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Episode 167 – Enzymes 101: The Micro Miracles You're Missing

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Jonathan: Welcome everyone to another episode of Empowering You Organically. I'm your host, Jonathan Hunsaker, joined by my good friend, digestion expert, Wade Lighheart. Wade Thanks for joining us.

Wade: Jon. Great to be here. Thanks for having me.

Jonathan: Awesome. Wade do you want to give people just a quick 60 second bio so that they know why you're such an expert in digestion amongst other things health-related?

Wade: Sure thing. So, I studied exercise physiology, grew up in the East coast of Canada, was health and fitness with my whole life. Long story short, I became a bodybuilding champion and in 2003 at the Mr. Universe contest, was competing for my country in Canada and after that contest I gained 42 pounds of fat and water. I went from Mr. Universe to Mr. Marshmallow and I sought out a medical doctor to see what had happened because I was doing everything right. I had a perfect diet, I had the coaches and I have everything I'm supposed to do right, and I had this major disaster. And I'll never forget that doctor told me. He said, "Wade, you've learned to build the body from the outside in. I need to show you how to build the body from the inside out." And what he put me on was a course of enzymes, and probiotics, and minerals, and whole natural foods and all this sort of stuff.

Wade: And literally I recovered my health in six months. I took that and started applying what I had learned from him and working in conjunction with him and coached about 15,000 clients around the world and started working with their digestion to improve a variety of things from metabolism, to weight loss, to brain function, and all these different areas. And I just started to understand that the missing ingredient in what we're talking about as food experts, I'm a classically trained nutritionist, is we've missed out the whole enzyme equation. Which might be the most important component of food nutrition that we must have in order to extract the food that we're going to do. And that burden is now been placed on us metabolically, and a lot of these metabolic conditions, these disease conditions that start off as gas and bloating, and constipation, and acid reflux actually cascade into a whole array of disease. And my messaging for the last 15-20 years now is to go out and educate people about this critical factor in order for them to achieve optimal health.

Jonathan: Absolutely. And I'm glad that you came on the podcast. We've been friends for many years, and I know you just know so much about this. When we thought about doing a podcast around

digestion, you're the only person we could have on here. So, you talk about enzymes and help explain to people what exactly are enzymes? I mean we hear digestive enzymes; we hear about all of that, but can you break that down a little deeper?

Wade: Yeah. So, enzymes, there's only two things that actually do work inside the body that is enzymes and probiotics. And so, enzymes, there's about 25,000 different enzymatic functions in the body. They are catalysts for virtually every chemical reaction that goes on. So the amount of enzymes that you have present in your body is directly proportion to the amount of chemical reactions that you can engage in in the body. And there's literally thousands and thousands and thousands of these things going on any moment. Now, traditionally, if you go into classical nutrition things, like study of nutrition, whether it's a master's or a PhD or any other format, you're going to find out that enzymes are the difference between the living and the dead. The difference between stones, plants, and people is enzymes, the amount and the role of those enzymes.

Wade: And so, they are the most critical component to all metabolic transactions. It's like having a bank account. In other words, your ability to write metabolic checks, to build, to repair, to heal, to digest your food, to make your hormones work, to break down the smallest chemical reactions, to make your skin nice, you name it, requires an enzymatic pathway. And in today's world, we've radically compromised the amount of enzymes that we're getting from our food, the quality of those enzymes, and we've added a host of agents that actually interrupt our body's natural enzymatic mechanisms and that is having consequences across the globe that are extremely dire.

Jonathan: So, talk to me more about that. I mean, what's really happened to the food supply that's caused the enzymes to not get as much of them?

Wade: Beautiful question. Let me explain something first on a macro scale and then I'm going to get a little bit more detailed and then we'll get into the converse. So, first thing first, every species on the planet eats its food in a raw, natural state except humans. So, if I'm a tiger and I'm going out and hunting in the morning, I knocked down a zebra, I eat the end trails with all the enzymes and probiotics that are present and then I eat the carcass. Okay? Because that's going to help me digest it. If I'm a bear, I'm going out into the river, grabbing a salmon or I'm going out into the field and grabbing a blueberry, the enzymes are present within that food in the raw state. If I'm a horse or a cow, I find the most enzymatically rich grasses and sprouts and stuff because that's going to help me absorb and utilize the food I'm eating.

