

Caspar ([00:00:00](#)):

First off, you know, thank you for everything you do on Instagram. Cause you're one of my favorite accounts to follow. Appreciate it. And, and I say that because there's so much out there that you can follow. That's great. That's entertaining, but you give this unbiased and very in-depth look at science, medicine, healing, breaking things down that I've heard of and you about, but you actually break them down to this place where you can understand it better. You show the science, you show the unbiased principles of it all and get people to, to really understand it better and actually get excited about something that really isn't that exciting. I guess you could say, but I do want to ask you this. Why through Thucydides, why did you go with that one?

Pedro ([00:00:44](#)):

So there was a man. I used to listen to a lot of these things when I was growing up and doing a lot of weightlifting, his name was Elliot Holst, and he had a lot of, uh, ancient Greek philosophy around his videos. And he mentioned Thucydides before, who was this great scholar during one of the pandemic times of, uh, ancient Greece in Athens. Funny enough. And he mentioned about how a society that is separating their scholars from their warriors will have their thinking done by cowards. And they're fighting done by, by fools. That quote always stuck with me because you can't just be somebody that's devoted to the science and not be open to becoming a, uh, somebody that's an advocate for therapy. For example, with certain things that I see Innovative Medicine doing like the UV light therapy, that's amazing. That's something that's been around for so long, but still modern medicine is not going after these potential potential therapies that are not, uh, expensive in comparison to pharmaceutical derived drugs. So being an advocate of your philosophy is just as important as being, um, in very well versed in the science of things. So with that in mind, I thought, well, let me just name my Instagram after this man who really resonated with what I thought was the right way to go about things.

Caspar ([00:02:01](#)):

Right. And it is understanding that human nature he was a great general and actually a historian and really tried to find out what nature and, and look into it deeper. As some of the greatest minds have done, whether it's Albert Einstein, even Tesla, you know, that was really understanding how nature worked. Now you are a student in biomed biotech, correct? Yeah. That, to me screams conventional medicine, that to me, right. Would be like your orthodox you're, you're just following a certain path that many go into yet. You don't. And I know you experienced a lot of things also in your past, dealing with mold, dealing with some issues, ADHD, other things that so many of us deal with and may not even know. So can you tell us a little bit about your path that led you into what you're doing now in biomed, biotech and what led you there?

Pedro ([00:02:53](#)):

I started first, I mean, at a very young age, my father introduced me into martial arts. I got started meditating when I was like four years old. I fell in love with the feeling that I got, especially because as a kid, I'm sure as any kid is, they're very ecstatic and out there with their energy, instead of being condensed in a place where it's common, not spreading out everywhere. From there, I started learning about alternative medicine and how nutrition plays a role during my early teens, but I never really followed through with that because I thought that was a common knowledge that everybody knew, which wasn't the case. Now that I know when my mom first became a nurse, I thought that she was going to use some of these treatment and alternative therapies in her nursing practice. And quickly I realized this is around high school time.

Pedro ([00:03:38](#)):

This wasn't the case for her. It was taking orders and administrating medication, making sure the patient got what they needed instead of actually looking at the root cause of something. I quickly realized that our nurses, nothing, at least in modern times, there's nothing more than the delivery system for certain therapeutics. I have all the respect to nurses. My mom works amazingly hard for what she does, but at the same time, it is not the medical system that I grew up thinking would be the, uh, the panacea to all, all diseases. And so on. Then I got into a lot of biology around early college, but I wasn't really invested in learning about the biochemistry side of things, the physiology, the physics, because to me, those concepts seems, seem too far out of my reach. And not only that, I just didn't envision myself being able to do those things in the future.

Pedro ([00:04:27](#)):

It wasn't until my beloved dog, his name was Bucky. He had developed Lyme disease. I had no idea what Lyme disease was. Wasn't something that we found out about until well, after he was sick for two, three years, he developed some of the cardiac, a high cardiomyopathy hypertrophic cardiomyopathy, which means his heart muscles enlarged. And he wasn't able to pump out as much blood anymore, which is something a lot of big dogs get. But in this case, it was due to Lyme because Lyme targets the cardiac tissue and creates endocarditis. So the heart muscles become inflamed. And because of that, it led to a lot of problems with his heart. And over the long run, I started learning about biochemistry and the physiology of not only humans, but also animals and how it also relates so intimately to one another. So for example, if my studies, you often hear how you can't use mice studies, mice studies and extrapolated to human studies.

Pedro ([00:05:19](#)):

This is true in some regard, but it's not always the case because the reason we use mice models to begin with is because a lot of the genes that they have a lot of the chemistry that they exude are conserved in the entire animal kingdom. So most of what they, uh, study in mice can be extrapolated to human beings. Albeit, somethings can not, but regardless, when you study one, you have a really good understanding for the other. So as a doctor, even though you may not know animal physiology and anatomy, you can guess at what something might be happening in the liver of an animal, for example. So this kind of understanding of biochemistry physiology came from a need because I wanted take care of my dog. I wanted to make sure he lived at least a couple more years before he died. And it wasn't until he passed away.

Pedro ([00:06:04](#)):

My cat also passed away from an infectious disease called feline, infectious peritonitis, and he drowned to death in his own fluid, which was horrible to me. It set me off. As soon as those things happen, I just, it clicked in my mind that this was something that I was going to pursue and understand to the deepest level I can to finally get to a point where, uh, we can change the system because obviously it's not working. We have a one in three rate of people getting cancer. It was one in 20 or so of people getting autism, which has gone up, we just haven't had the data to really, um, certify what it is at this moment. One and two are obese. I mean, this is something that's plaguing, not only America, but it's slowly being like a cancer spread to other populations then remote countries, remote parts of the world. It's to me, part of the mass extinction happening to the human species.

Caspar ([00:06:54](#)):

Yeah. And I, I do appreciate your posts. That show how Aboriginal people, native people who lived a healthier life without a westernized diet and westernized approach. And you know, so much of westernization would look at that and say savage and say, you know, they're just living a very ancient, that's going to go extinct. How could you do it? But they're actually living much more in touch with nature and they're actually much healthier. And so I really liked that when you show even the jaw line to teeth and everything, right. And you never really think about that. And I think that's part of your success, but maybe you could shine a little bit of light, because again, you go over these rare top, like biochemistry, physics, these are things that normally, if you put on Instagram, it's not your normal shirtless stuff. Or like the hot girl in the bikini that gets all the, like the algorithms probably don't even like you so much. Right. But you do really well and you break things down really easily. So is that you think part of the success is you being able to explain something that is usually, you know, not looked at and turned away from what, what do you think it is with what you're doing? That's suddenly garnering people being like, yeah, let's, let's learn more.

Pedro ([00:08:06](#)):

I think I come at it from the perspective that I once had. So I would have listened to some of these high talks on the physiology of obesity and diabetes and insulin resistance. And they would talk about the different forms of something like insulin resistance versus a glucose serum, which is two different phenomenons that are coined insulin resistance. And I would wonder, what are they talking about? Exactly. And after listening to it over and over, and then reading about how insulin works in the body with actual physiology, starting to get my hands on how the medical system looks at insulin. I started to understand things at a much deeper level, but I still have that original thought pattern. I didn't forget that at one point, I didn't understand this. So I would, I would target things from that perspective and break it down as if I'm just a student learning all of this.

Pedro ([00:08:52](#)):

And I think that's why people are now, I'm finally getting into to some of the higher topics. They're not shrouded in this only an expert can break it down. If somebody took the time to really listen and read it within a few hours, somebody can get a really good understanding of what is happening with something like insulin resistance and right there. And then they become empowered. It's to me, the decisions that, well, it's the decision for the individual that they need to embark based on whatever need they have to learn at this deeper level. But also when you learn at this deep level, you're able to understand other things better, whether it's related to your field or not. And I think maybe that is another component of this. It's like I mentioned a lot of the physics stuff. I really enjoy physics, but not only because physics applies to biology, it applies to civil engineering or mechanical engineering, how to make sure that the bridge is stable. And so on the same kind of structural stability is present. Not only in the pillars that hold the bridge up, but also your cells, if your cells have any kind of mass mathematical disproportionism, they're not going to function the same way. So things like that, I think really connect people in multiple fields.

Caspar ([00:09:59](#)):

Oh, I agree with you so much on what you're saying, because it's true. Even when I spoke with Navine Jain of Viome, he said, listen, if you want to become an expert on something, you got to take nine different sources, read them all, jump into them and then make your own mind up about it. And, you know, putting it all together. But so much of what we do right now is one source listening to it. And that is the gospel that is dogmatic. That is science. Anything else is anti-science right. Which is kind of crazy because there are scientists that are saying all sorts of different things in science, by nature changes all

the time. Um, so what do you think it is within medicine that, that hasn't allowed us to apply things like physics and other principles? Is it big pharma? Is it a reluctance to take on these bigger subjects and kind of just let it go and why haven't people also kind of demanded it?

