



Top Takeaways: #287 Copper and Iron Toxicity and Dysregulation, Magnesium's Role In Detox, Why So Many Are Iron Toxic with Morley Robbins

1. One of the foundational aspects of detox is allowing the body to start to work on it's own and to mineralize the body so that it can properly detox.
2. Magnesium and copper are two essential minerals for the body to detox properly.
3. Morely combined blood testing and hair test mineral analysis and created a test called the Full Monty Iron Panel.
4. One of Morely's breakthroughs came with realizing that copper needs to be bioavailable, and what allows it to be bioavailable is a protein called ceruloplasmin.
5. Ceruloplasmin has 1066 amino acids, which is 40 times more than insulin, as well as well as 8 copper atoms inside of it.
6. It has 18 distinct enzyme functions which makes it the master antioxidant in the human body, as well as the master regulator of iron.
7. Morely's protocol is a course that you can take to that teaches the fundamental elements about mineralization, iron, and how to read hair mineral analysis and labs.
8. Morely speaks about needing more magnesium, more copper, and less iron, as he believes that the bioavailable copper is the body's on switch, while the excess iron is the body's off switch.
9. 42% of our physiology needs magnesium, as well as every molecule of energy, making it a critical mineral, that when under acute stress, becomes depleted.
10. Magnesium can be found in four formats, food based forms, mineral rich water, transdermal, and chelated magnesium.
11. Inside the mitochondria there is the electron transport chain which is turning oxygen molecules into two molecules of water, which is a process that is copper driven.
12. If a cell can't get the mitochondria to complete this cycle, because the oxygen is not being burned properly by the bioavailable copper, then oxidants are produced which cause oxidative stress called inflammation.
13. Because copper is becoming less bioavailable, iron is becoming less functional, as copper regulates iron in the body. When the iron does not move properly, it gets stuck and creates oxidative stress
14. When our body ingests glyphosate, it attempts to turn the glycine into ceruloplasmin, which causes the ceruloplasmin to not utilize copper properly.
15. Morley's Root Cause Protocol which you can find at rcp123.org is all about getting our

- ceruloplasmin up and working correctly, by increasing minerals, increasing whole food vitamin complexes, and eating nutrient dense foods.
16. The retinoic receptors are vitally important for our well-being and through retinoic acids, load up copper, making sure that there's enough bioavailable copper in that ceruloplasmin protein.
 17. Retinol, vitamin A, and vitamin B are essential in allowing there to be enough bioavailable copper in the ceruplasmin protein.
 18. Build up of iron in the body can lead to dementia, Alzheimers, and oxidative stress, which expedites aging.
 19. If there is not enough bioavailable copper, iron can get stuck in what's called recycling macrophages, which is the origin of autoimmune disease.
 20. You can learn more about Morley Robbins and his Root Cause Protocol at therootcauseprotocol.com

Wendy Myers: Hello, everyone. Welcome to the Myers Detox Podcast. My name is Wendy Myers. This podcast is all about heavy metal detoxification, mineral balancing, hair mineral analysis, detox supplements and protocols and everything in between. We have a lot of guests talking about bio hacking techniques and diet and hydration. Lots of different topics to help you upgrade your health and find those missing piece of the puzzle for your health journey. Thanks for tuning in today. I had such an amazing last few weeks. I visited Cuba with my fiance and his son. We had such a great time. It's just a country I've always wanted to go to.

Wendy Myers: It was such an interesting experience. All the amazing food in Cuba, the amazing people and just Cuban music just around every corner. The people are so exuberant and happy. It was just a wonderful experience. Visited all these 18th century perfectly preserved French colonial towns and then ending up on a beautiful Caribbean beach and perfect white sand and blue waters. It was just a great vacation. Did a little bit of a digital detox because there's not much internet there and not much phone service. It was a nice way to just check out. I recommend you guys take a vacation and do a digital detox also. Today on the show, we have Morley Robbins.

Wendy Myers: He's a very, very good friend of mine. We're going to be talking about copper, magnesium, iron and rethinking copper toxicity and iron toxicity. A lot of really eye-opening facts on the show today. We talk about how a lot of practitioners in the hair and tissue mineral analysis think all people are copper toxic. That's not the case. A lot of people can be mistakenly told that they're copper toxic when they actually just have poor ceruloplasmin functioning.

Wendy Myers: We talk about how glyphosate, which is round up ready herbicide used on the majority of no-organic vegetables and products interfere with a protein called ceruloplasmin that then impacts our bioavailability and usability of copper, which is essential for proper detoxification in the body. We also talk about iron and how the majority of people are iron toxic because we

have this program, our government program of iron fortifying cereal grains and refined wheat products, which everyone's been eating for decades. We get our iron in supplements. We are definitely on iron overload in our society. It causes oxidative stress. It causes damage. It causes fatigue. It causes dementia.

Wendy Myers: It contributes to Alzheimer's and other forms of dementia. The iron is a huge, huge problem. It can build up in the liver and cause anger. We talk about what to do about iron, how to detox it from the body and what it's doing to cause dysregulation in your body and contributes to so many different health issues. Why Morley thinks that iron deficiency anemia probably doesn't really exist. It's more about your iron and copper and ceruloplasmin balance in your body. This is an in-depth analysis of this stuff. All the practitioners listening and detox savvy listeners will eat this up.

Wendy Myers: It might be a little bit more challenging for the average lay person but still a very, very interesting podcast. I think it will help to open a lot of people's eyes. I know a lot of you guys listening to this show are looking to detox heavy metals and looking for detox strategies that work. You need to know what heavy metals you have in your body. We know that everyone has them. They are not air, food and water. They're unavoidable. I created a two-minute quiz to help you determine the potential levels you have of heavy metals in your body. I urge you to take the quiz at heavymetalsquiz.com and learn the next steps to take. You take the quiz.

Wendy Myers: You have a high level of heavy metals in your body based on your answers, we give you a video series and the next steps to take to remove toxins from your body safely and effectively. Go to heavymetalsquiz.com. It only takes a couple of minutes. All right. Our guest today, Morley Robbins is the creator of The Root Cause Protocol. This is his really amazing protocol to help detox your body and get your body back into mineral balance. Morley also known as the Magnesium Man is one of the foremost experts on magnesium's role in the body and the delicate dance magnesium plays with iron, copper and calcium. In 2012, Morley founded the Facebook group, Magnesium Advocacy Group.

