Mighty Minerals: Chromium - The Blood Sugar & Metabolism Mineral You Might Be Underdosing Transcript

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Chromium Research and Blood Sugar Benefits

There was a landmark study that was published all the way back in 1997. Okay. So we're talking like close to 30 years ago in the journal called diabetes.

It was conducted in China with type two diabetic patients and it compared 200 micrograms per day against 1000 micro grams per. Five times as much the result.

at the thousand microgram dose were significantly better compared to the 200 micro gram in these categories. Fasting blood glucose, two hour glucose tolerance, insulin levels and A1C levels.

The long term blood sugar marker that is the one that kind of the gold standard marker for diabetes. every single one of those categories, the thousand micrograms, were significantly better even though the two hundred micro gram group showed modest results.

The thousand-microgram group show excellent results that study essentially established that if you want chromium to move the needle Metabolically, you really need to be working in a range of at least 500 to 1000 micrograms per day.

And personally, based on the other studies that have been done and based my own experience with real people using this stuff, 1000 to 1500 micro grams is where I always come out as an optimal dose of chromium.

Welcome to Vitality Radio, the podcast that helps you make sense of natural supplements and thrive without pharma drugs. I'm Jared St. Clair. I grew up in a health food store and spent over 40 years now figuring out what works and what doesn't, so that you can make confident, informed decisions about nutrition, supplements and your health.

Here's a question for you. What if the nutrient most associated with blood sugar and metabolism has been dosed wrong for decades? Not a little wrong, but like significantly wrong.

Say 5 to 15 times less than what is actually needed. Chromium has been in the supplement world for a long time. In fact, I've been In the Supplement World for A long Time.

And I remember when chromium was the biggest supplement in The supplement World. It was huge in late 80s. it was originally patented, the first form called chromia picolinate in early 80's.

and then eventually became one of the best selling supplements in really the history of The industry, but especially back in 80 and 90s, it Was absolutely massive.

and is still sold a lot today. But most of the doses that you'll find on store shelves are based on research that was very early when they didn't really know what the upper limits were as far as safety goes.

And the results were very compelling even at those lower doses. Things have changed since then as the research and not so much as for as dosing. I want to see if I can help you get to the bottom of all that so you can understand it.

better. Today I plan to educate you on what I consider to be one of the most important of what i call the mighty minerals. That's what this series is called and it's the reason I'm starting with chromium is because this is one that is almost universal.

Why Chromium Matters for Metabolism

It's certainly not a supplement that everybody needs a significant dose of but I think everybody should be taking it on a daily basis which is why it is represented in my Ultimate Vitality Multi and that's how it fits into my Vital 5, but I'm going to talk about why you might want more than what's in a multivitamin and who this applies to.

And one of the things that I love about Chromium is it is super, super effective and it's very, very inexpensive, which is one the best things about this supplement.

So, before we get into it, I want to say something that applies the entire Mighty Minerals series. And it's worth repeating, at least as we're starting out.

Chromium actually does have what's called a reference intake or an RDA. It's one of the few minerals in this series that is going to that actually is gonna have one because you're gonna see a lot of minerals.

In the series, that the FDA has essentially just said, yeah, we don't know if you should take it or not or how much. But here's the thing. Having a number on paper doesn't mean the number reflects what your body needs to thrive.

There's a massive difference between the amount required to avoid deficiency and the about that actually supports optimal function. Modern nutrition science is increasingly recognizing that the gap is real here, even if the government guidelines haven't always caught up.

The adequate intake for chromium was set based on estimated average consumption, not on clinical outcomes. That's really, really important. not what actually moves the needle in real people when it comes to their blood sugar, because that's where chromium shines, is bloodsugar, insulin sensitivity, all these things that we hear about that make us metabolically unhealthy.

So today, we're not going to talk about minimums. We're going talk to about optimum. Why does chromium matter? Chromium is what's called an essential trace mineral, meaning your body requires it, but cannot manufacture it on its own.

You have to get it from food or from supplements. And while it's technically present in a lot of foods, the amount in foods is pretty small. Bioavailability varies considerably and modern food processing and soil depletion have made it harder than ever to consistently get meaningful amounts from diet alone.

