

THE FUTURE OF HEALTH | NOW 2012

Dr. Mark Hyman Transcript

Ann Wixon: Hello, and thank you for joining us. I'm Ann Wixon, your host for *The Future of Health Now*. The purpose of our series is to give you privileged access to useful and helpful conversations with many of the world's most respected doctors and scientists, helping you to achieve the best health possible.

Today, we have the honor of speaking with Dr. Mark Hyman. Dr. Hyman has dedicated his career to identifying and addressing the root causes of chronic illness through a groundbreaking medicine approach known as "functional medicine." He is a family physician, a 4-time *New York Times* bestselling author, and an internationally recognized leader in his field. Dr. Hyman is chairman of the Institute for Functional Medicine, and was awarded its 2009 Linus Pauling Award for Leadership in Functional Medicine. He is on the board of directors of the Center for Mind-Body Medicine, and a faculty member of its Food As Medicine training program. He is also on the Board of Advisors of Dr. Memhet Oz's HealthCorps, which tackles the obesity epidemic by educating the student body in American high schools about nutrition, fitness, and mental resilience. As a volunteer for Partners in Health, Dr. Hyman worked on the ground immediately after the Haiti earthquake and was featured on *60 Minutes* for his work there.

Dr. Hyman has testified before the White House Commission on Complimentary and Alternative Medicine, and has consulted with the Surgeon General 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. In June 2010, Dr. Hyman was nominated by Senator Tom Harkin 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 Council on Prevention, Health Promotion, and Public Health. Dr. Hyman is currently the founder and medical director of the UltraWellness Center in Lenox, Massachusetts.

We are speaking with Dr. Hyman today to learn about diabetes, and how we are all at risk of developing and possibly dying from the complications of diabetes and obesity.

Welcome, Dr. Hyman.

Dr. Mark Hyman: I'm so glad to be here. Thanks for having me.

Ann Wixon: Absolutely. It's our pleasure. I want to start with, what is diabetes?

Dr. Mark Hyman: Diabetes is something that affects one out of two Americans, 90% of whom don't know it, and costs our country \$3.5 trillion over the next 10 years. It's the single biggest cause of heart disease, cancer, diabetes obviously, and even things like dementia and other inflammatory diseases of aging. It's the most underdiagnosed, most serious chronic disease that we have today. No doctors are really trained to diagnose it effectively and very few are trained to treat it effectively.

Ann Wixon: It sounds like it's kind of a combination of diabetes and obesity.

Dr. Mark Hyman: That's right. In medicine, we talk about things as on or off, you have diabetes or you don't. If your blood sugar is 123, you don't have diabetes; it's 126, you do have diabetes.

That's a bunch of nonsense, because disease occurs across a continuum from fully optimal function to full blown end-stage disease, and anywhere along that continuum, there are risks. So, if you are having any problems of managing your blood sugar, any problems with any little belly fat that's causing you to have swings in insulin and blood sugar, you're at risk for the complications of diabetes.

Ann Wixon: Isn't diabetes something you have to worry about only when there's a family history of diabetes?

Dr. Mark Hyman: We are genetically predisposed to this problem because many of us evolved in areas where we needed to store fat to survive. So, it's a good thing to be able to go out and find extra food and put the fat away for a winter or for a period of famine or a scarcity in food. So it's an adaptive gene that helps us to store fat, particularly around the middle, and save it for later. So, many of us have that generic predisposition, but unfortunately, in this world today, we all have abundant and unfettered access to all the food we want and all the sugar and processed foods we want. We went from 10 pounds of sugar a year consumed by each person in America in 1800 to about 180 pounds per person per year.

Ann Wixon: That's like a human.

Dr. Mark Hyman: That's right. The whole person in sugar, every year. Now, what that does is that takes our genetic predisposition and creates a whole series of problems that we call diabetes. You don't really have to get diabetes, to have all the problems, and you don't just have to worry about it if you have a family history, because although it may give you a clue that you have a risk for this problem, even without a family history, you can still have issues.

Ann Wixon: So, what's been discovered about diabetes that will surprise all of our listeners today?

Dr. Mark Hyman: I think it's this concept of diabetes, which is that there's a continuum from optimal blood sugar balance to a full blown diabetes, and that anywhere along it, you're at risk. Ninety percent of people who have this problem, which is one out of every two people in America do not know they have it. So you're at risk for a disease that is hidden and it will show up in all sorts of ways such as depression, as mental problems, cognitive issues, as heart attacks, as fatigue, as cancer, and you might not think you really have this problem, but it shows up as some other disease. But it's really rooted in this one single problem.

