A Grain of Truth: The Gluten Summit
Presenter: Dr. Mark Hyman, MD

A "Functional Approach" to Lifestyle Can Transform Your Body

Dr. O'Bryan: Hello, everyone! Welcome to another edition of A Grain of Truth: The Gluten eSummit. It is my distinct pleasure to have with us today my personal friend and mentor and one of the greats in the field of functional medicine, Dr. Mark Hyman.

Dr. Hyman graduated with his bachelor's from Cornell University, and graduated Magna Cum Laude from the Ottawa University School of Medicine. He completed his residency at the University of San Francisco's program in Family Medicine at the Community Hospital of Santa Rosa. He's the founder and medical director of the UltraWellness Center in Lenox, Massachusetts where he directs a team of physicians, nutritionists, and nurses who utilize a comprehensive approach to health.

Before starting his practice, he was co-medical director at Canyon Ranch, Lenox, one of the world's leading health resorts. And, that's when I met Mark was when we both went through the training program of the Institute for Functional Medicine called Applying Functional Medicine Clinical Practice. That was quite a few years ago.

While at Canyon Ranch, Dr. Hyman co-authored the *New York Times* bestseller *Ultra Prevention: The Six-Week Program That Will Make You Healthy for Life*, winner of the Books for a Better Life Award, honoring the best self-improvement books each year.

He has since written *Ultra Metabolism: The Simple Plan for Automatic Weight Loss*, and a companion public television special. His latest book and PBS special *The Ultra Mind Solution: A Comprehensive Approach for Addressing the Causes of Mental Illness and Cognitive Disorders* was released in January 2009. *The Blood Sugar Solution Book* and companion PBS special published in March 2012 addresses the global epidemic of obesity, diabetes, and cardiovascular disease.

I'm going to tell you a little more about him because this man is making a big difference in the world. Dr. Hyman is a chairman of the Institute for Functional Medicine. And, he was awarded its 2009 Linus Pauling Award for Leadership in Functional Medicine. He is currently medical editor at the Huffington Post, and on the medical advisory board at the Dr. Oz Show.

He's testified before the White House Commission on Complementary and Alternative Medicine, and has consulted with the Surgeon General **[2:30]** on diabetes prevention. He has testified before the Senate Working Group on Healthcare Reform on functional

medicine, and participated in the White House Forum on Prevention and Wellness in June 2009.

Dr. Hyman was nominated by Senator Tom Harken for the President's Advisory Group on Prevention, Health Promotion, and Integrative and Public Health, a 25-person group to advise the administration and the new National Counsel on Prevention, Health Promotion and Public Health. With doctors Dean Ornish and Michael Roizen, Dr. Hyman crafted and helped introduce the Take Back Your Health Act of 2009 into the United States Senate to provide for reimbursement of lifestyle treatment for chronic diseases.

He continues to work in Washington on health reform, recently testifying before a congressional hearing on functional medicine, nutrition, and the use of dietary supplements. He has worked with President Clinton and the Clinton Foundation, and presented at the Health Matters Achieving Wellness in Every Generation symposiums.

Dr. Hyman, thank you so much for being on our show!

Dr. Hyman: My pleasure. I'm happy to be here!

Dr. O'Bryan: Let's begin. You're known in the world of functional medicine, Dr. Hyman, partially because of your emphasis on blood sugar stabilization and how you keep that as a very important concept for all of our doctors to consider.

Can you talk a little bit about why keeping blood sugar stable is so important?

Dr. Hyman: Well, most of us know that you don't want to have diabetes, which is too high a blood sugar. And, you don't want to have hypoglycemia, which is too low a blood sugar, which can cause you to be unconscious and die. Those are two extremes. Most of us don't fall in either of those extremes. We fall in the middle.

In that middle range is a continuum between optimal blood sugar balance and control and full-blown type II diabetes. And, anywhere along that continuum, you have dramatic risk for problems, everything from, obviously, diabetes to cardiovascular disease, stroke, dementia, depression, cancers, things that most people don't associate with imbalances in your blood sugar.

