The Fireplace Test: Is Your Body Quietly Burning Down? Transcript

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Introduction and Guest Background

Hello and welcome back I'm your host, doctor Sharon Stills. It's always my honor, my privilege, my joy to be here with you all and to share these life changing conversations.

And today I have a special guest, Doctor David Jockers. He's a doctor of natural medicine. He runs one of the most popular natural health websites, drjockers.com, which I love, and he's got over 1 million monthly visitors, so he is really making an impact.

His work has been seen on popular media such as The Doctor, Aso and Hallmark Common Family. He's the author of bestselling books The Keto Metabolic Breakthrough by Victory Belt Publishing, and The Fasting Transformation.

He's a world renowned expert in the area of metabolic health and fasting and brain health and inflammation and functional nutrition. All the things we're going to dive in today for you.

And he also hosts the popular Doctor Jockers Functional Nutrition podcast, which I've been on and has been consistently ranked among the top 50 health and fitness podcasts in the world.

He lives in canton, Georgia with his wife Angel, and he has twin boys and daughters. And they're all gorgeous and adorable and cute. He has cutest family ever.

And so it's my honor and I'm really happy to welcome you to the summit. Thank you for taking time out of your busy, busy schedule to be here with us. Well, thanks so much is really appreciate everything that you're doing.

Awesome. Yeah. So let's just jump in because you've got a lot to share. And I want to get the information to the listeners. So inflammation we all know inflammation is this driving factor in all chronic illness.

And not that menopause is a disease. But the truth is as we age inflammation becomes more of a concern. And if we're not actively preventing or taking action to avoid inflammation, it's going to be something that's going to become a part of our life and not in a good way.

So maybe for starters, because we hear the word inflammation. But if you can just describe what exactly is inflammation because there's good and there's bad and how does it develop for sure.

Well, inflammation is our body's natural survival system.

What Inflammation Is and Why It Becomes Chronic

We know that our ancestors throughout the history of mankind, they have died from more so from sepsis or some sort of infection getting into their bloodstream, spreading throughout their body, getting into vital organs like their heart and causing, you know, myocarditis or causing something like pneumonia or meningitis or encephalitis.

And they would die, you know, obviously, from that. So our body adapts, has adapted to create this inflammatory process. And inflammation helps prevent against bacteria getting into the bloodstream, spreading, causing something that could kill us quickly.

So it keeps the pathogens under control. And then it also is really key for the healing process. It breaks down old damaged tissue and allows for the formation of new healthy tissue.

But inflammation should be short term. So it should be a cute and short term. Like if you sprain your ankle or if you get a bug bite or something along those lines, you're going to have some short term inflammation to clean the area

up.

But again, it should be for a short period of time, and then your body should go into healing and rebuilding that region and turn off the inflammatory process.

And so I always say, you know, as a metaphor, inflammation should be like a fire in your fireplace. Fire in your fireplace is a beautiful thing. But if you go and you dump a bunch of gasoline on the fire, then it's going to spread throughout all your walls and it's going to burn down your house and our lifestyle, the things we do in our daily lifestyle and the things that we're exposed to in our air, our water and our food can be like gasoline on that inflammatory process, causing it to start to burn down our body and causing it to become chronic.

And so no longer short term, but long term. And again, the body, when it's adapted into this kind of chronic inflammatory physiology, it's doing the best it can to keep us alive.

And it's an adaptive physiology based on the environmental conditions. So it's not necessarily something wrong with the body. The body is trying to do what it can, but the environmental conditions are leading it to create this sort of chronic inflammatory process.

And over time that breaks down all the different tissues and different systems of our body. And sometimes it can affect certain regions more than others, right?

It can affect, you know, for some individuals it can affect their thyroid. Right. We call that maybe an autoimmune condition like Hashimoto's thyroiditis or graves disease, hypothyroidism or for other individuals, it can cause irritable bowel or some sort of inflammatory bowel disease like like Crohn's disease or ulcerative colitis.

For other individuals, it can really affect their brain causing dementia, Parkinson's, Alzheimer's disease, these different neurodegenerative conditions.