Wendy Myers: It's a huge Facebook group on Facebook. 175,000 members so I urge you to join. You can also learn more about magnesium at GotMag.org. He remains the de facto leader of the Magnesium Advocacy Group on Facebook with over 175,000 members and growing daily. As a certified health coach with an expertise in hair tissue mineral analysis, also known as HTMA, Morley has performed over ... He said in the podcast, 6,000 one on one consultations with patients from around the world. You can learn more about Morley at therootcauseprotocol.org and gotmag.org. Morley, thank you so much for coming on the show.

Morley Robbins: Absolutely. It has been a long time since we've had a chance to catch up.

Wendy Myers: Yeah, I know. It's been too long. We were both in the detox space and helping people to remove heavy metals and get their health back. You were an early mentor of mine. You taught me everything you knew. I really treasure that education. Prefacing that and having that as a stepping stone to this part of my education about detoxification.

Morley Robbins: You're very kind. I remember those conversations were very special. Appreciate all of the folks that you have referred to me over the years. It's been absolutely amazing. As you can see, I'm really coming up in the world. I've got this beautiful office now.

Wendy Myers: You're in a great recording environment.

Morley Robbins: Exactly.

Wendy Myers: Being in a closet.

Morley Robbins: It's very quiet here. I needed silence. This was the best I could do. I appreciate the chance to catch up. As we were saying before we started the conversations, these two Jedi masters coming back for a reunion. It's really funny. You mentioned that you were headed off to China, which I think is very exciting. I want to hear more about that. I've had a chance to go to Australia now a couple of times. When we were down there last year and we were there for about a month, it was actually a little over a month. By the time we got to Melbourne, which was our third city, we were getting pretty piqued. We ended up watching a video series on Bruce Lee. It was a 50-part series.

Morley Robbins: I think we watched 25 parts while we were in Melbourne. We were just so burned out. I knew who he was. I didn't know how special he was. It really helped me crystallize my thinking about the healing process. His whole philosophy was about not just offense versus defense. He brought the two together. That was his gift. He melded Yin and Yang and created his own school of martial arts, Jeet Kune Do. It was legendary what it did for the whole field of martial arts.

Morley Robbins: I think in some respects, that's an influence for me and the work that I've been doing the last probably couple of years now is really trying to provide the focus and the nutritional support so people could in fact bring it together. It's very, very intriguing. I'm choked up.

Wendy Myers: Yeah. Because detox is very much about laying that foundation to allow the body to just work properly on its own, to detox on its own. That's a big part of detox, which a lot of people miss. They want to make it more complicated. Do things that are really complicated regimens. One of the most basic factors or facets of detox is just mineralizing the body so it works.

Morley Robbins: Yeah. No question about it.

Wendy Myers: Yeah.

Morley Robbins: I'm sure many of your listeners are familiar with Phase I and Phase II detox. Very, very important. They don't work for you very well if they don't have minerals, especially magnesium and copper. They're critically important for that whole process. Certainly, I know experiences with your client base, most people are not minerally balanced. They're not even close to being where they need to be in order for their body to detox itself much less support the detox that they've got to do moving forward.

Wendy Myers: Yeah. Let's have a little bit about your new approach to metabolic dysfunction. We know that you help people to detox heavy metals. For anyone doesn't know, you use hair mineral analysis or HTMA to discover what minerals and metals that people have their body. You design supplement protocols for people or make recommendations to help them detox. You have a very unique approach. Why don't you tell us a little about that?

Morley Robbins: Yeah. I think we've both caught our teeth on HTMAs and the value of those minerals. It's very, very important. I began to stray a little bit probably four or five years ago. I wasn't getting the results that I thought I should get. I was very frustrated by the confusion around copper. It didn't make sense to me. I knew it was an important mineral. How did it become low? That didn't make sense to me. I started to incorporate blood testing in addition to the hair testing and developed several different tests. The one that I use regularly I call it the Full Monty Iron Panel. I've got different websites where people can order that in the States or in the UK or Australia.

Morley Robbins: We're working with Canada and different parts of the world where people can find out what's really going on in the body? I think the real breakthrough was realizing that the copper needs to be bioavailable. We talked about that on our earlier conversations. What allows it to be bioavailable is a very important protein called ceruloplasmin. When you and I talked, it's probably a little over two years, I barely knew how to spell it. I barely knew how to pronounce it. I've been focusing on that protein for several years now very intensely. It's a very critical part of our body. For the listeners, it's important to get context.

Morley Robbins: A lot of people know about insulin. Insulin has 25 amino acids. We know how powerful that is in terms of managing your blood sugar. Ceruloplasmin has a 1,066 amino acids. It's 40 times bigger than insulin. In its ideal state, it has eight copper atoms inside it. There's no other protein in our body that even rivals that kind of complexity. What I've learned over the last six months, I've done a very deep dive to identify the fact that this ceruloplasmin protein has and I'm up now to 18 separate and distinct enzyme functions. It is the master antioxidant in the human body. It is the master regulator of iron.

Morley Robbins: What I think people need to understand is that the fight on this planet is over oxygen. We have a torturous battle with pathogens over that oxygen. They like it, so do we. They have very sophisticated ways of accessing that oxygen. What people seem to have overlooked is that all of those pathogens live on iron. Very fundamental. There are a lot of things in the environment that will affect that oxygen in our body. When that oxygen gets tweaked, it sets off a chain reaction. If you have adequate levels of ceruloplasmin that are properly designed and loaded with copper, no problem. There's a lot of hysteria in the nutritional world about copper toxicity.

Morley Robbins: There is no copper toxicity. One of the most important functions of ceruloplasmin is to gobble up and reincorporate that copper and get it back into use. Whole food Vitamin C will do the same thing. There's a lot of mileage that people get in scaring people about copper toxicity when in fact, it's a misnomer. Because there's 60 times more iron in the body than there is copper. We've talked about that. Yes, when copper is outside of that ceruloplasmin, it can be disruptive. Let's focus on the 60 Ninja Warriors for every Navy Seal that we have in our body. The iron as we discussed is a completely misunderstood mineral that is completely mismanaged in our body.

Morley Robbins: Just before you and I connected, I've got a call from a client who had heavy menstrual bleeding for five years. Five very long, frightening years and she finally had a breaking point. She was in a hospital getting an iron infusion. They were giving her iron supplements on top of that. She started to bulk. She said, "I don't think this is working." I don't know how she connected with The Root Cause Protocol but she called me. The timing was just kismet. She called to say that she wants to go through my training because she wants to help other women who are being completely mismanaged. Her hemoglobin was 4.2.

Morley Robbins: Now, it's a very perky 13 because she's doing the protocol. She's restoring her minerals in general but she's got a laser-like focus on bioavailable copper. She says, "I can't tell you how grateful I am but also how great I feel." She's starting a woman's movement around this very issue.