In fact, one out of two Americans has what I call "diabesity", which is pre-diabetes and type II diabetes. Ninety percent of people who have it don't know it. The doctors don't diagnose it. They don't know how to diagnose it. And, they don't know how to treat it. So, we're in a predicament where the single biggest driver of illness in this country is undiagnosed and untreated. **[5:00]** And, yet, it's completely curable. So, we're not only facing it as a human crisis, but as an economic crisis because these imbalances in

blood sugar lead to the majority of our federal budget deficit. One out of every three Medicare dollars is spent on type II diabetes. And, probably another one out of two is spent on pre-diabetes.

So, we have to kind of get a grip and focus on what's driving this epidemic. And, honestly, it's two things. It's the influx of enormous quantities of sugar and refined sugar in our diet--152 pounds a year--and an enormous influx of wheat flour in our diet, 146 pounds per person per year. You add those together that's a pound of sugar and flour for every man, woman, and child in America every single day. That has to stop because that's what's driving disease.

Dr. O'Bryan: So, Dr. Hyman, how does wheat flour relate to sugar?

Dr. Hyman: That's a great question! When we think of flour, we thought of, "Oh, weight loss was great when we had a low-fat diet." And, we ate pasta and bread. Those were low-fat foods, and they would help promote weight loss. But, we found, in fact, that that's the exact opposite of what's true. Fat makes you thin. And, sugar makes you fat. And, sugar in the form of flour is one of the biggest sources of sugar in our diet.

The way in which we grind the flour, the way in which it's grown, the super starch molecules that are in it--the amylopectin-A--because of the genetic hybridization creating a dwarf wheat strain that's got a much higher starch content, the average whole wheat bread today has more sugar content than sugar. So, if you have two tablespoons of whole wheat bread, you're going to raise your blood sugar more than two tablespoons of table sugar. And, most people don't get that. And, once you get that you're going to change your relationship for the foods you're eating and the wheat you're eating.

Dr. O'Bryan: Wow, that's an amazing concept! Two tablespoons of bread have more of an effect on blood sugar than two tablespoons of sugar. Did I hear that correctly?

Dr. Hyman: Absolutely! It's quite shocking, right? If you think, "I'm having whole wheat bread, that's a good thing. It's healthy. In fact, the government's recommending I have whole grains. How fabulous that is!" Most food industry companies are adding whole grain to their products to make them sound healthy just as we had low-fat assigned to our food labels ten, twenty, thirty **[7:30]** years ago. The same thing is happening now with whole grains. They want you to believe they're healthy. In fact, it's actually not. If it's any kind of flour product, it's a problem.

Whole grains themselves may not be as much of a problem, but they could still have a high glycemic load. For example, if you have whole kernel rye bread--it's a German bread--it comes from eating whole kernels of rye that are put in a bread that aren't actually flour. They have a much higher health benefit, a much lower glycemic index.

They have lignins and other things. So, they're not actually ground into a flour. They're actually the whole kernels. That's really what we want to be eating.

Dr. O'Bryan: You know, I'm laughing in the background as you say this. And, some of our listeners have heard this already, that I was a baker when I was working in school as an undergrad. And, I would think it very healthy to have a big, thick slick of whole wheat bread. I'd pour honey on it, and then slice bananas with peanut butter. And, I thought, you know I was getting my protein in peanut butter. But, I was throwing my blood sugar so far out of balance. Oh, my goodness!

And so many of us think we're being healthy by eating whole wheat bread. And, the truth is two tablespoons of bread have more of an effect on blood sugar than two tablespoons of sugar.

Dr. Hyman: Two slices of whole wheat bread have more effect on your blood sugar than two tablespoons of table sugar. Yeah.

Dr. O'Bryan: Got it, thank you.

And, one other thing you said that I want to make sure our listeners hear correctly is that--and I've said this before in some of the other interviews--fat is not a four letter word. Fat is not bad for you. Bad fat is bad for you.

Dr. Hyman: Yes, that's true of anything. Carbs are good for you. I always say carbohydrates are the single most important thing for long-term health and weight loss, because if you're eating broccoli and collards and real non-starchy healthy vegetables, those are carbs. But, they're the right carbs.

