

Dave Asprey ([00:00:01](#)):

You are listening to the Human Upgrade with Dave Asprey. Today we're going to do an episode on something that's been of interest for so many years. What I've learned from being in the longevity field for about 20 years now, believe it or not, is that if you can't make enzymes and fold proteins, it doesn't matter what longevity drugs or therapies you do because the body doesn't work. And one of the primary causes of widespread dysfunction is mineral imbalance or mineral deficiencies. And the problem is so much worse now than it was 10 or 20 years ago, and there's a bunch of reasons for it that we'll get into in the show, but there's two minerals that are in opposition to each other, and it's something that's tied directly to anemia and iron overload, and it's a zinc and copper. So I found an expert who wrote a book on this based in part on personal need and also just on deep science so that we can get into this what's going on with zinc and copper and iron.

([00:01:09](#)):

And you can spend a hundred bucks a month on the cool longevity supplements I do. And I tell you which ones those are. But if your minerals are off, they're probably not going to work very well. So start with foundations. And the good news is minerals are affordable and some of the high-end stuff gets to be pretty premium. So we start with what's most broadly effective, and we start with what's least costly. If you can get that down, you don't break the bank, you feel better and you probably live longer. That's why the episode today, the book that's a topic of our interview, is the Iron Curse is your doctor letting high iron destroy your health. This is a problem. And our expert is Dr. Christie Sutton, who is a chiropractor who's focused on understanding the root causes of health problems. And the reason that she does this is similar to the reason I started the biohacking movement, personal need in her case, her husband's hereditary iron overload called hemochromatosis, and a pituitary tumor set off. One of those things where I'm going to take care of a loved one and I'm going to figure it out. And this is one of the biggest motivations for creating evolution in our understanding of medicine and functional medicine, longevity as personal need a family member, yourself and your kids. Go to the ends of the earth for something like that because it matters. And then wait, that changed everything. Maybe it matters to everyone else. Dr. Christie Sutton, welcome to the show.

Dr. Christy Sutton ([00:02:44](#)):

Well, thank you. Thanks for having me.

Dave Asprey ([00:02:47](#)):

You're based in Dallas and you just made the drive in pretty hot.

Dr. Christy Sutton ([00:02:51](#)):

Yeah, well, I had air conditioning, so it wasn't too bad.

Dave Asprey ([00:02:55](#)):

I love Texas. I don't mind the heat as long as I get my sunshine. Alright, talk to me about iron. Is it good for you or bad for you?

Dr. Christy Sutton ([00:03:03](#)):

Well, it's essential. It's a double-edged sword. So you cannot live without iron. We need it and it's precious. This is why our buddy has made all of these different ways to keep iron and not let go of it like some other minerals like copper, our body has a way to remove excess copper, whereas iron, it's so

precious, it's so important that our body has basically found ways to hoard it for the coming fast or the coming long winter where we will not be getting enough iron. So we need it. However, you can have too much of a good thing, and especially if you have a hemochromatosis gene where you absorb more iron, then you're more likely to develop high iron. And if you develop high iron, then iron can become this very toxic, free, radical inducing element that basically creates tons of inflammation and damage throughout your whole body. It's good and bad. You can die from not enough iron and you can die from too much iron.

Dave Asprey ([00:04:16](#)):

There's this mindset out there, if something's good for you, more must be better. And if something's bad for you, you shouldn't have any of it. And I see this with exercise, there's some so-called longevity doctors are saying Only two hours a day will keep you younger. I'm like, that's an overdose. And you'll also see people who say, oh, cortisol is bad for you, so don't have any cortisol, which also will kill you. So it turns out there's a goldilock zone for people where everything works. Is it the same for men and women?

Dr. Christy Sutton ([00:04:46](#)):

So that's a good question. Is it the same for men and women? Yes and no. So women and men largely have the same needs for iron. We need it to have energy. But the difference is that women tend to lose iron more. So women tend to lose iron through menstruation, childbirth, and men don't have to deal with that. So men tend to develop a higher level of iron. And then women also, well, not only do they lose more iron through menstruation and childbirth, but women being put on birth control, that can increase iron absorption. And then men, if they take testosterone, they're going to increase iron absorption. So there's lots of different things that change iron absorption, but basically the ranges for what's acceptable for men and women are only really different because if you take a hundred women, they're going to have lower levels of iron than a hundred men.

Dave Asprey ([00:05:50](#)):

So we set our standard ranges based on averages for people, maybe not based on what's optimal.

Dr. Christy Sutton ([00:05:56](#)):

A hundred percent. Yeah. So yeah, this is the problem with looking at a lot of Iron Labs is that they get a thousand people and they say, okay, this is the average ferritin, but they're looking at a thousand people that are unhealthy if you look at, and then the average is anywhere from 20 to 400 for men. But if you look at healthy, that's a whole different range. A healthy range is a much narrower range. So unfortunately, the lab ranges for ferritin and iron saturation have allowed things to go much too high, and there is an optimal range. However, for women who have a history of anemia, like myself, I would want to be on a higher end of a ferritin, which is your stored iron. I would want to be at least 52 a hundred, whereas a man with a history of hemochromatosis and high iron, then I would want for them to be on a lower and more, maybe not even higher than 50 just because they have the propensity to go high, whereas women have the propensity to go low often

Dave Asprey ([00:07:08](#)):

In the world of longevity. One of the things that lots of people ask is why do women live eight years longer than men? And one of the predominant theories is, well, if you bleed every month, you're dropping excess iron. And high levels of iron basically calls rusting. It's excessive oxidative stress in your

cells, which is why hemochromatosis is a bad thing. And so we think maybe the lower levels are healthier. And I'm wondering is there a case for those of us in the longevity field, even if we're men to drop it? And what if we're women and we say, well, I know I don't have anemia, or maybe I perimenopausal or post menopause just in menopause. You might want to have your levels relatively low but not too low. Do we have longevity numbers versus regular person

Dr. Christy Sutton ([00:07:59](#)):

Numbers? Yeah, a hundred percent. So there have been some good studies on as far as looking at ferritin, ferritin, well, it's not a perfect marker to measure longevity with because ferritin doesn't just measure iron stores, but it also measures inflammation. So it can be a little bit misleading. But if you look at ferritin in the studies, there's a recent study where they're actually looking at covid mortality and people that were more likely to die from covid, they found if the range was 20 to a hundred, if you were lower than 20, you were more likely to die from covid, which in my opinion, 20 is too low. If you're over a hundred, then you're more likely to die of covid. And so I'm pretty comfortable with a hundred as a cutoff. I think that should be the lab high for men and women is a hundred. That's not the lab high for a man or a female.

([00:08:56](#)):

That research is specific to covid. However, it does look at longevity or risk of dying. There's another better study where they looked at ferritin and this was a big meta-analysis, and they basically looked at ferritin and longevity and they found this study was good, but it had one caveat. The caveat was that they grouped everybody into either over 200 ferritin or under 200 ferritin, and then after they went over 200, they categorized it to over 300 and over 400 and over 500 and over 600, and they stopped there. So they didn't start with over 100. However, what they did find was there was a linear correlation from over 200. With each increase in 100, there was a dramatic decrease in one's longevity. So by the time you get to the over 600 group, which is a really high ferritin by all standards, that's high, then you're knocking off multiple decades, two decades off of your life just if you're in the over 200 ferritin.