And before we get that, like when people are younger, they end up depressed, when they have chronic inflammation in the brain, or they have anxiety or they have just mood disorders, trouble sleeping, brain fog.

These are all symptoms of inflammation in the body and inflammation in the brain in particular, affecting our ability to think sharply and quickly. It can affect our ability to burn fat for fuel.

It can affect our metabolism, causing us to not be able to break down fat effectively in our body and be and have weight loss resistance, right? It can affect any system of our body, our joints. Typically, when people think about inflammation, think about chronic pain, right.

So it can absolutely affect our joints, muscle tissue fire up more pain fibers. It can affect our skin, cause skin inflammation. So eczema acne rosacea right a lot of different issues like that.

Psoriasis. So any tissue of our body can be dramatically affected by chronic inflammation. And so all of it though has some of the same root cause factors.

And that's what we have to figure out and address. Yeah I mean there's really unfortunately nothing that is spared from being affected by inflammation when it comes to our bodies.

So we're going to talk about the root causes. But before we do that, I'd love to talk about just how do you measure inflammation. Right. Like how to what are the lab markers you like.

Because I like to keep it really practical. You know what can the ladies listening jot down and go ask their doctors for. So we really have some way to measure what is our inflammation.

So when we're making the changes we're going to talk about, we know that they're actually affecting us in a positive way for sure. Well a couple biomarkers, you know, that you can easily get that are low cost.

And most doctors know about them and they can run them. One would be high sensitivity C reactive proteins series active protein is an inflammatory protein.

If that's up over 1.0 it's a sign of inflammation in the body. And so you want that down as low as possible right. If it's under 0.5 that's that's great.

It's wonderful. But if it's up over one we know there's inflammation in the body. And a lot of people you know it's I've seen many people with 710 2000 right. CRP.

So very very high levels. Now you also want to make sure the person is doing the test properly. Like for example, some athletes will work out really intensely and then the next, you know, the day before, and then they'll go in the next day and get their labs run and their crp will be really high.

But that's that can also be a byproduct of the inflammation induced from intense exercise. Right. So ideally when you get your your labs done the day before, you don't do any sort of intense exercise.

Usually you just need one rest day there. So one rest day you can still walk and move, but nothing intense, no intense weightlifting or anything like that.

Key Lab Markers for Measuring Inflammation

Go in, you know, eat dinner, normal dinner the night before and then you can just drink water the morning off, go in and get your blood work done in the morning ideally.

And then after that you can have your breakfast or your coffee or whatever it is. So so that way you get your test done properly and get the right results.

So that's one one thing that we look at is CRP. Another one is ESR erythrocyte sedimentation rate. So we want to make sure that the blood's not not clumping up together.

So blood cells you know they have basically a negative charge. And so normally they when they're functioning right they should repel each other. Right.

But when we have chronic inflammation we have a lot of glycation in our blood cells. They start to clump. They start to stick together. They become very viscous.

And they don't they don't they clump right. And so they don't separate properly. And you could see that in an elevated erythrocyte sedimentation rate.

And then also serum ferritin. Ferritin is a storage form of iron. We need it and we need a good amount of it. But when we see that elevated that could be a sign of inflammation in the body.

It's an acute phase reactant to inflammation. It also could indicate certain pathogens as well in the system parasites, things like that. Because of the body, especially if we see iron serum iron low or some sort of anemia but ferritin high, then then it can often indicate some sort of a gut infection or blood infection.

But if it's just normal, normal iron, normal red blood cells, high serum ferritin oftentimes a sign of inflammation in the body. So those are a couple of markers.

And then we can look at like blood sugar markers like fasting insulin right. And see if there's an insulin resistant type phase that's taking place. Fasting insulin ideally should be under six.

So ideally it should be 2 to 5. Now in conventional medicine sometimes if they see it low like that they see it like three or 2 or 3, they'll say oh wow, you have to low of insulin.

But actually that's really good. You should always be producing some insulin. So if it's under one, that could be a sign that you're not producing enough insulin. Maybe you've got damage to your pancreas.