Ann Wixon: What causes diabetes?

Dr. Mark Hyman: Our diet, which is high in sugar and low in fiber, and processed foods, which raise our blood sugar quickly. It's lack of exercise and being sedentary, which makes us more insulin resistant. It's environmental toxins, which actually have been linked to creating weight gain and diabetes and diabetes. It's also linked to what's going on in our digestive tracts, our gut flora, which are very important in regulating inflammation in the body, which can control weight and diabetes. So, because we take antibiotics or acid blockers and other things, we actually cause disturbances in our gut eco-system that drives inflammation in the body. So it can be anything from your diet, to stress, to toxins, to gut flora, and many other things that can actually lead to this problem.

Ann Wixon: What are the health myths about diabetes that we should all be aware of?

Dr. Mark Hyman: One of the few important myths about diabetes that some of which we talked about, one is that it's genetic. I think, "Oh, my family history is of diabetes. My mother had it, my father had it, I'm going to get it," sort of a fatalistic attitude. But I can tell you that just because you're predisposed to it, doesn't mean you're going to get it, or that you have to get it. The Pima Indians are a great example. They, a hundred years ago, were thin and fit and had no diabetes,

obesity, or heart disease, and today, they're the second most obese population in the world, where 80% have diabetes by the time they're 30 and their life expectancy is 46. So, it's not enough to say genetic in the sense that you're destined to have it, you're predisposed to it, but it's certainly not something you're guaranteed to have.

The other thing is that we believe it's not reversible. So once you have diabetes, you can't reverse it. "No, I got on medication, I got on insulin, I can't stop this." That's absolutely not true. What's true is that with medication, you can't reverse it. But with aggressive lifestyle therapy, with dealing with all the other factors and causes, by correcting nutritional status, deficiencies that link to this problem, we can actually reverse diabetes. I've seen this over and over again, and we know this is true.

Also the other great myth is that you don't really have to worry about it if you have prediabetes until you have full-blown diabetes. The whole term "prediabetes" is really a false term. That's why I like the term diabetes because it sort of links up these things in a real way, as opposed to saying, "Oh, well, only if I get diagnosed with diabetes, I'm going to do something." Many patients of mine have said, when I asked them, "How's your doctor dealing with your elevated blood sugar? It seems a little bit high." They go, "We're watching it." I said, "Watch for what? Watch until you get diabetes and then you're going to treat it?" I mean, it doesn't make any sense. So, you can have all the complications like heart attacks, strokes, cancer, dementia, depression from having prediabetes. The things you won't get are the blindness and the kidney damage and some of the nerve damage, but everything else, you'll get.

The other myth, and it's related to this, is if you go on insulin, you can't get off. I've had many patients get off insulin if they change their diets and exercise and correct all the causes. Also, we have another myth, which is that lowering your blood sugar prevents death and heart attacks in diabetes, lowering your blood sugar with medication. So there's been some interesting and shocking studies that show that if you actually lower your blood sugar using insulin and certain drugs, you're actually raising your risk of heart attacks. I think the key here is that it's not just about the blood sugar, it's about correcting insulin and insulin resistance, which is at the root of this problem, and that's not done through medication.

The other myth that surgery and angioplasty are good treatments, they're not. They actually have been shown to not to be that effective in people with diabetes for treating heart disease, which is common, and that lifestyle works better than surgery and medication. That's well studied.

Also, that weight loss is necessary for reversing diabetes. Now, this is a little shocking, but what's interesting is that if you take patients who've had gastric bypass, within a very short time, their diabetes will reverse even if they're still very obese. The reason for that is that we have our hormones and our metabolism is affected very directly by what we eat. If we change the information going into your body in terms of food, within literally weeks, you will reverse all these signals that are causing this, even without dramatic weight loss.

Ann Wixon: I'm hearing a lot of symptoms that I don't think our listeners and, certainly, I don't associate with diabetes or diabetes. I know that you are at the forefront of functional medicine. Is conventional medicine's approach to disease broken?

Dr. Mark Hyman: No, absolutely. We sort of wait until you have a problem and do something about it. We deal with the downstream effects of upstream causes. We deal with symptoms not the system, and that leads to sort of being mistaken about how we organize our approach. What we're learning is that we have to deal with the underlying mechanisms and the causes of disease and not just try to suppress symptoms with medications. As we lower blood sugar and lower blood pressure and lower cholesterol, we think we're doing a good thing, but increasingly, the research is showing that when we do only those things, we don't really have that much benefit. The most powerful intervention is lifestyle medicine and addressing also environmental toxins, which I think, is another huge thing. We don't learn either of those things in medical school.