([00:09:57](#)):

So this is a huge thing for longevity and it's an easy thing to monitor. Unfortunately, most doctors are not monitoring ferritin, but it is an easy thing to monitor. It's an easy thing to get ferritin lower either through decreasing inflammation or decreasing the iron or removing blood or whatever. There's diet, nutrition, lifestyle, lots of ways to do this, to get this ferritin lower and dramatically increase one's age. One thing that I did want to mention is women postmenopausal women, basically, they catch up with men as far as they're not menstruating anymore, so they're not losing that blood. So they then can go high, which catches a lot of women off of. They're not ready for that because maybe they lived their whole lives low or normal, and then suddenly now they're five years and it's like, oh, they have high iron and their doctor maybe wasn't checking that because unfortunately, although an iron panel is very inexpensive and easy to run, it's not getting run routinely.

Dave Asprey ([00:11:02](#)):

This is such a problem that knowing what labs to get that I just launched as part of upgrade labs, something called Upgrade health. And guys, you can go to upgrade health.com right now and we have a full advanced longevity panel that of course includes ferritin because it's cheap and easy. And if you're listening, I don't know what my levels are. I'll tell you in my journey of having weighed 300 pounds and having all the bad things that happen, actually as your age before I was 30, there was a time that my levels were pushing to a hundred, oh, this is a problem. So I tried to donate blood on Vancouver Island where I used to live, and there just wasn't a way to do it. So I finally just started donating my own blood

to my garden. I had very fertile vegetables. I just put a little needle in my arm and on there you go. Wow. Hey, biohackers,

Dr. Christy Sutton ([00:11:54](#)):

You couldn't donate blood in British Columbia,

Dave Asprey ([00:11:57](#)):

Not on Vancouver Island. It was too rural. It was an hour and a half or something. And so I just took some out and I lowered my levels and played around with nutrition. A lot of the stuff that's in your book, the Iron car seat, tell people how to do this. But let's say people listening, they haven't gone to upgrade health.com and have their numbers right in front of them. And one of the things that I'm doing with that company is I'm recommending longevity numbers based on the latest research versus whatever the average is. Because frankly, if you look at the average, especially American today, there's not a lot of healthy people running around. So I don't want to make myself more average. I want to be stellar and I want to do the data. I also have been very low ferritin. I became a raw vegan many years ago in my desperate attempts to lose weight. And while that was a health disaster for many different reasons, including two binders of iron that we'll talk about later in the show. So guys, get your numbers is what I'm saying, and that's a good way to do it@upgradehealth.com. But let's say that someone's listening, they don't know their numbers, but now they're curious. If my levels were high, what would the feeling be? What would the symptoms be? Is there any way to tell?

Dr. Christy Sutton ([00:13:09](#)):

Well, by the time you have symptoms that are obvious, you're probably one foot in the grave. Wow. I mean, the problem is that most people with high iron hemochromatosis are not getting diagnosed until they're very, very sick. And it comes down to, unfortunately, people that get diagnosed, it's like anybody could diagnose them. They could diagnose themselves on Google. They didn't need a good clinician to help them. And so only really about 10% of people with hemochromatosis high iron get diagnosed and it usually takes a decade for them to get

Dave Asprey ([00:13:49](#)):

Diagnosed. Wow, there's a lot of damage. There's

Dr. Christy Sutton ([00:13:50](#)):

A lot of damage. And a lot of times people will say, oh, bi ferritin's only a thousand. My doctor said we caught it early. And it's like, no, you didn't catch it early. Early would've been like a ferritin of 200 like you. And so the key is you've got to do the labs, but if you want to know the symptoms of high iron, that's a really good question. And the symptoms can be fatigue because basically your body's toxic. You have mitochondrial dysfunction, so you're tired, but everything makes you tired. Low iron makes you tired, iron makes you tired. Eventually if it gets bad enough, it can store and accumulate in your liver, destroying your liver, increasing your risk of liver cancer by 200%, causing fatty liver, high liver enzymes causing inability to drink alcohol without a horrible hangover, which was one thing that happened to my husband.

([00:14:44](#)):

He also had high liver enzymes. Iron likes to also store in the pancreas destroying the pancreas, causing type one or type two diabetes, so it'll store in the skin causing bronzing of the skin. So oftentimes people

are called bronze diabetics when they have hemochromatosis high iron because they have this bronze darkening of the skin and then they also have diabetes. Often the iron will accumulate in the gonads like the ovaries or the testes, and then you'll have low testosterone, low sex hormones, estrogen, progesterone, all that for infertility is a serious issue with these people With high

Dave Asprey ([00:15:23](#)):

Iron.

Dr. Christy Sutton ([00:15:23](#)):

Yeah, with high iron because the iron destroys. It's just like creating all this rust throughout your body

Dave Asprey ([00:15:30](#)):

And how many prenatal vitamins have extra iron? All of them.

Dr. Christy Sutton ([00:15:34](#)):

Well, if you are pregnant, you're probably going to become low in iron. So I mean, even the people that I've seen with HemoCh, even the women that I've seen with the hemochromatosis gene, and even with the history of high iron when they get pregnant, they lose so much iron that they end up needing that prenatal with iron.

Dave Asprey ([00:15:52](#)):

The problem is that a lot of people, even once who read my fertility book, while they're taking prenatal vitamins in preparation for getting pregnant, and that might be the wrong thing to do, you would actually want preconception vitamins, which are things you would take as a woman actually and a man that get you extra healthy for fertility. And this was a practice that I had to go through with the mother of my children. She was a medical doctor who's infertile, and so we restored fertility doing all of these things. And yes, we looked at ferritin, we looked at all the different stuff, what's not right in the system. So this is a really interesting thing if you're trying to get pregnant, and I know lots of friends in their thirties were having a hard time. This was not a problem when I was 30. It was, I hope we don't get pregnant without wanting to, and now it's, I hope we can get pregnant. Well, if your iron is high, which it could be, or if it's too low, that also exact fertility effects, right?

Dr. Christy Sutton ([00:16:44](#)):

Absolutely. So high iron can cause infertility, decreased sperm mobility, decreased sperm count in men and females. It can cause just infertility damage to the ovaries, high iron's, horrible. It'll damage your pituitary gland. I think that's why my husband ended up getting a pituitary tumor. But the pituitary gland is what really controls your hormone levels, your sex hormone levels. However, it is so essential going back to your point about you have to do the labs. That's why it's so important that everybody get their labs and the iron panel and the CBC, and they're looking closely because there's research, and I have this in my book, the Iron Curse, that you do need to look closely at that iron before you get pregnant because if you are low in iron leading up to pregnancy and through the first 30 weeks of your pregnancy, which many women are because either they go into pregnancy anemic or pregnancy just causes them to become low in iron because when you're making another human being, it's like a very nutrient demand.

