Transcript: #359 Activating Autophagy with Fasting for Detoxification and Deep Cellular Rejuvenation with Dr. David Jockers

Wendy Myers: Hello, everyone. I'm Wendy Myers of MyersDetox.com. Welcome to *The Myers Detox Podcast* where we just discuss everything related to heavy metal detoxification.

Wendy Myers: Today, we'll be talking about fasting and how you can utilize fasting to improve your health and your immunity, lose weight and assist in detoxification. This is because a fasting state is very much a detoxification state. When you're losing fat, all the toxins stored in your fat come out. That's one of the reasons people have really uncomfortable symptoms when they are fasting. They get headaches, they feel achy or flu-like, or just have a host of other different symptoms that they really don't like. That's why they avoid fasting.

Wendy Myers: In the beginning of my health journey, I started out trying to fast. I felt just terrible on the first day. I thought I wasn't going to try that again but I wasn't doing it correctly. There's a right way and a wrong way. There's a transitory phase to transition into doing a successful fast. One that's more comfortable. We'll give you all kinds of tips and tricks on how to do that today.

Wendy Myers: Our guest, David Jockers, is an expert on fasting. He hosted a whole summit on fasting. We're going to be discussing active eating autophagy with fasting for detoxification and deep cellular rejuvenation. Some of the things we'll talk about is how to transform your health, reduce inflammation and lose weight with fasting. We'll talk about balancing blood sugar, improving immunity, improving longevity and the hormonal and restorative benefits of fasting.

Wendy Myers: We'll talk about what is the Fasting and Mimicking Diet? What role does that play in fasting? Should you do water fasts, bone broth or juice fasts? What's the difference there? What are the benefits? The pros and cons? Most importantly,

we'll discuss who should avoid fasting. There's so many benefits to fasting. There's a lot of talk about it. It's a very hot topic right now. The thing is. some people try it when it isn't the right thing for them.

Wendy Myers: We'll discuss who the population groups are that maybe should put fasting on hold, for the moment. I know you guys listening to this show are very interested in detox and are curious about what your toxin levels are. I created a quiz. You can check it out at heavymetalsquiz.com You'll take a two minute quiz based on some lifestyle questions. You can get your results about whether you're in a low-risk group, whether you really should be detoxing or it's a 911 and you need to start detoxing right away.

Wendy Myers: After that quiz, you'll get a free video series that will answer your most frequently asked questions about detox. Questions like where do you begin? What kind of testing can you do? What kind of supplements are best? I answer a ton of other questions related to detox. Go check that out at heavymetalsquiz.com.

Wendy Myers: Our guest today, Dr. David Jockers, is a doctor of natural medicine, a functional nutritionist and corrective-care chiropractor. He runs one of the hottest natural health websites which is highly recommended. It's doctorjockers.com. It has gotten over one million monthly visitors. His work has been seen on popular media such as *The Dr. Oz Show* and *Hallmark Home & Family*. He's also the author of the best-selling book, *The Keto Metabolic Breakthrough* by Victory Belt Publishing. He is a world-renowned expert in the areas of ketosis, fasting and the ketogenic diet.

Wendy Myers: He's also the host of the popular *Dr. Jockers' Functional Nutrition Podcast*. He lives in Canton, Georgia with his wife, Angel, his twin boys, David and Joshua, and his daughter, Joyful. It's such a beautiful name. You can learn more about Dr. Jockers' at doctorjockers.com. Dr. Jockers, thank you so much for coming on the show.

David Jockers: Absolutely, Wendy. It's great to be on with you.

Wendy Myers: We're going to talk about fasting today. This is a great topic. There's so many reasons why people should be fasting, but first let's get into the root cause of disease. So many people today suffer from chronic illness. They have multiple diagnoses and are on multiple medications. What is going on? What is behind all of this?

David Jockers: That's a really great question. Basically, when we look at disease, our body is constantly being broken down. This law of entropy which is one of the laws of the universe. We're under attack. When you look at things under a microscope, it's literally a war every single day. Our cells have regenerative forces. Our body and the vital force within us is constantly working to help heal and repair our

body. It's constantly giving us the greatest survival advantage, but the forces of the environment are constantly breaking us down. They're degenerating us.

David Jockers: One marker that we look at is inflammation. I'm sure all the listeners have heard that. Inflammation is actually a wonderful thing. However, when it's out of control, it causes chronic disease development. Basically when we think about inflammation, we think about systemic infections. These are infections that have gotten into our bloodstream and spread throughout our body. Oftentimes they've gotten into our lungs, or our heart, or our nervous system and created things like meningitis, pneumonia, epicarditis and different things like that. These have killed more people throughout the history of mankind than anything else.

David Jockers: Over the years, our body has adapted and it's created this process called inflammation. Inflammation protects us from dying quickly from a systemic infection. It keeps the infection under control and allows our body to be able to heal and repair and not have to deal with a crisis, not have to deal with sepsis basically, which can kill us quickly.

David Jockers: The problem is, as long as we have pathogens getting into our bloodstream maybe from leaky gut, EMF stress or chronic emotional stress, different things like that, our body thinks that we're under threat from dying of an infection so it ramps up inflammation. When we have a chronic onslaught of inflammation, over time that wears down the tissues and cells of our body and creates chronic disease.

David Jockers: Inflammation is something I consider like a fire in a fireplace. On a cold night it's a beautiful thing to have a fire in your fireplace, but if you go and take gasoline and dump it on the fire, it's going to start to burn up your house. If you continue to dump gasoline on there and do nothing to help mitigate the fire, then before long your house is going to be completely destroyed. That's what's happening. In our society, most people are doing things every day with the foods that they eat, the thoughts that they're thinking, their sleep habits and their lifestyle habits that are promoting this inflammation. It's literally burning up their entire body.

