How to Eat to Optimize Your DNA

Dr. Nasha Winters, ND

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Rebekah Kelley: Welcome to the Humanized Podcast, all about personalizing your health. I'm your host, Rebekah Kelley. And today we'll be discussing *How to Eat to Optimize Your DNA* with Dr. Nasha Winters. Before I introduce Dr. Winters, I want to remind everyone to subscribe and get all the other varieties of casts in audio/video and transcription at HumanizedHealth.com. I'd also like to thank our lead sponsor, Village Green Apothecary, at MyVillageGreen.com.

A little bit about Dr. Nasha Winters – she's been on a personal journey with cancer for the last 30 years. Her quest to save her own life has transformed into a mission to support others on a similar journey, from survivor to physician and from physician to mentor. Dr. Nasha is teaching physicians and practitioners how to treat cancer with an integrative approach that focuses on the patient and not the tumor. Dr. Nasha Winters is on a mission to build the first inpatient integrative facility, focusing on terrain-based metabolic approach to cancer treatment. And as always, we're so happy to have you here with us.

Nasha Winters: I love you guys. Thanks for having me back.

Rebekah Kelley: It's always a pleasure, and I'm so happy to dig into this topic. I'm very interested in understanding how nutrition impacts the health of our genes, but I do want to start with the fact that I have had multiple doctors in the course of my lifetime say to me that nutrition doesn't matter. So, starting with that – does it? Does it not?

Nasha Winters: I love this question, and like you, it gets posed to me a lot or I'll have a conversation with a client, and then they go back to their conventional medical team and they're told basically ignore what that crazy naturopathic lady said. First of all, I want to really point out that less than 25% of all medical schools even offer an elective course in nutrition. Period. Of that, as someone who went through medical school, you don't really have the time and energy to want to take anything extra; you're just trying to survive the schooling process. So, not a lot of doctors are drawn to that. Most people who learn nutrition, who are medical doctors who practice any form of nutrition, learned it and taught themselves after the fact. So that's really important. Just like I would not go to my mechanic to get brain surgery, right? Like those are not–these are the places where you have to think about where your information is coming from.

Number two, I'll be frank, I also think when doctors–you know, people tell folks nutrition doesn't matter, I'm going to be really blunt, I think it's because they have their own addictions and own issues around food. And so we have to look at our own stuff before we start to put this on others. The other thing that happens with patient care is doctors think it's "too hard." That's their belief system. That's their reality. And they're placing that belief system inappropriately on a person and stopping them before they get started and giving them "permission" to basically not take things in their own hands.

So I would like that to stop here today as we have this conversation, but absolutely nutrition matters. And two resources you guys should have a look at is – why there's also confusion around nutrition–Dr. Richard Feinman wrote a book called "Nutrition in Crisis," an excellent book to really help you understand why nutrition is so misunderstood. And all the industries behind that rationale, so it's an excellent book. And the other one is Denise Minger, she's actually done an updated version of her book as well, "Death by Food Pyramid," also talking about the industry-driven realities of nutrition, which are far from reality. So I want to put those on the table as we dive into the nutrition conversation.

And the third book, which is actually a hopeful book, an educational book, is actually a new book by Dr. Georgia Ede. She's a MD psychiatrist, and she wrote a book about "Change Your Diet, Change Your Mind." And even though it's kind of metabolically psychiatrically focused, she herself has a passion for nutrition, did further study after she left medical school, and I will tell you guys right now, this is probably the best book on nutrition I've read in 30 years. And so I think it's fantastic. So people who want to dive deeper into nutrition, go dig there. And it's only been out for a couple months. Yeah. It's a great resource.

Rebekah Kelley:

Awesome. Great resources. All right. So how does nutrition impact, then, the health of our genes? So getting to that question, since it does.