Ann Wixon: So what is functional medicine? How is functional medicine's approach different from the approach we're all used to in medicine?

Dr. Mark Hyman: Functional medicine is essentially an approach that deals with the body's whole systems in an individualized way that addresses the underlying causes of disease. I'll give you an example. Let's say you have a diagnosis of depression, which is common and affects one in four people in their lifetime and one in 10 are on medication for depression at any one time. Your doctor will diagnose it after you have certain symptoms, like you feel sad or hopeless or helpless or don't have interest in your normal activities or food or you can't sleep. So, your doctor says, "I know what's wrong with you, you've got these symptoms, you have depression." But in fact, depression is just the name we give to groups of people who have those same symptoms, and yet the causes maybe quite different depending on the individual.

We don't know how to figure that out in conventional medicine. So, in functional medicine, we say, "Okay, let's see and figure out the cause. Well, it could be from eating gluten, which causes an autoimmune disease that causes low thyroid function. It could be because you're taking an acid blocking medication, like one of my patients who is 78 years old and was depressed and demented and exhausted and had a B12 deficiency, which caused the depression. I gave her B12 and a number of other things and she went from being non-functional to calling me up at 82 years old saying she's going trekking in Bhutan.

We could have depression from having not enough vitamin B because we don't get out in the sun or because we eat too much sushi and have mercury in our body. So if we don't like fish at all, we have omega-3 fat deficiency, or maybe we eat too much sugar and have prediabetes and don't know it and that causes depression. Each one of those had a different method of diagnosis and a different treatment. If you treat the cause rather than just the symptom, which is depression, then you'll be much more successful in getting results.

So that's what a functional medicine is. It's an approach that you view the whole system as opposed to just the symptom. It's medicine by mechanism and pathway rather than by sort of location and geography and not the, you know, you go to your neurologist for your head and your gastrologist for your stomach and your rheumatologist for your joints. We see the body as one integrated system and you have to understand each basic component of the system and understand that we just had to remove the impediments to health and provide the ingredients to health so the body can function better.

Ann Wixon: Dr. Hyman, what do you think are the biggest myths about disease? I'm just hearing something totally different, again, from what I've always heard.

Dr. Mark Hyman: This is the big problem. There was an article in the *Journal of the American Medical Association* that spelled this out and it talked about, shifts in thinking about dementia, but really it was about all disease. It says we're stuck in this problem of categorical misclassification and ideologic imprecision. What that means is that we group people in the wrong categories based on symptoms instead of based on causes or ideology. So, our whole way of classifying, organizing, and naming disease is based on a very outdated idea, that is, medicine by geography or location in your body rather than by what's really going on, by the underlying cause. So, functional medicine is really focused on diagnosing and grouping people by causes rather than by symptoms.

Here's another example. Let's say one patient has rheumatoid arthritis, another has osteoporosis, another has autism, another has irritable bowel, another has a heart attack, another has cancer, another has dementia. We see these all as separate problems, but in fact, every single one of those diseases maybe caused by eating gluten. That's not to say that everybody who's got those diagnoses has it caused by gluten. But, we have to sort of tease apart these ways of organizing diseases that don't make any sense anymore in the 21st century. They're completely outdated

and relatively meaningless. We have to reorganize our specialties into specialties of causes. So, we'll be having specialists in information and detoxification and digestion and things that are really the core of our body systems.

Ann Wixon: Getting back to diabetes, is diabetes an adult-only problem?

Dr. Mark Hyman: I wish it were.

Ann Wixon: [laughs] So I guess that's no.

Dr. Mark Hyman: We're seeing obesity increasing in children, we're seeing a thousand percent increase risk in diabetes in children in the last generation. I mean, this is a frightening number. I talked to, recently, a pediatric endocrinologist who said, before his practice was only Type I diabetics, and now, he says, it's really 3 to 1, Type II to Type I in children. He had to add extra clinics and extra clinic days just to deal with the Type II diabetes in children, and that's just the worst cases. We're seeing tripling of the obesity rates, and these children are all drinking liquid calories -- soda, sugar. That's why we're seeing this. So we diagnose this very frequently in children. I just had a 9 year old in my practice who had a very severe case of this problem, and we worked with her to reverse it, but it's pretty common.

Ann Wixon: So, what is the biggest myth about why we get fat? [laughs] I think this is what everybody is like, "Why do we get fat?" It's very confusing.