([00:17:47](#)):

It's intensive, it's mineral, it's everything intensive, and the baby gets, the fetus gets priority, but if you don't have any iron to give, then the fetus is not going to get it, and they are more likely to have a lower IQ for the rest of their life, like under 70 low, but everybody's different. It could be a loss of five points, it could be a loss of 10 points. The research just shows that serious anemia through the first 30 weeks of your pregnancy sets you up for a 50% chance of under 70 iq, which is very low. So not only are they more likely to have a lower iq, but they're also more likely to have a DHD because if you don't have iron, you're not going to be able to make dopamine. And if you don't have dopamine, you're not going to be able to focus or create neurons in your brain while your brain is developing.

(00:18:41):

You're also more likely to have not just a DHD and lower iq, but demyelination issues. You need iron to make the myelination. So there's so many different things, and it's not just leading up to pregnancy, which is crucial, but it's during pregnancy and then it's young children that are dealing with low iron that are not being diagnosed with this, and they often get misdiagnosed with having a DHD and then be put on a DHD drugs when really their issue is they don't have enough iron to make dopamine. So everybody, regardless of their age, needs to be looking closely at their iron levels because if you do that, then you'll catch the people with low iron, but you'll also catch the people with high iron. And there's a lot of people out there, including children that have undiagnosed hemochromatosis.

Dave Asprey (00:19:29):

Do the same lab results for adults apply to kids?

Dr. Christy Sutton (00:19:34):

No. There's different ranges. The ranges are different for children, but the concepts are basically the same. My colleague, her five-year-old, got really sick with a virus and then after that completely had this neurological shutdown, she was having to hold her child to move her child from one place at the other, just couldn't hardly walk. And she took her daughter to get all these blood tests to speed up the process of figuring out what was going on. And she called me after that and she said, it's so weird. I carried her in there to get all these labs. And now four hours later she's running around. She's been better than ever. She said she has hemochromatosis. And so she had two hemochromatosis genes, so she got one from her mother and her father, she's Irish, so

Dave Asprey (00:20:23):

She pulled the blood for the labs and

Dr. Christy Sutton (00:20:26):

It restored and it was enough. It was enough for a five-year-old. Okay. So those labs confirmed she had hemochromatosis, it was messing up her liver, all sorts of stuff. And then she went to the pediatrician, they said, you're right at hemochromatosis, we don't know what to do. They sent her to a pediatric hematologist. And the pediatric hematologist when they eventually got in to see them was very dismissive and not really interested in treating her, partly because she'd already gotten the levels lower using supplementation.

Dave Asprey (00:20:58):

It sounds like it would be really hard if you're a biohacker to say, oh, I'm going to manage my ferritin because you just don't know whether it's a little bit higher, a little bit low. From a longevity perspective,

it seems like about 75 is where I'd want to be unless I was a kid or in special circumstances because you're not too high and you're not too low, and you're seeing the upper levels a hundred. Right now my ferritin levels are something like 40, which is a little bit too low, and I know exactly why. It's one of the things I'm running to reduce the cell danger response in the body. So it's a temporary thing. And when I got my last labs at Thank you upgrade health because I monitor my numbers and it's also affordable and they send someone to my house to draw my blood.

[\(00:21:46\)](#):

I hate driving around and trying to ask for an appointment. I mean, I can talk to any doctor I want to, and lots of 'em are friends, but they're busy. And so it's just kind of automated that way. And I saw the numbers like, oh, I think I should do something about that, and we'll talk a little bit about what you would do to raise or lower your iron. But I can say what I did. I said, huh, I'm eating a lot of steak, so I probably need to increase my stomach acid. HCL, I've had issues with low stomach acid for a long time. I'm probably either some genetic thing or exposure to toxic mold a long time ago. So I upped my battan HCL, and I am not a fan of high dose vitamin C for a variety of reasons, but up to 250 milligrams, a very small amount taken with steak won raise very reliably raise it. And I also increased my copper consumption. Did I do it right?

Dr. Christy Sutton [\(00:22:43\)](#):

Have you retested to see if you're not yet, that'll tell you

Dave Asprey [\(00:22:47\)](#):

How dare you tell me to, aren't I a better person because I did the right thing?

Dr. Christy Sutton [\(00:22:53\)](#):

You're doing the right thing. My guess is it's going to work, but you have to do the right thing and then verify. Yeah,

Dave Asprey [\(00:23:02\)](#):

You are obviously in the functional medicine field, and this is what led me to start the biohacking movement is I was doing all these things that I was so convinced would work. I was doing a 90 minutes a day of exercise when I was 300 pounds, like full on Peter Atia style did lose a pound over 18 months, but your exercise is good for you, keeps you younger, except when it doesn't. So I had to actually measure whether my actions created, the results I wished they would create. And that's why today my speed of aging is 73% the rate of normal. I have 6% body fat. I've completely transformed my brain and my body just by not believing my own BS and by saying I want to get the data. So your answer there, you made me happy. Right.

Dr. Christy Sutton [\(00:23:47\)](#):

Well, and we all do it. I mean even with all the tests that I run on people, I still am flabbergasted sometimes whenever I begrudgingly will run a test that I've been kind of wanting to do, but I just didn't do. And so what I'm thinking about is recently, so I struggle with low iron and I have so many reasons and they're not common at all. But one of the reasons is that I recently found out that I have a autoimmune issue where my immune immune system is attacking the hydrochloric acid producing cells in my stomach. Oh, I

Dave Asprey ([00:24:24](#)):

Wonder if that's why I have

Dr. Christy Sutton ([00:24:24](#)):

Low stomach acid. I think you should do that test is what I'm thinking. I didn't even know

Dave Asprey ([00:24:28](#)):

About that test. What's

Dr. Christy Sutton ([00:24:28](#)):

It called? Cyrex Panel five.

Dave Asprey ([00:24:30](#)):

Okay, I know the Cyrex

Dr. Christy Sutton ([00:24:31](#)):

Guys. Yeah. So I finally did that test on myself and I almost didn't believe the results when I saw them because I was diagnosed with Crohn's when I was 16 and they took out a part of my small intestine, and that's a big reason that I have so many issues. I think my real issue was undiagnosed celiac disease. I have celiac disease and I don't eat gluten. I haven't for 25 years, but it did a lot of damage and I think that's why I lost part of my small intestine. Anyways, so I donate gluten, but I do have issues with absorption and I struggled with iron issues for a long time and I finally did that test and I didn't believe it because one of the markers on there is anti sacri, marcies C antibodies.

Dave Asprey ([00:25:19](#)):

I have that one because you had candida probably

Dr. Christy Sutton ([00:25:21](#)):

In your case. No, that is a very specific marker for Crohn's disease.

Dave Asprey ([00:25:26](#)):

Oh, interesting. And that's basically baker's yeast and brewer's yeast. A lot of people are taking nutritional yeast because that has a downside

Dr. Christy Sutton ([00:25:33](#)):

If you have those antibodies. So my Cyrex panel came back. I didn't have those antibodies, so I was like, I don't even know if I believe this test, but I was shocked to see the pylori acid, the acid producing cell antibodies, and I started taking acid and I really needed it. You could tell because you're just bloated and the foods not digesting, and then you take the acid and you're like, oh, okay, yeah, that's better.

