How To Build Real Energy (Hint: It’s Not Caffeine) Transcript

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Introduction and Speaker Background

Hi everybody. Welcome to this Plant Based Cancer Summit. Or I should go on Anti-Cancer summit. And I'm really pleased to have with me today, Ari Whitten, a person I respect and appreciate talking to him and speaking to him about issues.

He's very open to reviewing the scientific literature and very, very comprehensive way to come to a give people really good advice. Let me tell you a little about Ari for a minute.

He's a founder of the Energy Blueprint Blueprint. He's a bestselling author of The Ultimate Guide to Red Light Therapy and also the book eat for Energy How to Beat Fatigue and Supercharge.

You might have to for all the energy. He has a B. S. in kinesiology with graduate training and clinical psychology as a master's in Human nutrition and functional medicine, too.

He's obviously he's a very tireless researcher who's been devoted for the last 27 years of his life to the pursuit of being on the cutting edge of science and being and looking at literature, the scientific literature, in a comprehensive manner.

So we have a lot in common there. And so, Ari, thanks for being joining me today on the summit. My pleasure. Always, always great to connect with you, Doctor Fuhrman.

All right. So let's get started. First of all, you know, it's this. You know, everybody knows that the mitochondria and the cell make for energy. But really the body is so comprehensively intertwined and it's related, you know, people, some people into the microbiome, some people into the DNA, other people into the, you know, the mitochondria.

But it's funny how stress on one system has an effect to spread stress on another system. And these systems are all tied to each other, interrelated and tied to each other right about these, intricately enmeshed with each system.

Right? Yeah. You know, I think I don't want to digress too much and give you too big of an answer to that, but this is actually an area that I've been spending a lot of time on lately.

Systems Biology and Interconnected Health

I think that there is something fundamentally wrong with the way that we have gone about trying to study human physiology and human health from the medical perspective in particular.

And this has largely been influenced by, I think, the pharmaceutical influence on all of our thinking in terms of even the fundamental paradigm that we have all been indoctrinated into to understand how the human body actually works.

But we have been taught to think of the human body as sort of a collection, like it's sort of a bag of biochemicals of just thousands of biochemicals and thousands of, you know, individual discrete mechanisms, isolated mechanisms.

This controls this. Doc controls that. And fundamentally, this is wrong because this is not how biological systems actually operate. Biologicals, biological systems are best are much better understood from a system science or systems biology perspective.

You have to understand how the entire system is interconnected and fits together, and that is the only proper way to actually understand things, not through this, you know, sort of, well, this enzyme and this mechanism and this receptor controls this.

And therefore, if we invent a chemical and a laboratory that blocks this mechanism, we can cure this disease. The reason that we have failed to cure almost every major chronic disease outside of the context of infectious diseases, where we can invent a chemical that just kills the microbe.

But the reason we have fundamentally failed to solve chronic disease through a pharmaceutical molecule is because of what I just explained, because the body is an interconnected system, not just a collection of random, isolated, discrete mechanisms.

Exactly. And so what we people are so confused about nutrition and health in general because they think that we can break things down. So this one nutrients good for this.

They say calcium good for the bones. And the vitamin A is good for your eyes and this is good for your brain. It's all just they don't understand that.

It's much more it's much more intricate. And there's probably a thousand nutrients involved in in there. And every organ or every system is related to supporting the other system.

That's. But in any case, it's very like sleep is related to your bone mass and, you know, whatever. But that's so it's very people are oversimplifying it.

But I think that what we can bring it all together is that the same factors that, let's say, interfere with one part of the body also likely to interfere with another part, like, for example, toxic exposure toxins like metabolic waste and waste or nutrition, junk food, too much salt, sugar, lack of sleep, chronic stress.

I mean, so we're saying is all these things that could damage one part of the body, also contaminants. These are all things that will damage your mitochondria, but they'll damage your microbiome at the same time, and you'll damage your immune function, damage your brain reactive oxygen species, and your brain will increase so that our whole body will be damaged simultaneously by these same stressors.

Right? Yes. And the way you just described things is exactly what a system science perspective would start to do. It would start to talk less in terms of individual isolated mechanisms and more in terms of how cascades of effects sort of ripple through multiple layers of the system.

And what's interesting is, is that actually works in both directions. So negative influences like you gave the an example of environmental toxicants. Another example would be something like sleep deprivation.

Right. These don't just affect one single mechanism, like the way we are taught to think about how pharmaceuticals work. Right? They they affect hundreds or thousands of mechanisms simultaneously, which then ripple through and have cascading effects at multiple layers of the system, from the molecular layer to the cellular layer to the tissue and organ layer to the circulatory system, to ultimately the the entire system, the entire body.