Dr. Mark Hyman: Yes. I think there's a lot of confusion in nutrition. I wrote a whole book about this called *UltraMetabolism*, where I talk about the myths that make us fat. I think there's a lot of them, and one is that we think all calories are created equal and don't realize that food is information. So, calories actually do have energy and they're providing fuel for your body, but they also have other instructions for your body to tell it what to do. If you're eating poor quality calories that are in processed food and liquid calories in sugar and sodas, you're actually telling your body to gain weight. You're turning on hormones and signals and information that leads to obesity and disease. Whereas, if you eat real whole fresh food, you change the information going in.

In fact, I had a beef with Weight Watchers for years because they had this whole point system, and you can have an Oreo or an apple, and those sort of have the same points. But now they'd changed that and, in fact, they realized that this whole concept of "all calories being the same" is really nonsense. From an energetic point of view, it's true but it's the same thing as, you know, if you take a pound of feathers and a pound of lead and you drop them in a vacuum and they drop at the same rate. But if you take the pound of feathers and the pound of lead and you drop them up the George Washington Bridge, they drop at different rates because of air resistance, right? So, that's the same thing with food. Same energy, same weight, but when they go through your metabolism, that kind of information that's going on there and the way they interact with your metabolism is very, very different. So that's really a huge myth.

The other myth is that carbs make us fat. I think, we need to be eating a lot of carbs, and a lot more than we are. We need to be eating vegetables, fruit, beans; these are all carbs. We need to be eating whole fresh real food and not processed carbs that are white flour and white sugar. We also think that fat makes us fat, and that's been well proven not to be true. We think there's more calories in a fat gram than in a carb gram so we carbs in pasta and rice and potato diet is what's made America so fat. That's what the food pyramid said a couple of decades ago and that's what started driving the obesity epidemic. It said eat 11 servings of bread, rice, cereal, and pasta everyday, and we listened. So, we need the right fats, we need good fats, omega-3 fats, anti-inflammatory fats, olive oil, nuts, seeds, avocados. These are all healthy fats that are needed.

Another myth is that we actually should sort of skip breakfast and skip meals to lose weight, and that we should starve ourselves and reduce our calories, but we can't do that. If we start to do that, we'll slow our metabolism down, we'll actually trigger hunger that we can't control, and we

get up in this sort of very difficult state where our bodies are actually slowing metabolism and gaining weight despite restricting calories. So, you have to eat enough calories so your body doesn't starve, and then you can slowly sort of lose weight by eating less than you need, but more than your minimal metabolic rate. Those are just some of the myths.

Ann Wixon: So isn't it just a matter of calories in, calories out that's causing weight gain and diabetes?

Dr. Mark Hyman: Not really.

Ann Wixon: No? See, that's surprising, too.

Dr. Mark Hyman: Yes. It's sort of what we just talked about, that food is information not just energy. So, if it's all about just energy and the first law of thermodynamics, no problem; it would be calories in, calories out. Not saying calories don't matter, sure, if you're eating huge quantities. But, you're not going to be able to eat enough calories of broccoli to gain weight. If you're not, you can eat as much food as you want in terms of certain volume of food. But more to the point, what company the calories keep is more important than the calories themselves. So, for example, if you have something that's got lots of fiber in it, if you take a can of Coke and drink that certain amount of the calories, you'll gain a significant amount of weight. Sixty percent of kids who drink one can of soda a day get obese.

But, if you take, for example, that same can of Coke and you put in three tablespoons of fiber - Metamucil, for example - the way those sugars will be absorbed is very different. So you might not get the same spike in blood sugar and insulin - different hormones, different messages get made. In fact, we're also learning about the microflora in your gut. If you have healthy bacteria in your gut, they don't extract all the energy from the food, and then you don't gain weight. But if you have bad bacteria in your gut, you extract more energy from the food and you actually gain more weight, even if it's the same caloric content of the food. So, it's really not calories in, calories out.

Ann Wixon: We've all kind of grown up thinking food is what you consume so that you have energy. What you're saying is food is information. Is the food we're eating actually communicating with our genes?

Dr. Mark Hyman: Absolutely. It's called nutrigenomics. It's a science of understanding how food talks to your DNA and turns on or off messages that help the disease. The reality is that the instructions that your food contains for your genes determines your health and determines whether you're going to gain or lose weight, whether you're going to get diabetes or not. It's very, very important.

Ann Wixon: Is everything we eat causing diabetes? [laughs]

Dr. Mark Hyman: Not everything I eat. [laughs]

Ann Wixon: [laughs] Right. Because it sounds like the normal American diet is putting you on the path to diabetes pretty quickly.