With fat, it's the same thing. Avocados, nuts, olive oil. They just gave a large group of people a Mediterranean diet. And, they added olive oil, a liter. They had to drink a liter of olive oil a week. And, they actually reduced their heart disease risk as much as those people who took drugs like statins. So, it's not that fat makes you fat, it's that the wrong fats can be harmful, like trans-fat are critically harmful to you. And, they actually drive more cardiovascular disease, more diabetes, **[10:00]** more cancers. And, they really are a toxin that should not be in our food supply.

Dr. O'Bryan: Yes. Dr. Hyman, I know that you took these concepts about carbs are good for you, good carbs and good fats are good for you. Recently, you've taken that concept and you applied it to a large group of people. I believe it was called the Daniel Plan. Can you tell us about that?

Dr. Hyman: Yeah, sure you know. I realize that I've spent the last, you know, 25 years of my life teaching people about how to change their behavior, how to eat the right things,

how to improve their lifestyle, how to manage stress, and take the right nutrients and so forth. And, those are all very helpful. And, if I had motivated patients, it worked very well. But, I found that I could tell people what to do to change their biology, but that getting people to change their behavior was a whole other game.

And, in fact, I realized that social problems are really the root of chronic illness, that chronic disease was a social disease, and that it needed a social cure. And, simply by getting a recommendation at a doctor's office, that was only half the battle. The rest of it was figuring out where health happens. Health doesn't happen in the doctor's office. Health happens where we live, in our kitchens, where we cook, where we eat. It happens where we work, where we play, where we pray. That's where health happens.

And, if we recognize that, then we have to go outside of the health care system to begin to implement strategies to get people to change their behavior. So, then the question is, why do people change? People change because of their peer support group. We know that, for example, people who have friends that are overweight are more likely to be overweight than if their parents are overweight. The genetic threads that tie us together are actually less important than the social threads and how those influence our behavior.

So, with that insight, I went to Rick Warren. He actually came to see me as a patient to get healthy. And, we actually went over his health history. And, afterwards, I said, "Let's have dinner." And, he said, "Yeah, sure." And, after having this insight, I said, "Well tell me about your church." And, he said, "Well, actually, I have a 30,000-member church and we meet every week in 5,000 small groups." And, I'm like "Wow! That's not a mega church. That's thousands of mini churches! Why don't we use those small group to create a healthy-living curriculum and deliver it through there, based on functional medicine? We use an elimination diet at the beginning with gluten- and dairy-free. And, we get people on whole foods, fresh food, exercising, and off the junk."

We had a radical transformation. **[12:30]** And, people helped each other in these small groups. So, we actually found that people actually got healthy by supporting each other and holding each other accountable and providing feedback to each other. It was very, very powerful. Very, very, powerful.

Dr. O'Bryan: As you referenced the importance of social networks and how our genetics are not as important, I think some of our listeners have heard me say this in one of the other interviews. That study that showed that if we carry one gene called the FTO gene for obesity, if we got it from one of our parents, that we had a 46% chance of developing obesity in our lives. If we carried both genes--one from the father and one from the mother--it was a 64% likelihood of developing obesity."

But, if we didn't carry the gene, and we were the friend of a friend who got obese while we were in friendship with them, it was 171% increased likelihood of becoming obese. Almost, three times as much!

Dr. Hyman: That's right, exactly.

Dr. O'Bryan: And, so social networks...In dealing with the world of gluten-sensitivity, have you found a way for people to move into social support for that?

Dr. Hyman: Absolutely! You know, it's happening all over. When I started doing this 20 years ago, people would go, "What's gluten?" And, "Gluten-free, what's that?" And, there was no gluten-free culture. Now, there's a gluten-free culture. There's gluten-free cookbooks. There's gluten-free restaurants. There's gluten-free products in the stores. People are aware of what it is. It's not foreign. It's common. It's in the news. It's on NBC. People are aware of this.

And, I was just looking at my blog on *Huffington Post*. There were 30,000 likes on this one blog I wrote about gluten. There were about 11,000 shares on Facebook just of this one article.

So, I think people are really aware of this gluten issue and that we really need to be focused on ways in which people can do this together. And, I think it's not strange anymore. Now, you can go to restaurants where they actually have gluten-free menus. You know you flip over one side of the menu and they've taken everything out and made it a gluten-free menu. It's very impressive. Very, very impressive.