I know that drums been beat a lot, but it just simply is modern life. Here's why this matters right now. We're living in the middle of a metabolic health crisis, blood sugar, dysregulation, insulin resistance, pre-diabetes, type two diabetes.

These aren't fringe health issues. they affect the majority of American adults and many American children in some form. And chromium sits right at the center of that conversation because one of its primary jobs in the human body is to help insulin do its job.

When chromia is adequate, insulin works more efficiently. when it's low and a significant portion of the population is running low, the body has to produce more insulin to get the same result.

That's the beginning of a very long, very slow decline in metabolic health. And most people never connect it to something as simple as a trace mineral that they've been under dosing or ignoring entirely.

So what does chromium actually do in the body? Physiologically, it's fascinating. It makes everything else in this episode make a lot more sense. So let me break it down for you.

Chromium's most important role is its involvement in what researchers call the glucose tolerance factor or GTF. In fact, you'll often see on supplement labels, G-T-F-chromium.

It's a biologically active complex that forms in your body and acts as a kind of co-factor for insulin. Think of insulin as key that's supposed to unlock your cells and allow glucose to enter.

GTF chromium is like the mechanism that makes the lock work properly. Without enough chromia to support GTTF activity, insulin is less effective. Your cells become less responsive to it, and blood sugar management suffers.

You can think of it, you've heard me talk a lot about vitamin K2 and how K-2 kind of unlocks the ability for calcium to get into the bones and the teeth.

So not the same mechanism, but a very similar idea with chromium when it comes to insulin. Beyond blood-sugar, chromia though also plays a role in lipid metabolism.

Researchers have linked adequate chromiam status to healthier triglyceride and HDL cholesterol levels. It's involved in protein metabolism as well, which is part of why you'll sometimes see it in formulas targeting body composition.

There's also emerging evidence around chromium's role in the brain, specifically in serotonin activity and appetite regulation. which may explain why some people notice improvements in carbohydrate cravings when they start using chromium at meaningful doses.

And I can't tell you how many times over the years that's exactly what happens. People say when I started taking enough chromiam, and we'll talk about what enough is here in just a second, I started noticing a difference in sugar cravings and also my blood sugar started balancing out.

So chromium has always been something that is necessary to the human body to optimize insulin utilization. Like that hasn't changed. What has changed is we have blunted our insulin cell receptors by excess sugar, excess carbohydrates, and we've also reduced the ability for the body to utilize the insulin that we're making by getting less chromium because of soil depletion and food refining practices.

So it's a pretty significant double-edged sword there. And something worth understanding is that chromium doesn't work in isolation. It's like every other nutrient in the body is synergistic with other nutrients, particularly the B vitamins and especially niacin, which as you'll hear in a few minutes, plays a very direct role in how the best forms of chromia actually work.

Who Benefits and Chromium Deficiency Signs

So, chromium deficiency is one of those things that's hard to pin down clinically because there's no reliable standard blood test that accurately reflects tissue-level chromian status.

That makes it very easy to overlook and you're almost never going to have a physician say, hey, you should probably consider chromia based on your blood work.

The most recognizable patterns though that you can look for are blood sugar instability, you know, the kind that shows up as energy crashes after meals, strong carbohydrate and sugar cravings, difficulty losing weight despite eating reasonably well, and that mid-afternoon slump that sends people reaching for coffee or something sweet.

These are classic signs that insulin sensitivity may be compromised and chromium is one of the first places a functional nutritionist should look when it comes to sensitivity issues.

Several factors accelerate chromia depletion. High sugar and refined carbohydrate diets are a big one. Every time your blood sugar spikes, your body excretes more chromiam and your depleted level that you probably already are dealing with becomes even more depleting.

So people who arguably need the most chromium are often the very people whose diets are pulling it out of them the fastest. Stress is another factor. Physical and emotional stress both increase chromium loss over through the

urine.

Exercise increases demand as well, which is why athletes are often functionally low as. Well, and as we age both absorption and retention of chromia tend to decline.

So this is an interesting combination. Basically, the most athletic among us are probably deficient in Chromium. And perhaps the least healthy, the ones with the most metabolic dysfunction are also significantly low in chromium.

So it's kind of both ends of the spectrum. And it, you know, we talk about magnesium and stress. Well, chromia and stresses as well, same kind thing. Certain medications also are worth noting when it comes to chromium because corticosteroids and some antacids, particularly PPIs that I'm constantly telling you are so not good for us interfere with chromia absorption and it can also increase excretion over time.