Wendy Myers: What can we do to mitigate it? What are some of the tools in your toolkit to help mitigate this inflammation? When you have inflammation, you have pain as well.

David Jockers: Inflammation can affect any single organ system in the body. If you're struggling with anxiety, brain fog and depression, those are all signs of brain inflammation. If you've got eczema, acne, rashes, hives, dry brittle skin or skin that's aging too fast, that's all inflammation. You can have pain in your joints. You can have low energy. That could be inflammation in your adrenals, it could be inflammation in your brain or it could be inflammation affecting your thyroid. If you have chronic underlying symptoms and are not feeling your best on a regular basis, then you're dealing with inflammation.

David Jockers: One thing that we can absolutely do is start with the food that we put in our body. In the natural health world, we talk a lot about food because it's something that we have conscious control over. There's a lot of things you may be impacted by that are affecting your inflammation, that you just don't have as much control over. Sometimes it's the air we breathe, depending on the environment we're in, and we may not be able to control that.

David Jockers: We can control the food we put in our body. We know that higher carbohydrate foods promote more insulin release. Insulin is a hormone that comes out of our pancreas. Its job is to take sugar out of the bloodstream and put it into the cells. Growing up I used to eat peanut butter and jelly sandwiches, or my breakfast was usually Cheerios with skim milk, a banana and a cup of orange juice. My mom would never get the Fruit Loops or whatever I saw on TV. She got what she thought was healthy. Cheerios, with a banana on there and orange juice. All those things jacked up my blood sugar.

David Jockers: When you have high blood sugar, the sugar molecules will actually bind to proteins in your bloodstream and create something called, "an advanced glycation end product." If we think about the first letter of each of those words, A for advanced, G for glycation, E for end product, it's A-G-E. They accelerate the aging process. We know high blood sugar is actually neurotoxic. You will get somebody with diabetes and they end up with peripheral neuropathy, where the nerves literally become destroyed. They have numbness and tingling and sometimes they can't feel anything. They end up with optic neuritis and they lose their vision. They have kidney failure. It also damages the endothelial lining in their blood vessels and creates heart disease.

David Jockers: We know that these things are really damaging and dangerous for our body. Insulin is actually a superhero because it takes the sugar and puts it in the cells. Now, we can use it for energy. The problem comes when we continue to eat high carbohydrate foods and we continue to eat a lot of meals throughout the day. When I was growing up I would eat five or six meals a day and it was constantly carbohydrate-rich foods. There was this constant bombardment of blood sugar and insulin.

David Jockers: The problem with too much insulin is that insulin turns on inflammatory gene pathways. It would actually activate certain gene pathways within the cell that amplify the message of inflammation throughout the entire body. It's like a siren going on throughout an entire city. All of a sudden, we get this massive load of inflammation that goes on in the body. As long as insulin's elevated, that inflammation is going to continue to go on and on and on. It made sense for our ancestors, when they would consume food, any food, even low carbohydrate foods. I'm an advocate of the ketogenic diet, but even if you eat a ketogenic meal like an egg or something like that, you're going to get some release of insulin. It's just going to be lower than if you were to eat a bowl of Cheerios or something like that.

David Jockers: When you eat food, you are naturally bringing in pathogens or potential pathogens. You're bringing in microbes and the body wants to get ready to help prevent some infections. That's why when we eat, it triggers insulin and now it also turns on some inflammation. The act of eating, itself, is pro inflammatory. It actually turns on inflammation. Our body's ready to fight against the infection.

David Jockers: The issue is when we're continually eating throughout the day and eating foods that are very insulinogenic, that turn on a lot of insulin, we end up with too much inflammation. We also develop something called, "insulin sensitivity" where our body, cells and receptors no longer respond well to insulin. We continue to produce more and more and more insulin. Just bombarding the body with this message to promote inflammation. Insulin also causes us to store fat. We can't burn fat as long as insulin is elevated in the bloodstream.

David Jockers: We end up gaining body fat and oftentimes losing lean body mass. On top of that, we're dumping gasoline on that fire promoting tons and tons of inflammation. We can start with the food that we eat. Eat less carbohydrates. Eat more healthy fats. Fats are very satiating. Our body produces less insulin when we consume fat. Many fat sources are very nutrient dense. Things like avocados, olives, extra virgin olive oil, grass fed meats, pasteurized eggs and things like that. It can be really healthy and really satiating. They keep insulin levels down and under control.

David Jockers: I always tell people to make these three big changes, to start, in their diet. Reduce sugars and grains. Get rid of bad fats. That's going to be all of your processed vegetable oils like corn oils, soybean oil, sunflower and cottonseed oil. Those are fats so they're not insulinogenic. However, they create a lot of oxidative stress and promote inflammation in the body. We want to get rid of those.

Wendy Myers: Sorry to interrupt, but is that like when you see people eating Chinese food or healthy food or all the beautifully displayed pre-prepared foods at Wholefoods. They're just soaked in industrial seed oils. That's why you have to cook at home or you're getting this genetically-modified soybean oil or canola oil, and all these horrible inflammatory oils in this healthy food.