Wade: Humans, people talk about various like paleo diets and stuff, used to forage and get a lot of blueberries and nuts and sometimes even eat their food in raw states, but food supply was always a problem throughout human history. Starvation and diseases related to deficiency has plagued humans up till just relatively a few decades ago, about 70 80 years ago, when we ushered in the modern food production and distribution business. Now what that did is that solved the insufficient calories and some basic minerals because we went on a definition of what food is that did not include enzymes, did not include probiotics, and didn't involve a lot of the trace elements that we require and we now know about today.

Wade: That definition of food led to the production and distribution campaign of monoculture farming. Okay, we went from crop rotation, we went to reconditioning the soil, we eliminated that. We started creating hybrid strains of products and using nitrogen on the soil to grow foods. What that does is that caused a depletion of the protein content because you convert protein to make the enzymes in order to

create the chemical reactions in the plant. The minerals are deficient, so you drop the protein, you drop the mineral content, you up the enzyme content, and you have a more of a yield, but you have less nutrients inside that yield.

Wade: What happens then is now these strains would start to die off, so what did modern science invent? Well, now we need herbicides. We need pesticides, we need fungicides and all those, just so you know, rhyme and kind of go along with homicide and suicide. Then we added preservatives, we added dyes, and a host of chemicals in order to preserve these foods so that we could get them from the farm, get them to the warehouse, get them to the grocery store, get them from the grocery store, get it to your house.

Wade: So that whole chain has evolved over 70, 80 years and the consequences of that is simple as this, we are not getting the enzymes in our food and oftentimes we cook it, anything over 114 degrees, it is cooked or it's been pasteurized or it's been irradiated, so the enzymatic value has been destroyed. Then we keep on these chemical components. The USDA, for example, allows 50 different chemicals still on that product and call it organic. And then we have maybe when it goes on the shipping, there might've been other chemicals added to that truck that you're not aware of just because it's organically grown. If you're getting organically grown, doesn't mean it's not on the truck with the other stuff that they spray bomb when it comes across the border. And then it's put in these packages and preserved and stuff.

Wade: So, we really mutated what our natural food supply is. Now, I'm not saying that that's a bad thing, there's a lot of advantages to the food distribution model, but the piece that people are missing is how critical these enzymes are for the functioning of our health and the function of our vitality. And I can lead to way back to [Pottenger's cats](#) and then what doctor Edward Howell pulled off with his enzyme nutrition, where he actually tested the consequences of feeding a whole host of animals enzymatically deficient foods and it's shocking, it's shocking, what happened.

Jonathan: Tell us more about that. I mean, just give us a quick 60 second recap because I don't think that most people, myself included, really understood and understand what's happened to our food supply from the enzymatic standpoint like you do and talking about this. Because when I hear you talk about it, it's like we're almost screwed from the get-go, right? Because the soil is so depleted in the nutrients that it can't end up in the plant. Let's forget about it being a GMO crop, let's forget about it being sprayed with pesticides or herbicides, just the soil itself, to try to get a higher yield, we're already we are starting with a plant that just is deficient in enzymes. And so yeah, tell us more about that study because I really want people to understand the impact and how this is one of those core things that we don't focus on when we're looking at getting healthy, right? We add a multivitamin, we go to the gym, we walk, we drink a lot of water, we try to eat organic, but if we don't really address the enzyme deficiency that's going on, it leads to a whole host of other problems.

Wade: Correct. So just so people understand the process, you need enzymes to get your protein to get your minerals, minerals to get your vitamins. That is the chemical chain inside the body. Now, humans, because we cook our food, have actually increased our pancreas size to be four times the size of any other species relative to body weight, which is interesting. So, we're compromised and there's a huge metabolic cost in order to produce enzymes. We actually have to digest our own smooth and striatum muscle tissue to actually make these enzymes that are essential to our body and that has a cost. That's why people feel really tired after the big Thanksgiving or Turkey dinner program when they eat all this food you think, I should have much of energy? No, you're lying on the ground because all your blood and

all your enzymes that your body produces are just trying to break down this incredible meal that you just had. Okay?