So basically clinical deficiency is a lot bigger deal than we probably think. And it makes sense because again, remember people who are metabolically unhealthy, which is high percentage of Americans.

I think the estimates now are that it's something like 60% of us are considered metabolically unhealthy and having some level of insulin issues. And then the most athletic and physically fit among us, are also probably depleted.

So it is most of is basically what I'm getting to. Now, chromium is found in a wide variety of foods, broccoli, green beans, grape juice, whole grains, beef, and certain spices like black pepper are among the best dietary sources.

Broccoli is actually one of the highest chromian foods that you can eat, which is just one more reason it shows up on, you know, so many nutritionists kind of top hit list along with the fact that it is a cruciferous vegetable that helps to detoxify estrogen and things like that.

The challenge is that even a well constructed diet typically provides between like 20 and 50 micrograms of chromium per day. And a standard chromiam supplement and the RDA for chromia is 200 micro grams per days.

You're already like four to 10 times less potent than we need from our diets. So that's the gap. But that's the gap based on the RDA, not the GAP based the optimal, and we'll talk about the Optimal here in just a minute.

And then, of course, as I said, there's soil depletion, so maybe it's even lower than that. So then who might actually benefit the most from chromium?

And we will talk how to utilize it. The most obvious group is anyone navigating blood sugar challenges. Pre-diabetes, you know, A1C levels in the fives, type 2 diabetes, a1c levels and the high fives and sixes, and beyond, or anybody with insulin resistance, stubborn weight that they're having a hard time getting off, anybody that has any kind of sugar cravings on a consistent basis, carbohydrate craving is on consistent bases, chromium should absolutely be part of the conversation there.

The other people would be, again, anybody that is an athlete. Active people have higher chromium needs due to the combination of physical stress and sweat loss.

And if you're training consistently and not supplementing with chromia, then there's a good chance you are actually running low. Then anybody who's looking to optimize body composition levels.

If you feel like your BMI, your fat percentage versus lean mass needs help, than chromiam is something to consider. for sure. I'd also like to flag women going through perimenopause and menopaus, because the metabolic shifts that happen during that transition, increasing insulin resistance, changes in body composition, you know, that extra 5, 10, 15 pounds that so many women complain about, and blood sugar volatility, That all creates a context where chromium becomes more relevant.

i see this pattern a lot and chromia is often a meaningful piece of that puzzle. And then the other group would be women experiencing PCOS because insulin resistance, of course, is tied in very deeply.

And I'm working on an episode where we're going to talk about PCOS in a lot more detail here very soon. Now, the forms of chromium, I call this the picolinate problem because the marketing on chromi and picolinate is so strong that most people will actually not just say chromion, they'll actually say Chromium piculinate when they talk that that is what chromium is.

You know, from your education you've received here and other places about magnesium, that there are many forms. Magnesium citrate, magnesium glycinate, bisglycineate, threonate and so on.

The same can be said about chromia, lots of options out there. But chromiocolinate had the best marketing budget, really is where it boils down to. And I want to spend some time really explaining what I consider to be some misinformation in this space.

People have been led to believe that chromium picolinate is the be all end all of chromiam. And, I'm about to tell you why I disagree with that. You walk into most any supplement store, including mine, and you will find chromia picolinate on the shelf.

It's everywhere. It's in grocery stores, I think they sell it at Costco, it's all over the place. And we do sell at Vitality Nutrition. There are some people who absolutely want chromium picolinate, and chromia picolinates delivers results, so I don't have a problem with it necessarily.

I just think there's better options. For a long time, it has been considered the gold standard by most people, and I just simply don't think that's true.

For the last probably 20 years, I've been telling people a different story. But let's talk about the history of it. Back in the 80s and 90s, as I said, when chromium was massive, you know, we think about like berberine right now or ashwagandha, how huge those things are.

Let's just take magnesium. Magnesium, the number one selling mineral now. Well, there was a time when chromium outsold magnesium. That's how big of a deal chromia was in the 80s and 90s.

And there's a guy named Gary Evans, who was researcher who held patents on it and funded a significant portion of the early research on the picolinate form specifically.