Wendy Myers: Yeah. Your Root Cause Protocol is a course that you can take that teaches the fundamental elements that mineralization, about iron and how to read hair mineral analysis and labs correct.

Morley Robbins: Yeah. In fact, I call it the Copernican Institute named after Copernicus. Of course, I changed the spelling. Spelling was C-O-P. I changed it to C-U-P for copper obviously. I've had the pleasure of now training about 250 practitioners, which is very exciting. I have a new class starting up in the middle of June.

Wendy Myers: I was one of the first students. Was I the first one? I was one of them.

Morley Robbins: Yeah, absolutely. Yeah. Certainly, with the series of conversations, no doubt about that. It has blossomed into something that I never imagined I would be doing. I think what is exciting about it is it really gets it down to the essence of what Bruce Lee talks about, the Yin and Yang. I think that copper and iron have this very special relationship in our body. I think there is an overall switch. I think that the bioavailable copper is the on switch and I think excess of that iron is the off switch. When you first hear that, you're like, "No. It can't be that simple." When I first had that idea, I was like, "No. It can't be that simple." That simple idea was about three years ago.

Morley Robbins: I've read several thousand articles since then. It's not pride of authorship. It's not beating my chest. It's what the research says. It's absolutely compelling evidence in the research that there really is this disconnect in these minerals. I think it's 96 minerals on the planet. There are typically 84 in the little mineral bottles. There are 18 that are considered essential. I think there are only three that count. We need more magnesium. We need more bioavailable copper. We need less iron. The Root Cause Protocol is designed to help people address that.

Wendy Myers: Yeah. One of the problems is so many people are deficient in magnesium. They're taking magnesium and it's the wrong form. People have iron overload rich in so many enriched flours and cereal grains that so many people have been eating for decades. Even if you've been eating healthy the last few years, we're getting iron in a lot of different sources including supplements if you are taking. People don't have adequate levels of copper. I know most hair tissue mineral analysis, the majority of people that are low in copper and they're doing something wrong or they're not getting it. Let's talk about that how your thinking has evolved in regards to magnesium.

Morley Robbins: Yeah. Magnesium I think is still the orchestra leader. I think it's still the conductor of the orchestra. It's a very powerful relationship between magnesium and iron in the body. What's important for people to understand is oxygen hasn't always been on this planet. I think the planet goes back from 11 to 14 billion years ago, which is mind-blowing to think about. I'm not sure how they know that but they claim that's what it is. I know there are people who think it's only a few thousand years old. It's an old solar system. What's important for folks to realize is that 2.45 billion years ago, cyanobacteria created what's called the great oxygen event, GOE.

Morley Robbins: They started splitting water in the seas and created oxygen from that. To this day, I'm not sure the brain biologists know exactly why that started happening but it did. Oxygen started to be given off. When that did happen, it interacted with the dominant metal on this planet called iron at 36%. The number one element on the planet is iron. What happened when iron mixed with all that oxygen? It wiped out 99% of life on this planet. Suddenly, the planet was faced with a crisis. What is fascinating

when you get into it and it's amazing that there are biologists, marine biologists, astrophysicists that are fascinated by this.

Morley Robbins: They started to study what started to appear on the planet. Copper, cholesterol and what are called multicopper oxidases. That's a fancy term for an enzyme that uses copper to deal with oxygen. Those three entities, copper, cholesterol and multicopper oxidases only merged in about the same time as this great oxygen event. Wow. What do we draw from that? Copper is really important for working with oxygen. Given that oxygen is what's causing all the problems, it's a good thing to have bioavailable copper. It also holds the question, cholesterol is that old? It's 2.45 billion years old? It turns out, it takes 11 molecules of oxygen to make one molecule of cholesterol.

Morley Robbins: What is cholesterol? It's an oxygen sink. It's a great place to store oxygen if you've got too much of it. It totally changes your understanding of heart disease when you realize that it's a really important part of our physiology. You and I know that but to have that historical context totally changes it. What does the entire lipid metabolism depend on for its proper regulation? Copper. It's completely misunderstood by mainstream medicine. I think it's important for people to realize that when that happens, it creates what's called oxidative stress. Oxidative stress burns up magnesium. I was always intrigued by the magnesium burn rate.

Morley Robbins: It's associated with every condition on the planet. For the first couple of years that I was doing this work, I just assumed get people more magnesium and the problem will go away. I had one practitioner say, "Morley, if it was that simple, we would have thought of it." I'm not talking when I say, "Well, you obviously don't understand it the way I do." I was dead wrong. I think that the magnesium only crowd doesn't fully understand the problem. We need that magnesium. It's almost 4,000 enzymes that depend on magnesium. The off coded 300 enzymes, that was from the conversation with Bert Vallee. He was a medical educator at Harvard Medical School being interviewed back in the 1950s.

Morley Robbins: Someone asked him, "Dr. Vallee, how many enzymes in magnesium?" He said, "It's probably about 300." It was a swag. He pulled a number out of the air and now, that's the cornerstone of every scientific journal is that conversation with Bert Vallee. What is that? 60 something years ago. It's actually comical. It's actually about 42% of our physiology needs magnesium. Every molecule of energy needs magnesium. Adenosine triphosphate doesn't work without magnesium. It's obviously a very, very critical mineral. Under acute stress, it's the first to go.

Wendy Myers: Yeah. How much magnesium do we need? What forms do we need to take?

Morley Robbins: The rule of thumb that I use is based on the work of Mildred Seelig. I just converted it into units that Americans would understand. It's 500 milligrams per pound body weight. For the rest of the world that's into

metric system, it's 10 milligrams per kilo. That's above and beyond what you might be getting in your diet. I think there's compelling evidence that we live in a pretty stressful world. That's a safe statement. We live in a very stressful country. Many of the people that follow our work are living very stressful lives. We know that. What's important is the people who do follow our work are high IQ. When does stress begin for someone with high IQ? When they feel out of control.

Morley Robbins: The challenge is getting past a lot of the information that's available readily on the internet isn't the full story. You know that. I know that. I think many of the people listening to this know that. That can be very confusing for people. We just have to be very careful about that. In terms of formats, I think there really are four broad categories of magnesium. You have food-based forms.

Wendy Myers: Beans.