David Jockers: That's arguably the most inflammatory thing you can put in your body, these processed, damaged fats. You want to get rid of them. You want to stick with things like coconut oil, avocados, avocado oil, olive oil and things like that. These are really healthy fats that you want to be consuming. You want to change the meat that you eat. You want to get rid of the commercialized animal products. You want to stick with grass fed, organic, wild caught animal products. I know your listeners know this. I'm sure you've mentioned this, but when animals are eating pesticide laden grains, they bioaccumulate all the different toxins, the glyphosate, heavy metals and antibiotics that are often used.

David Jockers: Then, those end up in the meat, dairy, eggs and things like that. We obviously want to avoid that. We want to reduce our toxin exposure. Get the grass-fed,

organic animal products which contain more nutrients and less toxins. That's always the rule with nutrition. You want to maximize the nutrients and minimize the toxins that you're consuming, from your meals. That's a great place to start,making those diet changes.

David Jockers: Then I recommend that you don't snack. That's a big problem that a lot of people have. Stick with two to three meals a day. Obviously we're going to talk about intermittent fasting, as we go on. If you're a breakfast, lunch and dinner person, just eat breakfast, lunch and dinner and don't snack between meals. Hydrate instead. There's a part of our brain, in our hypothalamus, that has our hunger center and our thirst center. They are right next to each other in the paraventricular nucleus, in our hypothalamus.

David Jockers: Food is so prevalent in our society. It's easy to get. When we eat, we actually get a dopamine release. That makes us feel good. It's human nature to become addicted to eating. That's actually part of our nature. It's meant for survival. We just have to control that. It's very easy for the hunger center to actually cross into the thirst center. When most people want to snack, they're actually thirsty. They actually need water and sometimes electrolytes. If they do that, they will no longer be hungry. They'll be able to go longer between meals.

David Jockers: Start hydrating your body. I recommend drinking at minimum, half your body weight in ounces every day. Get good hydration when you first wake up in the morning and then try to drink eight to 16 ounces of water between meals. If you do that, you'll notice that the desire for snacking goes down significantly. In some cases, I found that people did well if they just put a little tiny bit of salt, good sea salt like Redmond's Real Salt or Celtic, and put that right on their tongue. Then drink some water and boom. It shuts down cravings like sugar cravings.

David Jockers: The water actually gets into your stomach and suppresses the hormone that your stomach produces called, "Ghrelin." When your stomach doesn't have anything in there and you're used to eating, it's a conditioned response, your body will release Ghrelin. When you drink water, it stretches the stomach and suppresses Ghrelin. Ghrelin tells your brain that you're hungry. It suppresses that so you no longer feel that experience. You'll notice that your energy is better.

David Jockers: When you're hydrated and you get the electrolytes you need, your nervous system is able to run really well and really smoothly. You're able to think sharper, clearer and have more energy.

Wendy Myers: I always do that whenever I'm craving food. I just have a glass of tea and get water, but a little bit of flavor, a little bit of satisfaction for that craving. I'm not eating some big huge meal and ruining my dinner. Let's get into talking about fasting. One of the main reasons people want to fast is not because they want to starve themselves, but to enjoy the benefits of autophagy. What is autophagy and why is that important?

David Jockers: Autophagy actually means self-healing. Every day, based on our meals, we're going to go through either a building phase or a cleansing, healing, and regenerating phase. Autophagy means self-healing. Our body will actually break down older, damaged, cellular organelles like mitochondria, that we have in our cells. These things become damaged by oxidative stress just as a normal part of life. The key is we've got to go in there and we've got to break down the damaged mitochondria, the damaged different key units like the endoplasmic reticulum and different units that are in our cells.

David Jockers: We take the raw materials and we can actually form new, healthy ones. It's absolutely amazing what the body can do. It can take a dysfunctional mitochondria that can't actually use fat for fuel. The mitochondria should be able to take fat and produce it into a ton of ATP. Over time though, if the mitochondria becomes damaged, it can't do that. When autophagy is turned on in our body, we're able to get rid of that bad mitochondria and use the raw materials of it, to form a new healthy, strong metabolically efficient mitochondria. These can now take fat, use it for fuel and produce a rampant amount of cellular energy.

David Jockers: We become more efficient human beings. The key with autophagy is insulin. As long as insulin is elevated, we can't self-heal. When insulin goes down, everybody has a certain threshold that hasn't been drawn out well enough in science, but we know that when your insulin levels go down that's going to turn on autophagy in your system. The best way to get insulin down is through fasting, just missing meals. Anytime you eat anything even if you have a Bulletproof coffee or a tablespoon of coconut oil, you're going to get some release of insulin.

David Jockers: That's going to be better than eating a big bowl of Cheerios, but you're going to get some release of insulin that's going to blunt that self-healing mechanism. The best way to turn on autophagy is just don't eat. That may mean skipping one meal which can turn on some autophagy in your body. The better that your body gets at using fat for fuel, the easier it is to turn on that autophagy mechanism because your body tends to produce less insulin overall. When you miss a meal, insulin is suppressed and autophagy turns on.

David Jockers: Most people out there are sugar burners and sugar cravers. The way that you know that your body is primarily running off of sugar is if you can't go more than four hours without a meal. If you eat a meal, let's say you eat breakfast at 8:00 AM and you're starving by 12:00, that is a sign that either you did not eat enough food in that meal or you are in sugar burning mode. When your insulin goes down, your body should be able to switch. As your blood sugar is coming down, your body should say, "Okay, now we're going to go into the bank and start using our stored body fat for fuel."

David Jockers: When you start burning body fat, you actually create something called, "a ketone." A ketone body. Ketones are important because all of our cells can use fatty acids for fuel except for red blood cells, and then also your brain. Your brain

actually needs ketones. Fatty acids cannot cross through the blood brain barrier. Ketones are water soluble molecules that the liver produces. It turns fatty acids into ketones in order to fuel the brain.