Dr. O'Bryan: Yes, it is. Yes, it is. In that line of thought, how do you counsel your patients on the effects of highly processed gluten-free foods? Some people will say, "Well, it's healthy for me because it's gluten-free!" **[15:00]**

Dr. Hyman: Yeah, I think this is a problem. I would say that gluten-free cakes and cookies are still cakes and cookies. In fact, it may be worse than cakes and cookies because it's made from flours that are even higher glycemic than wheat. Flours like rice flour or potato starch or tapioca starch or other kinds of flours that are extremely high glycemic.

Dr. O'Bryan: What does that mean to be high glycemic, higher glycemic?

Dr. Hyman: Yeah, it means it raises your blood sugar faster. So, if you take whole wheat flour and you compare it to, let's say, rice flour, the rice flour is actually worse in how fast it raises your blood sugar. So, you're substituting a thing that's very bad with something that's even worse. And, I see often people balloon up on gluten-free foods. So, gluten-free junk food is still junk food.

Dr. O'Bryan: Yes, yes. Thank you for that. That's, right! We have some doctors out there that say the gluten-free diet can be dangerous. It's bad for you if you're not a celiac.

Dr. Hyman: How can they say that? I have no idea how they can say that.

Dr. O'Bryan: I agree. I agree.

Dr. Hyman: Gluten is not an essential nutrient. There's no reason that you'd have to eat bread. In fact, our ancestors didn't even start eating bread until 10,000 years ago. And, we've been around for quite a lot longer than that.

Dr. O'Bryan: Yes, yes. And, my response is, "Gluten-free diets aren't bad for you. Bad gluten-free diets are bad for you." And, from that perspective it's too many gluten-free blueberry muffins and too many gluten-free breads. It's still the carbohydrates with the high glycemic index and how it affects your blood sugar.

Dr. Hyman: Yeah, exactly.

Dr. O'Bryan: Dr. Hyman, you travel so extensively testifying before governmental bodies and giving lectures at medical symposiums. How do you eat gluten-free when you're traveling?

Dr. Hyman: Well, it's easy actually. My usual routine when I travel is I have my Dr. Hyman's emergency life pack. And, it's available on my website, drhyman.com. Find it. Search for it. And, it's a video of me in the blog that I have of, "How do you create an emergency life pack so you're never in a food emergency?" If you're in food emergency, you're going to be messed up.

So, when I travel, I have some things that are non-perishable that I can keep in my bag, either in my suitcase or my day bag or my briefcase. **[17:30]** I have different animal jerkies, like grass-fed jerky or beef jerky. I have nuts, macadamia nuts, almonds. I may throw a can of salmon in there or two. I'll have little packets of almond butter and coconut butter. And, I have a few other things in my emergency life pack. I keep those with me so I never get in a food emergency. So, if I can't go to somewhere to get breakfast, or I can't get the good stuff, I can always eat something and have a meal. It might not be fancy. But, I get some food, and I can have a meal.

Most of the time, if you're in a restaurant, like in the morning, I have an omelet, a vegetable omelet. That's easy, and a bowl of berries. That's a standard breakfast for me on the road. Lunch is easy also: protein and vegetables. Have a salad with some protein on it. You can always get a salad with some grilled chicken. Not hard. Dinner, same thing. I'll order two or three sides of vegetables. They have side dishes, broccoli,

asparagus, or green beans. I'll order two or three of those. And, I'll skip the starch, skip the bread, and have chicken or fish, protein. It's actually very easy.

Dr. O'Bryan: And, that's my experience also. That's a wonderful life pack to carry where you just make a list. And, for those listeners who have never heard about some of these things, they're not hard to find now. Ten years ago if you were gluten-free, you were eating cardboard. Most things tasted like cardboard because the science hadn't come out yet. And, the nutritionists hadn't gotten experienced enough.

Now we can say with ease, "You just have a salad. And, you make sure the dressing doesn't have any flour in it. So, you do a balsamic vinegar and oil and you get some protein on it, a piece of fish, a piece of chicken." It's not difficult to do this now. You just have to prepare ahead of time and be educated on how to do it.