So piccolinate became like the Kleenex of, you know, tissue paper, right? So here's the issue. Picolinic acid is what chromium was bound to and that was smart because they were taking chromion, which is very poorly absorbed on its own, chelating it with an acid to help the body to absorb it.

Nothing wrong with that and I'm so grateful that that happened because that's when we learned how effective chromian supplementation could be. So it does work to help absorb the product, but the same property that helps with the absorption of chromium actually raises some questions.

Several cell studies have suggested that chromian picolinate may generate oxidative byproducts at higher doses.

Chromium Forms: Picolinate vs Polynicotinate

Some research has also indicated that picolinates competes with iron for absorption. We don't want that. we want to let iron absorb. That's a tough one for us to absorb anyway.

None of this means chromium picolinate is dangerous at normal supplemental doses, but it does mean that the best form narrative was built more on marketing than on rigorous comparative science.

And I call that The Picolonate Problem. Now let's talk about the form that I believe is superior and the forum that i use in my Ultimate Vitality Multi and my most recent formula, the GLP-1 Metabolic Optimizer.

This is what's called a niacin-bound chromium. It's actually chromia in the mineral bound to a vitamin. That's a

different way of doing it. Not typical, but in this case it works.

And so the chromium polynicotinate is my very favorite form of chromum. It's just chromia bound to nicotinic acid, otherwise known as niacin, vitamin B3, and that's what is represented in the supplements that I add chromiam to.

And here's why this matters. Remember we talked about glucose tolerance factor or GTF? That's the biologically active chromian complex that your body actually uses.

GTF chromium naturally contains niacin as part of its structure. Chromium polynicotinate is chromion bound to niocin, which makes it structurally the closest thing that we have in supplement form to what the body actually is trying to create and use.

And that's not just a talking point. That's real clinical researched benefit that unfortunately is overshadowed by the massive amount of money that was poured out by this researcher Evans and the brand nutrition 21 that is still pushing the narrative that chromium colonate is the very best.

And why are they pushing that narrative? Well, because they have a patent on it and they make money when they market it. Simple as that again. Chromium picolinate is fine.

I don't hate chromium, I sell it, it's in supplements that we have here at Vitality. It's just not the best one, as simple as that. Niacin itself is a nutrient that supports insulin sensitivity and healthy lipid metabolism.

So you're not just getting better absorbed chromiam, you are getting a form that arrives in a biologically familiar package with a cofactor that support the same metabolic pathways that chromi is already working on.

That's the synergy that I talk about a lot when it comes to nutrients. And in this case, bonding that vitamin to that mineral makes the most sense of anything that i've seen.

There is a patented version of this called chromate. and chromates research is super solid, a comparable absorption to picolinate in most studies without the concerns about picolinic acid byproducts.

So for meaningful long-term results, I actually like the more physiologically similar form of chromium. And you know what is really cool about this? And it's one of the things that I'm always paying attention to.

If you listen to me on vitality radio is that because there is not this massive marketing engine behind it. Chromium polynicotinate is significantly less expensive while in my opinion, also being the better form.

So let's talk about the 200 microgram problem. This is something that I feel super strongly about. Almost every chromium supplement you'll find on a store shelf in health food stores and grocery stores alike is 200 micrograms per pill.

And it says on the back of the bottle to take one per day. That number comes from an adequate intake level established decades ago, meaning RDA, and if you study supplements at all, listen to the show at, all you know, the RTA is not designed to make you optimally healthy, it's designed, to keep you from deficiency disease.

So 200 micrograms is simply not enough. It never has been enough, yet it is effective. 200 micrograms, is an effective dose at helping with this insulin sensitivity thing, at helping with blood sugar and all the things associated with it, but it's not the most effective dose.

It's kind of the bottom of effective range, and I want to talk about the optimal range. There was a landmark study that was published all the way back in 1997. Okay.

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That study essentially established that if you want chromium to move the needle Metabolically, you really need to be working in a range of at least 500 to 1000 micrograms per day.

And personally, based on the other studies that have been done and based my own experience with real people using this stuff, 1000 to 1500 micro grams is where I always come out as an optimal dose of chromium.

functional nutritional practitioners have in many cases moved in that direction. But even those doctors are often behind the eight ball on this and only recommending 200 micrograms or maybe they'll recommend 200, micro grams, two or three times a day to get you to 400, 600. And I just simply don't think it's enough.