But really the level the ideal level should be somewhere on 1 to 5, maybe up to six. And that's a sign of good insulin sensitivity. When you're doing a fasting blood work test, you know, if it's up over six, sign up some level of insulin resistance.

And, you know, oftentimes I know, doctor, I'm sure you see it quite high often. You know we'll see it in the 20s. 30s. Right. That's a sign that the body's producing a lot of insulin.

And the issue with insulin is, you know, high elevated insulin creates an environment for chronic inflammation. So that's a good marker to look at as well.

You know, we can look at liver enzymes. There's a lot of different things you can look at on blood work that are more indirect. Right. Fasting insulin is an indirect marker of inflammation.

Whereas A the SR and the serum ferritin can be more direct markers of inflammation in the body. Yeah. And what you're talking about is so important because on a blood test, like a said rate, they give you sometimes up to 40, up to 20, and you want to keep that low below five.

And with insulin you can come back as a 19 being normal. And so you have to realize that there's these optimal ranges we're looking for. And laboratory ranges are not that optimal.

They may be common but they're not optimal. So important important markers. And these are easy tests you can ask your doctor for. And if your doctor doesn't want to do them for you, probably time to fire your doctor and find a new doctor.

Because these are just some basic. These are not like way out there. You know, we're not doing Milo peroxidase and getting into all these other things.

These are like basic blood markers that your insurance should cover. So let's talk about blood sugar because I think blood sugar is like the 700 pound gorilla that sits in the room that no one really wants to pay attention to.

And we get fatigue. We get brain fog. We are dealing with all these things, especially as we're going through the menopause transition. But we all we're all trained.

We want to take a pill. Let's take some berberine. What can I take? What do I need to do when a lot of the times this is all being modulated by irregular blood sugar.

So I'd love for you to speak to that for sure. Well, blood sugar, we always have some level of blood glucose. When we eat something with carbohydrates, our body is going to turn it into glucose.

But also we have glucose inside of our muscle tissue and inside of our liver. We call that glycogen storage form of glucose. So even if we're on a zero carb, let's say a carnivore diet, our bodies constantly undergoing something called gluconeogenesis.

Basically, it's creating glucose from the glycogen that it has. Right. And it can turn it can also turn protein into some level of glycogen as well, and also some level of glucose.

So we're always going to add glucose. And we need it. It's a critical energy source. It's an anaerobic energy source meaning we don't need oxygen to break down glucose.

And it provides quick immediate energy. But it's a dirty energy source. And what I mean by that is it's very metabolically expensive. It actually costs a lot of oxidative stress within our cell when we use glucose as an energy source.

So it's a needed energy source. We just don't want to be reliant on it all the time. It should be for short periods of time. And certain cells like a red blood cells, are always going to need some level of glucose to run on brain cells.

Also, can they need about 50%, 50 or 60% of their energy production off glucose?

Blood Sugar, Insulin Resistance, and Metabolic Flexibility

So we always have it and we always need it. We just want regulate how often we're using it. And so in our in our body, we have a kind of a tight zone for our blood glucose where it's a healthy range.

And when our blood glucose goes elevated too much we call that hypoglycemia. And that's really dangerous because the excess glucose in our bloodstream will actually bind to proteins and create something called advanced glycation end products.

Ages. And these ages are like shrapnel going through our bloodstream. They cause inflammatory damage in the endothelial lining of the blood vessels, and that leads to atherosclerosis.

It can lead to kidney failure. It can lead to nerve problems. When you think about somebody with type two diabetes that's uncontrolled, so they have excess sugar in their bloodstream for long periods of time.

These people they end up with, they end up typically on dialysis because their kidneys are damaged. Oftentimes they'll end up with peripheral neuropathy where they can't feel their feet or sometimes their hands because the nerves have been damaged.

Sometimes they end up with optic neuritis because the nerves go to their eyes and becomes so damaged by these AGS and the inflammatory damage that occurs with it in the endothelial scarring, the scarring in the blood vessels.