Dave Asprey ([00:25:59](#)):

I'm going to digress for a second here. When I wrote my big longevity book, there's a pretty good body of evidence that says maybe 0.6 grams of protein a day per pound of body weight is a good idea. And there's another big body of evidence that says one gram or maybe even 1.2 grams per day is a good

idea. That's a big range. And so I've done the lower protein and I've done the higher protein. And with both of those, how do you know if you're digesting your food? Well, you look at bloating and gas. If eating a high protein diet and you don't have enough stomach acid, it's going to smell like a bodybuilding gym and protein farts are atrocious. So one of experiments was I do intermittent fasting. I've written two major books on it and how do I get 200 grams of animal protein a day in two meals or eat a hundred grams a day?

[\(00:26:53\)](#):

Okay, I'll just do that. And everyone says you can't absorb it, but if I'm not absorbing it, I'm going to get protein farts. So I took my batan HCL, I took my digestive enzymes and it works just fine and actually reduced my speed of aging on a higher protein diet because it wasn't rotting in my gut. So for people listening, these are things where you understand, oh, this leads to this leads to this. Unless you've listened to all 1200 episodes and read only all eight books and you've done your upgrade health labs and you have all this data, it's really hard to figure out, which is why AI driven recommendations for a lot of this are the future to get you the basics and then you go see a functional medicine provider, maybe even one who's written a book or two

Dr. Christy Sutton [\(00:27:37\)](#):

And one that understands HCL because HCL L is really a key issue. If we're talking about minerals, if you don't have HCL, you're not producing it because you're stressed or you're taking low PPI proton pump inhibitor or antacid, or you're just stressed and you're not making as much hydrochloric acid, then maybe you have H pori, then you are going to have a hard time absorbing everything, protein, minerals, everything. And so there's a lot of people walking around out there that are malnourished because of low hydrochloric acid and then it's like they're just fighting. They're fighting a current that they're not going to win.

Dave Asprey [\(00:28:16\)](#):

Is vegan a code word for anemia?

Dr. Christy Sutton [\(00:28:19\)](#):

Yes,

[\(00:28:20\)](#):

Yes. In fact, okay, so I'm not a big fan of that diet. I think that I haven't seen patients be really healthy and thrive on a vegan diet. I've seen a lot of people become sick from being a long-term vegan. What I have found is that the people who become vegan, they often feel better for a short period of time in the beginning, and they usually have either a high iron issue. That's interesting actually. A lot of them have a hemochromatosis gene and more commonly they have a dairy allergy, and so they cut out or lactose intolerance or something, and so they cut out all the dairy and they're like, oh, I feel so much better. And then eventually they become so nutritional deficient and they're eating, in my opinion, so many processed unhealthy foods to replace the whole foods, the meat and animal products that I think that's part of where a lot of those health problems come from. After being a long-term vegan, which I've never personally done. I was a vegetarian for a period of time and that was not good for my health either.

Dave Asprey [\(00:29:26\)](#):

I've seen enough people do healthy vegetarian, they just really have to tolerate dairy and eggs and they can get away with it because they're getting their saturated fats and getting enough protein, but the full

vegan thing, even unprocessed, I was a raw vegan. I cooked everything well, I didn't cook it. I sprouted and blended and mashed and I did all that stuff and then I became just a regular vegan with cooked vegan foods, but always cooked by me and I shattered two teeth just in the normal course of the day because I was stripping minerals out of my body, including iron, including calcium magnesium, but all the good stuff. And I also felt amazing for the first six weeks, and maybe I actually wasn't doing gluten and dairy before that. One of the other reasons is that when you eat plant-based fats, these omega six oils, they get into your mitochondrial membrane and the body freaks out because it becomes less efficient and then in response, it turns up your thyroid hormone.

[\(00:30:23\)](#):

So then the body says like, I don't have enough energy. Let's just turn the heat up a little bit. And so you're like, yes, I got my thyroid energy, and then about six weeks later, your thyroid says, I'm going to tap out. I can't do that. But by then you're already convinced you're on the vegan path. And because I'm stubborn and because I wasn't getting my data, I was on it for 18 months and it also harmed my health and people get really mad when I say it's bad for humans, guys. It's just science. It's not a diet for thriving and I believe in human thriving. I also believe in proper treatment of animals, which is why I raised my own built regenerative farm. You can be nice to animals and still eat them. Just say Thanks. It's how it works. Your iron level will thank you

Dr. Christy Sutton [\(00:31:00\)](#):

And so many other nutrients too. I mean no, if you want to get B12, which is required for life, human life, then you have to eat animal products and beef is the highest in B12. It's also the highest in iron and being low in iron and B12, that creates anemia, whether it's anemia from low B12, which causes your red blood cells to get too large and then break or anemia from low iron. Both of those things are nutritional deficiencies and they are more common in people that do not eat or just don't absorb animal protein. And so that's one reason that so many people that have a long-term vegan diet become low in iron. There are a lot of people out there in the hemochromatosis world that say, I have hemochromatosis. I'm going to become a vegan to manage it, and I don't recommend that. I don't like that approach. I think there's a lot of other ways to control your iron from going high while still being able to eat red meat and shellfish and iron rich foods. And that's why I included all of the nutrition and diet and everything in the Iron curse protocol so that people can try to combine specific nutrients like curcumin whenever they eat red meat so that they can then bind to the iron and pull it out rather than absorb it.

Dave Asprey [\(00:32:35\)](#):

Speaking of high iron foods, different forms of iron absorb very differently and the government says you must put iron in things like cereal. They call it fortified. Now, number one, if the diet needs fortification, you probably should look at what else is in the cereal that's nutritionally bankrupt, but the kind of iron they're using is metallic iron, like iron filings. How do those affect the body versus say the supplements you would take and what are the supplements?

Dr. Christy Sutton [\(00:33:05\)](#):

Okay, so this is a good question. There's two different types of iron in our diet and supplementation. There's heme iron and then there's non-heme iron. So heme iron is only found in animal products. Animal products have about 50% heme, iron, 50% non-heme, iron and heme iron is the most absorbable iron, exponentially more absorbable. Then non-heme iron. So a lot of people think, oh, I'm eating a lot of spinach and iron rich vegetables. I'm getting lots of iron. Well, just because iron's in that spinach doesn't

mean you're absorbing it because that's non-heme iron, which is not very absorbable. So the iron, you have to think about that in terms of diet. Now the fortification, there's a lot of issues with that. They're just adding whatever is the cheapest possible product. They're adding folic acid, the lowest quality B vitamins, the lowest quality iron into an already low quality processed food.

[\(00:34:11\)](#):

And so the issue is that they don't say exactly what type of iron they're putting in there, it just says iron. And what we know is that of the multiple different types of iron that they use to fortify processed foods with, there's at least two that are carcinogenic. We just don't know if those are the ones they're putting into a specific product. They don't usually say what type of product, they just says it just says iron. So as the fortification process goes, so people need to avoid those products regardless. One, it's processed and it's bad for you because only processed foods get fortified, and two, you don't know what type of iron they're putting in there, but it could be a carcinogenic type of iron.