Dr. Mark Hyman: Pretty much. It's very inflammatory food, it's inflammatory fats, it's inflammatory sugars, inflammatory proteins even. Last night, I had brown rice, we had a daal which is made of lentils and lots of spices, we had Brussels sprouts, and we had stir-fried mushrooms. I ate until I was really full, and I'm never going to gain weight because you can't gain weight on Brussels sprouts and mushrooms.

Ann Wixon: Okay. So, last night, I passed up the margarita because of the sugar. [laughs] I thought that was pretty heroic.

Dr. Mark Hyman: Once in a while is fine, it's just a matter of balance. My wife bought me this phenomenal chocolate she left on my desk last night, it was like one little square of chocolate, dark chocolate. It was fantastic and I enjoyed that and I wouldn't worry about it.

Ann Wixon: Right. Are there some foods that are so dangerous to our health that we should never eat them again?

Dr. Mark Hyman: Yes. I would say, if I could give sort of a simple take-home, practical-action-step piece of advice for everybody, it would be to never eat anything with high fructose corn syrup or trans fats in them or hydrogenated fats. If you can eliminate those two things with one fell swoop, you get rid of almost all the poor quality foods in your diet. Now, high fructose corn syrup, we can debate all day about whether that causes more weight gain or not than regular sugar, I don't think it really matters. I think what matters is that it's an indicator, it's a marker, it's like a red flag for "This is crap."

Ann Wixon: [laughs] If we've been eating poorly for the past 30 years, is it too late? Are we doomed?

Dr. Mark Hyman: You know, I think I've seen miracles. I had a patient who was 63 years old. He's 300 plus pounds, had diabetes, heart failure, angina. He had reflux, he had swelling in his legs, he had sleep apnea, he had chronic sinus problems. You name it, he had it. He was on a pile of pills and really never taken care of himself before. He came to me pretty desperate feeling like he was at the end of his life and said to me, "Can you help me?" I said, "Sure." He said, "What do I have to do?" I said, "Well, you have to do what I tell you to do." [laughs] So, foods, exercise, his weight, take these supplements, and within a year, he lost 140 pounds. His diabetes, his angina, his heart failure, his swelling, his sleep apnea, his sinus problems, his reflux all went away. He was off of all his medications, and he no longer had any of his problems. He lost not only 140 pounds but he lost 20 years, he gained 20 years of his life, and it was remarkable. The only side effect is he had this extra bit sort of skin hanging around his belly that he can't get rid of, but that was it.

Ann Wixon: That's not bad, that's an extraordinary outcome.

Dr. Mark Hyman: Yes, and it's possible, really, at any age.

Ann Wixon: One of the things that I am hearing, one of the messages that I'm getting from you is, certain diseases are not reversible with medication. But, what I think I'm hearing is, they are reversible with the right food and exercise and other things that don't put drugs in your body. Is that what I'm hearing?

Dr. Mark Hyman: What I'm saying is, I'm agnostic when it comes to medication, surgery, whatever. I don't care what it is that works. I want to know what is the best, most effective, most powerful therapy I can give someone, as a physician, to heal their suffering and reverse and treat their disease, that's what I want to know. So I'm not coming from any dogma or ideology. I simply want to know what are the facts, what is the science, tell me about what are the best treatments. We know, through unequivocal science, that changing your diet, exercising, and taking certain supplements, and dealing with environmental toxins works much better than medications and surgery, which is well proven. The Diabetes Prevention Trials show that you would dramatically reduce, for example, progression to diabetes and people with prediabetes, by lifestyle, which work way better than medication. So we see this over and over again, and I guess, I've said, "I want to know what the best treatment is," and it's not a pill. [laughs]

Ann Wixon: Right. Can we get all the nutrients we need from food?

Dr. Mark Hyman: If you eat only wild food that you hunt and forage yourself in a pristine environment, if you drink only pure clean water, sleep 9 hours a night, have no chronic stress,

and exposed to no environmental toxins and no electromagnetic frequencies, then I would say, sure, you don't need any vitamins.

Ann Wixon: So assuming that that's just not going to happen?

Dr. Mark Hyman: So, I think the rest of us do need something, and I think the reason is that we've depleted our environment and depleted our soils and live stressed lives and are exposed to toxins and all sorts of other things that requires us to get a little extra help. I think, every day, I test people for nutritional status, that's what I do, looking at the soil. So, I think, yes, what functional medicine is, it's treating the soil, not the plant. Everyday, I do a soil sample, I look at the sort of status of someone's health to looking at their nutrition, among other things, and I see massive nutritional deficiencies. Only yesterday, I looked at someone and she had a massive vitamin D deficiency, massive folate deficiency, B12 deficiency, iron deficiency. I mean, this is someone who is actually 300 pounds. So, if you think someone who's overweight is well nourished, they're actually the most malnourished.