And they typically die of congestive heart failure. And oftentimes they have dementia, Alzheimer's, something along those lines as well because of these AGS.

So they become so problematic. So hyperglycemia is a serious problem. But also hyperglycemia is a major problem as well. So if the blood sugar drops too low and the individual is not metabolically flexible enough to burn fat for fuel and the sugar is too low, then they're not getting enough energy, enough of an energy source into their neurons and their brain.

And then their neurons start to die. When the neurons start to die, they spill out their contents and they spill out a bunch of different ions and metabolic byproducts, and these will actually excite the neurons around them to death.

We call this neurotoxicity. It's almost like a domino. When domino goes down, a whole bunch of dominoes go down. And so when somebody has a hypoglycemic event, right, like a medical event, like they pass out, okay, that actually dramatically increases the risk of developing dementia or some sort of neurodegenerative condition later in life.

In fact, if you've had one medical episode of a hypoglycemic medical episode, meaning, again, you passed out, that actually increases your risk of neurodegenerative conditions by over 40% later in life.

And that's because you've damaged so many neurons in order to have an event like that. And so it's very important to keep your blood sugar stable. We want to have we want to be very metabolically flexible.

And what that means is we want to be really good at burning sugar, burning glucose as an energy source when we need to. When do we need to when we're exercising, when we're doing something at a very high intensity and we can't get enough oxygen in to produce the energy to to undergo oxidative phosphorylation and run through the electron transport system.

So we need to rely on a, an energy source called glycolysis, right where we're breaking down glucose really

quickly. We're only producing two ATP, two site, two components of cellular energy.

So it's not a whole lot compared to when we're burning fat we can produce or when we have enough oxygen. In general, we can produce about 36 ATP so we don't get as much, but we can do it quickly. And that's the key.

So when we're exercising, what do we feel like we start to feel, you know, acid building up in our body. Right. And and we'll be out of breath. Right.

And that's part of the glycolysis process. And so we produce acid as a metabolic byproduct. And that's actually healthy. And that's normal. Natural. Nothing wrong with that.

It's actually a sign that we're burning sugar for fuel. That's good okay. Now what we want to do is when we are done exercising and we're sitting at our on our couch or we're sleeping, we want to be burning fat as our primary fuel source.

That's what we should be doing because we have enough oxygen. But most people, because their insulin levels are elevated all the time. And this has to do with the nutrition they're putting in their body, the light that they're being exposed to, the the movement or lack of movement that they have on a regular basis.

And hormone dysfunction, these individuals, because their insulin is elevated, they're not burning fat. You see, insulin is this superhero hormone. Its job is to take sugar out of the bloodstream and put it into the cells.

And that helps protect against the buildup of those AGS, those advanced glycation end products, really important. And we need that insulin to shuttle the glucose into the cell so we can use the glucose as an energy source.

The problem is when insulin becomes elevated because we're consistently putting in, you know, high glycemic foods and hyper palatable ultra processed foods, and we're eating all the time.

Every few hours we get elevated boosts of insulin. And as that insulin stays elevated, it shuts down our ability to burn fat for fuel. And so now we can't undergo fat burning effectively.

So we become metabolically damaged. And the research shows that over 91% of our population or society today is metabolically inflexible. That means they don't shift from sugar burning into fat burning effectively.

And so when their blood sugar starts to drop down, normally our insulin is coming down and we're able to burn fat as a fuel source. And then we can actually create these water soluble molecules called ketones.

You see, fatty acids are a great fuel source for our muscle cells and most of the cells of our body, but they can't cross the blood brain barrier. And so the body, because our ancestors were exposed to times of famine on a regular basis, our body knows how to get an alternative fuel source in the brain.

So it takes fatty acids, converts them into ketones, which are smaller, water soluble molecules that can cross through the blood brain barrier the liver does.

This takes the fatty acids, creates ketones. As ketones elevate, they actually shut down inflammation in the brain. They actually help to balance the excitatory and the inhibitory neurotransmitters in the brain.

They enhance certain certain growth factors in the brain and help to balance neurotransmitters and create all this great, all these great benefits in in our brain.