What's interesting is that that principle operates in both directions. It happens in a negative direction, and it also can happen in a positive direction.

You just as you were speaking, it kind of reminded me of a quote I wanted to bring up from a chemist and a Nobel laureate named Ilya Prejean. And he said, he said when a complex system is far from equilibrium, small islands of coherence in a sea of chaos have the capacity to shift the entire system to a higher order.

So here he's he's describing that same ripple effect, but in the opposite direction, in the positive direction. So if you create positive input, let's say to use your work as an example, let's say you start providing nourishing whole foods into the body.

Well now you're going to start to create ripple effects of okay, well it's going to influence the microbiome. It's going to start to shift beneficial species towards a higher levels, more problematic species to lower levels.

How Caffeine Affects Energy and Adaptation

It's going to absorb certain nutrients that benefit cellular function, that reduce inflammation, that allow neurons to work better, that serve as precursors for hormones, for neurotransmitters, etc., etc.

and one input can now ripple through the system and create dozens or hundreds of effects at many different layers of that system to bring it to a state of higher health, higher coherence, right layer on positive influences.

And then cumulatively, they can have a higher a positive effect. We're talking about the body's own innate ability to be the self-healing machine to fix, repair and ferret out unhealthy even to defend itself against cancer.

That's right. And what's ironic, though, in our sort of the dominant medical paradigm, is we see stuff like what I just described as sort of less scientific, it's more nebulous, it's more vague because it because it doesn't just act on one specific mechanism with precision, like a pharmaceutical in our value system of of the dominant medical paradigm, we are sort of taught to believe that something like that is less scientific or less cutting edge, when in fact the opposite is true.

This is way more sophisticated. This is how you work with a complex, interconnected system. You don't do it by trying to fix one little piece of the pie at a time.

I think that's what we're trying to do in this summit. And thank you for being part of it here. So let's bring this more a little bit specific about people, whether they're confused about.

And one thing is about which I know you do a lot of research on is about energy, right. And the comment and how the body works to feel fatigued or not feel fatigue.

And I think that people are confused about the fact that things that give them energy may be stealing energy from them. They don't. And so discuss that a little bit, particularly with the focus on maybe caffeine, salt or stimulating your body.

But sweets, things like that. Yeah. This is a really interesting it's funny, I hadn't even just connected these two things in my mind. And I've never talked about these two things.

What we were just talking about sort of systems biology and now caffeine in succession. But there's an interesting connection here that we can we can talk about sort of a perfect way to illustrate all the stuff we were just talking about.

So we need to understand that the body, you know, let's I'll make it real specific to, to caffeine and energy, first of all. And then we can extend the principle more broadly from there.

So we need to understand how caffeine actually works. And to do that you need to understand a little about neurotransmitters in the brain. So one of the sort of energy systems or systems of the body that that influences how much energy we have or our subjective sense of energy is the neurotransmitter system in the brain.

And we have certain neurotransmitters that are stimulatory and some that are inhibitory. Another way of describing that is we have some that sort of ramp us up and make us feel more wakeful, alert, active, energetic, and others that sort of turn down the dial make us more relaxed, tired, sleepy, fatigued.

Now the brain is always trying to maintain a certain balance. Okay. It's it's an intelligent system. It wants to maintain a certain balance that is appropriate for what you're doing at that time.

Okay. A simple way to illustrate that is, 5 or 8 hours ago, you and I were in a different state of consciousness than we are now. We were sleeping at night.

The brain has a different balance of neurochemicals during the sleep period, and when we're winding down for

sleep than it does now in the morning, as we're having this conversation, or in the middle of the day we want to obviously have, there's a big difference between the wakefulness, the sense of energy and the alertness and so on.

Okay, now the brain is always trying to find the appropriate balance, and it sort of has a set point during the day of where it finds that balance. And that is a balance again between inhibitory and stimulatory neurotransmitters.

Okay. Now one of the key inhibitory neurotransmitters that turns down energy levels. It makes us more tired, more sleepy is called adenosine. And this so so basically the way that adenosine works in a in a simple description is essentially the more adenosine you have in the brain, the more it's interacting with Denison receptors, and the more interaction between adenosine and adenosine receptors you get, the more it triggers a sort of sleepiness, tiredness, lower energy levels.

Now this is where caffeine comes in. Caffeine works on the adenosine receptors. It fits into the adenosine receptors just like adenosine does. But the difference is instead of triggering that cascade that adenosine triggers when it interacts with those receptors, where it makes it lowers your energy levels and makes you more tired.