Dave Asprey [\(00:34:56\)](#):

I believe fundamentally that it's my job to fortify my diet and that's why I eat healthy foods. I don't like say whole foods because I don't eat the rind of the watermelon or the outer parts of rice because those actually aren't good for you either. But if I need vitamins, folic acid is toxic for about a third of us, including me with the M-T-H-F-R genes. So how dare the government say it has to be by law and food, even though a third of us have birth defects because of folic acid instead of taking the methylated form of folic acid, which would work for everyone. So I would just say, guys, if your food has to be fortified, it's probably not food. You could fortify cardboard if you wanted to and you shouldn't eat it. So if it needs fortifying, what's wrong with it? Well, especially if it's expensive, like some kind of plant milk, it can stop.

Dr. Christy Sutton [\(00:35:47\)](#):

I agree with that. I just want to say one thing. I agree with that folic acid is not good. They could put folate or methylfolate. No, but they don't want to do that. They want to do folic acid because that's cheap. Now the how dare you part that is the same for the iron because there, while the folic acid issue is really bad for people with the M-T-H-F-R gene, the iron that's fortified is really bad for the people with the hemochromatosis genes. And so there's a lot of people out there that have these genes where they absorb more iron and they're eating all these processed foods which are giving them even more iron, and then this is contributing to this silent epidemic of people that are undiagnosed with hemochromatosis.

Dave Asprey [\(00:36:29\)](#):

How do you get a genetic test to know if you have hemochromatosis or obviously M-T-H-F-R? Can you just use your 23 and me data or some other stuff like that?

Dr. Christy Sutton [\(00:36:37\)](#):

Yeah, I mean there's lots of options. So the way that I tend to do it is there are multiple different direct to consumer genetic tests. The most common one that I'm familiar with, I know it's not the most popular one on the market, but it is the most common done genetic test at this point in time is 23 and me. And so what I do is I get that raw data and I run it through the genetic detoxification report that I created and then that gives the M-T-H-F-R gene and the three hemochromatosis genes 23 and me reports on two out of three of the hemochromatosis genes. So if you want to just find out about specific

genes and you don't want to go to a direct to consumer company, you can ask for those genetic tests through a doctor,

Dave Asprey ([00:37:22](#)):

An educated doctor if you can find one, right?

Dr. Christy Sutton ([00:37:25](#)):

Right. I mean, but the hemochromatosis genes in M-T-H-F-R, they're becoming easier for people to get done regardless. It's just the truth of the matter is insurance doesn't often cover them and it's much cheaper often to go direct to consumer because you get so much more information for a very small amount of money compared to what you would pay for just going through like a Quest Diagnostics or a LabCorp,

Dave Asprey ([00:37:53](#)):

It feels impossibly paternalistic that you're supposed to go get a permission slip from your doctor and then you get a permission slip from your insurance company to know your levels of anything in your body, and that whole process sucks huge amounts of time and it makes you really expensive. And when you do that direct to consumer, that's why I started upgrade health.com. This is one of my many companies, but I don't want to wait in line. I don't want to deal with my insurance company. In fact, I don't ever want to talk to them again, and it's so much cheaper. They feel like how much you would've begged your insurance company to not pay at the end of the day anyway, all that time. It costs a few hundred dollars and then you have a whole bunch of data and you have a system that interprets it for you, and if something's really off, then you go to the doctor, but the other way around, go to the doctor first when nothing's off just to get a number that you're going to have to argue for with a lot of doctors, and then you have to argue again, it's so broken that it just makes us tired and if you're anemic or you have hemochromatosis, you're already tired.

([00:38:55](#)):

So it just feels overwhelming and that was how I felt when I was really sick. I'm like, I just can't deal with this amount of data and it's so expensive and so much work to go get it. So I'm a huge fan of just like we have our biohacking devices that let us measure our sleep. I shouldn't have to go to the hospital and beg for a sleep study. I'll just run one at home for a couple hundred bucks or something close enough. So this seems like it's changing the world. We combine that with AI and all of a sudden now we get to be in charge of ourselves and work with our functional medicine docs as partners who help us solve the hard stuff. But hemochromatosis, if you had the data on your genes, you have the data on your levels, well, you probably can change your diet and get it where you want it to be, and if that doesn't work, go to the doctor. If your levels are really high, go to the doctor. But if not, it's just one of those optimization things versus a medical thing.

Dr. Christy Sutton ([00:39:47](#)):

I think people kind of need to do both. I think we need to be advocates for ourself and do as much as we can to learn, and unfortunately if you go to the doctor and you just get your basic labs done, they're probably just looking at the bare minimum and then you don't catch stuff if you're not looking for it. If you're not looking for a problem, you're not going to find it. So sometimes you just have to run a more thorough panel, I'm sure what your company is going to do and then you catch a lot of things, but at some point in time it is helpful to have a trained specialist to really walk you through a process. Of course, like with hemochromatosis, if you do have hemochromatosis having a good qualified

hematologist to walk you through to make sure that you're being monitored closely for the rest of your life to make sure that blood's being removed at the right pace. There are some things that I think that hematologists should incorporate to make the process of lowering iron more effective, but as far as the management, they have to be managed for the rest of their lives.

Dave Asprey ([00:40:57](#)):

I let's say that I'm on a budget and I know I have the hemochromatosis genes and maybe I don't even have insurance. If I go to hematologist regularly, it's going to be really expensive. If I know I have the genes and I order my labs and they're very affordable and then I go, oh, my levels are creeping up, I'll do something about it that the basic nutritional stuff and if that doesn't work on my next panel, then I'm going to go spend money on going to the hematologist. I want people to know when they're out of range and when the normal lifestyle stuff doesn't work because then you get someone who actually needs you versus someone who just comes in, well, let's run the standard stuff and tell you what to, so I want to remove the grunt work from doctors so when people actually need the doctor, there's more time available for the doctor because the simple stuff is just taken care of automatically.

Dr. Christy Sutton ([00:41:50](#)):

Yeah, I mean it's not easy to get in with a lot of these specialists these days, so you have to really figure a plan as much as you can and be as proactive as possible because it takes forever to get in with specialists and get labs run and everything. But if you know have a hemochromatosis gene either from doing a 23 and me, which is probably how most people are figuring it out these days, to be honest, most of the time doctors are not running this proactively, Hey, you have a high iron, let's run the hemochromatosis gene. That's generally not what's happening. Usually what's happening is high iron labs are getting ignored or not run at all. So if you know have a hemochromatosis gene, then the next step is get a full iron panel and a CBC. Okay, and the full iron panel is the ferritin serum iron, T-I-B-C-U-I-B-C and iron saturation.