But we need insulin down, insulin low in order to get the elevation of ketones. And most people, because they're eating a lot of ultra processed foods, a lot of seed oil is high glycemic or high end slow foods that promote a high insulin release.

They're eating consistently. Most people are snacking. The average individual eat something with calories nine

times a day, and it could be just drinking, you know, taking a swig of sweetened tea.

Right? Or a sprite or, you know, some sort of soft drink that counts as a meal because that's actually increasing your insulin levels. Let's say you take two gulps of, you know, a, you know, Mountain Dew, right?

That increases your insulin levels quite a bit, and that might be in between feedings, and that's increasing the insulin. So because of that sort of of a lifestyle.

And then the fact that people are most people are circadian rhythm is so far off and they're being exposed to blue lights late at night that causes that that can drive up insulin resistance and hormone dysfunction.

Most people are not moving well. Right. So movement is a great way to get insulin levels down. It's going out for walks trying to build lean body tissue with strength training, things like that, doing high intensity interval training that will bring down insulin.

It will activate muscle cells. Right. And your muscle cells will have to work hard and muscle itself. Your muscle tissue acts as a glucose sponge. So it actually will take in the stronger and the more you work your muscle and the larger your muscle tissue is, it will actually pull sugar out of the bloodstream, right.

So it protecting against the ages and lower insulin. And so now that creates more insulin sensitivity and creates more metabolic flexibility where you're able to burn fat for fuel.

So these are things we need to do is really activate our muscle tissue, get our circadian rhythm functioning well and follow a blood sugar stabilizing diet.

Well that was a lot. That was a that was a little mini masterclass there. That was amazing. Yeah I mean I don't think I've ever met anyone who's in ketosis and did not report that their moods improve, that their energy improve, that their ad went away, that their concentration, there's just no downside to it.

It just really improves everything. So an interesting I just want to highlight again what you said about the blood glucose dropping, because we tend to always be worried about it being elevated.

And with anything with we're talking about hormones. There's always that Goldilocks where we want it just right. We're always concerned about too much, but too little is just, you know, that's quite a quite a statistic.

Youth throughout there about 40% increase in dementia. That's pretty significant. So what do you to the women who are listening. Do you recommend regular fasting.

How do they. What do you think about CGM. Like what do you recommend they do to make sure that they are balancing their blood glucose? And what is a balanced blood glucose in your.

Yeah for sure. So CGM you mean a continuous blood glucose monitor? And that's a great idea because that actually gives you more individual kind of instant feedback on how your blood sugar is being regulated throughout the day.

These are little things that are noninvasive that go in the back of your arm. And they pretty much last about two weeks. These little sensors, and you don't even feel the needle going in as opposed to the blood prick.

I don't know about you, but like, pricking my finger is like. Like I'm, like, scared of doing it. And it only tells you what your blood glucose looks like right?

Then at that moment. Okay. You want to be able to test this 24 hours a day to see what sort of habits and activities cause more blood sugar dysfunction than others, and that helps you modulate and make positive changes in your lifestyle.

So you're getting that instant feedback. And that's what happens with these CGM. They last for about two weeks, and they connect to a software system where you can actually manage.

You just scan it with your phone over the CGM. You actually look at what your blood sugar is looking like all the time, and then chart your activities and your, your, your meals and things like that so you can see what sort of changes you're noticing with it.

So I think it's a really great idea. I think it's probably the best way of looking at your overall metabolic health. I also like doing the fasting insulin test 2 to 3 times a year on blood work, you know, to to just kind of manage and look at what your insulin levels are looking like, hopefully at some point in the future will have a continuous, you know, insulin measurement.

Yeah, exactly. That would be amazing. And I think it will. We will have that probably by 2030 or so next few years. But with that said, here's what you do.

Here's the best way to start. Number one is blood sugar stabilizing diet. So what does that look like. You want to make sure number one you're getting rid of process ultra processed foods right.

There's different screens ultra processed and processed. Ultra processed doesn't really resemble food. It's like pretzels you know, cookies, chips right.