All caffeine does is essentially plug up the receptor and block adenosine from getting in. So by blocking a neurotransmitter that would normally be lowering your energy, it boosts your energy.

It boosts your your wakefulness, your alertness, your reaction time, it boosts your mood and so on. And all of that sounds like a really good thing, you know, it's giving you more energy. It's giving you better mood.

It's giving you better performance mentally and physically. What could be wrong with that? Well, this is where the systems biology perspective starts to come into play.

We need to understand that the body is an intelligent system. It doesn't just allow you to tweak and hack certain pathways in isolation without sensing and responding to that.

Okay. So in the immediate short term, it is a good thing that you can plug up those adenosine receptors and get a boost to your energy and wakefulness and performance and so on.

And in fact, there's a large body of scientific literature showing all kinds of benefits from this improve cognitive performance, improved energy levels, reaction time, improved physical performance in athletics, and so on.

By taking caffeine, you get these benefits. However, almost all of those effects are shown in what are called caffeine naive people. And that means people who don't normally take caffeine.

So in other words, you give a person who doesn't normally take caffeine some caffeine, you get a boost in all of these dimensions energy, wakefulness, performance, and so on.

However, as I said, the body the brain is an intelligent system that is sensing this. So when you do this over time, you are essentially disrupting the balance of that system that the brain is trying to maintain.

As I said before, the brain is trying to maintain a certain balance between stimulation and inhibition. When you use lots of caffeine, you're disrupting that balance.

And again, short term provides a benefit. But over the long term, when done consistently, basically the brain says, hey, we're out of balance. We're being overstimulated.

Let's make changes to bring things back into balance. And the way that it does that is by increasing the amount of adenosine floating around in the brain and increasing the amount of adenosine receptors.

It's basically responding as though there isn't a adenosine deficiency, and it's saying, let's, let's get more adenosine signaling going on. Now, as a result of that, a couple interesting things happen.

One is that as soon as the caffeine is out of your system, your adenosine signaling now at baseline is higher, which means your baseline levels of energy and mood and alertness and performance are all actually lowered in the absence of caffeine than they were previously when you were caffeine naive when you don't normally take caffeine.

Now, what's really interesting about this phenomenon is that it is an insidious thing because subjectively, people can't actually discern that this is what's happening to them all.

They feel subjectively, we humans are really bad at at detecting things that occur over long term, long timelines. We can we can detect an immediate effect.

You take a pill and it makes you feel euphoric, or it takes away your pain or something like that. But as soon as something starts to occur over weeks or months, we're really bad at discerning cause and effect.

And basically what's going on here is that when we take coffee, all we feel is the subjective boost it gives us, and it does give us that subjective boost.

But the problem is that because of these adaptations at the level of the brain with adenosine and adenosine receptors that I just described over time, when you take it, it lowers your energy, mood, alertness, cognitive and physical performance in such a way that it's now lower than it was before.

And now the boost you're getting that you subjectively feel when you take caffeine is actually not a real boost. It's just boosting you up to what used to be your normal level of performance and energy and so on.

And the reason that we know this definitively, it's been shown in many, many studies. When you compare caffeine users to caffeine non-users, those caffeine naive people that I described, there is no difference in energy and performance and all these metrics that caffeine gives you a short term boost in.

In the long term, the boost goes away, and basically all you're doing is making yourself dependent on caffeine just to function normally, right? It's almost like a person taking drugs to make make them go to sleep at night.

Yes, after a while now they can't sleep unless they take the drug and they're not sleeping better with the drug a long time. They're just dependent on it, and it's not even helping them.

And they build up tolerance to it. And now if they stop it, they can't sleep, but they're not getting benefit from them. It's the same thing with the most anything the body does, which is because what the chronic, we have a whole nation that's chronically addicted to stimulating substances salt, sugar, caffeine, alcohol and now the the caffeine and the chronic simulation with coffee makes it so they can get by with not enough sleep.

And they're not connected with the amount of sleep they need. So instead of hanging out in bed and wanting to be eight hours in bed, they're fine with 6 hours or 5 hours because they can just use caffeine to stimulate cells, and that chronically leads to aging and suppressing the immune function and and actually interfering with mitochondrial function.

Absolutely. You know, we we we remove reactive oxygen species. You know, you got it. Absolutely. Yeah. So it's it's good. It's the caffeine.

Fatigue, Detox, and Overeating

It brings us to this concept what people think of something immediately making them feel better. Then, you know, it's probably bad for you. Not good for you.