Ann Wixon: Do nutritional supplements really make a difference for our health then?

Dr. Mark Hyman: They do. We've seen this over and over. There's a lot of controversial literature about this and you'll see different opinions based on what's in the media, and it's very confusing for consumers. But, if you just take a good look at the literature, there's a lot of data on fish oil, on vitamin D, on certain nutrients like B vitamins - B6, folate, B12 and methylation, and also, just correcting nutritional deficiencies like iron, zinc, magnesium, which are very, very common. They can have dramatic impact, not just in preventing disease later on, but in dealing with chronic symptoms that people have every day.

Ann Wixon: You just mentioned some vitamins and minerals. What supplements should everyone take and how often?

Dr. Mark Hyman: I'll just make it really simple. There's three things everybody should take, and maybe a fourth. Three things are - a multivitamin, which contains a broad spectrum of good quality nutrients including vitamins and minerals, so it's a multivitamin. Two, a fish oil pill, which contains EPA and DHA; not omega-3, it's from plants, which is the LA from flax, but fish oil. Three, vitamin D, which is something a deficiency that affects about 80% of us. The fourth one that I'd like people to take is a probiotic, because we have trouble with our digestive tracts, it has broad implications in our health. I think it's a good thing to do to take daily probiotics to help you digest and stay healthy.

Ann Wixon: Probiotic is putting good bacteria back into your gut, because a lot of us who have had to take antibiotics, they kill the good bacteria in your gut. Is that right?

Dr. Mark Hyman: And, if you eat a junkie diet, if you have sugar and processed foods and none of fiber, you're starving the good guys and fertilizing the bad guys. You have to sort of change this, it's like planting good seeds in the garden.

Ann Wixon: If I'm not overweight, how do I know if I'm at risk for diabetes? I think, pretty much everyone associates diabetes with obesity, but I'm hearing something a little different.

Dr. Mark Hyman: Most of the time, that's true. Most of the time, the biggest clue is your waist size. So you may not be overweight but you maybe overwaist.

Ann Wixon: Overwaist. Okay.

Dr. Mark Hyman: If you look at the risks, as your waist size goes up, your risk of death and heart disease, cancer, and everything goes up. The belly fat is what's really the clue for diabetes. So

that's the number one thing, looking at your waist size in relation to your height or waistline, or hips, and there's some good data on how to look at those numbers.

Ann Wixon: Okay. But for an easy rule of thumb, if my waist is as wide as my hips, I might want to think about taking some action.

Dr. Mark Hyman: That's right. Scientifically, you know, the number is, if you're a woman and you measure on your bellybutton and around your widest part of your hips, and if it's greater than 0.8, you have a risk for diabetes. If you're a man, it's greater than 0.9. If your waist is bigger than your hips, you're in problem. Now, the other thing that is true is that sometimes you can be a skinny fat person.

Ann Wixon: Okay. What's a skinny fat person?

Dr. Mark Hyman: You can look skinny but you're metabolically fat. So, you might have not a lot of obvious fat but you've lost muscle because you don't exercise. For example, all the women are like this, they're not really overweight, but they've lost a lot of muscle. When you have more fat and less muscle, you're more insulin resistant, so you can have prediabetes without even being overweight. So, I would say that the best test is an insulin challenge test, which is I talked about in my work. The bad news is, it's a test that's not done by most physicians. Ninety percent of people who have this problem are not diagnosed, but it's a cheap and inexpensive easy test to do and any doctor's office can do it.

Ann Wixon: This is going through my mind, will my doctor even know about diabetes?

Dr. Mark Hyman: They might not know that word, but they'll know about prediabetes and they'll know about metabolic syndrome. They should, if they're not wherever at this point, then they've been not being pay attention to their medical literature and they should go back to continuing medical education.

Ann Wixon: And maybe it's time to switch doctors.

Dr. Mark Hyman: Let me just tell you, the problem is that doctors don't like to diagnose things they can't do anything about. So, they'll go "Eat better, exercise more, and come back and see me and if you have diabetes, we'll treat it." That's not the right answer. You need to be very aggressive in treating this, it's a very serious, life-threatening disease that needs to be treated aggressively and early, and it needs to be diagnosed early. We need to do the right testing to find out if you have this problem, and most doctors can do it. Then, we need to create a model for health care that includes nutritionists and community health groups and things that actually help people create the change.