Dr. Hyman, in terms of the whole foods that you recommend, can you give us a summary of what someone would want to include in their daily diet?

Dr. Hyman: For a gluten-free diet?

Dr. O'Bryan: Yes.

Dr. Hyman: Well, it's sort of what I just said. My typical morning is I have a whole food protein shake. So, what I do when I'm at home which is easy is I have all these ingredients in little containers and Ziploc baggies that are easy to get, and have them all organized, because it has to be automatic, it has to be easy, You have to prepare. You know? If you fail to plan, you plan to fail.

So, I make sure that once a week, I go to the grocery store and select everything I need and organize it. So, I don't really worry about it. It's automatic. If you make these behaviors automatic, they become easy and second nature. But, if you have to think about it, it's not going to happen. **[20:00]**

So, in my cupboard, I have hemp seeds, chia seeds. I have pumpkin seeds, almond butter, coconut butter. In my freezer, I have frozen cranberries, frozen blueberries. I have organic lemons. I have unsweetened almond milk or coconut milk. And, I throw it all in the blender. Put it together in less than two minutes. Blend it for 30 seconds or less, and I have breakfast. And, I can drink it. I sit down and drink it. And, it's a quick, easy breakfast.

If I have more time, I'll make an omelet or make an egg, a vegetable omelet--that's really easy--or berries. Sometimes, I'll make a, what my girlfriend calls a quick-trick-snack-stack, which is chia seeds, walnuts, coconut, shredded coconut, or coconut flakes and currants. I put maybe some fresh berries on it. And, then I soak it with

almond milk and the chia seeds soak up the almond milk. And, you let it set for five minutes and it creates a nice consistency, like a porridge. And, it's delicious. It's high-protein, good quality fat, low-glycemic. And, it's easy to make. And, you can have all those ingredients stored in little airtight containers and they're really simple to get and simple to use.

Dr. O'Bryan: For our listeners, if you're hearing what Dr. Hyman is saying, it's simple and it's easy if you plan and you set yourself up. That's why it's of value to work with a nutritionist who really knows about this, at least for the first time, and maybe a couple of visits over the course of a month or two. So, you get one visit and then follow up a month later where they set you up. They give you the list of things or you will get the list here of things to include in your kitchen to make a protein drink. It's quick. It's fast. It's delicious. And, it nourishes your body. It may sound like Greek right now. But, once you set yourself up, it's not difficult at all. It becomes easy, and you're nourished.

One question, Dr. Hyman, I have for you is if your morning is going to be a busy morning and you don't have time to cook breakfast and you have a protein drink, does that last you until lunch?

Dr. Hyman: You know, it does. It's amazing! I'm a big guy. And, I have high metabolism. And, I work out a lot. And, I'm fit. And, I eat a lot of food. And, if I have one of those shakes, I might have two glasses. I make enough to get two full glasses of it. So, I eat a fair bit. **[22:30]** And, that lasts me all the way through to lunch. And, I can see patients all morning, from 8:00 until 12:30 or so. And, I leave the house at 7:30, so I'm good for five hours. When lunch time comes, I'm ready. But, I'm not feeling freaked out and starving.

Dr. O'Bryan: Yes, yes.

Dr. Hyman: I don't have any cravings. I don't have low blood sugar. It's pretty impressive!

Dr. O'Bryan: That is. And, it's not that difficult folks. And, now you've heard a number of our guests talk on the same topic and that is protein drinks are a really great way to start your day. You just want high quality components for them. And, it's the only critical component. The plan is that each of the ingredients is high quality. You don't want the real inexpensive bulk protein powders that have a lot of filler in them. You want them as clean as you can get.

Dr. Hyman, when a patient comes in to see you and they've got a shopping list of symptoms--and people come from all over the world to see you--how important is it to consider gluten sensitivity in the midst of all of the other possibilities?

Dr. Hyman: You know, Tom, I see people from all over the world. I've seen probably 15,000 to 20,000 patients. There is nobody who comes in my office, not one single person, who doesn't get a celiac test. Not one. And, even more advanced ones because anybody who's got any chronic illness or any symptoms, it's gluten guilty until proven otherwise.