David Jockers: When your blood sugar goes down, if your body's good at turning the fatty acid into a ketone and not getting across the blood brain barrier into the brain, you feel very efficient. In fact, ketones are a preferred energy source because you produce less metabolic stress, less metabolic waste and you produce significantly more energy when you're using ketones as a fuel source as opposed to glucose. They're really clean burning fuel. Glucose is very inefficient. It produces very little energy and a lot of metabolic waste. It's very dirty fuel.

David Jockers: We want that clean fuel source. We want to be able to use that on a regular basis and have the metabolic flexibility to be able to switch between glucose or sugar, and ketones, and use that for fuel. If you are between meals and you start to get irritable, you have anxiety and you start feeling hungry, all these types of reactions are signs that you're very metabolically inflexible. Your body's not good at burning your own body fat and producing these ketones.

David Jockers: Intermittent fasting is a strategy that can really help us get metabolically flexible so we can get ketones up into the brain. Ketones are also very neuroprotective. They actually turn off what's called, "the neuro inflammasome," which is a gene pathway or a set of receptors that amplify inflammation in the brain. When that pathway is elevated for a long period of time, we experience depression, anxiety and over time dementia, Alzheimer's and all these chronic neurodegenerative conditions.

David Jockers: Ketones are actually very protective of your brain cells. We want to be able to use that and turn on autophagy where again, our body breaks down older damaged cellular organelles and turns them into new healthy cellular organelles. It's like taking your old car, breaking it down and using all of the pieces of it to build a brand new 2020 BMW, or whatever car you like. That's basically what your body does.

David Jockers: I've got a 2008 Ford Escape hybrid that I still have. I work mostly from home so I don't even drive that much. It would be breaking that down. I've got 150,000 miles on it or something like that. It would be taking that, breaking that down and creating a Corvette or some fancy, more efficient car. A Tesla or an electric car or something like that. That's basically what your body is able to do. We just have to create the environment that allows for that. That means suppressing insulin.

David Jockers: This means a lower carbohydrate diet, not necessarily all the time, but as a basis. It’s a foundation along with intermittent fasting. Then on top of that, we need to make sure we're exercising. Exercise really helps this process. Also good sleep and stress management are very important, as well.

Wendy Myers: I think people don't realize when they don't sleep enough. The next day, they can have the insulin levels of a diabetic person. They get this blood sugar swing and more food cravings. It just takes them on this roller coaster. I definitely notice that one, if I don't sleep enough even for one night. Let's talk about strategies to activate autophagy. You mentioned intermittent fasting. I think people definitely should start there before they start a fast, if they're doing a day fast, or three day or a 10-day fast. What do you recommend as far as staging it out and graduating to longer fasting periods?

David Jockers: I agree with you. I think that starting out slowly and really mastering a good intermittent fasting schedule is the best way to start. In the beginning, you start with a 12-hour eating window, 12-hour fasting window and an overnight fasting window. Let's say you ate your first meal at 8:00 AM and you finish your last meal at 8:00 PM. That would be an example of a 12-hour eating window and then you would have a resulting 12-hour fasting window from 8:00 PM to 8:00 AM the next morning. We call that the simple fast.

David Jockers: For most people, that's pretty easy. For some individuals, they're used to eating a late night snack or something like that. This obviously could be problematic in that case. When you wake up in the morning, you start your day by hydrating your body well. I mentioned how we all need water in the morning. All of us are dehydrated when we first wake up because we're breathing out water vapor. The more that we breathe, the more water we lose.

David Jockers: We want to rehydrate our system. It really helps us move our bowels and helps our body detoxify. It's very, very important for that. It helps our body produce energy. I recommend drinking at least 16 ounces and if you can get up to 32 to 48 ounces of water in the morning, before you even think about food. You have to get at least 16 ounces of water, good clean water, into your system before you can even think about eating a meal.

David Jockers: When you do that, that suppresses the hunger hormone. A lot of people will tell me, "I'm really hungry when I first wake up in the morning." If you hydrate well, there's a good chance you're going to suppress that hunger. If you can, get 16 ounces of water down. A lot of people do warm lemon water for example, it can be a really, really good strategy. Add in a little bit of minerals like some salt, or stuff like that. These are all great strategies, herbal teas and things like that are fine, even if you want to do black coffee.

David Jockers: People ask me all the time, "Can I do coffee while I'm fasting?" I say, "Well, it really depends." Coffee should make you feel amazing. You should feel great. In fact, coffee, the caffeine and the chlorogenic acid that's in coffee actually stimulate autophagy. There are herbs that we will discuss as we go on. Coffee is one of those that can stimulate greater levels of autophagy in your system. However, there are some individuals that don't feel good when they have coffee and it actually increases cravings.

David Jockers: If that's happening to you, that's a sign your body's not responding well to it. Then you would not want to use it. Herbal teas and coffee, if you could tolerate it well, all can be fine. If you're drinking coffee, remember that's a diuretic. So you want to make that up with extra water. Hydrate your body well. Oftentimes, that makes it easy to be able to push that fast out to 14 hours.

David Jockers: If you continue to hydrate well in the morning, it's pretty easy to push it out to 16, maybe even 18 hours of a fast. I recommend going gently. It really depends on your stress levels and your body type. Everybody's a little bit different, but you want to try to extend that out to a 16 to 18-hour fast. This tends to be a really good sweet spot where your body starts getting better autophagy, better insulin management and more human growth hormone production.