Ann Wixon: So if I walk in to my doctor's office, I mean, I'm pretty fit, I'm not too bad, and I say, "Look, I want to get a couple of test to make sure I'm not at risk for diabetes." She's going to think I'm crazy. What test do I ask for to make sure I get the right test done?

Dr. Mark Hyman: They might not really think you're crazy. When you think about, doctors check your cholesterol, they think, "Well, let's just check your cholesterol." It's the same kind of thing. You're looking for something that will give you a risk for a disease. We've all been trained to test for cholesterol because there's a great class of drugs than can treat this. But, there's no great class of drugs that treats prediabetes, so there's not a lot of drug companies pushing us to test for this. So, what I would say is, "Look, I want a few tests. I want to get a hemoglobin A1C." That's a simple test to see if my blood sugar is starting to go up. "I want to get a test of my cholesterol, specifically looking at triglycerides and HDL and how those are." If your triglycerides are high and your HDL or good cholesterol is low, it's a clue that you have diabetes. Also, if you really want to be sophisticated, you can look at the particle size of your cholesterol. It's not just whether you have high or low cholesterol, but what kind of cholesterol is it? Is it light, fatty cholesterol? Is it

small, hard, dense cholesterol? The small, hard, dense cholesterol is more of a risk for heart disease and an indicator of diabetes. Lastly, you really want to look at your blood sugar and insulin levels after taking a sugar drink, fasting and after taking a sugar drink, more than two hours after or you can do 30 minutes after. All of these I talk about in my books and in my materials because it's so important.

Ann Wixon: So the next 10 years, how many lives do you think you could save if everyone followed your advice?

Dr. Mark Hyman: I think this has been worked out by some folks, some insurance companies actually looked at this. UnitedHealthcare put together a recent report on "The United States of Diabetes," talking about the epidemic and what interventions we could do to reduce the cost here. I think we can dramatically improve lives and save lives and reduce healthcare cost by doing this, depending on how aggressive people are. I mean, it can be dramatic. For example, if you look at some studies where they just did dietetic control of diabetes plus a little bit of exercise and started in 70-year-olds, and followed them for the next 20 years, you actually found they reduced death from all causes by 50%.

Ann Wixon: I wanted to ask you, a lot of these tests are tests that are commonly done for adults. If we have children, if we have younger children, should we be asking for these tests for them now?

Dr. Mark Hyman: I would say it depends, like my children are kind of skinny. They run around like crazy and get lots of exercise and they eat great food. So, I don't think they need a glucose tolerance test or special test for lipid particle size or any of these things. I do think that it really depends on each child and looking at them and seeing what their family history is, looking at their body type, looking at their weight, and so on. So, in children who are at risk, who are overweight, or who have extra body fat, who have family members who have diabetes, I think there's a reason for testing early.

Ann Wixon: OK. What are some claims being made about the link between diabetes and disease that, in your opinion, might be nonsense?

Dr. Mark Hyman: I don't know. [laughs] I think it's opposite. I think, really, we're ignoring the links between diabetes and disease that are real. I mean, when you get diagnosed with breast cancer, your doctor doesn't say, "Gee, maybe this was caused by diabetes." And, in fact, you shouldn't be eating a bunch of sugar, and you should change your diet and get off the pasta and bagels and bread and rice. You should correct this underlying problem of too much insulin because insulin is a growth factor. Not only does it make your belly grow, but it makes the cancer grow.

So, I think, we're ignoring this. We don't see when people have a heart attack, we don't treat them aggressively for this. We say, "Take your statins." But yet, the real cause, 50% of the people who have come in with a heart attack to the emergency room - and I used to be an ER doctor - have perfectly normal cholesterols, but they have severe diabetes, and that's myth. Two-thirds of people who walk in the ER with a heart attack have diabetes, and almost all of them are not diagnosed with it. This is the large study that was done in an emergency room, and they actually checked. But, if you don't look for something, you're not going to find it.

Ann Wixon: I'm trying to think, all the years I've gone to my doctor, I don't think one of them has ever asked me what I eat. They ask me if I smoke, they ask me if I drink and how much, but they've never said, "Do you drink sodas? What are you eating on a regular basis?" If you don't have a doctor that is savvy about nutrition, what do you do?

Dr. Mark Hyman: Listen, we all have bodies, and we need to learn how to take care of them. If we want them to last, we have to learn to care for them. Just like our car. We learn to change the oil, we learn what kind of gas it needs, we learn how much air is supposed to go in the tires, we learn

when we're supposed to change the filter and the sparkplug. We have no idea how to take care of our bodies, [laughs] and I think it's information that is each of our responsibility to learn, and basic self-care is something you don't need a physician for.