Pedro ([00:10:52](#)):

So if I can take a double-sided approach, have you ever heard of like, something like double think it was mentioned by George Orwell where you think one thing, and then you think the completely opposite thing and you believe it to be true. Both of those things, even though in their complete antagonism of each other, I think double think is something that can be applied to medical, uh, thought patterns. So you have people that are just unable to have some form of hubris. There are two ego egotistical in their way of thinking and their therapies with antibiotics, curing, um, any kind of bad bacterial infection that at one, at a certain point before in human history could have wiped out humanity. But then you also have the other side of things where it's, people don't believe in their potential therapies actually being useful for humans. There's a physicist.

Pedro ([00:11:35](#)):

I forgot his name. He created cold plasma therapy for curing cancer. This is amazing. I mean, cold plasma, cold plasma in general is something that we've just kind of started to understand and utilize in aerospace engineering. So the fact that this man is taking cold plasma therapy and potentially integrating into oncology is amazing, but I think he's still slow in integrating it because he doesn't have confidence that it can be utilized properly in the medical field, probably because of the hubris, non-hubris, that most medical practitioners exhibit they're just too confident in their way, in their previous way of thinking and their old paradigm that they won't accept these therapies. And so you have these two contradicting thoughts where somebody's humble and somebody is not humble and they won't accept each other because it's like oil and water. They just don't mix.

Caspar ([00:12:23](#)):

Yeah. I always say that. I feel like they're different languages, right? The Newtonian principles, whereas quantum principles to understand, you have to learn both languages. And very few people are bilingual, especially in medicine when it comes to those things.

Pedro ([00:12:36](#)):

That's a really good analogy because Newtonian and quantum physics are in direct opposition of one another, but they're still needed in the field of physics.

Caspar ([00:12:43](#)):

Absolutely. It's not to negate one or the other it's to understand both and appreciate both. That's where I think healing really comes into play because most of the modern medicine is based on Newtonian principles over 300 years, established, took a while to get there. Of course. And I do think it's going to take a while for quantum physics, which has been around for a hundred years to get there to into medicine. But I think that'll be a next big jump, but you know, a lot of that is ego. A lot of that is, you know, letting go of that and trying to apply something you and going beyond what you are told to think. Now, you know, one of the things that that's such a hot topic now, I know you bring up some stuff on your IG and everything is, it's just, COVID in general, is this pandemic in general?

Caspar ([00:13:25](#)):

And I'd be remiss to just skip over it, not ask about that. I've, I've had enough of this discussion myself, but at the same time, you're someone that I find in the gray, not in the black and white areas of a subject. So I do want to bring this up. Even something like a PCR test, so much confusion around it. So many people coming in here saying they had it, it showed up negative negative, then it was suddenly positive. And then it was ne it was all over the place and people don't know what to think, right? They, they, they are basically relying on outside sources that are telling them things every other day, that are contradictory. In your research, what have you found relating to PCR tests? Are they reliable? Is this something we should be using as a definitive answer to whether someone is truly infected with Coronavirus?

Pedro ([00:14:14](#)):

So PCR preliminary chain reaction basically takes a little bit of nucleic components and then multiplies it to become this really big amount that can be detectable. The thing with PCR is there's a cycles. There's a certain amount of cycles that are permitted before you recognize it as being a false positive or a true negative, for example, and the cycles depend on what you're investigating. So with coronavirus, what they're estimating the proper cycle thresholds should be is around 25 to at most 35 with cycles per threshold. I mean, it can differ between the equipment you use, the technicians that are using it, or the amount of the sample that you identify in it. And so it becomes kind of this gray area where you can have a lot of false positives because PCR is very sensitive. It's able to take this tiny amount of DNA or RNA and multiply it, but it's not very accurate.

Pedro ([00:15:09](#)):

It could be the DNA from any kind of source. It could be human DNA, it could be microbial DNA, anything. So we don't really know for sure if it's actually given us a substantial enough, um, at least an accurate enough answer to how many or how much of the population is affected versus how many aren't. And there should be multiple tests that should be, that should be done. Individuals like antigens and immuno immunoglobulins and in conjunction with PCR to really get a good understanding of does somebody have COVID? Are they immune to it in the first place? Do they really even need a vaccine that may not be potentially therapeutic? And they aren't doing that. And that's the lack of, in my opinion, not lack a of direction in the medical system, because they know that this stuff works. They know how to do it correctly. They've done it before with other diseases. They just don't do it out of pure pre-preconceived notions that it's not necessary. I'm not sure why this is like, in my opinion, you're taking the population that is so scared of a virus that in my opinion, should not be frightened over. And you're making them even more confused because you're not taking initiative to actually soothe the situation. You're just, they're dropping a ball.

Caspar ([00:16:24](#)):

Yeah. I mean, if you look at other areas where, where there is testing, even conventionally based, usually you have multiple tests that you run, you do the MRI, you do the cat scan, you do all sorts of things, lab tests, functional analysis, you could keep going. Right. And keep trying to confirm something, especially if it's so serious. And here we've kind of just said, this is it. This is our standard or golden standard. Um, there's going to be a lot of false, positive, false negatives all over the place, but get used to it almost in a sense. And it is a little bit strange there. Now, a couple of things you brought up that I want to get into of what you just said. There is number one, the virus itself, not being a huge threat. Um, you know, again, if you listen to the news, which I stopped doing for my own sanity a long time ago, um, this is a very, very scary situation.

Caspar ([00:17:12](#)):

This is something, you know, but then, you know, at the same time I can't help, but sometimes look at CDC numbers that show a mortality rate that is what, 99.98, if you're under 65 or so, even if you have comorbidities. So then I say, wait a second. That doesn't sound awful. If you gave me an investments at 99.9, 8% chance, you're going to make a lot of money on this. I'd be like, put all my money on like, you know, mortgage the house, let's go in on this. But at the same time, understand we are dealing with life and not money here. You have to be more cautious and risk averse. So what, what is it you think that is going on here? Is this truly a danger? I mean, I know you think it's not, but what's going on with this virus that we are suddenly so fearful of it, meaning that we have lots of viruses in us. Is it a lack of understanding maybe that even segment that we have so much bacteria virus all around us all the time, or is it something else that's going on?

Pedro ([00:18:12](#)):

I'll let me bring up a discussion I had with my epidemiology professor and this man works for the CDC. He has a PhD in epidemiology and he's one of the lead investigators in Florida for the, um, coronavirus. But we're having a discussion about how bad it is. And I was just listening to him, discuss it. And this man is clearly informed of the statistics. He clearly understands the pathophysiology of how this virus can affect people, but he still believes it's not a, he still believes it's a very dangerous virus. He then mentions a few minutes later that if it had been the Hanta virus, which is a virus originating in China as well, it would have been much worse. Now the Hanta of ours from what we have in terms of early statistics, is that it is a 50% chance of dying or survive it.

Pedro ([00:18:59](#)):

So that's a major difference between what this exact from the coronavirus to the Hanta of ours. And this man was clearly informed about both of these topics. Still believe that the coronavirus was detrimental. Right then and there and there, that clicked to me that what is actually happening is that people are literally being injected with whether it's the media or some other source with fear into their own, uh, con con cognitive biases. And from there, they present themselves as somebody that fears the viurs. It is not so much the, the, the, uh, quality of the information. It's more so how much are we getting from one specific source? And it doesn't matter if it's a good quality or bad quality. It's just the source that they get it from over and over again, will create that bias that they have that either the virus is not that bad, or the virus is actually really terrible.

Caspar ([00:19:49](#)):

That's really interesting. I bring up that idea of quality versus quantity. Cause I've always said that in medicine there's always been this lack of discussion around quality. Everything is based on quantity, everything from the enzyme to the vitamin C, you should be taking. And it was always, to me, it was like, well, what kind, right? If you said, Hey, you need a car. I'd be like, well, there's lots of different cars out there. If you gave me a beat up one, that doesn't go too far, that's not going to get you. And if you gave me a great Mercedes that than, you know, at Lamonds racetrack, like that's going to get you somewhere. So we get quality. Very good when it's possessions, but we always dropped the ball on quality when it comes to medicine, what, what is it that you think is going on?

Caspar ([00:20:32](#)):

And why aren't we focusing more on the qualitative analysis when it comes to health? If it's so important to us, why are we overlooking those things? When we go into even a store and try to

purchase, I know you always advocate for quality supplements, you know, quality foods and, and that's what determines health. But so many doctors would say, don't even worry about that. It's more about the quantity. And we're seeing that media, everything, the quantity is coming at us. That's why we're transforming. What, what is it? The shift that happens in health that we can understand quality, but we do understand only the quantitative side?

Pedro ([00:21:07](#)):

That's an interesting perspective that I had never considered before actually. But if I had to guess, I think the way the medical system works and in turn in turn, most of westernization is a very logical left sided hemisphere thinking where it's all about the quantitative factor in things. We want to quantify things. We want numbers to identify certain, certain phenomenon. We use numbers to predict certain phenomenon versus the qualitative side, being the right hemisphere is more feminine. This is something that most cultures in terms of the ones that are most modern at this moment, don't have any more. Whereas the ancient cultures use this feminine, right hemisphere side of thinking to understand that it's not all the same. It's not just ones and zeros there's in between like a gray area that determines the quality of that quantity that we're assessing. So in terms of the Corona virus, the quantitative information that we get is, I mean, incredible.