Right. As a good general heuristic I agree with that. Yeah. So so I know in general, fatigue can be an example of people actually going through a process of actually maybe it's a temporary feeling that's good for them.

If they're detoxing, eating healthier dropped off some stimulants. They stop the caffeine. They stop the sugar to

stall their salt. They may be eating cleaner.

And all of a sudden now they temporarily feel fatigued because they're kind of like an enhanced repair mode. And I think it's important to to delineate that to it's not something that that long term we want to do the right things, even if it leads us to temporary fatigue.

That's exactly right. And I mean it just considering the simple fact of what I just explained, that that by using caffeine regularly, you're lowering your baseline energy levels.

As soon as you remove that and you're no longer dependent on it, you're going to feel worse the same way as if you are an alcoholic. If you remove alcohol, you'll you'll feel worse temporarily.

You'll have withdrawal symptoms. That's true of of any drug that you become dependent on. I should clarify, by the way, I'm not entirely opposed to use of caffeine containing substances.

I just believe in using them in moderation more intermittently, rather than multiple times daily. They can because they do give you a genuine boost. It can be used appropriately at certain times, let's say once every couple days before a workout or you know, when when needed cognitively or something like that to to give you an extra boost.

And when you use it intermittently, you can get a genuine boost without dependance on it. So anyway, it's, it's I just want to be clear to listeners that I'm not necessarily implying that that coffee or something is universally harmful, and everybody needs to get off coffee.

But yes, you're right that you can temporarily feel worse as you and lower energy as you start to get off of substances you're dependent on. And I think it was you.

Correct me if I'm wrong, Doctor Freeman, but I believe that I even quoted you in a book that I wrote all the way back in 2014, a book called my first book called Forever Fat Loss.

I think I quoted you talking about the phenomenon of what you termed toxic hunger, which is like as as you get off a lot of processed foods and things like that, you temporarily feel worse and you sort of crave those foods.

It was you who coined that concept, right? It was. And I and I consider that fatigue is one of the major factors driving people to overeat because they think fatigue is a symptom of hunger, and because overeating or taking extra calories makes them feel not fatigued anymore.

They think this hunger, and it makes them chronically addicted to eating too much food because instead of cleaning up their act and and getting nutrients in their body, because obviously the less nutrients we have, the more toxins we build up, unless we less, we can remove toxins, right?

So ultimately our cells are a bad of nutrients. And also toxicity controls longevity and function. And when we build it, more toxicity, the worse you diet is.

You gotta use more toxic. You will have more fatigue when you and your body feels that when you're not digesting food because body isn't going through enhanced detoxification, delivering the kidney is competing.

You know, the liver makes fat soluble toxins more water soluble so the kidney can excrete them. But in any case, there's more. Removal of toxins occur in the non feeding state.

And that removal of toxins in the non feeding state makes people feel fatigued or wiped out. And eating keeps them from cleaning. It keeps them feeling better.

So they got to chronically eat, keep eating more food than they need so they don't feel fatigue. So fatigue becomes a leading cause of overeating and being overweight and being obese. Yes, exactly.

And to the point that you brought up a minute ago of sort of people thinking that, you know, more, more food will give them energy. It in a way, the story of energy can be sort of thought of very simplistically as well.

You know, ourselves just produce energy. They take fuel from food, you know, mainly carbs and fats. And they through mitochondria, through the electron transport chain, they transform those carbs and fats into ATP, into cellular energy.

So if you think of it that way and you sort of say, well, well, I have low energy, maybe that means I'm low on fuel, maybe I just need to add more carbs and fats.

Well, it just doesn't work like that. And we know that because there are lots and lots of people walking around. In fact, probably the majority of the population, not probably the majority of the population who are walking around with literally an excess supply of, of energy, of fuel attached to their physical body, and yet they may feel tired and low energy.

And in fact, it is it is even more common in people who are overweight or over fat to feel lower energy levels. So this is not an issue of of fuel supply, right?

It's important to it's important that people understand that we're treating the between the cause and not the short term symptoms. And to have to feel good in the long term.

You got to do the right things, got to put all the right things together.

Practical Lifestyle Inputs for Resilience

Well, look, I really like your holistic approach and it's the systems approach to the body is what we're trying to teach people on lifestyle medicine, too.

But of course, it's not as sexy and high tech as people wanting right of surgery and medicines or a magic pill, because a lot of things we have to consider, we have to address them, you know, hundreds of different factors that can impact their health.