([00:42:43](#)):

And then the CBC will give you your hemoglobin hematocrit red blood cells, and then you should probably also get a CMP to get the liver enzymes. But those simple tests shouldn't cost you more than let's say \$90 max, and then if your ferritin's high high by mind standards is over a hundred, but if your ferritin's elevated with a high iron saturation over 45% and you have a hemochromatosis gene that's hereditary hemochromatosis, and then you need to take steps to start working on lowering the iron. Donating blood is one way, but not everybody can donate blood. So if you have been exposed to an infectious disease or if you are taking a blood thinner, there's multiple

Dave Asprey ([00:43:32](#)):

Or you may just don't have veins, right? Some people it's really hard to get a vein, you're not going to donate blood if

Dr. Christy Sutton ([00:43:37](#)):

Yes. The other thing is some people, they have high iron, but they have low red blood cells are low hemoglobin and that's called iron loading anemia and they cannot donate blood, so not everybody can donate blood or have blood removed, and then you either need to figure out how to lower that iron through a therapeutic blood removal, which is where the doctor prescribes blood to be removed and then they throw it away. Or if you have iron loading anemia and blood just can't be removed at all, then

that's where you can start with the diet and supplements to really get iron lower as fast as possible while building up your hemoglobin and red blood cells so that you can have blood removed if necessary.

Dave Asprey ([00:44:19](#)):

It seems like there are so many forms of anemia and in your book you just go through this, and this is on one hand a medical conversation. On the other hand, this is one of those foundational things like you should know your vitamin D levels and you should know your ferritin levels because they're cheap and it's different for different people. It's a personalized thing. I need more vitamin D than you probably do because of my genes and how much iron do I need? It depends on my gut function and a bunch of other stuff. How much iron do you need? I don't know. It could be anywhere, but the levels being wrong will absolutely wreck your longevity protocols or your cognitive enhancement protocols. All the things that I've been teaching. So this is a cheap thing to measure and it's an easy thing to fix for most causes, but tell me about some of the forms of anemia. You mentioned iron loading. What are some of the other ones?

Dr. Christy Sutton ([00:45:12](#)):

Okay, so iron loading anemia, we've talked about iron deficient anemia, which is where you're just low in iron. There's macrocytic anemia, which is basically where the red blood cells get too large because you're low in B vitamins like B12, B nine, B six, and then the red blood cells get too large and they can't go through the capillaries and they break.

Dave Asprey ([00:45:35](#)):

That's the hemolytic anemia

Dr. Christy Sutton ([00:45:37](#)):

In a way. Hemolytic anemia is technically different, but it is the red blood cells breaking because they're too large that causes you to become low in red blood cells. In that case,

Dave Asprey ([00:45:48](#)):

Why do they get big in this hemolytic? What would cause big puffy red

Dr. Christy Sutton ([00:45:52](#)):

Blood cells? Okay, so the reason that they're big is because if you don't have enough B12 and B nine and B six, then basically when red blood cells are made in our bones, then they start out very big and then you need the B nine and B12 and B six to basically kick everything out of those red blood cells except for the hemoglobin, and then they get smaller and smaller and smaller so that they're very small and they can get through the capillaries without breaking. So red blood cells are very unique. They don't even have any mitochondria in them. They're just these little pouches of hemoglobin going through our blood. So if you're low in those B vitamins and the red blood cells cannot get small enough and then they break as they go through the capillary, so that's one type of anemia. Hemolytic anemia can cause iron loading anemia, and that is like if somebody has thalassemia or sickle cell anemia that can cause hemolytic anemia.

Dave Asprey ([00:47:00](#)):

I'm asking because my mother had a Botox injection for an overactive muscle. Two weeks later she came down with what they were calling autoimmune hemolytic anemia. Her levels of iron ferritin, even just her hemoglobin were very low, and it was one of those things that was life threatening and it seemed like it just turned on very quickly.

Dr. Christy Sutton ([00:47:22](#)):

Yes, hemolytic anemia and aplastic anemia can both be caused by autoimmune issues. I mean all of the anemia can be caused by autoimmune issues because autoimmune diseases are so varied and they can just look like everything because it just depends on what part of your body's getting attacked and what your environment's like. But yes, there's definitely data, and I have that in the book citing where hemolytic anemia and a plastic anemia concur from an autoimmune type issue. That's really interesting about the Botox though, because Botox, you're injecting this toxin and then your immune system's like, Hey, I don't want that toxin, and then that creates this hemolytic anemia. I mean just like mold, I love it. Mycotoxins can also create anemia and they can create autoimmune issues that can also create anemias.

Dave Asprey ([00:48:23](#)):

Probably also that stomach acid thing, you have 85% of people with Crohn's have very high levels of aflatoxin, which means they're getting exposed to toxic mold, and I lived in a house as a kid and different houses. You're an adult with high levels of toxic mold, and as if you haven't heard me talk about it, go to moldy movie.com. It's the documentary I made. It's free with a dozen experts talking about toxic mold and what a big problem it is. So maybe if your iron levels are off, maybe it's something in your environment. Wait, what's that definition of biohacking? Oh, change the environment around you and inside of you so you have control of your own biology. Well, mold is part of it. Tox exposure is part of it, and those could cause low iron, so it's one of these things, well, what's the one cause of anemia?

([00:49:07](#)):

There is no one Cause what's the one cause of pizza? I don't know. Is it the crust or the cheese? Well, you have to have a recipe and it's that way with all of the things in your health results. So my path has been playing detective and learning from experts all over the world and becoming one, and it shouldn't have to be that hard. It's just a lot of this isn't taught in medical school. You'll learn it in functional medical school, which is usually training after you get your MD or your chiropractor degree or your functional medicine. There's all sorts of different healers out there who have health certifications and it's a question of what did you study and what do you know? You're a great expert on this stuff because you're helping your husband recover his health, right? It's an important thing.

Dr. Christy Sutton ([00:49:51](#)):

I feel like I have to issue copper deficient anemia.

Dave Asprey ([00:49:54](#)):

Oh, thank you. That wasn't on my list of all the crazy vitamin deficiency. Okay,

Dr. Christy Sutton ([00:49:57](#)):

It's copper, so there's copper deficient anemia and there's anemia of inflammation and then lead is another toxin that can cause anemia, but copper deficient anemia looks like iron deficient anemia because what happens is if you don't have enough copper, you cannot absorb iron correctly.

Dave Asprey ([00:50:16](#)):

Thank you. That's one of the biggest things you could learn from the show if you're doing iron and all these things and it just doesn't work. You have a copper problem, not an iron problem. So thank you. That was one of the big things I wanted to talk. Yeah, that's right. Go deeper on copper

Dr. Christy Sutton ([00:50:28](#)):

With me. I felt like I needed to talk about that with you. Okay, so copper is very important for the enzyme Ceruloplasmin and Ceruloplasmin is in our intestinal lining, and if we don't have enough copper, then we do not absorb iron, and then if we don't have enough copper, we cannot transport the iron because Ceruloplasmin is what allows iron to go onto transferrin so it can move through the blood, so we don't have enough copper. Then what happens is the iron gets stuck in specific parts of our body and it can't get out, and so we start developing iron loading in the liver or in the retina and in the brain and the iron can't get out because there's no copper to open the door to let the iron get out and move it around, but there's also no copper to allow the iron to be absorbed from the intestines.

