel which is distilled under nitrogen. We remove the bad stuff, you concentrate the good stuff. You concentrate the EPA DHA essential omega-3 fats, we mycelize those in a soft gel.

And what do I take? Well, 6 to 10 grams a day. Now 6 to 10 grams a day is more than 3, and 3 is what many physicians today recommend, but I think our oxidative burden is higher. I can tell you that it keeps my omega three index above 8%. And that's what I recommend. Now Barry Sears is an expert in this area of essential fats, he now recommends 15 grams of omega-3 EPA DHA a day. Different experts have different points of view. I think what's clear is we need to reduce the omega-6. We need to increase the omega-3. Read Artemis Simopoulis' work on the Greek Mediterranean diet and lifestyle, about why we need more omega-3, and we need less processed, crisp foods that are rich in omega-6, but it's actually rancid and damaged omega-6, so it's a double harm. So omega-3, yes, essential fats, yes, seeds and nuts and sprouts and foods that contain these as protected essential nutrients, yes. But once you start isolating and processing, you probably are getting trouble.

Katie: Yeah, that's a great point. And that is a bigger dose than I would expect and I wonder this is what I'm curious to get for myself, now.

Dr. Jaffe: It's not yet typical. But I can tell you when I started this because...there was a reason, but I started just because I needed to. I can tell you more and more and more of my colleagues have come around to the fact that we need at least 5 and between 5 and 10 grams a day of EPA DHA. Not the precursor because it turns out the precursor doesn't get converted in most people to the active EPA, DHA. And given how much omega-6 most people get, look at the NHANES data, look at the PubMed data. When you look at how much omega-6 most people get, 5 to 10 grams a day is now a conservative intake, not a high intake.

Katie: Well, that's... Yeah, that's awesome to know because I can't wait to test mine and see. I'm curious about that one. You also mentioned the last one, which I'm hopefully I'm not going to butcher it. I think you said 8-oxoguanine. Is that what you said or guanine?

Dr. Jaffe: No, no guanine, you got it. Guanine is one of the DNA bases. So it's one of the language...it's one of the letters of the genetic alphabet. Now, it's also subject to air oxygen damage and oxidation and then it becomes 8-oxoguanine. We know what healthy people have, it's less than 5 nanograms per gram of

creatinine, which means you can take a spot urine, preferably in the morning but a spot urine and analyze it. And as long as you're correct to the amount of creatinine that's present, you have an accurate measure. So you don't need a 24-hour urine. And it is a urine test. It's non-invasive. And it completes the suite of protective epigenetic tests or the tests that measure epigenetics, where again, we know the best outcome goal value, and we can work with your lifestyle to get you.

Katie: Got it? Okay. And then, I know this wasn't one of the eight but I'm curious to get your take on it. Another test that often is run when people do routine labs is a lipid or cholesterol panel. And this is a somewhat controversial area of research and I know that from what I've read, other countries have different ranges and different markers that they look at than we do in the U.S. So I'm curious what your take is now on what healthy cholesterol ranges look like and ways that we can optimize that. I would guess there's an omega-3 component to this answer as well, but I'm really curious to get your take on cholesterol.

Dr. Jaffe: Well, I can tell you the answer and then I'll tell you why I know the answer. But the answer is you should measure your oxidized cholesterol, your oxidized LDL. Your air oxygen damaged cholesterol and LDL contain 100% of the risk. And this may surprise people but in my, now, half a century in medicine, having collaborated with Don Cry, Bob Maley, and Bob Fedus on animal models of human heart disease, etc. many decades ago. I can tell you for sure that cholesterol and lipoproteins and HDL and LDL are innocent bystanders.

It turns out that magnesium protects essential fats in transit when they're in LDL. Magnesium acts as an antioxidant to protect essential fats from air oxygen damage while they're in transit. So I have taken care of people who have lived long and well with elevated lipids in their blood because they were high-performance, high-stress people and they needed to repair their membranes with cholesterol. They needed to repair their hormones through cholesterol, all of our hormones come from cholesterol. The notion that we should actually poison or inhibit the system that makes cholesterol. That was an interesting idea in the 1960s. It's a scientifically-disproven idea today you can look at Malcolm Kendrick's work online, you can look at many other people who along with our group showed that as long as you don't damage the essential fats, they don't harm you. And as long as you keep a healthy balance of omega-3 to omega-6 by eating whole foods that you can digest, assimilate and eliminate without immune burden. You can live long and well.