So we more complicated like like your vision on this lifestyle is very primitive compared to the AI driven pharmaceutical utopia, where all of our diseases are going to be cured by AI, creating these precision pharmaceuticals for every, every disease.

Right, right. All right. So if you had to wind to wrap this up with some pearls of wisdom to give our listeners to put what we've talked about and put a couple of some of your wisdom into action in their lives, turn it into something they can do right now in their own life that will benefit them.

Wrong time. Oh, we're already wrapping up. I was just getting warmed up. I know, I know, but I gotta keep it on feet. There's so much as I spent actually hours this morning preparing a whole bunch of content that I thought I'd deliver in this, in this related to tying in a lot of my work to the cancer story.

But let's see, I'd say to to wrap up what we've talked about here, we need to understand, actually, you know, one, one good heuristic that you presented earlier was the idea of things that make you feel good instantly, generally being bad for you.

Well, what's interesting is actually that oftentimes the opposite is true. So oftentimes things that initially feel uncomfortable or painful for us are oftentimes the best things for us.

So that could be as simple as, you know, foods that taste maybe a bit bitter, you know, or sharp something like a arugula or or watercress or something like that being extremely beneficial for us.

Things that are difficult, like fasting or physically moving your body, exercise, being uncomfortable, being painful.

What happens because the body is this interconnected system that responds to what you do, just as there can be a negative response to sort of short term quick fixes like caffeine, you get long term, you get a negative adaptation.

The opposite principle can also be true, where if we do the right things, if we give the right inputs to our body things, that might be a bit uncomfortable at first.

You actually create adaptation in the opposite direction, where now the body responds to that by building more resilience, bigger, stronger mitochondria, more internal antioxidant, a stronger internal antioxidant defense system into the body, and so on and so forth.

And you create layer after layer of positive adaptations to those kinds of stimulus, whether it's fasting, whether it's endurance exercise or sprinting or lifting heavy weights, whether it's thermo regulatory challenges like sauna and cold, whether it's hypoxia training and so on, whether it's xeno or or mutants from plant foods, from phytonutrients.

We are the body responds to those things by creating these layers of positive adaptations that actually improve our health, improve our resilience, improve our energy levels, and improve our defenses against cancer.

Right. Thank you for that. Yeah, I know, because obviously people think, oh, you've just got cancer. But maybe it was maybe the stress that was undergoing over the last year I lost my job or divorced my husband or something, you know.

And we have we have to realize it's a cancer is something that's caused over a 30 to 50 year period, you know, even when, you know. So we're talking here about the body undergoing chronic stress over many, many decades.

And cells become abnormal and start to proliferate. And then you may have cancer cells in your body for a fully 10 to 15 years before masses. So you can actually diagnosing it.

So what the message is, is that do take care of your body to enhance your defenses, to fight cancer before you get cancer. Don't wait to get a diagnosed with cancer.

Do it now. 100%. Yeah I think that's about your work does right? You're doing a lot of work telling people to change the way they look at energy, change the way they look at causation and start making the right decisions.

Now they're going to benefit you long term, not for immediate feel good. A penny of prevention is worth a pound of cure. I think we have been hijacked.

We've been from the time, you know, for generations in this country, we have been indoctrinated with this sort of pharmaceutical driven search for the cure.

We think that the story of health and longevity revolves around pharmaceutical companies, chemistry labs, synthesizing manmade chemicals where they're going to find the cure for this disease and find the cure for that disease.

And the truth of human health and longevity just isn't that it is. You need to put the right inputs into the body, into this system of biology that we call our body over a long period of time consistently.

And if you do that well, you will be healthy and you will avoid, you know, over 80% of the chronic disease burden. As advocates of lifestyle medicine, of which you are a part of, over 80% of the chronic disease burden, are diseases of lifestyle.

And this is a very simple fact. Many people listening to this have probably heard this, but what's critical to understand is that that simple fact actually isn't incorporated into our medical paradigm.

We don't treat these chronic diseases as if they are driven by our lifestyles. We treat them as sort of random biochemical abnormalities to be solved through synthetic chemicals.

And this is just fundamentally the wrong way of looking at it. The only real way to be healthy and have a great lifespan and health span is by consistently doing the things that your biology requires to be healthy.

Thank you for that. Well, we appreciate your contribution to this and other things as well. At least that you comradery and friendship as well. Great to have like minded people join me in these missions in our missions, you know.

So again, appreciate everything you're doing and everybody learn more about Whitney's work. He's a great contributing to this field. And everybody, thanks for listening and joining us in this very valuable and important summit. We're doing all right. Thanks so much for having me.