Dr. O'Bryan: Yes, yes!

Dr. Hyman: And, then when I do that, I have to tell you, I look really smart. I'm really successful. My patients love me. And, I feel guilty because it's such a simple thing. And, I look like a genius. But, I'm not.

Dr. O'Bryan: [Laughs] That's right they've been to 8 or 10 or 15 doctors. They've spent tens of thousands of dollars.

Dr. Hyman: Yeah, it's crazy! Like, I had this one woman she was seen by all the top doctors at Harvard. She had anaphylaxis, asthma, hives, and allergies. She was on 42 different pills and inhalers every day. She'd had anaphylaxis twice. She'd died, coded, had to be brought back. She was 48 years old, miserable. Miserable! And, not any better.

She'd seen an immunologist, urologist, pulmonologist. Nobody could figure out what was going on. And, she came to see me. I did a test. It was celiac. She actually had celiac disease. She didn't even know she had gluten-sensitivity. They completely missed it. And, I said, "Hey, don't eat gluten. Get off the other foods that are reactive for now. Take some probiotics. **[25:00]** And, come back and let me know how you do." So, she came back six weeks later. She was off all her medications and no symptoms.

Dr. O'Bryan: [Laughs] That's a miracle! That actually is a miracle and saved her life!

Dr. Hyman: Yes!

Dr. O'Bryan: That's marvelous. Yes. And, how often do you check for gluten sensitivity versus the standard test for celiac disease?

Dr. Hyman: Well, it depends on how you define that. Okay. So, I think that is worth talking about, clinically, what I do and how I think about it, I think that there are many different ways that you could react to gluten and wheat. And, conventional medicine recognizes only one, which is full-blown celiac disease with a positive intestinal biopsy and elevated tissue transglutaminase antibodies, anti-endomysial antibodies, and/or anti-gliadin antibodies.

That extreme case I've picked up many times. And, it's been missed many times in chronic illnesses like ulcerative colitis and neurologic diseases and MS and allergies and anaphylaxis. So, that exists, but it's a small percentage. It's 400% more than it was fifty years ago, but still a small percentage, about one percent of the population.

There are people who have antibody-mediated sensitivity. So, they have other antibodies, gluten antibodies, anti-gliadin antibodies. And, they're elevated. But, they don't have full-blown celiac. So, they have a negative biopsy, but they may have intestinal inflammation. Those people are also ill. There's about 7 or 8 percent of the population that has that. Certain populations like autistics and schizophrenics, it's up to 18 to 20 percent of those people. That's almost one in five autistics or schizophrenics that have anti-gliadin antibodies. That's another level.

Then, there's another level which is a test I've been using, Tom, that you told me about called Cyrex test, Cyrex III. And, it looks at a couple of dozen different antigens that are in wheat and gluten-related products and antibodies against those various compounds that are in wheat or gluten-related products. They may not have any anti-gliadin antibodies. They may have low levels of those. They might have levels that are negative. And, they can still have reactions to gluten and wheat even if they don't have any positive traditional **[27:30]** anti-gliadin antibodies. That's another category.

And the fourth category are people who have none of that but have non-antibody-mediated gluten sensitivity. So, there's a whole other category. And, for those of you who don't know much about the immune system, there are really two types of immunity. One is our ancient immunity called the innate immunity, which is sort of a generalized response. It's not specific. So, it just basically goes, "AHH!" And, it attacks things. It's sort of like a carpet bomb instead of a smart bomb, you know.

Then there's the antibody-mediated or the humoral immunity, or cell-mediated immunity. And that immunity is controlled by antibodies where you form antibodies against specific proteins. So, if you get a polio vaccine, you get an antibody against the polio virus. If you get a measles vaccine, you get an antibody against the measles virus. It's a smart antibody. Those antibodies are what are traditionally recognized as celiac. But, you don't have to have those to actually have gluten sensitivity or a gluten reaction.

So, there are many varieties and many types. And, the best test is an elimination diet. And, see how you feel. It's better than any laboratory test. The laboratory tests can be helpful because they show us how severe it is, they show us what type it is, they give us more information. But, at the end of the day, the best test is an elimination diet.