David Jockers: HGH is something your body produces when insulin goes down. HGH is your quintessential anti-aging hormone. It helps turn on your immune system. It helps to reduce inflammation. It helps to build bone tissue, build lean body tissue, some muscle tissue and helps reduce body fat. It has a lot of great benefits. They're also really good for skin health and regenerating different tissues in your body. That's when you really turn that on.

David Jockers: There are some cases where it may be challenging for certain individuals to get to that 16 or 18-hour fast. I would say probably two-thirds, if not more, of the individuals out there in society can get there pretty easily within a week. They adapt to a 16 to 18-hour fast and then you're eating your meals in a six to eight-hour eating window. For some individuals, typically men like me, I can eat a big meal. I can take in a lot of calories with my meals. In fact, I don't even get hungry Wendy, until I start eating.

David Jockers: I'm very rarely ever hungry and then I start eating, and then I'm like, "I am hungry. I'm going to eat a lot." I've trained my body that way.

Wendy Myers: That's needed for every meal.

David Jockers: I've trained my body that way. For other individuals, you can't eat a lot of calories in a meal, so you might have to break that eight-hour eating window and do three small meals. It also depends on the health of your bile ducts in your liver. I see that could be a case with your stomach acid levels in your stomach. Some people don't have a gallbladder. In those cases, it's a good idea to eat smaller meals in that eating window. There are special circumstances, and you have to master them. You have to experiment with things, Help to master it for yourself, but that's a good sweet spot to get to.

David Jockers: What I love to do and I love to help people with, is where you're able to do a 24-hour fast, one day a week. I'm actually 8% body fat. You can see every muscle on my body. I'm very, very lean, but I can actually do a 24-hour fast twice a week. I ate lunch yesterday, my lunch was at 1:00 yesterday and I fasted until 1:00 today. I worked out real intensely right before I broke the fast. I worked out

at 12:00, and I felt great. My body was using ketones as a fuel source. That exercise, particularly fasted exercise really ramps up autophagy.

David Jockers: Then I broke that fast with a really big high fat, high protein shake because it's easy on my digestive system. I get protein powder in there, and avocado and coconut milk, and all kinds of good stuff. I'll eat a really good dinner tonight. On your 24-hour fast, this is a sign that you're really metabolically healthy. If you're able to go from dinner to dinner. For me personally, I like lunch to lunch. I can do it from dinner to dinner too. I find that I actually sleep so much better. At this stage in my life, I sleep so much better when I do the lunch to lunch fast. It's like in the middle of the week, it totally resets me and makes my Thursday that much more productive.

David Jockers: As the week went on and I was doing a lot of work, I would wear down on Thursdays and Fridays and I started implementing this. It felt so good so I've continued to do this. I'm ramping up autophagy, I'm down regulating inflammation throughout my body and in my brain. It's just a really great strategy.

David Jockers: I would typically recommend just one day a week for most people. That's a sign that you're metabolically healthy. During that period of time, you're drinking a lot of water and hydrating your body well. When you do eat, you eat well. That's always the key, you're not trying to reduce the overall amount of calories. That can happen naturally based on your satiety point, but you're just trying to eat till you're fully satiated.

David Jockers: A sign of really good metabolic health is doing that 24-hour fast. Once you're able to do a 24-hour fast, then you may want to consider a longer fast. A three-day fast or a five-day fast. It can depend on your body type. If you're not looking to lose any weight, then you might want to do what we call a partial fast. There can still be a lot of benefit to fasting because it helps to clean up your body even if you're not trying to lose weight. I've never tried to lose weight my entire life. I've always been really thin. However, I've done longer fasts and they could be really helpful in healing for the body.

David Jockers: For a lot of people, especially if you're not trying to lose weight, you might want to try something like a bone broth fast where you're drinking broth throughout the day. You're still keeping your calories low, because there's only so much broth you're really going to be able to get into your system. You're keeping your overall calorie low. Research, particularly by Valter Longo, has shown that the calorie restricted diet over about a five-day period of time, even a three-day period of time, can be really great for helping stimulate autophagy as well as stem cell development.

David Jockers: In fact, you get a lot of stem cell development in your intestinal lining. The cells in your intestines turn over every three to five days. You get these amazing stem cells that are more resistant to stress, that develop, when you do some partial fast like this. Even a 24-hour fast will have an incredible impact on the

regenerative capacity of your intestinal lining. That's important because things like autoimmune disease are related to leaky gut, so that's a critical component there.

David Jockers: There's also what's called a fasting mimicking diet, FMD, that a lot of practitioners use. That was actually designed by Valter Longo. It tends to be high fiber. It's a low calorie diet, roughly 800 to 1200 calories or 800 to 1100 calories a day. The first day is 1100 calories. Day two through five are 800 calories. Basically, it all comes in boxes. It's more or less nuts and olives and things like that. It's high fat, low protein, low carbohydrate and higher in fiber. That has actually been clinically studied to help stimulate the stem cells and drive up human growth hormone. You get all these great benefits and drive up autophagy in the system.

David Jockers: The key there is that is roughly under 40% of the calories that the average person needs. Most people need about 2,000 calories a day. The real magic is that fast happens day two through five, where you're at 800 calories, or in some cases less. You're getting that autophagy and stem cell development really ramping up. That's another strategy. People do green juice fasting. Again, it's the same concept. You're really not going to be able to consume that many calories if you're doing juicing, so you're still in a calorie restricted state, if you're doing that for several days. That can be very beneficial as well.