Wade: So now if you go back to the studies with Dr. Edward Howell, so he saw [Pottenger's cat](#) and saw all the effects of that. So, he said, can we replicate this with dogs, with cats, with rabbits, with monkeys, like you name it and he went across the board and he started feeding them enzyme deficient diets. Cooked food or food grown with not having the enzyme content in it and what have you, and here's what happened. This was done in the 30s and 40s, by the third generation of those species, because you can breed much faster with animal kingdoms. Here's what happened, those animals started to elicit strange sociological behaviors, they didn't behave like animals did it at their regular behavior patterns. They started to go all over the place doing weird things, not acting the same way, including sometimes even eating their own young, very crazy stuff.

Wade: Second thing that started to happen is a proliferation of genetic diseases. In other words, birth defects, diseases that were coming right at birth, which means that they didn't have the right enzymes in order to make key elements of the DNA to be replicated properly. Because we're kind of creating photocopies and enzymes are part of that process. And then the third thing was the inability to procreate. And back then Dr. Edward Howell said, "With our food production cycle as it is now," as it was ushered in, particularly, after World War II, he says, "In three generations we're going to have strange sociological behavior in humans. We are going to have a massive rise of genetic illnesses and we're going to lose the ability to procreate." Well, if you just drive down any major city today, you're going to see some strange sociological behavior that's not conducive to what existed when we were small tribal communities.

Wade: Number two, what is the ratio of genetic diseases rising in today's world suddenly? Doesn't make genetic sense. So obviously we've altered and interrupted the natural genetic evolution of our species. And the third thing is how many people do you know out there today that are having trouble procreating? You can just look at the data and the research of how many new fertility clinics are popping up all over the world because people are struggling to have kids. I do believe this whole thing is correlated to not properly defining what food is, because we didn't include enzymes in that, which are an essential part of life of every single organism on the planet, including humans.

Jonathan: It's fascinating, right? I mean, something is going on, right? If you look at society, there's something that's shifted there, you look at people not being able to procreate, you're looking at all of these things. There's something happened. Cancer, now, if you're born after 1960, I mean one and two chance of being diagnosed with it. I mean there's a lot going on and it's not just one thing, right? It's not just insecticides, not just GMOs, there's all sorts of things going on here. So, what is the best solution? Because listen, we can all talk about let's go eat a raw diet, right? And we'll try to get more enzymes. The likelihood of sticking with that is pretty slim. And still, if the food that we're eating is deficient in enzymes anyway, just going raw isn't the solution either. I mean, yes, it's probably going to be better than a cooked food, but I mean, what is the solution moving forward? How do people get more enzymes?

Wade: Yeah. You know, it's a great point you make there. And just to give you an example, they were doing some research and they said a peach in 1955 to a peach day, you'd need like 50 or 60 peaches today to create the equivalent of one peach back then. So, you're right, I actually did a raw food diet for a couple of years to experiment, I'm an extremist and do my own tests. I don't just come up with these theories, I actually test them in the real world and do my own data. And it wasn't sufficient enough to

replace my enzyme bank account. And the reality is this, food will only contain the amount of enzymes it takes to digest that food. And Dr. Howell proposed that we have an enzyme bank account, it's like a checking account. And the average 40-year-old has less than 30% of the enzymes present when they were a kid.

Wade: That's why you don't have as much energy as when your kid. That's why you don't recover from illness or cuts or bruises or scrapes. Because enzymes are a critical part of the recovery process and the repair process inside the body. And we see cognitive decline that's happening at extraordinary rates like never before as well and that's also related to that. So, what do we do? Well, the easiest and most consistent way to do it is to ensure that I'm taking enzymes with virtually every meal that I have, so I'm preserving the enzymatic bank account that I do have and I'm not draining it any further than it might be at this time. Because when you hit that component, and for most people that's around when they hit 40, all of a sudden, they're like, "You know, I just don't have that spark. I don't have that energy. I'm not getting the same results in the gym. At nighttime I just don't have that get up and go."