However, I would say that we have to dramatically change nutrition in medical education, because less than a quarter of medical schools have any nutrition education that meets minimum standards. And the nutrition education they have, if they have it, is based on studying nutritional deficiency diseases, so scurvy and rickets and things which are not that relevant anymore, instead of the link between chronic disease and diet.

Ann Wixon: What is happening right now that represents the future of diabetes prevention now? What is going on now in the field of diabetes that our listeners don't know about that is the future?

Dr. Mark Hyman: There's a couple of things. One I think as the most exciting thing, for me, is the possibility of creating a new model of health care that includes groups and community support for transforming lifestyle, for creating sustainable behavior change. I just came back from giving a talk to over 8,000 people at a church in California where we're employing their groups. We're using their existing groups - they have 5,000 small groups - to implement a curriculum of education about lifestyle, nutrition. Provide people practical actionable tools that allows them to be kind of empowered to take care of themselves and support each other in learning how to shop and cook and create help for themselves in ways that they're not learning anywhere else.

So I think these kinds of models that are developing are much more effective. There's a large trial, a \$100 million plus trial going on by the National Institute of Health called the "Look AHEAD Trial," which is showing that - the data is not all in, but some of the preliminary data is in - that using groups to treat people with diabetes is much more effective than conventional care of seeing a diabetic educator, of seeing a nutritionist, of getting some exercise counseling, and getting your doctor to prescribe medications. So that based on the group model is kicking the pants off of the individual care model. I think that's really what is going to be the future of diabetes prevention.

Ann Wixon: What do you think the future of diabetes prevention will look like in five, 10, or 15 years from now?

Dr. Mark Hyman: I think it's going to be what I just said, I think that it's going to be reimbursement for group model care that's going to be a comprehensive approach to lifestyle medicine, that gives people the skills for self-care and teaches doctors how to actually manage and be part of the team that will deliver this kind of care. It includes a multidisciplinary team of experts and community health workers that will transform the landscape here.

Ann Wixon: Is there any one message or is there any information that we haven't discussed today that you would like to make sure that our listeners hear?

Dr. Mark Hyman: I think the most important message is that, one in two Americans have this problem and 90% don't know it, so go find out if you have this. Read about it, learn about it, I've written a lot about this. Try to learn yourself about this so that you can become informed and ask your doctor to do what he or she can do to help you, along with finding other resources, it can be a nutritionist, to really take control of this early. I even have a whole workbook that's how to work with your doctor to get what you need, which explains exactly what to do to help. You'd be successful in identifying and managing this problem.

Ann Wixon: What valuable, easily applicable to-do's can our listeners take away with them today?

Dr. Mark Hyman: I think that the two things I'd said are really pretty powerful. If you really honestly never touched anything with high fructose corn syrup in it again or nothing with

hydrogenated fats in it again, I think you'll be dramatically better. Also, there's few other tips. I think, if a label has more than five ingredients or if it has any ingredient you can't pronounce or you don't know what they are, just put it back on the shelf.

Ann Wixon: That's pretty easy, that's actually eliminates a lot.

Dr. Mark Hyman: It does, and then, by default, you'll be eating real, whole, fresh foods, so we should just eat food in its whole form. When I say whole, I mean a whole apple versus apple juice. We should be eating a whole grain instead of a ground, processed grain. We should be eating real foods in their natural forms as close as they were when they came from nature. So, fruits, vegetables, nuts, beans, whole grains, seeds, lean animal protein, eggs, chicken, fish, etc.

Ann Wixon: So if it comes in a box or it comes in a can - unless it's like, you know, beans come in a box - but if it comes in a box or comes in a can, maybe we ought to just not buy it.

Dr. Mark Hyman: Some things are okay, like if it has one ingredient, it say's beans, that's okay. You can have beans. Sardines come in a can, that's okay. That's just sardines, but if you don't recognize it as food, you wouldn't want to eat it. The other rule that your grandmother wouldn't recognize that are maybe now it's your great or great-great grandmother wouldn't recognize it as food, you probably shouldn't eat it. I mean, would they now what a "Lunchable" is?

Ann Wixon: [laughs] That's a great question.

Dr. Mark Hyman: A Gogurt... What is that?

Ann Wixon: [laughs] Well Dr. Hyman, I thank you for your time and for the valuable information you've shared with us. Thank you for the valuable work you're doing to help make the lives of our listeners healthier and happier, now and in the future.
This is Ann Wixon, thank you for listening to *The Future of Health Now*.