Nasha Winters: Yeah. Super simply, you guys, your nutrition influence the way your genes turn on or off. And what that means specifically is how do your genes express? And so you sometimes want some genes to be on and you want, sometimes, other genes to be off. And it is 100% dependent on your diet and your lifestyle. So that is really interesting in that, that on and off switch that nutrition offers, this is what repairs your DNA, maintains genetic stability, by using the cofactors and the substrates and the enzymes from our food, which is directly involved in the process of our DNA repair and reducing our risk of mutations. And the nutrition itself can actually change the structure of your DNA and the proteins that affect genetic expression. Nutrition doesn't necessarily change the underlying sequence of your DNA, but it changes what rides on top of it, these proteins that ride on top of that, that impact things like methylation and detoxification, which are integral to a quality of life.

Rebekah Kelley: Can you talk about that? Can you talk about methylation and what role it plays in cancer? And also, what is it? So what does it even mean? Cause I, you know, I know I don't methylate well, well what does that mean?

Nasha Winters: Exactly. Well, think of methylation as a tiny little tag or like a sticker that can be added to your DNA, okay, to what you were born with, this is like a little sticker that adds to that. And it's kind of like putting a small sticky note on a note page of a book. Okay? Like a little reminder or a little messenger or a little "pay attention to me here." And this tag or this little

sticky note, it's going to turn certain parts of your DNA on or off. So it's very integral to that signaling pathway as well, just like flipping a switch. And it helps our cells know which genes to use and when, so it's like a little messenger system. And methylation is incredibly important to the overall processes, of all the things that our body does– from growing to healing to working to repairing.

So it's important, important, important, and specific to its role in cancer, which I think is really interesting. Proper methylation, so the balancing act of those switches being "sticky noted" properly, is it's involved in gene silencing. So those kind of aberrant genes that cause problems like the familial genes of BRCA, ATM, and Lynch, which people think are death sentences, and people think that they're kind of just not–they think that they're either all the way on or all the way off. And for this, this is a methylation issue. And so depending on your diet and lifestyle, you can flip that switch and say, okay, I have BRCA, but it's not causing me problems. So just an example there.

Methylation is also integral in tumor suppression. And there are certain genes like P10 and TP53 that are really well known tumor suppressor genes, but when they're "broken," when methylation is off, those genes also turn off or get lost entirely. And so that means that there's nothing in there putting the brakes on tumor suppression. So that's a big one. It's also really integral in DNA repair; so when we think that cancer is a genetic disease, we go upstream from that. The upstream from that is our metabolic and methylation and mitochondrial health, which is what is protecting of the genome. And so if we're not protecting the genome upstream, then of course, we do get a genetic mutation.

And then the other cool thing about methylation is it helps us in our detection of cancer, and also in our therapeutic targets of cancer. So there are drugs out there known as methyl transferase inhibitors that reverse this DNA methylation pattern. That's if it's over-methylating or under-methylating, it will turn that switch on or off, depending what is needed to either reactivate a silenced gene or silence a gene that is causing lots of problems. So pretty cool that this is something so integral to our day to day health and yet often misunderstood and something that is entirely under our dietary influence.

Rebekah Kelley: Yes, and I love understanding what power I have right, to influence my health towards the best, and it is sometimes a struggle, right? Sometimes you do have to say no to certain foods or, you know, certain things, but in the end, vibrant health, in and of itself, is delicious, right?

Nasha Winters: It is. It is our wealth.

Rebekah Kelley: What are some examples then of some of the DNA-damaging foods. If we're eating for our health, we're building or tearing down. What does the tearing down look like?

Nasha Winters: Sure. So first of all, just poor nutritional choices will lead to inflammation, oxidative stress, metabolic syndrome, and all–like making that vulnerable to the DNA level. So making the DNA behave badly. There is something known as single nucleotide polymorphisms that we call SNPs for short, that are basically our own body's blueprint of how we might interact with those food choices, good or bad, and what foods might be interacting with that.