Morley Robbins: Beans, leafy greens are a wonderful source. Licorice root, that licorice candy. Everybody would say, "Licorice candy, that's great." There's some wonderful sources out there in the diet that can be readily accessed. Anything green typically has magnesium. What I learned is that anything green also has copper. It just takes a little bit of copper, which we'll talk about in a minute to run with the system. Second category of magnesium is magnesium water. Mineral rich water will typically have a very high concentration of magnesium. Any of the supplemental forms of minerals are typically going to have a preferential concentration of magnesium, which is wonderful.

Morley Robbins: Third form is transdermal, doing foot baths and full baths using either Epsom salt or magnesium chloride oil. I caution people from putting them together. Do one or the other. Don't do them together. The fourth kind that I think is very popular is some form of chelated magnesium. The two that I found the best results are with magnesium malate and magnesium glycinate. They just seem to be better absorbed. People seem to respond better to those forms. There's research to back that up. I think that on an ongoing basis, those are important sources of magnesium. What does magnesium do? It lowers your stress level.

Morley Robbins: It's a magic chill pill. It's incredible what it does to reset your perception of stress that you might be going through.

Wendy Myers: Yeah. It's so important for sleep also and all of this helps detoxification. You have to lower your stress level. You have to get to that parasympathetic relaxation, digestion, detox mode. You have to sleep. You have to have minerals to make all that happen. Minerals including magnesium lower those stress levels. It's just amazing. That in itself solves little downstream problems for people.

Morley Robbins: Yeah. No. It's incredibly important. What I think is key to understand is that there's this torturous battle with oxygen. We can't live without it. At

times, it's almost like we can't live with it. We know what a rusty nail looks like. We know what a rusty pipe looks like. We know what a rusty car looks like. We never think that that rusting process is happening inside of our body. In fact, it is. There's many different research scientists who are quite emphatic about the oxidative stress theory of aging. That that's really ultimately what wears us down is this relentless tear down by oxidants. The way I describe those are accidents with oxygen.

Morley Robbins: Oxygen in its molecular form is a gas is great. When you start to tweak it with electrons, it turns into hydrogen peroxide. It turns into the hydroperoxyl radical. It turns into a peroxy radical which is what causes fats to get rusty. That's a very different beast inside the body. The beauty of our body is that we have elegant enzymes that are designed to neutralize all that. It's a third class of enzymes called antioxidant enzymes. The mineral key to activate all of those enzymes is by copper. It's essential. The difference is iron is a waiter that carries oxygen. 80% of the iron in our body is tied up in what's called the erythron.

Morley Robbins: That's the whole system of activity that's birthing and transporting and recycling red blood cells. That's called the erythron. Iron is right in the thick of it. That's where 80% of our iron is. What does it do? It's carrying oxygen. There's a chef in our body, there's a chef in ourselves, that chef knows how to slice and dice the oxygen. It turns it into energy. That's what's happening inside a mitochondria. The mitochondria and inside the mitochondria what's called the electron transport chain is turning that oxygen molecule, O₂ into two molecules of water. Where is that magic happening? It's happening in complex four, which is copper-driven.

Morley Robbins: There's three atoms of copper there. That copper, it's a two-stroke engine. The first stroke of the engine is to turn O₂ into H₂O₂. There's a backstroke that turns the H₂O₂ into 2H₂O. It's absolutely amazing how it does it. You can't do that without copper. For the folks who want to know what's the molecular origin of hydrogen peroxide? It's right there. What's the molecular origin of inflammation? It's right there. If the cell can't get the mitochondria to complete that cycle, because the oxygen isn't being burned properly, there's not enough bioavailable copper, then we get oxidants. Those oxidants begin to create the oxidative stress that we call inflammation.

Morley Robbins: It's that straightforward. I'm not sure about your practice but mine is just riddled with people suffering from inflammation. It does not always show up as high C-reactive protein. That's a very narrow band of society alike. Actually has a C-protein that's been affected by the inflammation. Most people who have a subliminal inflammation that is really tied to the problem with iron recycling, which we'll talk about in a little bit.

Wendy Myers: In your estimation, do people typically are low in copper then we could supplement with it? It's more of a balancing act with other minerals? What is your solution there? How do you do? You said you did a blood testing. Tell us what the issue is and how we solve it.

Morley Robbins: Yeah. No. It's a great question. The two words that I would like see banned from medicine and nutrition are high and low.

Wendy Myers: Yeah.

Morley Robbins: They don't work. Everything is about bioavailability.

Wendy Myers: Yes.

Morley Robbins: That's a bigger word to use. I think it's much more honest and accurate. The issue with copper is one, a bioavailability. In the vast majority of situations, people don't have enough bioavailable copper. What we have to understand is that the fourth or fifth generation in our families to have been exposed to massive changes to the food system. The mineral composition of soil is very different today than it was 75 years ago. There's some studies that say that there's been as much as an 80% loss of copper in the soil. We're exposed to foods that have an overuse of high fructose corn syrup. What's the downside of high fructose corn syrup?

Morley Robbins: It blocks copper absorption in the uptake doorway of the cell. That's a problem. It's called CTR1, copper kicking in. I know you've had extensive conversations with Stephanie Seneff. I saw her at a very important conference, the Forum for Integrative Medicine in Chicago a year ago, April. She pulled me aside. She said, "Morley, would you like to know why glyphosate is such a problem for copper?" I'm like, "Yes, I would love to." This was over a breakfast discussion. Glyphosate chelates copper down to a pH of one. I think she needs to say that more often. I think for people understanding what that means is that our stomach acid goes down to two.

Morley Robbins: This means that glyphosate that is prevalent in the food system now is a bulldozer. Removing minerals but especially removing copper. That's a serious problem.

Wendy Myers: That's how it kills weed. It's an herbicide. It kills weeds by stripping all the minerals out to kill it.

Morley Robbins: Exactly, yeah.

Wendy Myers: That's what's it doing to you, too, slowly.

Morley Robbins: Yeah, exactly. I think it's important to put the laser on and say it has a special uptake for copper. There are 16 conserved glycine in ceruloplasmin. Glycine is an amino acid. What is glyphosate? It's glycine with a nitrogen mortar. It looks exactly like glycine but it's got this nitrogen mortar on it. The body starts grabbing what it thinks is glycine but it doesn't work the same way. Those glycine are what are called conserved glycine. When I was talking to her, I said, "What's that word conserve mean?" She said, "It means it's really important." "Okay." I didn't know that.

Morley Robbins: It was a very powerful exchange between the two of us. I think it really helps sharpen the focus about this copper crisis that we've got.