So what is it that's so important about cholesterol? Well, let me give you some facts. And I hope you know this, I'm sure that you can check this out to verify. Half of the heart attacks occur in people with cholesterol above 200 and a half of the heart attacks occur with people below 200. Half of the heart attacks occur with people with LDLs above 100, and half of the heart attacks occur with people below 100. Of what meaning is that. A major person who advocated for that point of view said, and I quote, "Doctors are so dumb, they can only remember simple numbers like 200 and 100." I said, "Well, what about the individual?" and they looked at me and said, "You're so naive." I don't think I'm naive. Forgive me, but I don't think I...

Katie: Wow, yeah, that's really shocking, although I probably shouldn't be at this point.

Dr. Jaffe: No no, excuse me for jumping in but it is shocking because a lot of medical care is devoted to these, your cholesterol or your LDL or your HDL or are your particles up or down this month versus another. And I'm telling you, it's all about damage, oxidation, and reduction. Reduction has to do with antioxidants and buffering minerals like we've just been talking about. Oxidation has to do with oxygen and keeping it away from delicate things inside your body until you need it. Because oxygen is essential, without oxygen we wouldn't be having this conversation. But we have basically fallen in love with a reductionist mechanistic model of letting the body fall apart and then trying to patch it up. And I think that's the wrong model.

I want to keep my body renewing itself continuously, no part of my body or yours is more than 10 years old. And that's our bones. So this notion that I'm getting old, relative to someone who is, shall I say, young is an illusion. If you get enough of the good stuff, you repair your bones and joints and body, and most of us is actually renewed every few months. So you get enough of the good stuff in, make sure that you exclude as much of the bad stuff as you can. And then learn how to thrive in this stressful, challenging 21st century time, including with these biomarker kinds of tests and understanding what the best outcome values are.

Katie: Such great advice and as we get close to the end of our time...I want to make sure I respect your time, I'm curious, first of all, if there's a book or any number of books that have had a really dramatic impact on your life, and if so, what they are and why?

Dr. Jaffe: Well, the book that does come to mind is from the late 19th century, and it's called Color and Light it was by Edwin Babbitt, who was what's called a polymath, which means he was an MD, he was a JD, a lawyer, he was a PhD. And he basically anticipated the whole field of color therapy. And it turns out there's a whole non-invasive color healing system that I studied because of Bhante Dharmawara that I have found to be first-line part of comprehensive, personalized, proactive predictive health care. And I want to get it incorporated into the curriculum of training the next generation of doctors and nurses, and health coaches and professionals because we really can feel and function better throughout the entire lifespan of our lives.

In my dad's case, he died in my arms at 90 of natural causes, but he wasn't supposed to live over 50. So we had an extra 40 years to enjoy each other. Bhante 110, and had highest frequent flyer status on three different airlines when he was 110. So it is possible to live long and well. As long as we choose the habits of daily living, that let us repair and renew. And that keep our predictive markers our functional personal predictive markers at their best outcome goal values. So live long and well and add life to years and years to life. That nature nurture and wholeness be your guides and eat the foods you can digest, assimilate, and eliminate without immune burden, staying well hydrated. And knowing that you move and think in order to add value to the lives around. Leave the place better than you find it. It's not a bad philosophy.

Katie: That's wonderful. And I think, like, you've given so much practical advice today. One question I'd love to wrap up with, and you may have just answered it already. But what is one thing that you would love our listeners to take away and remember from this conversation that can help really improve their life starting today?

Dr. Jaffe: Well, here I'm going to quote the 2000-year-old man Mel Brooks if there was one thing to take away from this conversation is that life is about choices. "And while the past is behind us and the future has not happened in this moment, we can choose life, and we can choose to be grateful for whatever our portion is so that we can touch others in a way that makes them smile."

Katie: I love that. What a perfect note to end on after so much wonderful information in this podcast. Dr. Jaffe, I'm so grateful for your time today and for sharing all that you've learned in all of your years of research and study. Thank you so much for being here.

Dr. Jaffe: Very grateful to share this with your audience. And thank you for being you. It was a lovely conversation.

Katie: And thank you as always to all of you for listening and sharing one of your most valuable resources your time with both of us today. We're so grateful that you did and I hope that you will join me again on the next episode of "The Wellness Mama" podcast.

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