Pedro ([00:22:05](#)):

You have CNN, you have Fox, you have the the scientific journals that are conflicting with each other, you have, um, the British journals and everything is just like this giant soup of all these ingredients that we don't really understand too well, versus this, the quality side of things is, well, how can we differentiate between what's the right, um, diagnostic tool? What's the right statistics behind is how do we know what's the right tool to even use, to determine the statistics? That's not being considered I think once again, because of our dominant thought pattern, being this logical ones and zeros kind of thinking, that's the first time I consider something like this too.

Caspar ([00:22:42](#)):

Yeah. And I mean, it comes back to that understanding even of a nurse's role at times. And I love nurses too. And I, you know, I have nothing but admiration, but many ways they're told to be technicians, which is what I think doctors are getting to be. Right. You're you're basically told to be a technician and just do this if A, then do B right. Instead of being able to see it from this quantum perspective, that A could be ABCD, all of these different oppor you know, uh, different, uh, outcomes of it. So I think, you know, you're on point with that understanding of logic because we've come technicians, which are truly based in logic yet we are humans with emotions as well with so many different facets to us. And that's the hard part of medicine, right. We only treat on the logical part and yet we're so much more than that. Yeah.

Pedro ([00:23:31](#)):

We even only investigate on a logical aspects when it comes to randomized control trials, we're looking at a control group and experimental group. We try to account for as many biases as possible, but we never get a hundred percent because the human being is. Yeah, exactly. That's only so much from a lab translates to real life.

Caspar ([00:23:49](#)):

Is that the problem you think with research and listen, I appreciate evidence-based medicine. And I know everyone runs there and is like, the gold standard is evidence-based medicine, but I'm always, when I come into the center, I'm not a doctor or a researcher. I'm looking at the experience-based medicine. I'm looking at people that relied on evidence-based medicine, that stayed sick for decades and come to us. And then we have no evidence except maybe word of mouth. Right. Trying these new things. And yeah, there's evidence, but not the same standard, I guess, as conventional medicine and they get better and their doctors say, we don't know what happened, right. This is a miracle or something, but understanding the body works in very unique ways and multiple different levels. So, you know, what is it about research? Because you're always looking at it. What should we know as outsiders looking at research that it may not be the end all? Or what should we be looking for to say, well, that doesn't tell the whole case or the whole story?

Pedro ([00:24:50](#)):

There's a really good method of using discrepancy with research in terms of medical science, they call it critical appraisal where they basically critically appraise if a study is worth their time or not. So they take a bunch of papers that may have a subject worth investigating, let's say multiple sclerosis and good outcomes versus bad outcomes. What are the difference? And so they go through like a few packets of information, skimming things to critically appraise. Do they have an inclusion criteria and exclusion criteria? Do they have statistics behind it? Do they have, uh, results that indicate certain, certain parameters we're looking for? If they don't throw that study out? Where's the next one, boom, boom, boom, good check. This is okay. Clear it. Now, when you do that right there, and then you're creating a bias based off of medicine instead of practicality, the way they take care of that later is identifying even after they, they confirm studies are good, who do these good studies apply to our patients if they don't then even those good studies, which they originally thought were clear, can now be discarded.

Pedro ([00:25:50](#)):

Right there and then you have another bias because you're looking at a patient value instead of just the broad, general population, um, perspective. So the idea that research can be, it can be split into these either it's appropriate for our patients is appropriate for medical science is appropriate for electrical engineering or something else that's appropriate for, um, zoology or something. It's all based on these bars that we have instead of actually looking at the data as a collective and realizing this all connects. Every part of this connects as one individual grouping, that can be a factor involved in not only patient outcomes, but in environmental outcomes. And if we focus on that, instead of splitting it into this monotonous ones and zeros, once again, logical thinking, we would have a better understanding of our human nature and our, um, and how to better ourselves in this environment that we find ourselves in. Because we don't do that, even though they become amazing at specialization, we lose the general idea of what is health. Health is not just the amelioration of diseases. Health is the ability for an individual to thrive in the midst of whatever the environment they find themselves in. That is what we're missing. Research in my opinion, falls short in this aspect.

Caspar ([00:27:04](#)):

Hey, I, I mean, I agree with you without even being in the research realm that just understanding that we've been doing this for so long, we spent so much time and money in researching and finding cures that we've never found, right? Billions of dollars and we're sicker than we ever are. That's the ultimate determined. And if you look at those numbers and you speak with people one-on-one, who are hopeless, who haven't found, you know, any sort of solution to their problem and are living in a poor quality, again, it brings back to quality of life. That's, that's not the way to be. And so many people,

unfortunately, I, and maybe you share the sentiment, believe that health is not our natural state, that when you get older, you're supposed to get diseased.

Pedro ([00:27:46](#)):

Right. Right. And in terms of the idea that we're supposed to get diseases as we age, I mean, somebody like David Sinclair who was investigating anti-aging and so on believes disease to be a metabolic issue. One of we're having too much noise in our epigenome. And so because of that, we age, whereas the previous thought pattern was agent is just this process that happens because of degeneration due to time entropy, that's not the case, like what David Sinclair mentioned, entropy does not have to necessarily exist in the way we used to think it does. It can take a much longer time for an individual to age. And that's why there's so much research going now into anti-aging therapies. Even though it's just in the beginning.

Caspar ([00:28:28](#)):

Do you think we'll be able to see 200 soon?

Pedro ([00:28:31](#)):

So here's, what's interesting when you look at most animals outside of humans, the time that it takes for the animal to undergo puberty and then become an adolescent is then multiplied about seven times. That is the age range for how long that species will live. So if we take a humans for human, for example, we use, we go through puberty and we finish at about 21 years old, multiply that by seven. Normally we should be living to around 150 years of age, but clearly we're not. We may reach even at most, some of the best of us in the blue zone, a hundred years old, 110. And then we succumb to death by then, to me, it's telling me that human beings are not as optimized for their longevity as we think they are. So I think where we should have been living longer, even now than we expect our lifespan to be. And with potential anti-aging therapies, it could be even longer than 200 years. I, in my opinion, if everything goes well,

Caspar ([00:29:28](#)):

I agree with you. You know, there's a few clinics and a few doctors working out of Europe, and I know my father visited a few of them in Poland, even. And, and he said, one of the things they're looking at anti-aging is, is using a normal baric chamber, not a hyperbaric, but normal, basically bringing it to an oxygen level that can mimic or be as similar to what we saw during possibly Jurassic times where things grew very large and very, you know, and, and for the human cell, it said to that atmosphere, so is, is to be best. And maybe that's something we lost here on earth a little while ago. And, and of course, but it comes back to environment. If your environment isn't prime for you to be healthy, if there are toxins, you're not even breathing enough, you're in a hypoxic state, you know, how do you ever expect to be healthy?

Caspar ([00:30:15](#)):

And so, so many of us are staying in this, I think, state of constantly trying to balance and your body's doing a lot of work to be there, to fight off toxins, to fight off stress, all these other things, even EMF to get there. But one of the things I have to look at, and I know you post a little bit on this is, is vaccines, is, is this idea of doing it? I won't go into all the different vaccines and even childhood vaccination, but let's go back to the hot topic of the COVID vaccine, because I know you posted on us and you actually wrote,

we know so little about biology. We know even less about viral treatment. And could you go into that a little bit more and your thoughts on an mRNA, the first ever vaccine like this?

Pedro ([00:30:58](#)):

Yeah. Well, mRNA vaccines, all they are is basically DNA codes for RNA RNA codes for proteins. Proteins are the things that exhibit functions, but RNA itself can interact with certain things. We have multiple types of RNA. We have mRNA, which is messenger RNA, miRNA micro RNA, which acts against messenger RNA. We have a regulatory RNA sequence, RNA, ribosomal, RNA. I mean, there's a whole list of them that I can't even remember all of them. And so these are RNAs. Aren't just inert factors. They're what regulate everything in the cytosol of the cell to actually create protein proteins. So you have an mRNA vaccine. They have been studied under the context of cancer. They're looking to use mRNA vaccines for tumor suppression and so on, but there isn't much outside of that in the past 10 years. The reason they're so, so prolific in the medical field is because they're cheap to create.

Pedro ([00:31:54](#)):

They can be manufactured in mass and distributed relatively easily creating a very high profit margin for companies, especially the pharmaceutical companies. This is a win-win. And at the same time, I have to say, they are more safe than traditional vaccines. They require less adjuvants nonetheless, they still use adjuvants. So it's a win-win once again for, for the pharmaceutical company. But once again, the science is so short and we don't know how these exogenous mRNAs are interacting with our own RNA subsets. We have micro RNA that can completely shut this down and maybe trigger an immune reaction. This is possibly what we're seeing with certain individuals, even in the trial for Pfizer's or Pfizer's vaccine with the mRNA vaccine, they investigated most of the side effects after a period of about four weeks. So what happen to the people between one and four weeks with the side effects that they gained from vaccines?