Wade: Well that's largely because your body's in self-preservation mode. It's trying to restrict because it just can't write enough of those metabolic checks anymore, so it starts knocking off the non-essentials and then eventually it comes down to some critical factor like making your liver run or something like that. So, what I've suggested and have encouraged for the last 15 years is, look, you need to go out and get the highest quality enzyme formula you possibly can. You want it plant-based; you want a high proteolytic component, you want an array of the different enzymes that break down different foods. And by doing that, you've created, I call it, a metabolic insurance policy that allows you to continue to write those energy checks that you want both internally and externally in your life. So, you cannot just live long but you can live strong while you're doing it.

Jonathan: So, you made a comment there that I want to dive deeper on, and there's a couple of things but I'll try and keep us focused here. But you talked about a proteolytic enzyme, so let's talk about the different kinds of enzymes that are out there and that people are going to find on the market. And then I want you to talk specifically about proteolytic enzymes after that.

Wade: Yes. Great question. So, I would say there's four major categories of enzymes and then there's like derivatives of that, if you will. There's proteases which break down protein, lipase which breaks down fats, amylase which breaks down carbohydrates, and cellulase which breaks down fiber in plants. I call those are the four big, big ones. Now, if we look at humans, particularly in North America, which we have a very high protein diet relative to every other culture on the planet, we typically exhaust our proteolytic enzyme supply faster than anything else.

Wade: The other thing is with the food supply chain, just to give you an idea, way back in the 1900s hundreds wheat was about 90% protein. Now it's less than 7%, we've actually converted it into a carbohydrate and that's how people used to live on bread years ago. Right? Now they can't, obviously, because there's not enough protein content, so we're eating all these other foods to get our protein, but we're not breaking that protein down. And that's why you have an athletic age that ends around 28. Physical performance starts to decline, what shuts down in the body? Proteolytic activity, proteolytic production, because proteolytic enzymes are extremely metabolically costly for your body. So, it says, "You know what? I don't need that muscle mass. You know what? I'm going to start to waste away consistently over time because I don't have the enzymes to support those energy things. So, I'll rather keep my liver instead of my muscles." And...

Jonathan: Wow.

Wade: Yeah.

Jonathan: Yeah. It's fascinating. And we do, we consume so much protein here in North America. I mean, it's talked about, like that's the number one thing. And I think there is some truth to the benefits of protein, but can you talk for a second about the... You talk about our bank starts to run out around 28 so what happens if I'm... So, I lift, right? I'm trying to consume 150...plus grams of protein. What happens if I don't have the protease in my body to break down the all the protein that I'm ingesting?

Wade: Thank you for asking that question. It's a very astute question. So, here's what happens. We actually don't need the protein; we need the amino acids from the protein to constitute the building blocks. And so, in order to do that, there's a very elaborate digestive process that we engage in that we just don't really think about. It's a soup. If you eat a piece of food, you have to realize it's a single canal from your mouth to your bump. The food is in that tube. It's not actually inside your body. And so, when I eat that steak or I eat those eggs or I eat that protein food, it's got to break down, digest. And one of the most critical factors is the proteases that are breaking that down. If you do not break down that protein or any of the other components of food, but protein is the biggest enemy.

Wade: What happens is that undigested protein ends up in your intestinal track. You get gas, you get bloating, you get skin problems, you get brain fog. And the reason that is because you're feeding bad bacteria who are producing a variety of endotoxins inside the body that are interrupting your natural activity.

Wade: So, there's a double problem with that. And that's why a lot of people will go on a cleanse or go on a raw food diet for a period of time or they go do these things. All they're really doing is clearing out the undigested protein out of the body that allows their body to function properly. And what I said is most people don't have time to do all kinds of cleanses or cleansing. Most people like their steak and eggs, most people like their burgers and things, their chicken breasts and stuff. And that's all well and fine provided you're breaking it down. And so, the easiest way to do that is to add a proteolytic enzyme that, number one, handles all the stages of pH development because it's a very sophisticated problem. And that ensures that it's utilizable and absorbable by the body so you're getting the amino acids you require and if you do that you need less protein to get more. And number two is you start eliminating all these negative consequences that people are feeling from digestive disease.