Dr. O'Bryan: I fully agree with you. And, my concern, or what I've come up against in practice in doing an elimination diet for people, and they find they feel better. Their migraines go away or their joint pains go away. Their skin clears up, their depression

clears up. And, if they have those positive results by going on an elimination diet and they stay away from gluten, there's a tendency where a month, two months, six months later, they're going to have a piece of birthday cake. Or, they're going to have a cookie at a party or something. And, they rationalize that, "Well, I guess I'm fine because I feel fine. So, I guess it's okay to have gluten once in a while."

How have you dealt with that kind of logic or that kind of response from people?

Dr. Hyman: Well, I think people live in the real world. They have to do what works for them. **[30:00]** But, if you are looking for optimal health, then it's really important to make sure that they understand that microscopic amounts have an impact.

And, I always tell the story of when I was a resident and I was working in the emergency room. And, I was inside the emergency room, and all of a sudden I heard this horn go off right in front of the door of the emergency room. So, we rushed outside and we saw this young man slumped over on his horn of his steering wheel, unconscious. So, we grabbed him off the steering wheel. We threw him on a stretcher. We resuscitated him, gave him IVs, gave him epinephrine, gave him drugs to wake him up. We sort of paddled him awake with electric paddles. And, he woke up.

And, we said, "What happened?" And, he said, "Well, I was at my friend's house and I'm allergic to fish. And, he was cooking fish. I didn't eat the fish, I smelled the fish." So, the molecules of the fish cooking that got in the air went into his nose and triggered an immune response that was so strong, that it killed him.

That is the power of your immune system. It responds not to macroscopic things, but to microscopic things. And, if you understand that, then you can understand that you should not think that one slice of bread is okay or one corner of a cake is okay. It's just not. If you're really reactive and sensitive, it really isn't.

Dr. O'Bryan: That's a very good example for people to keep in mind. That's a very good example!

Dr. Hyman, sometimes when people are trying to be healthier and they've heard that sugar's bad for you, they listen to the commercials on television about artificial sweeteners, that they're not as bad, They don't cause spikes in blood sugar.

Are some of these artificial sweeteners bad for us, and if so, why are they bad for us?

Dr. Hyman: Artificial sweeteners we think are a free food. They have no calories. Why should they be a problem? They make the food taste better. They satisfy your sweet cravings. Seems like a good idea. But, the research shows us differently. We know, for example, from research on population studies that women who drink one diet soda a

week have a 33% increased risk of diabetes. One large soda--a 20-ounce diet soda--which is **[32:30]** common, increases your risk by 66%. And, the average diet soda drinker has three per week. And, some people have three per day.

And, we know that this drives significant cravings that dysregulate their brain chemistry. So, you have an extraordinary amount of sweet receptors on your tongue. And, also, even in your intestinal tract you have sweet receptors. And, when you stimulate those sweet receptors with a compound that's a hundred to a thousand times sweeter than regular sugar, it's like crack cocaine for your brain.

And, I can tell you if you've talked to people who drink these things, they're highly addicted to artificial sweeteners. And, it causes a cephalic phase insulin response where you get a spike in insulin, which then causes your body to shift into a fat storage mode. And, it also can affect your sugar, your blood sugar, causing a drop in blood sugar, leading to increased appetite. It also slows your metabolism.

And, in animal studies, they found that animals who have artificial sweeteners actually eat more food quantity even though it's less calories, and they gain more weight. They gain 14 percent body fat in two weeks simply by switching to artificial sweeteners. So, if you're going to have something sweet, have something sweet. Don't trick your body and your brain by using artificial sweeteners.

Dr. O'Bryan: Yes, yes. And, the complications or the results of taking in these artificial sweeteners that you've just itemized is so very similar to some of the complications and the results that Dr. Davis talks about in his book *Wheat Belly* and in his interview with us.

Dr. Hyman: Absolutely! Yes, food addiction is the topic of my next book, *The Blood Sugar Solution: 10-Day Detox,* which comes out in February of 2014. And, it talks about the biology of food addiction and the biology of addiction to artificial sweeteners.

Dr. O'Bryan: Well, we look forward to reading that book.

Dr. Hyman, can you give us an example of perhaps a couple of cases you've had--perhaps a child and then an adult--of things that really stand out in your mind from removing gluten from their diet?