Wendy Myers: You're saying that the glyphosate, the body takes at a thing that's glycine. Tries to make ceruloplasmin out of it and then that makes the ceruloplasmin not work properly and then not utilize copper properly. This copper is in our body, in our diets, in our meats, everything that we're eating but it just can't be used because ceruloplasmin isn't working because of glyphosate and other factors that block it like high fructose corn syrup, that synthetic Vitamin C. Ascorbic acid is a problem as well. Anything else interfering copper?

Morley Robbins: There are a number of factors. Tylenol interferes with copper. We'd have to have a separate show just to talk about the things that block it.

Wendy Myers: Yeah.

Morley Robbins: The important thing for people to realize is that you asked a very simple question. Is it too little or too much? It's both. I think what we have to really caution people is you can't eat anything but organic food. I know there's a price point involved in that. The price of good health is too critical here. People need to realize copper needs to be bioavailable. It needs to be complex with that protein with the other enzymes that it's vitally important to run. Again, people need to realize that there really is a focal point for all of these conditions that people struggle with. Whether it's Lyme disease or heart disease or neurodegeneration or Raynaud's.

Morley Robbins: You name the litany of conditions that people have. There is raging oxidative stress at the very center of all of that. What does that tell us? There's two metals especially that are out of whack. Copper's not bioavailable. Iron is not in balance. Magnesium is being burned up in a New York minute because of all the oxidative stress. When you begin to see it in that sense of clarity and begin to address the real culprit here is the iron. Because it's so pervasive in our environment as you alluded to and referenced just a minute ago. I think the challenge is that people have been trained to think that they are copper toxic and anemic.

Morley Robbins: That is so deeply embedded in the psyche of so many people. In fact, the truth is just the opposite. What we really are facing is the true crisis that because the copper is not bioavailable, the iron is not functional because it's copper that regulates iron. Regulates the recycling iron, regulates the movement of iron and if that iron is not moving right, it's going to get stuck. When it gets stuck, it creates oxidative stress. That's its job. It's written in headlines and articles all over the planet. Especially with scientists that come from countries that start with a Letter I. It's fascinating. I'm serious. India, Ireland, Iraq, Iran, Iceland-

Wendy Myers: Israel.

Morley Robbins: Yeah. There are some great research in every one of those countries. They're just stellar. Obviously, there are other practitioners have some great research out of the UK, out of the US. Australia has some amazing iron researchers. There's just this consistency coming out of countries with the Letter I. I just find it very funny. The important thing is that people need to recognize that the fight is over oxygen. Iron and copper have completely diametrically opposed relationship with oxygen. Iron carries it. If it's not carrying it, it's creating rust. Copper loves to slice and dice it, either to make energy or to clear exhaust.

Morley Robbins: That's the beauty of copper is it has two very simple functions. Create energy, clear exhaust. Wax on, wax off. It's right out of Karate Kid. I'm sure that people can imagine that. The point is, it's basic.

Wendy Myers: Yeah. The main part of your Root Cause Protocol is getting ceruloplasmin online and working.

Morley Robbins: Absolutely.

Wendy Myers: A lot of people do their blood testing finally have low ceruloplasmin levels. How do we get it online? One was you mentioned if people can take liver supplements, liver glandulars can help because it has copper in it. We can also not eat high fructose corn syrup, not eat pesticides, glyphosate, which is in the majority of non-organic foods and not eat synthetic Vitamin C and Ascorbic acid. What else can we do?

Morley Robbins: Yeah. For the listeners sake, they can go to the website rcp123.org. RCP for Root Cause Protocol, rcp123.org. They can download the instruction manual. Tried to make it as user friendly as we can. The process is broken down into two broad categories. Stops and starts. Much of what you just said, stop taking iron supplements. Stop taking calcium. Stop taking synthetics. Stop taking ascorbic acid. There's a whole series. I'm very quick to tell people to get their Vitamin D from cod liver oil not from the supplement. That might be a point of departure. I'm very cautious about some of the synthetics out there.

Morley Robbins: The starts is probably down into a whole series of steps that there's a phase in Phase I, II, III. It's really broad categories. It's increasing minerals. It's increasing whole food, vitamin complexes. Again, not synthetics and increasing nutrient dense foods. The two that we tend to focus on what the foods are, the cod liver oil. We're very specific about the brands that we recommend. Because there's a lot of confusion about cod liver oil as you well know and beef liver. Now, most people haven't had beef. I've had the pleasure of working with over 6,000 people.

Morley Robbins: What you know, I have a list of now 13 people who got excited that they could eat beef liver. All the rest just went, "I don't think so."

Wendy Myers: Yeah.

- Morley Robbins:** There's a big demand for desiccated beef liver tablets.
- Wendy Myers:** I don't know why people don't get excited about eating liver.
- Morley Robbins:** I don't either. I don't know. I've got 25 vegan clients taking desiccated liver tablets. That's how desperate they are to feel better. I think people need to realize some of the most iron toxic people I've dealt with are the vegetarian and vegan clients. They think, "If I avoid the red meat, I won't get the iron." No. The iron is in the grains. The iron is in the vegetables. In fact, I think they've modified the grains so there's a preferential uptake of iron. Of course, they fortify iron everywhere as you noted. The real kicker is that many people think that a low fat diet is their best friend.
- Morley Robbins:** When in fact, that's one of the corner stones of their problem is that after Eisenhower had his heart attack in '55 and Ancel Keys started beating his chest about getting saturated fat and cholesterol out of our diet, the hidden impact of that was they illuminated retinol from our diet. They took the butter out. They took the rich sources of fat that had retinol, the heavy cream that has retinol in it. What people need to realize is that it's retinol that loads copper into the ceruloplasmin protein inside our cells. It's one of the most important functions of retinol. Not the least of which is helping to regulate genetic activity.
- Morley Robbins:** We don't need to talk about that. Everybody knows that when you have sunlight, you're going to start making Vitamin D. Everybody's been trained like circus bears to believe that. All right. There's a corollary function. When the sunlight is out there, it starts to break down a retinol in your body. It turns into retinoic acid. The retinoic receptors that are vitally important for our well-being and one of those retinoic acids is in fact loading up the copper and making sure that there's enough bioavailable copper in that ceruloplasmin protein. One of my trainees but now a good friend, his name is Ben Edwards. I was just talking with him on his radio show the other day.
- Morley Robbins:** He had a great term for the ceruloplasmin protein. I've referred to it as a decathlete. He said, "I think it's more like a Swiss Army knife." I went, "Dude, that's great. That's genius. That's in fact what ceruloplasmin is. It is the Swiss Army knife that runs a lot of the detox pathways that are so important in our body. It's important for people to know that there's important bridge between the work that you do and the work that I do in terms of how the people can access and really build up the foundational mechanisms of their body to really get past the exhaust. That's what they're struggling with.
- Wendy Myers:** What is that connection between Vitamin A and Vitamin D in production? You said not just as simple as getting sun. There's a pathway we need to go to.
- Morley Robbins:** Again, it's absolutely essential for our well-being. We know that. Sunlight starts a pathway to make Vitamin D to synthesize it. Sunlight also

activates the pathway to break down retinol, break down Vitamin A. You have this synthetic process for D and this breakdown process for A. They both need to take place. What's important for people to realize is that in properly prepared cod liver oil, there's 10 times more retinol than there is Vitamin D. I don't think mother nature messes around. I think there's a reason why there's 10 times more retinol. Where's all the focus been in this country on supplements for the last what, 25 years?