Pedro ([00:32:48](#)):

We never really understood. And I think we're seeing this now in public with the mass, um, videography, where we can have real time evidence. Whoa, what are people experiencing for some of these vaccines? People say that the vaccine is worth taking, even in spite of these, uh, side effects, because the virus outcomes are just dramatically worse. You can have a whole group of people get the virus or whole group who will get the vaccine. And clearly the vaccine group will have better outcomes in terms of the amounts that the amount of people that survive versus the virus. Now, this is true, but what about the residual side effects? We haven't really studied this vaccine in a period of 10 years, which is usually the timeframe it takes to study these old, older type vaccines. They claim that the reason why it can be completely overlooked is because these mRNA vaccines have been used once again in other therapies like cancer treatments.

Pedro ([00:33:40](#)):

But that, that is a bias right there. And then that doesn't apply to the target population you're looking at. So you have the population dealing with cancer and you have a population dealing with a viral disease. These are two completely different things. So you can't extrapolate one for the other. This to me is signaling that they're desperate to not only make money, but also to have some kind of residual profit coming in from cheap, easy to make mRNA vaccines while the individual is still in a state of metabolic dysregulation, not taking care of their health, forgetting that the environment plays the biggest role in

this and not understanding how are, how subsets of RNA in them affect the outcomes of the vaccine in the first place.

Caspar ([00:34:18](#)):

Yeah. I mean, I'm not an anti-vaxxer. I say this all the time, almost as a, you know, pre-statement to everything I'm going to say after this, but, but it does seem slightly experimental. It does seem slightly like we, we don't really know what's going on. And I even had Dr. Lawrence Palevsky who's who talks about a lot about vaccines. And he's a pediatrician here in New York and he said, listen, if you look at the history of vaccines, it's not that there is even the sudden onset of something. And you do get that in a small percentage. And most of those written off very small have acute things. He says you really got to look at the long-term subtle chronic conditions that may come from this slight inflammation, even in the brain and in anything that he's sort of seen that can suddenly cause disturbance in the neurological thing, and you can start a disturbance in your functioning and, and, um, how you interact with other people, which he sees in children all the time. So I feel like, you know, when you're talking about something and you're looking to inject it into you without truly knowing what it is, you want to have a little bit more of that safety net around it. Do you agree with that?

Pedro ([00:35:25](#)):

Absolutely. And there hasn't been

Caspar ([00:35:27](#)):

Yeah. It's, it's, it's unfortunate. And, and again, I think everyone has a right, you know, to, to make a choice, but I think it has to be an informed, right. And I think right now we don't have all the information. So how could you really make a choice about it? Nevertheless? Yeah, go ahead.

Pedro ([00:35:41](#)):

Even the informed consent side of things that actually came about because of the Nazis, um, utilizing medical treatments against the Jews with force, without their consent and the allied nations were so disgusted by this, that they decided to come with the initiative of informed consent. You can only push a treatment onto a patient until they allow it. If they don't allow it, then you can not push a treatment onto a patient. And this has been almost completely blindsided by now with the advent of this, fear-based thinking where it's, well, you have to get it because you put everybody else in danger. This herd mentality is really appropriate for what is going on in my opinion right now.

Caspar ([00:36:24](#)):

Yeah. And again, that, that's the Nuremberg code. I believe that you're bringing up is right, right. Where they, they brought those a Nazi scientists who at the time were saying, we were doing this for the good of the hurt. Right. That was their excuse then. And of course you look back and say, that's awful atrocious. We're using the same thing a little bit now, of course, different scenarios completely, but same type of thing. Now I know here's another topic that that's not as big, I would say, but probably should be in some ways is mold toxicity. And, you know, I see it all the time here. Cause we see a lot of Lyme patients come through our clinic. We see a lot of patients with just neurodegenerative diseases, autoimmune diseases. And almost always, there's some part of it there that had to do with, you know, mold toxicity. You know, at one point I lived somewhere, there was mold toxicity and you know, you hear this it's, it's this underlying trend and you even dealt with mold toxicity. Can you go a little bit into

your own experience with it and what the research and what you found through really investigating it is the, the kind of, you know, biggest threat in mold and how to get over it.

Pedro ([00:37:28](#)):

So mold funny enough is in terms of like the domain there, eukaryote. So we are eukaryotes as well. So funny, the fungi are related to humans in some way, but my experience with mold that was around early sophomore year of high school, where I first moved into this house in Jersey, where it was all a basement, this is where I lived most of my time until I was 22 or so. And this basement just had really bad water damage. I mean, you could see the mold growing into the boiler room in the bathroom and so on. And I didn't know anything about this. I thought, okay, it's just mold. Nothing's going to happen. During those times in high school, I was one of the worst students in terms of academic grades. I did not get good grades. I had really bad ADHD.

Pedro ([00:38:11](#)):

I could not focus for the life of me. I, I, uh, was disobedient to my parents. I was more of a person that didn't have their life together. I had Epstein BARR, virus infection that turned out to be like a month long mono. I would get regular strep throat infections, which are intricately related to mold. So all these things would happen and I would never connect two and two because nobody ever taught me about mold toxicity. But the research clearly shows how mold interacts with our body. And it actually comes down to prokaryotes including our mitochondria, which is an origin of bacteria. So prokaryotes are bacteria and archaea. Mold targets, bacteria. I mean, this is how mold kind of evolved to have the ability to hazard microtoxins. It wants to be able to what's called SAP petrifies, where it breaks down things exogenously with enzymes, where when we digest foods, we release enzymes endogenously, they release it, exogenously into their environment to break things apart.

Pedro ([00:39:09](#)):

And then from there they consume it to do that. They have to make sure that the environment they're in are free of other competing microbes like bacteria. And so they released mycotoxins, which are these volatile gas, so they can release certain other compounds, um, toxins in general that destroyed, uh, bacterial membranes that destroy sort of function. And so through this virtue, they target the mitochondria of being it's bacterial in origin. And just by the action of most pores being present or microtoxin gas being present, they trigger what's called caspase enzymes in the mitochondria, which are the apoptotic enzymes. It tells you your cells to self-destruct. And by that virtue alone, you start to lose cells. You can have hemolytic anemia, which is basically a destruction of red blood cells. You can have mitochondrial dysfunction as appearing as multiple different forms as, um, the generation of the myelin sheath and the brain.

Pedro ([00:40:00](#)):

And so you start getting brain fog. You start getting neurological conditions associated with mold, all of this because they target the mitochondria. But then there's also the other side of things in terms of immunology, they're just potent immunological tools they can be used. I mean, they are used in, um, in, uh, in war they're used as this tool that can be extremely detrimental. In fact, they categorize it as a weapon of mass destruction that should not be used in war because of how detrimental they can be. That should tell you something about if you're living in a moldy environment, what it's doing to your health.

Caspar ([00:40:32](#)):

Yeah. And, and again, so many people just kind of overlook that. I almost feel like most houses shouldn't have basements sooner or later water gets in there collects it's it's just in the ground. Right. And even the cleanest spots usually collect mold. So, you know, thinking about, you know, we probably freaked out a few people who live in a basement right now and thinking they have mold and maybe they do. And what, what can you do if you're that basement dweller, even not because mold could really be anywhere where there's any water. Um, and especially if you have sheet rock, which is a great kind of conductor, I've heard of mold, what can people do to basically try to alleviate some of the symptoms, reduce their mold exposure? What are some of the things you did? And what is some of the things that you've researched about this?

Pedro ([00:41:18](#)):

Well, right off the bat, I'm going to mention a doctor named Dr. Ritchie Shoemaker. He is the leading investigator way before anybody else got on this and the mold and mold toxicity and sick building syndrome is what we call it, where the molds in the house can cause problems to people. So if anybody's hearing this, they should investigate Richard Shoemaker. And what he has to say, because there's a lot more than I'm able to say right here. But my opinion, what he echoes as well is that if you can move out of your environment, do it because you can not get well in the same environment you got sick in. It's extremely tough to eradicate mold, in fact, eradicate. And it is probably next to impossible unless you demolish the house, even if you were to do something for remediation on it, which is what most people do.

Pedro ([00:41:58](#)):

They target the ventilation system, they use antifungals. Um, it still wouldn't fix everything because the mold spores become embedded in the tissue that, or the substance that they are found in. So it could be in your bedsheets, it could be in your books. It could even be in hardwood because the way mold acts, I mean, if you look in a soil, you see just the mushroom on the top of the soil, but underneath the soil is all of these hyphae that are spreading out and start to interact with other parts of the, the substance that they're in. And so, because of the way mold utilizes these hyphae, you're going to penetrate anything and everything. So even if you cleaned your basement, you still have mold spores that are probably growing inside of the wood that may sooner or later come out. Even if you cleaned your bathroom, probably mold spores inside of the towels that will sooner or later come out because of this, getting out of the environment is important.