Wendy Myers: I like the juicing and bone broth fast, because I think that people are just generally nutrient deficient and mineral deficient. Going five days without food, you're going to become even more deficient. I like the thought of replacing and repleting minerals with bone broth and juice.

David Jockers: Yes, it can definitely be very, very beneficial. The interesting thing about fasting is we really have to reconsider the way we think about nutrients and nutrient deficiencies. When autophagy gets turned on, the body has more than enough amino acids, and B12 and different things like that. They're just not able to utilize them well. When autophagy gets turned on, the body will get what it needs. The innate intelligence within us will get what it needs from damaged cells. It will actually break down the damaged cells and get things that it needs. There's been people who have done 100-day fasts, 200 and 300-day fasts and these are very obese people.

David Jockers: There's one guy, he did a 400-day fast. He ended up losing 300 pounds during that period of time. He didn't take any multivitamins and they tested all of his nutrient levels and all of his nutrient levels were balanced and good. It's like, "Wow, how did that happen?"

Wendy Myers: He had a lot of stores to draw from.

David Jockers: Yes, he did. The body has this amazing innate intelligence. It knows what it's doing, so that's great. It's just for a short period of time. I would say the biggest

difference with the partial fast is that it's a little bit easier, psychologically. On top of that, for somebody that's really concerned about losing too much weight, it can help prevent that. I think those are probably the biggest benefits there. The water fast will definitely get you the best autophagy levels, the highest levels of autophagy and stem cells, but it can be a little harder on the body doing a full water fast.

David Jockers: I know even for me, my last water fast that I did, I really didn't feel that good. I even got sick after I broke it. I had been doing a lot of these and what I believe happened is that my body fat was just so low, and I worked out at the end of the fast, and it probably just overwhelmed my system. You do have to be careful with it. That's why this year I'm just doing the 24-hour fast and it's easy for me. I feel amazing. You experiment with different things and then you find what you feel really works best for you.

David Jockers: I find with doing the two 24-hour fasts, that I don't lose muscle mass. I'm really strong and doing great in the gym. I'm still able to get the benefits of that autophagy and the ketones in my brain.

Wendy Myers: It's interesting, when I first started getting into health and started doing a keto diet, I wrote about fasting and the fasting diet. I had a searing headache and I thought, "I'm never trying that again." What are some of the symptoms and things to be aware of when you first start a fast? What are some strategies you can do to mitigate those symptoms?

David Jockers: The symptoms are going to come down to several things. One is electrolyte imbalance. In dehydration, in general, when insulin goes down insulin actually tells our body to retain sodium. We hear about a low sodium diet for people that have high blood pressure. That actually works if somebody's on a high carbohydrate diet because they have so much insulin in their system. They need to reduce salt. However, salt is really important for energy production and really important for our nervous system. When your insulin goes down when you're fasting, you need more sodium. You need to take in more salt and more minerals.

David Jockers: Take some good salts throughout the fast, or some people use an electrolyte powder or something like that. This can be really beneficial and will help keep your nervous system functioning better. It will reduce cravings, reduce headaches and different things like that. That's huge. That's a huge component. Hunger is more of a conditioned response than anything else. We can all go days without food without truly starving.

David Jockers: We've got plenty of energy stores in our liver, our muscle tissue and then in our body fat. Just remember, it's a conditioned response. Your body's way of trying to remind you to eat, but water can help suppress that response. Just hydrating, drinking some water can help reduce that. Herbal tea or warm tea often is very easy on the system and people like that. Drinking it slowly can really help. You're

getting some oral satisfaction but obviously you're not bringing in the calories. You're keeping the autophagy up.

David Jockers: Those are really important things. We also need to make sure that we're sleeping well. Fasting, especially if you're not used to it, is a stress on the system. You don't want to introduce a big stress on your body if you're already overwhelmed by stress. In fact, it's usually a good idea to lean into stress. It's like exercise. If you were training and your goal was to run a marathon, you wouldn't do that on day one or two, right? You would gradually build up. You might walk a mile the first day, then you might walk a mile and a half. You would just gradually progress. You would do it the least uncomfortable way as possible.

David Jockers: If you just push right into a fast, it's going to be really uncomfortable. You could still do it, it's just going to be really, really uncomfortable. You want to lean into it and gradually build what we call your fasting muscle. It's just like a muscle, just like anything else. You're building that up over time by leaning into that. That's really important. We had talked about this before we started, but for many of us, we have a lot of toxins in our body fat.

David Jockers: As we start to burn fat for fuel, we start to release those different toxins which can cause more oxidative stress in the system. If your goal is really to lose body fat and you know that you've got a higher amount of toxins, you want to take some binder. There's a lot of different ones out there, zeolites, activated charcoal, fulvic and humic acids. I'm sure you have several like bentonite clay? There are a lot of good ones that are out there that you can utilize.

David Jockers: That's a really good idea when you're fasting. It's not going to break your fast and you're going to help get more toxins out of your system.

Wendy Myers: I developed a binder called, "CitriCleanse," that has grapefruit citrus pectin, fulvic and humic acid. It's a perfect thing to take because when you're getting these detox symptoms, when you're fasting and you get headaches or you get a little achy, or you start having anxiety and whatnot, that can be toxins coming out of your fat cells. Things like chemicals and heavy metals. It's really smart to have a binder on board.

David Jockers: Absolutely. When you're fasting, you've got to remember that you are detoxing and you're cleansing. You're putting yourself in that way of life, right? That's actually a good thing. We need to be cleansing and detoxing every single day. It's a great time to take those binders. That's really helpful. Another thing that can help is adaptogens. For some people, they have basically bad feedback, like a bad radio station connection. They have bad feedback between their brain and their endocrine system. The system in their body that's producing hormones.