Morley Robbins: It's been about Vitamin D. How many people are talking about Vitamin A? Very few. The few that are talking about it are now trash talking it because they're attacking the synthetic forms of it. They're attacking the fact that yes, glyphosate affects a critical enzyme pathway, copper dependent by the way. When that copper dependent pathway can't break down retinol into retinol, retinol is spelled R-E-T-I-N-O-L. The first step is to turn it into retinaldehyde. That first enzyme, if it doesn't work, you got a problem. That first enzyme can get tweaked by glyphosate. Wow. That's important to know. Let's not attack the buildup of retinaldehyde.

Morley Robbins: Why don't we stop eating glyphosate and do whatever we can to limit the farmers' use of that herbicide? I know that's an daunting task to think about. I think there's movement on that front but we don't need to talk about it. The thing is, Vitamin A, when you go back to the research of Price. When he and his wife were traveling the globe back in the 1920s, people were eating 10 times more retinol than what you eat today. They didn't have the disease that we have. Guess what nutrient stops measles in its tracks. Vitamin A, absolutely. It's a known fact. From the 1920s, they were using retinol to stop measles outbreak.

Morley Robbins: It's really fascinating. What is that retinol doing? It's enabling bioavailable copper to make the sales, produce enough energy. They're all surrounded by cell membrane and it's got to have voltage. When that voltage is just right that irons can't get in. When the voltage isn't where it needs to be, when it gets wonky, the cell doesn't vibrate right, that's actually where the pathogens wake up. That's the work of Jerry Tennant over in Dallas, Texas. Guy's a genius. That's the simplicity of the body. Just make sure there's enough energy. You don't have to worry about the pathogens. Make sure you don't have too much iron then the pathogens don't have a feeding trough.

Morley Robbins: What Vitamin A does is that it neutralizes hydrogen peroxide. Hydrogen peroxide can't build up in the body that has retinol. Again, most people don't know that. If there's hydrogen peroxide, then you're going to burn up a lot of magnesium from that. When there's hydrogen peroxide, you're going to burn up ceruloplasmin. Why do alternative practitioners use high dose Vitamin C to treat cancer? Because it creates mega doses of hydrogen peroxide, which smothers the cancer cells. The part that I can't figure out is do they think it stops with the cancer cells? I understand the hierarchy here but that's a lot of hydrogen peroxide that's being put into people's body.

Morley Robbins: Most people don't have enough bioavailable copper just for that. That's the real tragedy is that the two Swedish physiologists that discovered it back in 1941, they were measuring it at levels in the low 40s. Most clients that I've worked with today, the range is between 18 and 22. That's not enough.

Wendy Myers: Where do we want it? What's the ideal level on a blood test?

Morley Robbins: I shoot for now with clients is around 35. I try to get people to 35. The limitation we have is that ceruloplasmin in a lab test can express Jekyll Hyde. It can express as Dr. Jekyll when it's a functioning enzyme form. It's fully loaded with copper. It can also show up on a blood test when it's missing copper. It's just the protein form and then it's Mr. Hyde. It doesn't have the same physiological impact or function in the body. What is ceruloplasmin? Why is it always showing up at inflammation? If someone has a lot of inflammation, their ceruloplasmin is going to be elevated. Why is that? Because it's almost like muscle memory.

Morley Robbins: The body knows it's supposed to be using bioavailable copper to intercept that inflammatory process. If you don't have retinol in your diet, if you don't have copper in your diet, then you don't have the capacity to make this absolutely essential master antioxidant enzyme to neutralize the problem. That's really the simplicity of the process.

Wendy Myers: Yeah. I always make sure I'm eating butter or grass fed, raw, organic butter. It's this yellowish orange because it has fat-soluble Vitamin A. Take with my raw milk that I eat. It's an orange-ish yellow. It's the retinol, the Vitamin A that's in that. I do tons of carrot juice, too. Not everyone can convert that to Vitamin A. Same same but different.

Morley Robbins: Yeah. The reason why they struggle with the conversion is that enzyme, PCMO requires copper. It takes 12 units of beta-carotene to become one unit of retinol. You got to eat a room full of carrots to get what you can get from a couple of teaspoons of cod liver oil.

Wendy Myers: I'm trying. I'm drinking a lot of carrot juice.

Morley Robbins: I'm impressed. That's good. You're doing great.

Wendy Myers: Let's talk about iron a little bit.

Morley Robbins: Okay.

Wendy Myers: Iron is a huge, huge problem. We know it contributes to dementia and Alzheimer's disease and oxidative stress in our body, aging, just general aging. We know that we have problems with iron in our body. Where are we getting all of this iron?

Morley Robbins: It's all over the environment as you know. Probably one of the biggest sources now is from the food system. They started adding iron filings into

wheat flour in 1941. It's any kind of grain product. When it says iron-rich or iron-fortified, they're adding iron.

Wendy Myers: Run for the hills.

Morley Robbins: Yeah. The best example of it is cereals. Next time you're in the grocery store, go to that cereal section. Just pick up Life cereal or Total or one of the more popular brands. You look on the info strip on the side that that box of cereal is delivering 18 milligrams of iron in one half cup serving. Now, who do you know that eats one half cup of cereal? Usually, you have two cups. What are you really getting? You're getting 72 milligrams of iron. That's a lot of iron. That's just the first bowl of cereal for the day. My roommate from college was eating cereal throughout the day as a snack.

Morley Robbins: I was like, "No, dude. You don't do that." His ferritin was up to the 700s before he realized what the problem was. He was starting to feel really sluggish. That's a classic source. A lot of people get into problems. What's important for people to realize is that we have what's called an iron recycling system. Every 24 hours, our body needs to produce 24 milligrams of iron that go to the bone marrow for the next day's batch of red blood cells. What we're supposed to get is one milligram of iron through our diet. You have 24 for the recycling system, one from our diet. Those 25 milligrams go to make the bazillions of red blood cells that we need to stay.