Pedro ([00:42:46](#)):

The next thing is you want to treat mold as a toxin and how do you, how do you work with toxins? You have to detoxify. So you want to work on liver health and gut health because those two things are the ones that conjugate toxins to be excreted and then excrete those toxins effectively. So they don't recirculate inside of your body. When you conjugate a toxin, if it's re-circulated, once it gets to the gut it's free-forming, if it's re-circulated, it becomes just as damaging and it can cause problems for a lot of people. So utilizing binders will help you support your liver detoxification pathways, phase one and two are intricate. And on top of this, as you do, so you want to target mitochondria. You want to improve mitochondrial function, mitochondrial biogenesis. The same means by improving mitochondrial genesis, where you create a new mitochondria are also similar to the detoxification mechanisms. So by doing something like fasting, you improve, and up-regulate the phase one phase two detoxification at the

same time, create new mitochondria that can help in pushing out these mold, toxins, mold, spores, and so on.

Caspar ([00:43:49](#)):

Yeah, I mean, it's, it's incredibly difficult. I have to say to, to really, you know, remove, and then not just the house yourself to, you know, a mold detoxification treatment. It takes time, it takes patience, but there are definitely, you know, people out there doing great stuff, yourself, Doctor Shoemaker or others. And, uh, you know, it's, it's a tough one. And I do agree that it's, it's really again, about environment where you place your environment and that goes beyond mold. One of the things I saw that people usually won't move over because they have these beautiful houses, even without mold is geopathic stress. I don't know if you're too familiar with, of course, being on like Schuman like, other ways that can really mess with your ability to regenerate your ability and start going into dysfunction. We've been able to kind of see that in some patients where they live, especially in California, on fault lines and things like that, people don't want to leave their house again.

Caspar ([00:44:42](#)):

That possession is so much to them. Um, that it's, it becomes hard to really be healthy if the environment, including the earth is not working on your side. Um, you know, but some of the other things that are natural, because we're talking about natural things that are bad for you, but also can be good. As you said, you know, some molds are in that realm as well. You talk a lot about coffee too. I saw, you know, and I always am fascinated with coffee because I mentioned this, that I just became a coffee drinker. And I really have at

Pedro ([00:45:14](#)):

I heard your talk with Dr. DiNicolantonio.

Caspar ([00:45:17](#)):

Yeah. Dr. Dinic. And I'm such in a love, hate relationship with it. Like one week, I'm like, it's wonderful for me. I love this. And then I'm like, wait a second. I'm like staying up a little later. And maybe it's just me being crazy about it. And just getting,

Pedro ([00:45:34](#)):

I think you're so onto something with coffee, but go on please.

Caspar ([00:45:37](#)):

But I want to hear your thoughts about coffee. Cause I see you sometimes. And I want to talk about the as well, because you brought me on to that. Thank you for that. Been really enjoying that. But, but tell me about your thoughts, your experience, your research into coffee. Because again, I think it's a tool. I think it's neither good, nor bad is how you use it. It could be good. It could be bad. Um, I think too many people use it in a bad way, but tell me about your thoughts.

Pedro ([00:46:05](#)):

Well, I like to look at coffee as most carnivore doctors like to look at plants. It is in general, a seed that is not meant for human consumption. Honestly, it's generally you would not want to consume coffee. The cultures that they consume, coffee, they prepared in a very interesting way, similar to how they

prepared old grains. They use lime to denature the protein and so on. Like these ancient cultures the Inca and surrounding areas like Peru and Chile, they would use coffee in conjunction with other foods into this, almost like a energy ball, similar to what you get in the store. But the coffee was never roasted. The coffee was never, um, open in terms of like the Berry itself, the Berry was included with the bean. And so they probably the fiber balanced some of the caffeine content and other compounds in the coffee. The coffee bean itself that prevented to, uh, adverse effects.

Pedro ([00:46:58](#)):

And we could learn a lot from these ancient cultures because the way the prepared foods are much healthier than some of the way we prepare foods. Now, regardless coffee is the most widely used drug in the world and it does improve performance and does improve dopamine release. It does improve focus. It does improve short-term memory depending on how much you use it. And the dose that it's used in Dr. Um, DiNicolantonio did he mentioned a derivative of chlorogenic acid being really useful for certain things as an antioxidant? That is true, but the way that it works is not that it is an antioxidant. It pulls electrons in, it creates a more stable state. It works with your own body. It triggers a stress response. Your body produces endogenous antioxidants that then work in this factor. If not for this, the antioxidant response would not be as high from our bodies, but you can achieve the same thing coffee does.

Pedro ([00:47:52](#)):

And the benefits you can acquire from coffee or something like fasting. Fasting it triggers AMPK related kinases that work in the same fashion as coffee. And so coffee's benefits I think are overrated. It's more in an epidemiologic epidemiological sense that most people that drink coffee have incidence of lower liver disease and so on. But at the same time, when you look at anecdotes from people that are drinking coffee like myself, if I don't do certain things with the coffee I have the worst day ever, I look like I'm productive, but really I'm just focusing on monotonous tasks that don't matter. I'm not really diving into one area of work that I should really be focusing on. I get the jitters, I get problems with, um, my gut sometimes. And I've tried. I mean, everything, they talk about your phase one detoxification enzymes, not being up to par. You may be a slow metabolizer, but in reality, when I drink other substances that do have caffeine, I don't feel the same way when I take three workouts that have caffeine, I don't feel the same way. I think it comes down to the coffee bean in general and other compounds in there, like methyltheophylline, methyltheobromine, xanthines in general, that act in this hermetic fashion that if you consume too much, it will do you bad.

Caspar ([00:49:02](#)):

Yeah. Number one, you just pissed off a lot of people, right? Number two, truth. I mean, honestly, that that's how I have felt about it. And I understand some people, you know, become almost addicted. It is a drug, like you said, and when you have addiction to it, of course, you're going to set, you know, justify why you need it, why you use it, how that's good for you. You're going to look for studies that show that as well. Um, nevertheless, anyone that comes into our center they're off caffeine altogether. Uh, you know, it could point it's acidic usually. And like you said, gut is a usually huge issue with most patients and that's not good. And, and yeah, I, I think that you can do it in a reasonable, responsible way. Not completely take it out. Nevertheless, I kind of, you know, don't see it as this miracle, you know, kind of, um, a superfood almost that you'd say. And I do always look to nature. And when you look at nature, I think the, the main reason caffeine is in plants is to keep insects way. It's a neurotoxin to insects, right? It's a pesticide basically. Um, and if you really look into that, that, that probably shouldn't be consumed as much by humans. So really interesting to take your, you know, to get that taken. Yeah.

Pedro ([00:50:15](#)):

The same idea of the anthropology of how caffeine has been used in the past. I mean, it is a seed, any seed that a plant creates is the most prized possession of that plant because it's, what's going to reproduce the plant. When you look at seeds from other foods, whether it's Rye, gluten, or so on all of these seeds, they turn, they tend to have this negative effect on human beings. If you consume it and access. Moringa seeds in Moringa is one of those super foods. But if you eat the seeds, it can be abortive. It can cause abortion, and it can prevent the, the gestation of the baby, basically. Most compounds where most plants that produce seeds, when you consume those seeds, pass a certain threshold, they are exceptionally toxic.

Caspar ([00:50:58](#)):

That's really interesting. Cause I've always had this thing where I felt certain seeds, cashew, nuts, even, and other things, if I eat in a certain amount, I'm fine. If I just consume a little bit more, I'm not feeling well. Yeah. Yeah. And I never actually knew, I thought maybe I had sensitivity or something and I just, you know, cut down and ate responsibly and reasonably on those things and learned which nuts would have the highest levels of certain things like selenium with Brazil, nuts have just two or three a day and that would, you know, satisfy me. And it wasn't for a really, uh, you know, say satiating my hunger, but for more of the nutritional value. Now, speaking of nutritional value, you turned me on to Shilajit it's this, uh, I would say pretty cool, amazing thing with a lot of nutritional value. Can you talk about that?

Caspar ([00:51:45](#)):

Inform people who have never heard of it. Cause I knew lots of people, apparently everyone here at the medical center knew about it, but, um, but I never heard of this and looking into it. It really is interesting. It reminded me of something else, diatomaceous earth, right. That's also from the ground, you know, and it adds this good value to a lot of things in this too comes, but not from ocean really, but from top of the mountains in a sense in the Himalayas and elsewhere. So can you go into a little bit about Shilajit even how you heard about it and what you found with it?

Pedro ([00:52:15](#)):

So, interesting thing about diatomaceous earth and Shilajit is that they're both from biomass except they're from different biomasses. So Diatomaceous earth comes from silica and carbon based. Um, I guess it is amoeba if I'm not mistaken. And they're basically like these crystallized shells that once the cell has died, just becomes silica and carbon. And some of the other minerals that you find in diatomaceous earth, similarly, Shilajit is biomass. Once living cells, once living bacteria, viruses, parasites, helmets, um, plants, roots, fruits. I mean, everything that you find in an environment is in conjunction Shilajit over a period of time. And a lot of pressure, that's been exerted, a lot of degradation of compounds through enzymatic pathways and so on. How Shilajit is formed, where basically where most of the Shilajit is, is in the Himalayas and how it was formed was once the Indian seabed hit, what's now modern day India, it created the Himalayan mountains.