So just a quick thing here, think about a SNP as sort of a typo on a recipe. Okay. It might've gotten a single ingredient wrong or a single letter wrong. It's not that the whole recipe gets thrown out, but it might just be a little bit, it might just be a little off. It might just taste a little different. But these little changes, these little SNP–you know, behaviors are also very influenced by our dietary and lifestyle choices. So I say that because your SNPs will also determine how you respond to certain foods, good or bad. So they help us individualize somebody's treatment plan in a variety of ways, but that also, some of us are more susceptible to certain foods than others.

So good or bad, some of us might not be able to tolerate the known DNA damaging foods or have a–how do I want to put this? We have like a different threshold. Each of us have our individual threshold. And the foods that we know impact DNA health in general may not impact all of us at the same rate. We all might have a different response to it. But the key foods that are considered harmful to our DNA, even by third party cancer research agencies globally, are things like processed meats. So the non-natural derived nitrates and nitrites that are used as preservatives in those foods. Things like grilled and charred foods, which are loaded with things called PAHs and heterocyclic amines, these polycyclic aromatic amines, as well as acrylamides. These are big fancy words that say these are extremely known carcinogenic things that we get exposed to. And if you have certain SNPs, you might be more vulnerable to them than others. So your husband might be great with something right off the barbecue, but you might eat it and your DNA crumbles under the pressure. So there's that independent variability.

Highly processed foods. Holy cow. This is the name of the game since the 1850s, even more so since World War II. And pretty much what lines every grocery store we walk into today are highly processed foods. And there's more and more studies coming out every day, talking about the damaging effects of these highly processed foods. And sugar added to our food sources. Sugar sweetened beverages, sugar, just added to anything and everything. When we made it low fat, we added more sugar to give it a flavor profile. All of these things I'm talking about lead to metabolic derangement, which leads to cellular dysfunction, which leads to DNA vulnerability and damage. And two big ones that we often sort of normalize in our community and ignore their toxicity is alcohol. Okay. We all have a different threshold for that. As well as trans fats and seed oils. We all have kind of a different threshold for that. So those are things that are definitely known to damage our DNA, no matter your genetics, but your epigenetics, your single nucleotide polymorphisms and how well you methylate or detoxify determines how dangerous these can be for your personal blueprint.

Rebekah Kelley: That's awesome. I love how you describe that because it does seem like some individuals can handle things others cannot, right? And you're just–

Nasha Winters: George Burns syndrome, right?

Rebekah Kelley: Yes, and so that it makes sense that it's a different level that's expressing. So how then can knowing our genetic SNP data help us personalize our diet and where would you find this out right, because it's not like you go to the doctor and they say–like we just talked about how they really don't even know a lot of this. So, how can knowing it and then where can we find that out?

Nasha Winters: Let's start with a book that really turned me onto this a long time ago, which was called "Pottenger's Prophecy," which really talks about how we understand that the way we treat our bodies, the way we feed ourselves, can determine our outcomes, our prognoses. And so this interesting doctor was able to take a bunch of cats, at a time, well before IRBs and whatnot and ethics committees, it was basically able to take several generations of cats and basically take them to the edge of extinction by changing their native diets and putting them basically on our diets, right? And within a few generations, they were almost extinct. And then he reversed them back to their original genetically matched proper fit diets for them, and within a few generations, basically brought them right back to vital health. We are sort of the living example of Pottenger's cats today as humans on the planet.

And that book goes into a lot of the research that really explains single nucleotide polymorphisms and really explains this process for the layperson. Beautifully done. And for the doctor, frankly, because it's really powerful. The other book that's very helpful for this is "Dirty Genes" by my friend and colleague, Dr. Ben Lynch, people who want to really dive deep into how this impacts your health and prevention, that's the book to get your hands on.