Morley Robbins: Because there's a turnover. The red blood cell lasts for about 120 days. What's that red blood cell full of? It's full of iron. To give people a visual context, we have about 25 trillion red blood cells in our body. Let's take the surface area of all 25 trillion red blood cells. It's an amazing number. It turns out it's 95% of an acre. Most people don't know what an acre is. They do know what a football field is. Picture your favorite football team looking down,. That's the amount of surface area, the red blood cells in your body. What do they call that football field? The grid iron. Isn't that funny? It's full of iron.

Morley Robbins: That football field of iron is inside our body. Now, what I want people to visualize is taking a copper penny, which has 90 milligrams. One penny. Let's assume that it's still made of copper. They actually changed it to Zinc back in the '80s. Take a penny. Now, put it in the corner of the football field. That's the amount of copper that's needed to regulate that acre of iron in our body. One penny worth of copper for an acre of iron. What's happening? That penny of copper is being riddled and chipped away at. It's now the size of a bead. It's not enough copper for the body to work properly.

Morley Robbins: The recycling system isn't working as officially as it needs to because the recycling system is absolutely dependent on bioavailable copper. Those red blood cells live about 120 days. At any given time, you could be losing about 1% of your blood. In fact, the oldest blood in our body is about four

months old. Just so people get a sense of, "Man, there's a constant process and turnover." If that turnover program doesn't work right and it won't if there's not bioavailable copper, the iron gets stuck in what are called the recycling macrophages. The macrophages are the Pac-man that gobble up debris and pathogens and red blood cells.

Morley Robbins: In any inflammatory state, iron gets recruited from the blood and it goes into those macrophages. Because the body is really smart. It knows that the good bacteria are in the gut. The bad bacteria are in the blood. We got to get that iron away from the pathogens. We know that that's what they're looking for. The body has these very sophisticated systems to sequester the iron. Get them into the macrophages. If the macrophages don't have copper, they become obese with iron. They lose their true north. They're not able to recycle things. Their stomach is called the lysosome. That stomach starts to fill up with iron. The whole thing starts to break down.

Morley Robbins: That's the very origin of autoimmune disease. Not my idea. It's the genius work of Nancy Andrews at Duke, Rebecca King at Mayo Clinic and Marianne Wessling-Resnick at Harvard. Those three women are doing legendary work to try to get to the bottom. Why do we now have almost 100 different autoimmune conditions? These macrophages get stuck in Phase I function and just start eating away at tissue. We have this breakdown in the recycling. The iron is filling up. Then people go and have a blood test. The iron looks low in the blood. It might be low in the serum iron. It might be low in the ferritin. It might look low in their hemoglobin.

Morley Robbins: What does the practitioner do? He tells them to take iron but doesn't think about, "Gee, I wonder why it's low." They just say, "You're low. Get back to high and low. You're low so take more. Try to lift it." When in fact, it doesn't work that way.

Wendy Myers: It's comical that mainstream medicine thinks that the body works that simply.

Morley Robbins: No.

Wendy Myers: If something is low, just take this to replace it. It's magically going to go up.

Morley Robbins: Yeah. Yeah, absolutely. The thing is, in order to make new blood, there's five critical components to making new blood. All five of them require copper. It has nothing to do with iron. I would go so far as to say I'm not all convinced there's one person on this planet who has true iron deficiency anemia. That's a bold statement to make. I think what people do have is they have very dysfunctional activity of their iron. I don't think that testing is sophisticated enough. It's not broad enough to get into the tissue. Because the tissue level of iron could be 10 times higher than what it is in the blood. People just don't know that.

Morley Robbins: They don't realize the blood measurements of these minerals and metals isn't an accurate depiction of what's going on inside the tissue. Especially when it comes to iron. It's a parallel universe. The blood is very misrepresentative. The other thing that I think is a point of confusion is, there's an over emphasis on ferritin. I have renamed it eritin because it's important for people to realize that we need to have bioavailable copper to load iron into ferritin. One of the key enzymes in ceruloplasmin is called ferroxidase enzyme. Ferro for iron. It oxidizes that iron so that you can work with it. If you can't oxidize that iron, you can't load it into ferritin.

Morley Robbins: When the body can't load iron into ferritin, it will load it into hemosiderin. Hemosiderin is very different than ferritin. There's a lot of stored iron in the hemosiderin that's causing a lot of chronic conditions in people. They're not aware of it because the blood testing doesn't test for hemosiderin. It'll measure ferritin. People don't realize that there's two forms of ferritin. There's heavy chain and light chain. The heavy chain has the ferroxidase function, which is good. The light chain is pure storage. It becomes very problematic inside the cells because that iron has an energetic expression.

Morley Robbins: It's amazing but it's a black hole in the universe. The energy just starts getting sucked into where all the iron is. Now, the cells can't work properly. It's magical. We are light, sound beings. We are always producing light. We are vibrating. We're meant to vibrate. When we have the false expression of our body, we vibrate. We have a low. We have some expression and it's all based on these critical enzyme functions that are based on essential minerals.

Wendy Myers: We can assume that the majority of people have too much iron in their bodies. It's very easy to find sources that we're eating in our environment. It's difficult for the body to release iron because we're evolved to not let go of iron because it's so essential for oxygen transportation in our body. What ways do you tell people to remove iron from your body?

Morley Robbins: First and foremost, I think it's important for people to do that protocol. To begin to build up the levels of bioavailable copper. More of the cornerstones of the protocol is to get people to do regular blood donations. For women who are in menopause or men, they should be doing blood donations once a quarter. Women who are still cycling, who still have menstrual cycle should do it a couple of times a year. That becomes an important mechanism to force the body to revitalize itself. It's very powerful when you do it. When you give a pint of blood, that's 500 milliliters of blood but it's 250 milligrams of iron.

Morley Robbins: I think there's a lot of assumptions about how much iron is in our body. I don't think we have really accurate measures now. A lot of these numbers that are used in research are from the 1950s, 1960s. I don't think we've done enough core sampling to find out how much iron is really inside the modern human being. That becomes a critical part of the process because you're fully right. There's no hormonal regulation of iron. Once

the iron gets into our body, it's there to stay except there's one way to get it out and that's blood loss. Now there are some recognized iron chelators. One is IP6. Quercetin, very effective.