Pedro ([00:53:15](#)):

All of that biomass had been accumulated and clumped into this really high pressurized system that degraded everything it's basically old really fermented if you will, food basically. And because of the way it's been pressurized, all of these compounds have merged together and you find a really rich biomass that contains humic acid, humate, which is really good for the soil, but also your gut health regenerating the epithelial lining of your gut. You find fulvic acid, which acts as almost like an ionophore where it

triggers certain compounds to go inside of cells. It triggers metallothionein proteins to bind, to zinc and so on where they become bioavailable trigger starts and binds to ions and so on. It has trace minerals that you would not find elsewhere like rubidium or selenium and so on. And at the same time, it has these interesting antioxidant, uh, chemicals like benzo alpha pyrones, which exerts some really interesting properties.

Pedro ([00:54:12](#)):

Um, in terms of the dosing though, it matters because too much can be a bad thing, too much fulvic acid benzo alpha pyrone can also be detrimental just like the coffee we just talked about. So the amount that you need for Shilajit medicinal is so little, but even then when you look at research and how Shilajit has been used, there's been some trials where it's been used for athletes and testosterone for performance and how much you're getting out of free testosterone. And doses around 200 to 400 milligrams can be useful. I decided to kind of do little doses every day or every other day. I never do it more than three days in a row. And I'm looking at 10 to 20 grams, 10 to 20 milligrams per dose on a daily basis. It has brought me at the very least more focus, more stability in terms of my mood. And I do feel a general calm that otherwise, when I'm not consuming, Shilajit is not present.

Caspar ([00:55:05](#)):

Yeah. I I've really enjoyed it since you turned me on to it. It's been about three, four weeks. I've been taken about three or four times a week as well. Usually in, I do it with either mud water or even tea, you know, it's a weird taste, right? It's, it's like an earthy metallic and every and that smell too. It's like a resin, right? And it looks strange and it kind of melts in whatever hot the liquid. What do you take it with?

Pedro ([00:55:29](#)):

If I take it with water and a little bit of lime for the vitamin C? I like the iron. One of the things that I like from traditional Chinese medicine, I know it's a little bit off topic, but it's the way they use other means like the body to diagnose certain, certain things. So the moons on your nails, if they are missing, which most of mine were at some point, it indicates either certain things like infections, but also you're anemic. And you may be a low grade anemia. And this is something that I have noticed. Sometimes I have spouts of reduction of energy. And I think one of the reasons why is from drinking coffee, because caffeine is a chelator of minerals like iron and I used to drink a lot of coffee. So this is something I've noticed by taking Shilajit you're getting iron, but to make it even more bioavailable, you need ascorbic acid or vitamin C. I like to use natural versions. So I use lime and I squeeze a little bit of lime with hot water to utilize more of that iron and get into my system as I need it.

Caspar ([00:56:24](#)):

That's a really good tip. And I mean, it's, it's one of those things that's so natural. I mean, I love just lemon juice in the morning with hot water. And, uh, I've even been doing the liver flush with, you know, you put cayenne some Himalayan salts and then olive oil, apple, cider vinegar, all that great stuff. It tastes atrocious, but it is, it is healthy. And I do get a kick from that cayenne itself, probably even better than the caffeine in coffee. But, um, you know, I want to jump into some, I asked people, cause I told you before we did this, I was just going to go all over the place. We had so many topics we could talk about. I felt we, and we have so far, but I asked other people, what do you want to hear about? And one of the things I heard was dispelling misconceptions, right?

Caspar ([00:57:08](#)):

And that's where this kind of unbiased research that you put out a lot and what you put out into the world, I think answers. So I was wondering if you could go into some misconceptions myths, or even if they are true. And one of the ones I kept getting, hearing about is of course, microbiome, gut health, and depression, and really looking at this study show. There is there, isn't a link in whether it's really toxins medication, things like mold and diet are so interesting, but on a molecular level, what role do antidepressants play in worsening or abating symptoms?

Pedro ([00:57:42](#)):

This is really interesting things that I've just started looking at. We think of certain neurotransmitters as absolutely amazing and beneficial to our health, like serotonin, choline, dopamine. But when we look at certain conditions where they're in excess, it's the complete opposite. Targeting depression. You're looking at the serotonin neurotransmitter, a SSRI serotonin re-uptake inhibitors, selective serotonin re-uptake inhibitors. They basically force the serotonin to stay between the synaptic clefts. And it's just lingers there. When you have too much of that serotonin, you start to desensitize the specific receptors for them. And there's multiple serotonin receptors. When that starts to happen, you start to get some interesting effects because serotonin, the way serotonin was found in general, was that it was a, enteroamine, meaning it was originated in the gut. And we know this now to be the case, 90% is produced in the gut, but it's produced mostly when you have gut infections and it releases histamine and it creates mass cell activation.

Pedro ([00:58:40](#)):

And all of this serotonin starts to trigger diarrhea, basically. So it's not necessarily a good thing. You need some, but you don't need, you don't need so much. And by raising serotonin, by taking something like five hydroxytryptophan, you actually may worsen your anxiety being that it works the same way as the, um, the, uh, SSRI antidepressants. They create too much serotonin, not enough is uptaken by the clefts. And so you start to get migraines because it acts with estrogen to become a vasoconstrictor and it constricts the arteries and the, um, the next to the trigeminal nerve, which create this migraine feeling. And this is just one, one of the monoamines. When you look at things like LSD and psilocybin, they can, they can bind to the serotonin receptors and prevent the action by serotonin. And this has an interesting effect in terms of authoritarian mindset, because people that used to take LSD and psilocybin back in the sixties, when it first became a thing were all about anti authority.

Pedro ([00:59:36](#)):

Anti-government anti, you want to be free. You want to be an individual that has autonomy. And we look at this now and it's like, they become this extreme, uh, it's like a, I want to say the future of antidepressants. And I mean, it has been working in clinical trials and it doesn't do anything to serotonin except binds the receptors and prevents serotonin action in your brain. So all this time, we're prescribing medication that increase serotonin when the true medication, the Psilocybin and LSD, so on that works against depression, decreased serotonin. Just by this misconception alone. I think we've worsened. A lot of people's mental health, worsened anxiety, worsened depression, telling them to take St John's wort five HTP, certain monoamine, boosters, and prevention of oxidase inhibitors. And so on. The things that break down the monoamines in general, if you don't allow the breakdown of these monoamines, they're just going to keep recirculating and causing problems.

Caspar ([01:00:28](#)):

Yeah. I had Jody Skillicorn, Dr. Jody Skillicorn, who wrote a Healing Depression Without Medication. And she really debunked and got into this idea that depression is a imbalance of all of these things, right. And that, that really has never been proven in any literature out there. And she went a whole chapter into it. We had a good talk about, so I'm on board with you there. So the next one true or false, most people have a vitamin D or magnesium deficiency?

Pedro ([01:00:59](#)):

I have to say the context depends on individuals. For example, what I mean by context is, is the person insulin resistant? Are they diabetic? Are they obese and so on right there? And then you can absolutely guarantee that they have a deficiency, even if it shows differently. And the reason why is this an obese individual has a lot of adipocytes, the fat cells and it can proliferate or hypertrophy to become fatter or bigger, or a lot more of them. What this does with vitamin D is it sequesters vitamin D into those fat cells, because vitamin D is a fat-soluble vitamin. And so it may look like they have vitamin D if for any reason it was released into the bloodstream. But in reality, the effect that vitamin D is having is low, because most of it is within the fat cells. So in that context, yes, they're deficient in vitamin D they're likely very deficient in magnesium.

Pedro ([01:01:50](#)):

But then in the other context of individuals where they're healthy, I don't think this is the case. I think certain things are happening there where they're not getting the, um, the effects they desire from certain things like vitamin D supplementation or from the sunlight, whether it's like a mineral antagonism, they're taking too much zinc. And even though they have magnesium in their body, the zinc acts against the magnesium and so on where it could be a vitamin D receptor issue where they're not converting vitamin D into the active form within the kidneys, or they may have a problem with their immune cells, which have vitamin D receptors as well. And if the vitamin D is not activated, they won't have subsequent enzymes that act with, uh, immune regulation and so on. So it's very context dependent. So you can supplement all you want, and it looks good on a blood test, but you won't have the same inter-cellular effect.

Caspar ([01:02:34](#)):

That's really interesting, but because of course it's all personalized. And of course, any person taking a supplement is going to have a different, unique experience with that and how their body utilizes it. In context now, with something like Coronavirus, where vitamin D and magnesium are up there, even things like melatonin, would you feel that most people could see a benefit from supplementing with those?