([00:51:27](#)):

So there's copper deficient anemia on labs, looks like iron deficient anemia except for you can also get low white blood cells occasionally. I don't see that a lot, but occasionally low white blood cells and low neutrophils because of low copper and copper is really, there's a small percent of the population that shouldn't take copper because they have a Wilson's or type of genetic issue, but that is so rare and it's really pretty safe because our body has a way to excrete excess copper through the bile and the liver. As long as you have a healthy liver, then you can excrete it pretty easily and you can, there's a lot of people out there that are iron deficient, anemic because they're low in copper, and if the doctors are bad about looking at iron, they're really bad about looking at copper.

Dave Asprey ([00:52:14](#)):

Most of the time. A traditionally western trained doctors are going to say copper is a toxic metal versus a necessary metal that's toxic at high doses, unlike lead, which is just toxic at any dose. So a lot of times people have heard of Coppertone, which is a sunscreen, and they think, oh, it's because you want your skin like copper because you have a tan. The original formula from back in the sixties for Coppertone actually had copper in it because that's one of the things that makes healthy skin and today in the world of longevity, you've probably heard me talk about the peptide gh, HK, which is a copper containing peptide that makes you have younger skin and helps with wound healing and it's higher when you're young and it's lower as you age. It's probably one of the reasons that getting a blood donation from a young person helps an older person is because you're getting GHK, which is a copper tripeptide. It's also present in some collagen products and the guy who made collagen in a billion dollar industry because collagen's kind of important, but it doesn't always have GHK in it. So if you're listening to going, whoa, you're saying I need copper, but not too much. I need iron, but not too much, where would you start supplementing? Do you take iron first? Do you take copper first?

Dr. Christy Sutton ([00:53:30](#)):

It depends on the person

Dave Asprey ([00:53:31](#)):

To get your labs. You'll get red blood cell values in order to know what you need.

Dr. Christy Sutton ([00:53:35](#)):

Yeah, I mean you'd want to look at the iron panel. You want to look at the CBC if it's always helpful if you can get the copper and the seroplasma serum copper is not the most accurate lab be, it's just not that helpful. Red blood cell copper is a little bit more helpful. It's just a lot harder to get a red blood cell copper. I think you have to look at the whole picture. You have to look at, okay, if somebody's really low in iron, you want to get that iron up because if you don't get it up and they stay low, now they're at a high risk for needing an iron infusion, which is really bad news, but necessary. It's better than dying of low iron, which is possible, but it's going to create all these free radicals because if you just inject iron in your veins through an iron infusion, then what happens is the iron isn't bound to transferrin and then transferrin is kind of like a chaperone, so you don't have a chaperone and then that iron can just go out and start reacting with things and start doing bad things.

([00:54:42](#)):

And so this doesn't happen when you eat iron and you absorb it and you take it through a supplement, then you don't get this iron going through your iv. That's really reactive, so it's important to try to get iron levels up through diet and supplementation. As far as your question, as far as what's better, the iron or the copper, you can do both. I don't think it's going to be a problem to do both, but I think where a lot of people are missing the puzzle is what's going on with your gut because or how much are you, do you have a really heavy menstrual cycle where you're bleeding so much that there's no amount of supplementation that's going to fix this issue? Do you have undiagnosed celiac disease where you can't absorb nutrients? That's really common. Do you not have good hydrochloric acid? Why are you so low in these nutrients? Supplement but always ask why and then fix that. If you're low and if you're high ask why. If you see an elevated ferritin on labs, ask why and say take it to the next step and say, do I have a hemochromatosis gene? Regardless, you got to fix the high iron, but if you have the gene, now this is going to be a lifetime thing that you have to manage.

Dave Asprey ([00:55:56](#)):

That's why it's so useful to get functional genetic panels as well as just a genetic, well, what's my body actually doing with my genes and what genes do I have? Because if you don't have the hemochromatosis genes, you're probably not going to have a problem with that. You still get have high iron, but it won't be because of genes. One of the problems that I see when people start supplementing and even where is, oh, I'm going to put a hundred or 200 supplements in one powder for you. The personalization is missing and it doesn't quite often work because some things are too high, some things are too low based on personalization, but zinc stands out during the pandemic. Many people started taking more zinc, which is a good idea because most people are deficient in zinc as while the processed foods and plants that steal zinc from you so you won't eat them and things like that.

([00:56:45](#)):

Well, I have a genetic thing that means I need way more zinc than the average person. So if I take enough zinc to meet my needs for zinc, zinc competes with copper for the same receptors, so I'm much more likely to have copper deficiency. But if you take zinc and copper at the same time, zinc usually absorbs. So one of the things that this will create is gray hair. So my mom completely gray in her, almost white in her mid twenties. She went very, very early probably because of this zinc copper thing because you need copper to have darker hair. The question is if people are supplementing zinc or maybe they

have supplemented zinc and they need to get their copper levels up, which would in turn raise their iron levels, how do you get copper up if you still take zinc?

Dr. Christy Sutton ([00:57:32](#)):

We have to take 'em separately, make sure your stomach and everything is working to absorb it. Just like if you need to take iron and calcium, take those separately because they're going to bind together. The truth is a lot of the minerals compete in the first part of the small intestine is all of the minerals are basically absorbed in the first part of the small intestine called the duodenum, and they really compete. They're all kind of competing to get in, and some people genetically are better absorbing some minerals and some people are better or worse at absorbing some minerals. And I have the same genetic issue like you for the zinc where I'm tend to need more zinc and I struggle with, I have to take zinc too. But yeah, it's about combining things in a way where they're not going to bind together, which can be complicated sometimes. Sometimes you're like, oh, what do I need to take at this meal? And I just only eat so many times a day.

Dave Asprey ([00:58:30](#)):

One of the things that I believe helps with absorption is having the right forms. So in the mineral formula that I make called minerals 1 0 1, I do have zinc and copper in it. And in an ideal world, would you take 'em separate? Would most people do it? No, but I'm using forms that are chelated to glycine specifically because it's the first place that minerals go in cells and there's many different ways you can bind minerals to things to make them absorbable. So that's part of my mineral strategy. And then the other part is ionic minerals that can open cell membranes and those are present endangered coffee, which by the way is the only lab tested mold-free coffee that's out there at least lab tested with the test that can actually detect ritoxin A, which is also tied in with all of our mineral levels. So I'm restoring trace minerals when I drink my coffee instead of taking 'em out, which a lot of coffee can do.

([00:59:24](#)):

And then I'm taking supplements that are bound to the right amino acids. And guys, if you want to know about that stuff, minerals one oh one.com is a good place where you can go to get that supplement and it's or take whatever you like. What I want you to do though, more importantly is know your levels. And if you're saying, I don't have money for a lab tests and supplements, it's probably a good idea to get the affordable minerals and the fat soluble vitamins that help to guide the minerals in. It's like vitamin D tells some minerals to go places Vitamin A for others. Are there fat soluble vitamins that guide iron and copper into cells?

Dr. Christy Sutton ([00:59:58](#)):

Yeah, mostly it's vitamin A. Vitamin A is important for that.