Morley Robbins: There's a product that one of my graduates developed. It's called i-Detox. Wonderful product. Get that at theirontruth.com. Phytic acid, which is another way of saying IP6 but phytic acid is certainly found in food. The way we deal with that is eating phytic acid away from food. Phytic acid has a preferential uptake of iron in those conditions. Apolactoferrin, it's another very effective iron chelator that people can rely on. The other thing that we're very adamant about is how to make people deal with their emotions, with their unresolved emotions. It's a fascinating relationship with emotions and iron.

Morley Robbins: When we have unresolved emotions, we've had some significant event in our life, it will become a fear. When we're in a state of fear, fear causes us to contract. Our pH becomes acidic. Very well-established in the physiological response to fear. Any farmer will tell you that acidic soil attracts iron. We're in a state of subliminal fear. We're literally taking up more iron than we realize. There's a backside to that mechanism. There's a research team out of Japan that in 2016 discovered that iron activates the danger sensor of the cell. It's a protein called NLRP3. It's also called the inflammasome. It's the nuclear origin of inflammation.

Morley Robbins: Iron is the very mechanism of it. What do we have? Fear attracts iron. Iron activates fear. It's amazing. We have people do emotional freedom technique or maybe do the emotion code for those who prefer that. They need to release that fear because they've got to break that cycle. The reason why, again back to people being high IQ, people with high IQ have two genetic defects. We're control freaks. We love complexity. What I really insist with people is that they do emotional freedom technique but do it with a practitioner. Listen to the practitioner. It's more complicated that way, which feeds their high IQ ego. The practitioner's also able to get people to let go of the fear.

Morley Robbins: Teach them how to let go. It's a very important process. There are wonderful videos out there about EFT. It's great. Familiarize yourself with that. You really need to work with a practitioner. You don't need to do it face to face. You could do it over the phone. I think it's actually better over the phone. It's an important part of the process to release those fears so people can get by the trauma of their chronic conditions. Because anyone who has been chronically ill for a couple of years or more, their biggest fear is that they're broken. That there's something physically wrong with my body. I know you work with clients around that all the time.

Morley Robbins: Those are the two biggest mechanisms to really help address that, begin to address that.

Wendy Myers: Tell us where we can find you, learn about your work and try The Root Cause Protocol that you have developed over the last decade.

Morley Robbins: The new website, it's called therootacuseprotocol.com. The short version of it is rcp123.org. There's a lot of information there. I've written 81 posts on iron toxicity now. I'm gaga about it. It's very funny that the guy who's known as Magnesium Man, who started the magnesium advocacy group, all he writes about is iron toxicity.

Wendy Myers: Now, you're Iron Man.

Morley Robbins: That's right. There's a lot of good information to read there. There's a lot of videos. I've had the pleasure of talking to probably 15 or 20 Wendy's, other folks like yourself, of all different phase and persuasion and had similar types of conversations. It's just going to reach different audiences. I'm very grateful that we had a chance to have this followup conversation. This will eventually get posted there just like it's posted on your site as well. There's a video series that people can purchase. That's me talking with this Dr. Ben Edwards who's a classically trained allopathic physician. Grew up in a very allopathic family.

Morley Robbins: His two uncles and both grandfathers and great grandfathers were MDs. He's a very special guy. He said, "I've gone through three phases of my medical career. 1.0 was pure allopathic. 2.0 was alternative, integrative. I was chasing the same bugs and toxins. I was just going green. Now, I'm 3.0 and I'm doing the Root Cause Protocol." He's really got a grasp for it. There's a four and a half hour video series that people can purchase. They can download the manual and then a lot of people get started in this process by going to the Facebook group called The Magnesium Advocacy group. We're coming 175,000 people. We have about a thousand people a week, which is mind-blowing to think about.

Morley Robbins: What's amazing is I hear from two or three people a week. I don't even know who they are. They're thanking me for saving their life, what the protocol did. I don't take ownership of it. Basically, what I do is I dusted off mother nature. These are basic principles that you certainly understand and recognize and incorporate in your practice. It's so essential to our physiology and our well-being. It's just something that got lost as the food system became more and more refined and more and more enriched. We didn't realize the sacrifices that we made in that process. There's are the two principal places for people to find me.

Morley Robbins: I regularly give out my email address and phone number. Sometimes, the show host go, "You're going to tell them that?" People are very respectful. My email address is morleyrobbins@gmail.com. My cellphone is area code 847-922-8061. I've never met a question I didn't enjoy. Look forward to hearing from listeners of this podcast. I look forward to continuing these dialogs as we go forward.

Wendy Myers: Yes, absolutely. We can definitely do a deep dive anytime you want on any of these topics. Long story short, it's not enough just minerals. Minerals have to be balanced. It doesn't matter what you supplement with. It only matters what you absorb. What you absorb, it has to be

utilized and bioavailable in the body or it doesn't work. That's what we're trying to do, this balancing act. You and I both working with clients, trying to get all these three factors in line so that people can meet their health goals and stop spinning their wheels and buying all these supplements that perhaps non-absorbing or utilizing or taking the wrong ones.

Wendy Myers: When it's really just basic, you need minerals. You have to have minerals for your body to work.

Morley Robbins: That's right. When I met my wife, Dr. Liz Erkenwick almost a decade ago now, she talked about something called the innate healer. She's a classically trained chiropractor. They have a philosophy based on the innate healer. I was like, "If there's an innate healer, why do we have all these doctors and practitioners around?" That didn't make any sense to me at that time. What I've come to realize is that there really is an innate healer. I really believe it is this ceruloplasmin protein.

Morley Robbins: When you learn that there's a protein that does 18 separate and distinct functions, that all revolve around the oxygen molecule, you begin to have a different appreciation for mother nature and the incredible sophistication of our body. I'm still digging. I think I might end up with about 30 different functions. That's just going to take a few more years to keep combing through the research. What I think is important for people to realize this model of one gene, one protein, one function, that's not how the body works. It's not even close to how the body works. There really is this hierarchy.

Morley Robbins: You're absolutely right about making sure that you're in just to get, making sure that it's bioavailable and that you actually can in fact, work with it. That's essential. When that protein is working in its fullest form, it's magical in its ability to get us back into proper metabolic balance. That's the real focus of the message. That's really what The Root Cause Protocol is all about.

Wendy Myers: Fantastic. Morley, thank you so much for joining us today on the Myers Detox Podcast.

Morley Robbins: Absolutely. Thanks again, Wendy.

Wendy Myers: Everyone, thank you so much for listening. Thanks for tuning in every week to explore topics in-depth on heavy metal and chemical detoxification, protocol, supplements and the most latest bio hacking techniques. Thank you so much for tuning in. It's just my pleasure to serve you every week and help you put those missing pieces of your health together. Thanks so much.