Pedro ([01:02:57](#)):

So the vitamin D is really interesting in that there's so many analogs of vitamin D and similar to vitamin Bs. Like you have B one B2, B3, and so on vitamin D, even though we haven't categorized it yet, they work in different fashion. And most of it can only be created by the sun. We, we only think about D2 D3 and so on, but the sun, if it's making all these analogs, I think it's over 20 or so what are the effects that these are having people aren't willing to change their lifestyle, to maybe expose themselves more to sunlight, even if they could, maybe they live in a higher altitude, which prevents this and, or that live in a higher latitude in general, there's somewhere up North, like New York. They're not getting as much sunlight. And so how effective is it for the individual to move down to a lower latitude? It depends on their living situation, their finances. This is where it becomes problematic because you can't medicate

that. The action is the only form of medication that an individual could take to better their health. But then you have a lot more people that just need a little bit of a boost. And so supplementing vitamin D in that context can be a life-changer for them.

Caspar ([01:03:58](#)):

Yeah. And again, it comes down, I think to that question of quality as well. My father is always a big proponent, and I think a lot of people are actually in the medical sciences of, you know, vitamin D through sunlight, through actual exposure is completely different than supplementation of vitamin D. Right. It's not the same thing of, Oh, I'm just not going to go and just take supplements. We as humans, you know, synthesize through our skin and the sunlight, UV rays vitamin D in a very different way than supplementation. So I mean, you, you can probably, you know, ease some of the worry there and things with supplementation. And of course it's better than doing nothing and getting no sunlight. However, if you have the option to go outside and actually get some sunlight much better. Right. Now, another one true or false, the appendix serves no purpose in the body.

Pedro ([01:04:48](#)):

Yeah. So the appendix, the vestigial organ, that, for some reason, you just cut off if you have appendicitis and that's it you're good to me. It's ridiculous. It's the same thing with the gallbladder, even though, so we categorize the vestigial organ based off of its function, right? It may still be there, but it's not exhibiting a function. How much do we really know about all of the functions of the human body, only a fraction. And so we're, fractionizing this appendix as vestigio, even though we only understand so little about it. If that's the case, why is it that the appendix is still present, still stores this data of most of the microbial DNA that we've interacted with still store some of the own, uh, bacteria that we've had in the past. So when we use a round of antibiotics or when we have diarrhea, it repopulates the gut through the appendix, they release from the appendix into the gut where they released the immune factors that regulate proper immune regulation in the gut, preventing inflammation of the gut preventing irritable bowel disease, preventing colitis, and so on.

Pedro ([01:05:46](#)):

To me, that sounds actually pretty important. That's not a vestigial organ. That is a library of, of not only microorganisms, but how to regulate proper, uh, gastrointestinal health. So by cutting that off, you lose that one part that may have regulated your immune health and the GI tract. And you lost, I mean, not only from a physiological standpoint, but from a bioenergetic standpoint, these organs had neurons that integrated into the, the appendix. You take that off it. I mean, phantom limb syndrome, when you cut off your arm, you still feel like that's there's for some individuals what's to say that there isn't something going on like that for the appendix.

Caspar ([01:06:23](#)):

Absolutely. And, and I mean, I've seen it firsthand through, again, patients that come through, even friends, let's say that I know had appendicitis within a year or two, they started getting GI symptoms. And that just continued throughout life, no matter what diverticulitis, happened, something else, you know, and you have to look at that and we don't, somehow we say, no, it's completely fine. Things like tonsillitis. And if you listen to people like Bruce Lipton saying, that's so vital as part of your immune system, it's literally catching what is coming in and building antibodies right there. And that's its role. Yeah. And, and yet we have this idea that we could just cut these things out and be fine. And I, and I do

think it's, it's really worrisome that, you know, this is medicine this days that we could just cut out body parts and expect us to be healthy.

Pedro ([01:07:12](#)):

That's the, um, I, I'm not sure if it was Voltaire, or one of the Renaissance, Renaissance era, um, men where they basically categorize the body by parts of the anatomy of the body. And so each part is individual and does it connect to the other, but we know now with integrative medicine, each part is intricately connected to every other part of the body.

Caspar ([01:07:31](#)):

Yeah. And, and, and that's, I hope what medicine turns into in the near future is this holistic output of looking at, rather than jumping into the specialties of things. Now, I want to ask you with everything, you know, what is your daily health regimen look like? Do you have like a set morning, evening and everything, or are you kind of on the whim every day,

Pedro ([01:07:51](#)):

I've been on both spectrums of being so devoted to a health routine I adopt and so on. So then I experimented without them and seeing what the general idea is. And I've been so vested in both philosophies, because I want to know what the truth is. What I found is if you don't have a routine in the morning, if you don't have a conscientious, uh, health, um, understanding of what you should be eating, **what** you should be doing, what you should be exposing yourself too. And what you shouldn't, you kind of become sidetracked in life. You become easily pulled easily swayed by maybe a diet or philosophy, or you become lazy. And that can just be from not following a routine. So I think a routine is really important because of that I've developed more or less a routine of first getting up, having water, red, light exposure through a infrared light near infrared light, then making sure that I have a workout in either in the am or slightly after afternoon time.

Pedro ([01:08:46](#)):

I want to have it as early as possible to match my diurnal cycle of cortisol. Um, making sure that I'm reading before I touch my phone, because just that blue light exposure kind of triggers certain, certain regulatory systems in our body that shouldn't be happening at this very moment. You should wait until the sun rises before you even touch your phone. Um, getting a little bit of reading in can really set the tone for the day, making sure that you're not sidetracked by checking your phone and Instagram every second of the day, because then you're not committed to some of the more important work you should be doing. Little things like that have made a difference. And then nighttime routines are just as important if not the most important. **Setting** my bed time to 10 to 11:00 PM latest making sure that the room is cold between 66 and 68 degrees Fahrenheit utilizing blue light blocking glasses, which are more than just a fad. It is so important. Reducing blue, dark blue light exposure, because even acts on your skin, your skin has certain cells that can interact with blue light in general. And all of that has played such a beneficial role in my productivity that I refuse to, to substitute it for anything else. I refuse to budge in a different philosophy.

Caspar ([01:09:53](#)):

I think routines are probably the single most effective way to both keep your health and regain your health. And I say that because most people don't, and, and again, routines could probably go both ways. I mean, a healthy one, not, you know, unhealthy, you know, wake up, check your phone, stress, you

know, run to work, eat something fast, have a cup of coffee with tons of sugar in it. Um, that's the unhealthy routine that, that many find themselves in, but I've been following a routine, very similar to yours for a little while now. And I truly believe that is the difference in why I'm healthy. People always like to say, Oh, you work at a medical center. You're lucky. And this and that. It's like, it has nothing to do with luck. Health never has to do with luck. It's the choices you make and routines make it that much easier because it becomes the habit of things. So I'm really on board with everything you said there. Now as far as supplements, do you take a bunch of supplements or you just try and limit it? Is it more cycles? How do you do that?

Pedro ([01:10:51](#)):

I've tried. So this might seem a little bit off topic, but it'll connect. I've tried the carnivore diet now twice and for about a period of a month, both times. And I found that whenever I'm carnivore, I have a complete, almost like a disgust for trying so many different supplements at once. I just need a few things, maybe some magnesium potassium, maybe a little bit of theanine, and I'm good to go. I worry about B-vitamins. I don't worry about a whole list of supplements that I have on like a rack where it's like it's filled to the brim, but when I'm not on a carnivore diet, and when I'm following a, whether it's a ketogenic approach or something that works for me, I seem to be touching supplements every hour of the day. I'll go and get a B-complex, I'll go and get a B6.

Pedro ([01:11:33](#)):

I'll go and get a zinc. I'll go and get a tyrosene. And it's like, do I really need all of that? I think supplements shift based on our needs, our diets, our lifestyle. And because of that, I have never been able to categorize what supplements I'm taking at the moment. But there are few that I've always taken that have helped me the most. Shilajit, without a doubt, um, B complex focusing on the activated B forms. It's not just, uh, unmethylated or so on B B vitamins. Um, something for dopamine really helps. So tyrosine at somewhere around 1000 to 2000 milligrams really does help. Caffeine, even though it can be a potent pesticide is still helps with my performance. And the last one I would have to say is magnesium, because magnesium is that chill supplement. That just puts me in a relaxed parasympathetic state whenever I need it. Yeah.

Caspar ([01:12:22](#)):

I mean, those are ones that I think can cover so many bases and I do completely believe in, you should be supplementing to where you are, right. If you're in a lot of stress, you're going to need different supplements because you're going to be sapped of minerals and certain nutrients while you do that. Versus if you're an athlete, of course, you're going to need something separate different, right. It's very different. And I think that's where you got to listen to your body a bit. And like you said, even reaching for it that that comes to mind of, you know, sometimes people feel like they just want to take some salt, put it on their hand, like, you know, is that a silica, you know, deficiency or something else going on there that that could be showing up, but you got to listen to your body.