Dave Asprey ([01:00:04](#)):

And plant-based vitamin A isn't actually vitamin A. And I've seen vegan collagen, which is hilarious. There's no such thing. Plants don't have skin or joints, but you see this mislabeling, I'm surprised the FDA allows that. You also see this with plant-based vitamin A, it doesn't convert and it doesn't have the effect of guiding copper into cells, which is why if you take vitamin D, which is less than 20 bucks a month when you're on the subscription, it has real vitamin A in it, the kind your body needs retinol, and that changes everything because if you take your minerals and you don't have your fat solubles, you're not going to get the results. And then there's separate connections between your red blood cells and your vitamin D levels, right? Talk about that.

Dr. Christy Sutton ([01:00:50](#)):

Yeah. So between the red blood cells and the vitamin D levels, I'm not familiar with the connections between the red blood cells and the vitamin D levels more so I would see that in the white blood cells and the vitamin D levels.

Dave Asprey ([01:01:02](#)):

That would definitely change white. I was thinking about Stephanie Synaps work where you look at the effect of vitamin D sulfation when it's being carried by red blood cells around in the body.

Dr. Christy Sutton ([01:01:14](#)):

I don't think I'm a good person to talk about

Dave Asprey ([01:01:16](#)):

That. Oh my God, it comes in through the skin and gets sulfated, but then it gets transported via the blood. So is it in the red blood cell? I'm not sure about that. I'd have to look that one up.

Dr. Christy Sutton ([01:01:25](#)):

Yeah, I'm not sure. I was still thinking about how, yeah, vitamin A, the orange vegetables just have betacarotene and then the betacarotene has to be converted to vitamin A, which only happens in animal products, which is a problem if you're not eating animal products or if there are some genes where you can't convert the betacarotene to vitamin A. And if you're eating animal products, it's not a big deal, but if you have that gene plus you're not eating animal products, it can really be a problem. So there was a lot of people that understand that. I was also thinking about how you mentioned ways to lower high iron, and one of the best ways to lower high iron is to drink tea or coffee with an iron rich meal because the tannins well decrease the iron absorption

Dave Asprey ([01:02:21](#)):

Tendons will to a certain extent. But if you really want to drop your iron, choose black tea because it's very high in oxalate, which by the way is bad for you. But oxalate is a great binder of calcium, other minerals including iron. And it's one of the things in my most recent book, smarter Not Harder, I'm talking about phytic acid from these plant-based foods and oxalic acid from plant-based foods. And their job is to steal zinc and copper and iron and calcium from you so that you can't absorb them. And I feel so bad when I see someone going, well, I'm taking this spinach thing, I'm like, do you not know that it has the wrong form of iron and it's full of oxalate that's going to stick to any iron you could absorb and it's going to cause a net loss of minerals even though it's in there.

([01:03:08](#)):

And black tea is exceptionally high both in tendons, which can be good at some levels, but not too high. But it's the oxalates that I think are going to really drive the fact that it's pulling iron out. I'm less familiar with coffee, certainly my coffee, I put minerals in the coffee. But the issue with a lot of coffee, if coffee makes you have to pee right after you drink it and your bladder's not full, that's because of the okra toxin A, which is a kidney and bladder toxin. So you get the need to excrete it right away and you can sort of tell whether your coffee's clean or not by that. But that's why I lab test the coffee because show me the numbers, that's what I live on.

Dr. Christy Sutton ([01:03:49](#)):

So in your coffee, do you put iron and copper and zinc and all of those in the coffee?

Dave Asprey ([01:03:55](#)):

I'm using humic and fulvic that contains essentially ancient plant matter where all of the carbohydrates and fats are removed. And what's left is just ionic minerals. So it's broad spectrum minerals. It includes all of them. And because of the delivery system of humic and fulvic, it's ionic. So it can actually open a cell membrane, enter the cell, and allow toxins out of the cell. So you don't use the same doses of humic and fulvic, but there's hundreds and hundreds of studies supporting the use of those substances to raise minerals inside the cells to get 'em in. So I use that combination. And then in minerals 1 0 1, which is it's three builds, it's not small. Other things like magnesium that has the glycine chelated minerals in it.

Dr. Christy Sutton ([01:04:39](#)):

Yeah, I drank your coffee. I did not have to pee right afterwards.

Dave Asprey ([01:04:43](#)):

Well, thank you. It was good. And that was danger coffee, right? It

Dr. Christy Sutton ([01:04:46](#)):

Was danger. Nice. Not the other one. Yeah,

Dave Asprey ([01:04:48](#)):

Not the other one. Alright, we're coming up on the end of the show. And if you were intrigued by this, check out the Iron Curse Diet or the Iron Curse is the name of the book, but there's nutritional recommendations and you get lists of things that will lower your iron and things that could raise your iron, including supplements and foods. Iron curse supplements include vitamin D three and K two and vitamin E. Oh, those are in vitamin D, right? Those are there for a reason because we're working on getting minerals where they go in the body, so they absorb. And you talk about nitric oxide boosters and alpha of poke acid and things that you guys have heard of on the show if you're into this longevity thing. So I think you have a really unique take on how to move this switch. That's one that's cheap to measure and it's one that's broadly impactful in the body.

([01:05:41](#)):

And you could spend eight hours a day and millions of dollars a year. And there's Brian, who's been on my stage. Brian Johnson does that, but most of us aren't going to do it. I've spent \$2 million over 20 years and that's still an insane amount of money, mostly because I was really sick and because then I got into longevity and it's what I do for my job. But what would happen if you just did the easy things? So I want you to pay attention and say, oh, iron and ferritin is something that easy to manage and easy to measure. And since increasing mitochondrial function, this is something that affects everything. You probably want to make sure that your iron is where it belongs if you are into longevity or human performance. And why else would you be listening to the show after all? So strong recommendation for the book. And if you are looking at fertility, anemia, perimenopause, or menopause, you need to understand iron and copper. And this is a great book for that. So Dr. Christie Sutton, thank you for coming on the Human Upgrade.

Dr. Christy Sutton ([01:06:42](#)):

Thank you for the opportunity.

Dave Asprey ([01:06:44](#)):

Where can people find out

Dr. Christy Sutton ([01:06:45](#)):

More@drchristiesutton.com or ironcurse.com? I have the more information about the book, iron

Dave Asprey ([01:06:52](#)):

Curse.com or Iron Chris? Iron

Dr. Christy Sutton ([01:06:54](#)):

Curse. Oh, sorry, I heard it was like Kristy Chris. Got it. Ironcurse.com and that has the more information about the book. And then I teach a workshop too that goes through all of the information.

Dave Asprey ([01:07:03](#)):

Beautiful. If you like today's episode, throw away your spinach and maybe eat some steak or don't depending on your lab tests. And if you want your lab tests, I appreciate your support. Go to upgradehealth.com. You'll save a ton of money on your supplements. You'll know your actual numbers. We'll integrate it with your aura ring and things like that. It'll give you specific biohacks supplements, nutritional recommendations so that, and if your levels are super high or super low, then you should go see a specialist. And if they're not, you just want 'em to be perfect for you to live a long time and have the most energy. Now you have control. Thanks for listening.