1000 to 1500 to me is really the gold standard dose. Let's talk about safety, because that's always been the big question. When I have people come in saying, hey, you know, my doc said to take 200 micrograms of chromium, or I was reading this article and it said, to 200 milligrams of Chromium.

And then I'm talking to them about, let's take a 500 micro gram chromiam two or three times a day. People are like, whoa, but you, know is it toxic? So let us talk that.

There is no established tolerable upper intake level for chromium in the United States, meaning no ceiling has actually been set by any regulatory body because toxicity from dietary or supplenal chromia is considered extremely unlikely.

The body excretes what it doesn't use and accumulation isn't a significant concern in doses used in practice, even at those higher doses. That said, there are a few things worth knowing.

If you're on medications for blood sugar, like metformin, insulin, that type of thing, chromium can enhance their effects.

Optimal Dosing, Safety, and Product Recommendations

So you want your prescribing physician to be aware that you are on it. And that's not a reason to avoid it, it's just good communication to make sure you aren't dropping bloodsugar too low.

Optimally, you will be able to use less things, less of the pharmaceuticals because of chromia. Now, if you want to use chromium in a meaningful way, then you can use just straight chromia in the polynicotinate form at 500 micrograms, two to three times a day.

That's one way that you could do it. It's a very economical supplement. I think that's going to cost you like six or seven bucks a month if using three a a.

So again, very economically. Love this product for that reason. Everything about that. just tracks with what I'm trying to accomplish here at Vitality Radio, helping you with really effective things that hopefully in most cases, you know, don't break the bank.

I am certainly happy to bring you products that are expensive if they work, but it's so exciting when there's something that works really, really well that doesn't cost you much money at all.

So that's one way you can do it is a straight chromium. My favorite option actually, I like a couple of good options, the one that I recommend the most is by Natural Factors.

It's a 500 microgram GTF chromium, which I want to clear this up too. If it says Gtf chromia on the bottle, then it is almost always chromian bound to niacin.

Sometimes it'll actually say nicotinate or polynicotinate or it will say Gf Chromium chelate. It's basically the same thing. Okay. So if you just want use chromiam, that's one way that you can do it.

So recently we introduced our GLP-1 Metabolic Optimizer formula. This is one that I've been working on for almost two years. It's been out for about a month now.

As I'm recording this, it's out almost three weeks. And this formula is the fastest launch we've ever had of a formula, people have really gotten excited about this product.

We've already started getting some really, really good feedback that i want to share here at the end of this episode. I'll get into that in just a second.

But there's a thousand micrograms of the polynicotinate formula in three capsules per day. And if you're worried about getting too much, which again, not very easy to get too many chromium, but there are 250 micro grams in the Ultimate Vitality Multi.

I know that a lot of you listening are already using the multivitamin and so that's why I shot for a 1000 micro gram in GLP-1 Metabolic Optimizer instead of 1500 micro So you're getting 1250 micrograms between the different sources.

Other people are also getting chromium from other sources sometimes as well, plus what's in your diet. So I figured that's a pretty good dose and a dose that I'm very comfortable with as an effective dose.

And again, we do use that nicotinate form, a polynicotinate form which is optimal in my book as far as all of the studies that have been done and what I've seen.

Now, as for results, I have had good results with just chromium for years. Lots of people just taking chromia and getting good result, but it's never like the magic bullet.

It's not the thing that takes you from diabetic to pre-diabetic or anything like that. it's very, very supportive. It's absolutely something that you should be considering if not doing, if you're dealing with any kind of metabolic issues, excess weight, type 2 diabetes, pre-diabetes, higher A1C levels, fasting glucose, any of those types of things that we already talked about.

Chromium is awesome. Chrumium isn't expensive. It's just kind of a no-brainer. What drives me crazy about formulations on the market with chromium, is that almost all of them are formulating with too little.

Most of him are putting still 200 micrograms in there. And there's no good reason for it. Like there are a lot of brands. that are putting in too little vitamin K2, for instance, into their formulas, because vitamin k2 is expensive.