Dr. Hyman: Absolutely! There are some really striking cases. And, I think we often look very smart; when we remove gluten from people's diet, they get better, and it's really just common sense and good medicine. In fact, it's not even alternative or functional medicine. It's just good medicine. And, if you look in major medical journals, **[35:00]** like *The New England Journal of Medicine*, they clearly show that many common conditions can be associated with gluten. And, most doctors never check for that.

So, I had a little girl come in a few months ago who was four years old. Since she was six months old, she had severe psoriasis, head to toe. It affected every part of her body. She had been on methotrexate. She'd been on steroids. She'd also been on TNF-alpha blockers, which suppressed her immune system so much she needed to go to the ICU because she had an overwhelming staph infection on her skin that she couldn't fight because the drug was suppressing her immune system. And, still her skin wasn't better. It wasn't like she was all better, and it was fine, and she got an infection. It wasn't. It wasn't better.

So, she came in to see me. And, I asked her medical history. In fact, she was so in pain when she went to the bathroom--sweet little girl--it was all over her genitals. And, she would pee and it would be agony for her every time she would pee. So, it just broke my heart.

And, I said to the parents, "Look, she got off all the medications because it almost killed her." And, I said, "Let's look at what we can eliminate to identify triggers. And, the most common triggers for psoriasis from a food point of view is gluten. There may be other factors." She also was on lots of antibiotics. And, I gave her an anti-fungal. And, I gave her some things to help her gut heal, probiotics, fish oils, and things like that. And, then I did the lab test.

And, three weeks later, I got a call from the father to follow up. And, on our follow-up call, he said, "She's completely better. After four years, completely better." And, it was really striking how quickly she responded. And, when I got the laboratory test back, we did a Cyrex III test. And, she had enormous, enormous levels of antibodies. Every single antigen was lit up. So, she had severe gluten-sensitivity. She wasn't a full-blown celiac, but it was pretty dramatic. And, I've seen this over and over again.

And, I had another patient who had severe neuropathy with facial palsy and neuropathy. Her consulting neurologist was giving her anti-seizure medications to help with the neuropathy. But, nothing really worked. And, it turned out she had celiac disease, undiagnosed. Another patient, who had renal failure with IgA nephropathy, again, same thing, he'd got the gluten antibodies, and he got better. **[37:30]**

And many patients, another woman with ulcerative colitis, they were going to remove her colon because she wasn't getting better. And, I said, "Don't remove your colon. Just stop eating gluten." She had celiac disease, again not diagnosed. This wasn't even a borderline gluten sensitivity, this was full-blown celiac.

So, I think this is really the key take-home here, that we have to think about this all the time. Anybody who's got any chronic disease. And it's associated not with just inflammatory disease. It's not just with asthma, allergies or digestive issues or

autoimmune disease, but with chronic illness like diabetes, like heart disease, like cancer.

I had a patient who was morbidly obese, 300-plus pounds. His joints hurt. He had a little asthma, and massively overweight. And, it turned out he had full-blown celiac disease. And, you know, we think of somebody as having gluten or celiac disease as having a thin body type, wasting away and just not doing well. This guy was morbidly obese. So, we have to think about that, in every case. And, it may not just be in the ones who we've typically thought of in the past.

Dr. O'Bryan: Well, those are some amazing case histories. So, what we're hearing here, folks, is from Dr. Hyman, the founder and director of the UltraWellness Center in Lenox, Massachusetts, one of the premier--if we categorize it--holistic healthcare centers, meaning they just look at the whole person--including pharmaceuticals when indicated--they look at the whole. And, as Dr. Hyman has said, every single patient he considers gluten sensitivity with, irrespective of what they present with.

Dr. Hyman: Yes.

Dr. O'Bryan: Well, Dr. Hyman, thank you very much for taking the time today to be with us and to share some of your experiences. I'm sure many of our listeners have had some "Aha!" moments and hopefully we'll motivate them to look further down their own path to see if gluten sensitivity may be part of their problem.

Thank you once again. We wish you much success in your future endeavors.

Dr. Hyman: My pleasure. Thank you so much!

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