Jonathan: And talk to me about that because it was something that fascinated me when I found out years ago as a professional bodybuilder. I mean you are only consuming one, you were competing as a vegetarian, correct?

Wade: Yes.

Jonathan: On a vegetarian diet and you were only consuming 85 grams of protein where everything I hear is you need a gram of protein for every pound of body weight, minimum if you're going to build a muscle. So how is all of that working for you at just 85 grams of protein?

Wade: Well that was it. I mean, before I got sick after that first contest, I was eating about 300 grams of protein. And then once I added enzymes into the body, I was able to take my protein content down to

just 85 grams and still continue to be able to recover from literally world championship level workouts. This is not like, "hey I'm going to the gym." This is like four hours a day, twice, two hours and two hours a day and stuff. And so, I was able to accelerate my performance because I was getting the amino acids to my muscles that were allowing me recovery. And that was my secret weapon that allowed me to come back 2007, win some more national championship, not have the weight gain, not have the blow up, perform better at the world championships. And from that point we started telling the world about it because we knew we had a breakthrough.

Jonathan: Yeah, it's fascinating to me. So, the other conversation that I think about is people that are vegan, vegetarian, it's all a conversation. How am I going to get enough protein? How am I going to get enough protein? I mean, one of the answers is you really don't need to get a ton of protein as long as you're breaking it down, extracting the amino acids out of it and one of the ways to do that is just with an enzyme supplement that gets enough protease in their diet, correct?

Wade: Correct. That's absolutely true.

Jonathan: Got it. So, let's talk about the food that gets left over in your gut. The protein that's not digested, which by the way, when I went from... I was running to train for a marathon, so I wasn't too focused on my protein to getting back in the gym lifting and a personal trainer is telling me to eat 180 grams a day. The gas was unbearable for myself and it was my own, right? And so, I know that there was something in there that my body is not processing right. Are other foods getting trapped as well? I mean, are the carbs and the fats being trapped or is it mainly the protein that's staying in your gut?

Wade: It can be both depending on the type of carbohydrate, the type of fat. So, one of the biggest enemies is trans fatty acids, okay? So that's one of the reasons why that causes so much problems is if you don't have lipase to break that down, that's why some people get gallbladder sickness for example, they have get their gallbladders out because they actually just wear out their gallbladder because they're eating so many trans fatty acids or fatty foods that don't break down very well and their body says, "you know what, I'm just going to shut the gallbladder down and you're going to learn through pain of why that's not going to happen." If you don't break down your sugars very well using amylase, okay? These are where the diabetic conditions start to creep in, right?

Wade: And one of the reasons why I believe ketogenic diets are becoming so popular is because people who ate a lot of sugar as kids blow out their amylase pathway, their carbohydrate pathways, and now they just don't process carbs very well and they have to completely go off them. The ideal situation... but across the board, the protein is the biggest challenge because protein, undigested protein, what happens is you have, in your gut, your final stage of digestion. You've got 10% good, 10% bad, 80% opportunities with the probiotics, and that's the final stage of breaking that tissue down. If you're feeding the bad guys, okay? If that protein didn't... if you didn't have the enzymes at the very second stage of that digestive process, five stages, you get down to that.

Wade: What happens is the bad guys eat that food and they start producing that gas and that smell, that you're getting, and you can go into any gym in America today and you can walk into the change room and you know, "uh oh, something's going wrong," because that person's pounding protein into the body that they can't break down. The other thing is, is you start to see people that have the skin conditions, they have the brain fog in the morning. If you wake up with bad breath, you've got crusties into the eyes and those things you can bet there is a bacteria party going on in your body that is feeding on last night's chicken wings.

Jonathan: Interesting. All right, so I'm not going to keep you too much longer because I appreciate all that you're sharing and already given us your time here. One final question. So, let's say that there is all this buildup. Will taking an enzyme supplement help process the existing crap, let's call it, that's still in my intestines and still in the digestive track, or do I need to do a detox to totally eliminate that and then start an enzyme supplement to prevent it from building up again?