David Jockers: Adaptogens come in and they tune your antenna to where you get a better message. Now you're able to produce the right amount of cortisol, the right amount of thyroid hormone, the right amount of adrenaline, and all the

different endocrine hormones that you need to to be able to function well. Adaptogenic herbs are not going to break your fast. They're really helpful for supporting your body so you can think clearly and have the energy you need while you're going through the fast.

David Jockers: Ashwagandha, rhodiola, ginseng and things like that. That's a great idea to use something along those lines as well. They can be really helpful for a fast. Because again, a fast is a stressor on the body, so things that can help mitigate that stress can be really beneficial. I would say those are probably the biggest things to look out for and utilize.

David Jockers: A lot of people ask me, "Should I take supplements on a fast?" There are some supplements that you do better with when you take them with a meal like vitamin D, omega-3's and digestive enzymes. You wouldn't want to take those. In general, if you're fasting one day a week, it's good to take some time off from a lot of supplements. It's not a bad thing to take a day off of supplements.

David Jockers: Now, the key ones you'd want in there would be your binder, like you talked about, adaptogens and maybe electrolytes. Beyond that, you really don't need anything extra.

Wendy Myers: I really love the concept of taking an adaptogenic herb when you're fasting. I don't know about you, but I definitely feel a surge of adrenaline and cortisol when I'm fasting. My body is like, "What's going on here? We're starving." You get this release of cortisol and it's uncomfortable. It makes you want to eat. Taking an adaptogenic herb can help to dampen that response.

David Jockers: Adaptogens and also magnesium can be really helpful there. Two magnesiums are great one to use. Sometimes people have trouble moving their bowels when they're fasting as well. Taking a little bit higher dose of magnesium can help with that. There are different herbs as well, that can help with moving your bowels. Hydrating really well helps too. You're going to get a better fasting experience if you move your bowels well in the morning. You'll notice that you feel a lot better, a lot more calm as you go through the fasting experience.

Wendy Myers: You can do coffee enemas too.

David Jockers: Yes.

Wendy Myers: They are not terribly popular, but it certainly helps your body process all the toxins that are coming out of your fat cells. Just to illustrate this point, I have a friend of mine that went on a diet and she lost a hundred pounds. She developed a cyst at the base of her spine. Your body has those toxins safely stored away. Then she had to have it surgically removed. You have so many toxins coming out of your fat that you really need to be thinking about precipitating your body processing those. Coffee enemas and those binders are great ways to do that.

David Jockers: Infrared saunas, too. I know you're a fan of saunas.

Wendy Myers: Yes.

David Jockers: Saunas are a great thing to do when you're fasting. It helps to really get those toxins out of the system.

Wendy Myers: What about stevia? If you're having your tea, you're trying to suppress Ghrelin and feel full. A lot of the fasting mimicking diets use tea as well. Is it okay to use stevia? Is that creating an insulin response?

David Jockers: I think it's going to be individual, depending on the person. Anything that's going to stimulate more cravings, you know that it increases your insulin a little bit. You really have to experiment with that. In general, I would say don't use the stevia. However, for some people, they're going to have better tolerance to that than others. On top of that, I think it's important that people have some beneficial experience when they are fasting.

David Jockers: For some people, having a little bit of stevia in their morning coffee or tea gives them a little bit more of a beneficial experience, so they come back to fasting. Fasting is a lifestyle. You don't need to be a purist. It's not only one way, my way or the highway kind of idea. You want to have a good experience. You want to set yourself up for a good experience.

David Jockers: If stevia gives you a little bit of pleasure, doesn't overly stimulate cravings and hunger and enables you to be able to successfully complete a fast, then I think that's a great thing. If you are noticing more cravings and more irritability then it’s not something you want to use.

Wendy Myers: Do you want autophagy turned on all the time? I think a lot of people tend to think, "Oh, if something's good for you, then a lot more of it is good for you." People can definitely go overboard with fasting or intermittent fasting. They push their body even when their body is telling them to please stop. Where will you find that balance?

David Jockers: That's a great question. Our ancestors would do feast and famine cycling. They never tried intentionally to do intermittent fasting or crescendo fast, unless it was for some religious purpose or something like that. However, they just didn't have access to food. When they did, they would eat as much as they could. Feasting is built into our DNA just like fasting is. We really need times where we are in a feasting mode as well as fasting.

David Jockers: When you're doing your intermittent fasting, during your eating period, you want to make sure you're eating really well. You're eating till full, right? Eating till you're really well satiated. That is the key there. Now, you don't want to be bloated and exhausted after you eat. That's not a good sign. However, you

should be eating till you feel really satiated and just don't feel like you need anymore food. That's really what you're going for there.

David Jockers: For certain individuals, particularly depending on their level of insulin sensitivity, there's going to be a different way of fasting for somebody that's 50 pounds overweight and sedentary versus somebody that is very lean and very active. The leaner and more active person is going to need more periods of feasting, because once your body fat gets to a certain level, your body goes into panic mode. It will start to break down your own muscle tissue and will shut down certain hormones.

David Jockers: It will inhibit active thyroid hormone production and sex hormones. For men, testosterone will go down. For women, estrogen and progesterone levels will go down. We don't want to hit that point. That's where doing the right amount of feasting and fasting will help you get the best benefits of both. Feasting helps turn on all those hormones to activate thyroid hormone. It helps to activate the production of estrogen, progesterone and testosterone for men.