Caspar ([01:13:03](#)):

As long as again, you're feeding it, quality things. I think being in tune and not just listening to what is Pedro use everyday, I'm going to use and expect great results. Uh, I think the basis is great, but yes, how you're going to maneuver around supplementation is very personalized. And that's why I hate these kinds of question. I'm sorry. I gave it to you. Cause I always get them. And I'm like, well, you know, I'm going to be really boring and say, I really don't take anything every single day. And it changes. So I can't

answer that. And it's like, that is the worst answer because it doesn't help people, but at least you gave some answer there. So, um, you know, do you consider yourself, uh, you know, as we kind of get to the end of this, do you consider yourself a truth seeker at heart?

Pedro ([01:13:43](#)):

Yeah, I, there's a term called autodidaction and basically. It just means you teach yourself at a level that you would get at a university, on a specific topic. And so whether that topic is something like physics, I go in all the way and I try to learn as if I'm doing the experiments as if I'm having a teacher right there and then I'm doing tests and so on. And the reason I do that is because I want to get as broad an understanding of the interdisciplinary studies as possible because only then by expanding my view all across the horizon and the multiple fields that exist with the idea of this philosophy of science, will I really understand what is the truth of things? To me, the truth is the most important thing I've been wrong about so many things that I've been quick to change my mind on because I'm not looking to be, and I'm not looking to be cornered into a philosophy.

Pedro ([01:14:36](#)):

I just want to know what is the truth? What works, how can I apply to my life to other people? What works in the context of certain things? Because I know the truth is not a black and white thing it's a gray space where it depends on the environment. And so on. Mismatch of the environment can disrupt what the truth may seem to be. And because of that, we get all, uh, just discouraged by what, for example, because I don't want to just talk in descriptions. If somebody realizes that antibiotics cause gut dysbiosis afterwards with yeast and so on, and it becomes like a candida problem. Would they still prescribe antibiotics? If it was a medical professional, so ingrained in a pharmaceutical based thinking they absolutely would. They couldn't, there'll be so, so enamored by this thing that they're causing harm, that he couldn't take themselves out of it and say, I have to stop giving antibiotics. Whereas somebody that's malleable and is able to think broader in terms of the categories with yeast and bacteria and what can be actually going on, how could they, how they could be beneficial with the gut microbiome, would stopped right there. And then, and then they would think, well, I have some investigation to do, because what I thought was right is not the case. That to me is the most important thing. The hubris once again.

Caspar ([01:15:48](#)):

Yeah. It's living in the gray, it's being able to not fall into a polarized state where, you know, right. You know, wrong, it's you're always learning and you're keeping that unbiased approach. And that's what I do truly appreciate about you. You've been able to call yourself out when you felt you were wrong and not just stick to that, you know, notion of Oh no, I'm right. And you've been able to even share that with the world, which is even harder. I'd have to say. So, you know, thank you for that. Really quickly. I wanted to backtrack also, because you said you did the carnivore diet. Yeah. Ah, man, I got, so again, this is like coffee to me. I have so many mixed emotions on this. I mean, my, my father, you know, doctor and many other doctors that, that are, you know, of a certain level in their seventies now would, would feel really weird about a carnivore diet, you know, and, and understanding that most Americans eat too much meat. And again, I don't know if that's really true cause too much. What, what is that each person is different. Uh, an Eskimo probably eats just enough meat every single day because their Eskimos, while someone in the mediterranean wouldn't. But tell me about your experience on the carnivore diet and just what you found with that.

Pedro ([01:16:58](#)):

It's so interesting to me because it goes against a lot of what I originally thought. I've been very focused on ketogenic kind of diets. And I've loved this since I've learned about Dave Asprey years ago. And what I've realized is that the carnivore diet is only effective to a certain subset of a population. And it comes down to their mitochondria and their haplotypes and their maternal lineage and their moms and whose moms lived where in terms of like the environments location that most of their ancestors grew up in. And so you have these European natives that are able to digest meat and dairy so effectively and utilize that as an effective energy substrate, that when you introduce carbohydrates into their diets like fruits, it has no effect. And in fact, it can be detrimental. They start to get some GI problems, but then you have other people that are more in the tropical regions, like say Jamaica, if you were to try giving them a full carnivore diet, they probably wouldn't be able to digest all of that fat.

Pedro ([01:17:54](#)):

They'll have gallbladder problems, colicystitis and so on. And because of that, it's only effective for those people that have been exposed to that amount of meat for such a long period of time. So when you hear bad things about the carnivore diet, I think it really comes down to understanding mitochondrial haplotype and their, their lineage. And if people don't understand that they can easily categorize it as something bad. But meat is in general to take your perspective outside of what our original thinking about meat is and putting it in an evolutionary context, we would have only had access to most sources of meat instead of fruits and vegetables and tubers. And even back then before, uh, industrialization, even before agro agricultural revolution, those things would have been in it couldn't have been consumed by humans because they were so foreign to our own physiology.

Pedro ([01:18:43](#)):

They've had way more fibers, way more pesticides and plant toxins in general. It wouldn't have been possible until we kind of hybridized those plants and those fruits. And because of that, it just points to me anthropologically that we were meant to consume animals more than anything else. And we were meant to thrive based off of this. One of the ways I really started to kind of shift towards the carnivores side of things was when I was talking to my professor about mitochondria again. And he mentioned to me an experiment that he did with his professor a while ago when he was doing his PhD and he's a mitochondria researcher by heart. And he mentioned that when you extract extract mitochondria to test it and do a cultures with it and so on. The way he would do it was asking a butcher to cut a certain part of the cow.

Pedro ([01:19:29](#)):

And then from there, he would get that five pounds, six pounds of meat. And he'll be able to extract the mitochondria from that five to six pounds of meat with certain techniques and chemistry to then get such a large dense amount of mitochondria when he actually investigated it under oxygen conditions where it's aerobic, they were sucking in oxygen so much. Right there and then I was like, okay, if meat is so dense in mitochondria, when we're consuming these animals, we're actually getting these exogenous mitochondrial proteins. And so on, that might be actually helping our own mitochondria. And this is what we see when we look at people with carnivores, they have lower levels of inflammatory reactions. They have higher levels of nutrients that important for mitochondrial function. It wouldn't be surprising to me that the reason athleticism and so on developed in the first place was thanks to a high mitochondrial diet, which in this case would have been meat.

Caspar ([01:20:20](#)):

Yeah, I'm still conflicted a little bit, but I've, I've definitely included a lot more higher quality organ meats. And I'm enjoying that. I'm enjoying just the act of cooking a lot more with new things. Cause everyone thinks meat is like, all right, either have a hamburger or some chicken. And it's like, no, it's much more than that. And I do think that diversity, if you look at anything, I think diet is diversity. It's also localization, it's seasonality. You should look at all of these things when you eat right. And not be dogmatic about what is right or wrong in any singular diet. So I don't think we should demonize anything. How do you feel about kale by the way? Do you hate kale as much as the carnivore diet people?

Pedro ([01:20:58](#)):

Definitely not. I don't think kale can be that bad, especially with the oxalate idea of oxalates, just being destructive to your body. It matters in the context of, do you have a calcium and magnesium deficiency? Because if you don't, it's not really going to happen the same way. And if you have any kind of kidney problems because if you don't, you're not going to get oxalate crystal formations then right there and then the argument kind of falls short, but of course, like any food there's problems with it, um, kale tends to uptake heavy metals too easily, like thalium and so on. So it can be detrimental in the cruciferous compounds like indole three carbinol, even though they're, um, anti estrogenic, they can also be, uh, pro carcinogenic. They can cause cancer in excess and so on. And so it, once again comes down to context, context is the biggest thing with any medical physiological biochemical thing where you, whether you're applying it whether you're just, you're theoretically. Looking at it, investigating it, context matters

Caspar ([01:21:53](#)):

Context is king, right? I mean that, that's, that's really all there is to understanding yourself, putting yourself in context and understanding your health and how to, how to really, you know, live with, uh, all these things going on around us and still be healthy. So, you know, thank you so much. Where can people learn more about you and everything you're doing?

Pedro ([01:22:13](#)):

So I have an Instagram once again, the account is Thucydides, T H U C Y D I D E S with an underscore. I have a website, if you just type in my name, Pedro DoAmaral dot com, you'll find some of the things I'm working on. Um, where else could you find me as of right now? I would guess that's about it, but I do plan on diversifying my reach hopefully in the future sometime soon.

Caspar ([01:22:33](#)):

No, I mean, you do great work on Instagram, keep that up. We're definitely going to link to all of these things as well and make it easy for people to find you, but, you know, thank you for all the knowledge you share. Uh, I, I kinda geeked out at the opportunity to do this cause I follow people on Instagram and you know, you get those people that are really big, but you know something about what you post out there just resonates with truth. And that's why I even asked you about that truth seeker thing. So, so keep up the good work man, and, and definitely open invitation to come on again and hit some other topics and, and really dive in deeper. So.

Pedro ([01:23:06](#)):

Absolutely thank I appreciate your time. Caspar appreciate being here and I'm glad to have myself just explain my, my side of things. The philosophy, the way I think is so on. Absolutely. Thank you Pedro.