Things like that. All those things kind of the middle section of the of the store. Whereas a processed food could be like olive oil, for example.

Practical Diet and Fasting Strategies for Stability

That would be an example of a processed food that actually could be really, really healthy for your body butter, right? Would be an example of a actually a processed food but healthy for your body.

And so you want to go as much as possible real foods right. Real food diet. Get rid of all the seed oil your corn, Cornwall soybean, safflower, cotton seed, canola oil, peanut oil, all of those types of things.

Get those out of the diet and then try to go as organic as possible. You want food that has maximal nutrients and minimal toxins. And so if you can get food that has the lowest levels of pesticides and herbicides, the better it is for your body.

And that's really what organic does. Organic food on average has somewhere between 20 to 40% more nutrient value and then has significantly less, right, like something like like 300% lower levels of toxic chemicals.

Right. And so that's what you're looking for. That's going to give you the best bang for your buck. So that's what you want to focus on. And then with your meals I recommend starting with just three meals a day.

Get 30 or more grams of protein in each meal. Now I know that seems like a lot, okay, but once you get used to this, you actually start to crave it. Okay?

And so it would be something like five ounces of chicken or steak or something along those lines. That's going to give you 30 or more grams. Now if you're under 100 pounds, you know, if you're really, really lean, really light or you're a child, you know, you probably get away with 20, 25g, right?

But for most people, 30g of protein or more. Like for me, I lift weights six days a week. I mean, I'm eating typically 60 to 80g of protein in a meal, right?

If not more. And so depending on your activity level, you may need more than 30 to. I always say I typically say 30 to 50g, but it'll it will help create satiety and blood sugar stability.

And then you want to follow that up with healthy fats okay. Now healthy fats are going to come from grass fed animal sources which are your proteins right.

That's your best proteins. So you're going to get healthy fats in there as well. You also get healthy fats from high polyphenol extra virgin olive oil from avocados, coconut oil, butter, tallow, grass fed beef, you know, things like that.

And so with that it can range. So for some individuals they can eat a high amount of fat and feel great. Another individuals, they get a lot of digestive discomfort when they do a lot of fat.

So I recommend trying to find your fat threshold. Right. What I found is that most people, even if they don't have a gallbladder, can do about 15g 15 to 20g of healthy fats in a meal.

So start there, right? And if you feel fine with that, you could try increasing it 25g, maybe 30g of fat. The fat will just help you be satiated longer, and that's a good sign.

It will help keep your insulin down your blood sugar stable. So you want to do that. You want to add in those healthy fats if you don't already have them with your protein foods, like if you're doing chicken breast, that's going to be low fat.

You want to add in some avocado or add in some extra virgin olive oil or butter or something along those lines. If you're doing steak, that's going to be higher and fat.

You don't need to add in extra fat with that. And so that's what you want to do there. And then add in lots of colorful fruits and vegetables. The fibers, the nutrients in there will all help provide satiety and start with three meals a day.

Do a 12 to 14 hour overnight fast. Let's say you you finish your dinner at 7 p.m.. You don't want to eat anything with calories until 7 a.m. the next morning. Okay?

And if you can push it to 9 a.m., great. Right? Hydrate your body well in the morning. And the tighter the eating window, the better metabolic health benefits that come from it.

So if you can go to 9 a.m. that's great, right. Give you give yourself a 14 hour fast. So what you'll start to notice is as you follow this plan and you avoid these ultra processed, highly and slow genic foods, you just notice you're more satiated.

For most people. I tell me I'm not even hungry at dinner or I'm not hungry at breakfast. And so now it's okay to start from time to time missing one of those meals.

You know, I recommend ideally getting into a zone where you're doing 2 to 3 meals and let's say a 6 to 10 hour eating window, okay. Depending on the individual, depending on your activity level, your stress level, right.

If you're under a lot of stress, you're not sleeping well. I think a larger eating window can be helpful, at least when you're first starting this, because fasting or condensing that eating window is also a stress on the body.