Wade: Yeah, great question and I would say to do both. If you do it, and I think the power of regular detoxification is great. Particularly if it's done under supervision, it's not a random thing. It's actually targeted for what's going on in your body. But if you want to accelerate those results, enzymes are the best way to accelerate the results. Virtually of any nutritional program, but particularly in cleanses and one of the things that we found with the thousands of clients that we've worked with over the last few decades is that if you can add like five caps of a very strong proteolytic enzyme twice a day on an empty stomach, you're probably going to double the results that you get from any clients.

Jonathan: Awesome. So Wade, is there anything else, I mean, is there anything else that I didn't ask you that you want to share when it comes to digestion, when it comes to enzymes, when it comes to what to look for when you're looking for that enzyme supplement that maybe I missed?

Wade: Yeah, I think that's really important. First and foremost, I want to just elicit the importance of this information. Right now in America today, 12% of the emergency hospital visits are related to gastrointestinal related illnesses. People going to the hospital in an ambulance because they're not breaking down their food. A third of the population is suffering from digestive illness on any given day.

Wade: And about 25% of the population is on prescription meds for this. And the correlation between digestive disease and depression and challenges for brain function, because most of your neurotransmitters are built off amino acids that got to be broken down and transported from the gut to your brain is directly correlated with the lack of enzymes, okay? That's how critical this is and we've hit the tipping point and if we don't bring it back, it's going to continue to spiral out of control and there's not enough people like yourself that are talking about this and educating the public of why we need to do this and why this is important and how we got there. So, thank you for that.

Wade: The big thing is if you're looking for a supplement, you want to make sure it's probably at least half, should be proteolytic enzymes. You want to make sure it has up in that that range of like 70-80,000. If you can get up to 100,000 huts in a serving, that's great. That's the component and you want at least three proteases. The 3.0 the 4.5 and the 6.0 which relate to the spectrum within the pH band that they break down inside your body because hydrochloric acid comes in and your pH changes in part of that digestive process and making sure you have a full spectrum protease. You go to the store shelf and you just say, "oh, it's got protease." The chances that that protease is going to break down everything that you want isn't, and you're not comparing apples to apples, you're comparing apples to monkey wrenches and the bottom line, it won't get the job done.

Wade: And so, a lot of people that have tried enzymes, they haven't produced results. The reason they haven't produced real, they're not trying an enzyme that's going to work. So you know, I always say there's nothing more expensive than a product that doesn't work but when you get a great product, you instantly can see the difference and that's one of the things that I think I'm really proud about my association with you. How a stickler you are about product quality, how well you research things and how deep you dive before you produce anything in the population. And that's why I'm here today because I really honor and respect that.

Jonathan: I appreciate that Wade. It's a bit of a softball so for those of you listening, we had Wade to come and consult with us. We decided to create... change our formula of our enzymes to make it a lot stronger after talking with Wade, learning so much more about it we had to do something and so we had to change our formula. So, we created P3E and it is phenomenal. We will do another podcast talking about that, but if you want to learn more about our powerful proteolytic enzyme, you can just go to organics.com. If you want to go back and check out any of the show notes, watch this show again, check out any resources that Wade is mentioning, go to empoweringyouorganically.com. We'll have all the show notes, all the transcripts, all the links to where you can learn more.

Jonathan: And yeah, I mean this is just, again, when I learned more from you, it was a no brainer that we had to do something not just in creating a really good supplement, but now we have to get the information out because it's things like this that will absolutely impact the shift that we need to get healthier. And I think that we're on that path. I think more and more people want to be healthier. More and more people are going organic, they want to know these things, but we just don't know. Right? This isn't stuff that's taught in school. Doctors aren't required to know anything about nutrition and so nobody ever tells us unless we listen to the right podcast or listen to guys like you who spent your whole lifetime perfecting and learning all about enzymes, digestion and all of that stuff.

Jonathan: So, Wade, thank you so much for being on this episode with us. Thank you everybody for listening and join us for the next podcast I do with Wade. We're going to talk more specifically about our proteolytic enzyme, P3E. Thanks everyone.

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