David Jockers: However, if we are constantly eating and we have insulin resistance, then we shut down our ability to produce those hormones. Again, there's this happy medium that we've got to have. We need that feast/famine cycling to take place. I would say the hardest demographic to figure out a good fasting schedule for is young, menstruating women that are very active. They exercise intensely on a regular basis and they're also very stressed. Oftentimes they have young kids, so they're not sleeping great at night.

David Jockers: That individual needs to be really careful because they're already low in body fat. If the body senses that that's getting too low from intermittent fasting and all the exercise that they're doing, and they have too much stress hormones going on from their lifestyle, then it's going to shut down overall sex hormone production. They can feel terrible, start losing hair and be really fatigued. They won’t be able to sleep at night.

David Jockers: That's a sign that you're either doing too much exercise, too much fasting or just have too much overall stress in your system. You need to dial those things back, if that's the case. What I'll do for that demographic is I'll do something called, "crescendo fasting," where we do a 16-hour fast but only two days a week, non-consecutive days.

David Jockers: Think about it like exercise. For some individuals, they feel great when they're exercising every single day as long as they change muscle groups. They feel great getting a really good work out every day. Other people really need a recovery day between workouts or they're going to overwhelm their system. It's the same thing with fasting. For some people, they're going to feel great when they do intermittent fasting every day. For other people, they need a recovery day, maybe two recovery days, before they do another bout of fasting.

David Jockers: That's where the crescendo fasting comes in. Let's say you did it like Monday and Friday for example. If you feel good with that, then you could try Monday, Wednesday and Friday, right? Do the next graduation up and see how you feel with that. The other days, just do a 12-hour fast and 12-hour eating window. Then on your fasting days, you need a 16-hour fast. You can experiment with that. That would be for one demographic.

David Jockers: People that are older, women that are lean and men usually have no problems getting intermittent fasting. After about a week or two, they usually adapt really well to it. They have no problems with it for the most part. One other demographic that can be challenging is women with chronic infections, mold exposure or something like Lyme disease. It's just overwhelming their system. They have this chronic brain inflammation and they're lean, typically.

David Jockers: They can have trouble as well. Those individuals really need to work on the binders and different things like that to help detox the body while they are getting into fasting. The more that you push into it appropriately without overwhelming your system, the more that you'll develop your fasting muscle.

Wendy Myers: Is there anyone who should not be fasting, like definitely this is not for them?

David Jockers: For pregnant women, particularly as they get into that second and third trimester, doing any intermittent fasting is probably not a good idea. Maybe a 12-hour overnight fast is ok depending on the woman. Women find that that's not a problem. Even as you start to nurse, other than a 12-hour fast, I don't typically recommend more fasting. As the nursing goes on and as you start to wean the baby off of nursing, you can start to experiment. You can go back to some crescendo fast or something along those lines. That can be a good idea.

David Jockers: That's one population group. Another population group would be young children. Young children are growing so fast. It's probably not a good idea to fast them. I did notice that my children would sleep a lot. They easily can sleep 12 hours and so they were doing 12 or 14-hour fasts without any issues. I have four ½ year old twins and a two-year old. They all do some intermittent fasting, because I guess we're just blessed that our kids will sleep. They sleep late and that works out well.

David Jockers: The other population group would be extreme athletes, like MBA players. If you're exercising more than two to three hours a day, it can be really problematic to do any intermittent fasting, just be on that 12-hour fast that I recommend. Anybody that has a history of an eating disorder, anorexia or bulimia, I always say, "You shouldn't be making the decision to do intermittent fasting. That should be a discussion that you have with your psychologist or a really trusted and loving accountability partner who should give you the go ahead, give you the approval to start to do that." That's because they think they're healed or they've matured enough to be able to handle doing some intermittent fasting without it re-aggravating that eating disorder.

Wendy Myers: I know some people that go and visit their family. They eat a really good healthy diet and go visit their family, and their family's eating garbage and going out to eat, and they take that opportunity to do fasting.

David Jockers: Yes, exactly.

Wendy Myers: Plus they're not getting any fattening foods in their body. David, thank you so much for coming on the show. That was so informative, so detailed, and had a lot of amazing tips in there to get you guys going on this. I've fallen off the wagon. I was doing one day a week for a while. I need to get back on that. I've been doing too much COVID stress eating. I'm working on my quarantine 15. Thanks for coming on the show. Tell us where we can find you and learn more about your work. You have a fasting summit as well.

David Jockers: Thanks so much, Wendy. It's really an honor to be on your podcast. You can find me at doctorjockers.com. I also have a podcast called *Functional Nutrition Podcast*. You could check me out there, on YouTube, Facebook and all the different social media channels as well.

Wendy Myers: Fantastic. Tell us about your fasting summit. I know it's over already, but I'm sure it's still on your website?

David Jockers: Yes, I interviewed, I believe 30 of the top experts when it comes to intermittent and extended fasting. We talked about fasting and how it impacts your brain and your skin. A couple experts like Dr. Nasha Winters talked about fasting for cancer. She talked about the best strategy for fasting pre and post chemotherapy and radiation, to get the best results. There's a lot of great research coming out on that. I think it's just fastingtransformation.com. You can get a free seven-day pass to check that out.

Wendy Myers: Fantastic. David, thanks for coming on the show. Everyone, thank you so much for tuning in to the *Myers Detox Podcast*. You can go check out my work at MyersDetox.com. Every week, we explore topics related to detoxification of heavy metals and chemicals and everything in the health spectrum to support that. Thanks for tuning in every week. I'll talk to you next week.

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