Overall, what single nucleotide polymorphisms offer us is a personalization of our diets and our lifestyles to match us most appropriately, to individualize our needs most appropriately. So it helps you determine your efficiency and how you metabolize certain nutrients, how you respond to certain macronutrient ratios, how you thwart your higher propensity towards chronic illnesses based on your family of origin history, how you optimize your athletic performance and even personalize all of your recommendations, including how you respond to certain nutraceuticals or pharmaceuticals.

So it's a really powerful tool that we can leverage in knowing this genetic information to personalize somebody's dietary and lifestyle interventions, as well as pharmaceutical interventions. And so you can learn about this for yourself by going to some direct-to-consumer testings out there. My two favorites on the market are Nutrition Genome and 3X4 Genetics. Both of these are fantastic companies that also explain things and teach you what the information means. And they're available directly to the consumer.

Rebekah Kelley: I love that. Thank you so much. Those are wonderful. I can't wait to read those. The one about the cats sounds so interesting.

Nasha Winters: Fascinating.

Rebekah Kelley: So, what are the–why are, like–you hear things about the ketogenic diet, you hear things about intermittent fasting, you hear that this is very powerful as a tool as it reflects to cancer. Can you talk a little bit about that? Kind of give us a little primer about what's going on in that space?

Nasha Winters: Sure. We understand that ketone bodies themselves are signaling agents. So they're not just starving glucose, they're signaling all the other 10 hallmarks of cancer and impacting the expression of genes. So they are HDAC inhibitors. They are directly impacting our genome which is very, very cool. And when we fast, we also increase ketone bodies. So the therapeutic ketogenic diet, which is the high-fat, low-carb or exogenous ketones or just carb restriction or fasting, all bring these powerful signaling agents to the surface, the cream rises to the top, literally and figuratively, and allows us to treat and prevent a variety of conditions. Allows us to take out the garbage by a process called autophagy allows us to make new, healthy mitochondria, which is our genome protector, known as myogenesis, and also lowers inflammation and enhances our treatment efficacy from a variety of standard of care to integrative or alternative care applications.

Rebekah Kelley: Wow. All right. So, just last question, cause I know we're running out of time and we could talk forever. You've got so much knowledge. But you know, we talked about what's not good for us, right? But can you talk to us about some key examples of foods, nutrition, I'm assuming nutrition-dense, right? Phytonutrients anything that supports our DNA health and repair, like what would you recommend to us that we can look at focusing on so that we can be vibrant?

Nasha Winters: I love it. Well, first and foremost, that's available to all of us and is free is intermittent fasting. So it's actually what we don't eat that can be the most impactful to our DNA repair, which is very, very cool. We tend to be overfed and undernourished today. And so this is a really good strategy to correct that imbalance.

Number two, quality does matter. And so getting access to quality, local, regional, seasonal, as highly nutritional as possible, as nutrient-dense, clean, local, seasonal as possible makes all the difference. So stay close to home on this and stay close to your time and region.

But things like berries, cruciferous vegetables, leafy greens, seeds, nuts, fatty fish, turmeric, green tea, garlic, dark chocolate. These are the cofactors in those enzymes we talked about earlier, the nutrients that literally fuel the microbiome and fuel the methylation processes and the detoxification processes and fuel the signaling pathways that are so integral to protecting

and repairing our DNA. And so depending on your own personal blueprint, the amount or the form of these nutrients I just dug into, will matter and they'll be different for each of us. So these are the things that taking like your own personal testing through a direct-to-consumer can help you define, wow, I need a lot more of this in my diet or lifestyle, but these are things that you can easily integrate in, in addition to intermittent fasting to be really optimizing your DNA health.

Rebekah Kelley: Wow. Thank you so much. These are amazing insights as always, Dr. Winters. Dr. Winters can be found at www.DrNasha.com, and let me spell that out, that's D-R-N-A-S-H-A.com. It's also going to be in the notes. Let me remind everyone to subscribe and get access to all Humanized videos, podcasts, and transcriptions from all of our other thought leaders on personalized health at HumanizedHealth.com. And please come back and keep on making us so smart about our individualized health. Thank you.