It bumps the price of the formula. That makes it harder for you to afford and therefore less likely for them to sell as many bottles as they'd like. Chromium is not like that.

it's just kind of goes in the form. Well, it doesn't take a lot of space and it does take. Lot of money. So it just companies that either not educating themselves well enough at the formulation level, or they're counting on you not understanding this information, recognizing or having listened to podcasts like this, knowing that you actually need more of it.

I don't know what's going on. They may be also just a little nervous about busting the RDA, which you should never be nervous. The RTA is almost always kind of a joke when it comes to potencies.

All right. So anyway, there's a thousand micrograms in the GLP-1 formula. Let me tell you my personal results and

I'm gonna tell ya a few little testimonials we've received because I am pretty excited about it.

So I've down nine and a half pounds after 16 days on the GLP- 1 formula and what I will tell is my sugar cravings are dramatically reduced. And it's not just the chromium because i've used chromia a lot over the years and it hasn't had that level of effect.

Chromia has been beneficial in the past for me, for sure, poor blood sugar. And I've had a lot of benefits with other clients of mine. But as I said, on its own, it's not really the needle mover, at least that I needed.

So I like it as more part of a synergistic approach. My overall appetite is significantly reduced. And like I said, nine and a half pounds, pretty impressive and 2% body fat, according to my body, fat scale has dropped.

So things are looking really, really good. Now people are asked, well, how are you eating? Well, I'm eating high protein. I mean, lower in sugar, or lower carbs.

But why am I doing that? Obviously I am looking to burn fat. That's why, but how am doing it is probably the better question because I've told you, I'm confessed on this show, sugar has been my nemesis for, you know, as long as I can remember, my mother and my father, both sugar fiends and they donated whatever that genetic thing is to me.

Personal Results and Listener Testimonials

And I love you mom and dad, but no, thanks on that one. Right. So I have had no significant cravings for any of that stuff. It's been amazing. so I had two gentlemen now come in.

One was a little younger than me, probably about 10 years younger to me. And one was around my same age. So, you know, forties, fifties. Both have told me the exact same thing, almost verbatim.

It was kind of wild. I'm not emptying my plate anymore. And then I'm done. I don't need more. And I feel satisfied. and I am not having the cravings that I used to have.

So those are some testimonials there. A woman that's a regular of ours at Vitality Nutrition who also was talking to me the other day who told me that she's finding appetite and blood sugar are way more stable.

She's not the massive craving. We're hearing it all. pretty much the same stuff from different people in different situations, and it's super, super exciting.

So in closing, chromium might not be the flashiest mineral on the shelf, you know, it doesn't have the level of awareness that something like magnesium does.

It doesnt nearly get the press that things like Magnesium do, at least not anymore. Um, but my gosh, it belongs in the conversation because metabolically, this is one unhealthy country and the Western world is really struggling in this department and chromium makes a ton of sense.

So your body depends on it. The research supports a higher dose than maybe you ever thought you should take. And the form that you choose absolutely matters.

And that's why I do this show, and I hope this has been helpful. Give us a call. 801-292-6662. If you have questions, visit us at one of our locations.

I can't believe we have two now. One in Bountiful. The mothership's been around for almost 49 years. And our brand new one in South Ogden, where the phone number up there, I guess I should share as well.

811-479-9474, if you want to visit this up their. Still known as Healthy Me up there, but we will be changing the signs and everything to Vitality Nutrition very soon.

For now, look for the big health food sign and you can visit us online vitalitynutrition.com. We'll have all these products linked in the show description.

And remember, if you do decide you want to use the GLP-1 Metabolic Optimizer, I'm… requesting that you give it three months because that's where most of the studies really, really shined.

Closing Thoughts and Show Wrap-Up

Although many of us, including myself, are getting benefits very, very quickly right out of their gate. If you do get three month, three bottles, you throw those in your car, and you get $10 off each bottle saving you 30 bucks altogether.

Thank you so much for listening to me. My name's Jared St. Clair. and I'll be back with you on the next episode of Vitality Radio. Thanks for listening to the Vitaly Radio podcast.

If this episode helped you, follow the show, share it with someone and explore trusted education and resources at vitalitynutrition.com. See you next time.

Hello, everyone. I hope you enjoyed this week's episode of Vitality Radio. Just a reminder that this podcast is for educational purposes only. This podcast has not been evaluated by the FDA.

Thank you.