So the more stress you're under, you don't want to push it too much. Kind of like exercise. Getting into an intermittent fasting zone where you're only eating in a six hour eating window, let's say 10 a.m. to 4 p.m.

or 12 to 6. It's kind of like doing an intense workout. And so if you're not sleeping well, if you're under a lot of stress, your body may not recover well from that intense workout or that fast, maybe overwhelming your system.

So let's start by getting your stress down, really optimizing your sleep and eating in a ten hour eating window. And then as you start to get that down, you can start to, you know, move into an eight hour window or a six hour window and see how your body feels with that, okay.

And that's a great strategy. And then, you know, to to kind of more mimic an ancestral strategy because our

ancestors fasted often, but not necessarily intentionally or at least not intentionally on a regular basis, they didn't think, well, I'm only going to eat in a six hour eating window.

They they just followed a feast famine cycle. Right now, you know, some cultures religiously, they might fast for a few days or something like that, and that's great.

But most of our ancestors, they fasted or they ate very little when there was a famine. And then they feasted when food was abundant. They didn't have pantries, they didn't have the food storage like we do.

They were dependent upon a good harvest and a good hunt. And so when food was available, they ate a lot. When food wasn't available, they couldn't eat much.

And so to mimic that, a great strategy would be five days a week doing something like a, you know, 16 to 18 hour fast or, you know, like I was talking about eating window somewhere between 6 to 10 hours, somewhere in that range, one day a week, trying to push it to about 20 to 24 hours.

Right. So eat lunch and then fast until lunch the next day. Hydrate your body well, right, but fast until lunch the next day. And that really ramps up autophagy in your body.

Your body's ability to break down old damaged cellular organelles to replenish new healthy mitochondria, new healthy cellular structures, great cleansing process that goes on.

You also get much better insulin sensitivity that takes place. You get a boost in your human growth hormone, which is your quintessential anti-aging hormone.

And so, so many great benefits. I mean, rejuvenation that takes place when you're doing that. So it's a great thing to do. And then one day a week where you eat more calories, right?

And so you have more of a feasting day one day a week, right, and a larger eating window. And so that's a really good strategy, kind of a feast, famine, cycling strategy that I think is good.

It's something that people can be compliant with on a long term basis and feel really good. And so I think that's the key, because too much fasting or calorie restriction can be harmful to our hormones, right?

But then of course, too much eating overconsumption is very harmful to our hormones as well. So having some sort of a feast famine cycle. So we're not always in famine and we're not always feasting, I think is, is is kind of the sweet spot for hormone optimization.

Absolutely. I think, you know what you said like the word strategy. So really understanding the strategy and understanding why you're doing what you're doing and that you're giving your body that balance because too much of one thing is going to hurt your hormones in both ways.

So I think that's brilliant and very helpful. And ladies, you're going to need to. This was like, you just got a 30 minute masterclass in blood sugar regulation diet.

What you need to do. So I highly recommend listening to this again and taking more notes, because there's a lot of pearls of wisdom in here, as always from doctor doctors.

So we could go all day, but our time is is winding down. So where can they learn more? Obviously, I love your website. Your website is such a great source of like.

You want to know about something, you just type it in to your website and you get like a major document about everything you need to know about that issue.

So the website is yeah, just go to doctor com. It's the best way to find me. And of course I'm on social media,

Instagram, Doctor Shockers, YouTube and my podcast, The Doctor Functional Nutrition Podcast as well.

Do you spell out doctor or is it just doctor? Yeah okay doctor. Well thank you as always for coming and dropping the truth bombs, dropping the knowledge and sharing with the audience.

And this was super beneficial because so many of the things we have control over, right? We have control over when we eat and what we and how we and why we eat.

And all of these things really go to give us that longevity we're looking for, for that beautiful energy to age gracefully and to feel good. And, you know, I truly believe this can be your healthiest season, because a lot of times, even though we're younger, we don't have the knowledge that we're learning here.

And so we can truly feel better in our 60s and 70s than we did in our 20s when we were junk food junk in it. So thank you again for being here. Thank you everyone for being here and learning and growing and doing what you can to help your body heal.

So we'll see you at the next interview. And until then, be well.