Why Magnesium Deficiency Wrecks Brain Energy and Sleep Transcript

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Magnesium Overview and Why It Matters

In this video, I'm talking about the truth about magnesium deficiency, what magnesium does in the body, the most common signs and symptoms of a magnesium deficiency.

I'm going to go through the reasons why people develop magnesium deficiency. So I'm also going to go through why the RDA level is too low. Some of the best foods to consume, and best strategies to optimize your magnesium levels.

So let's get into this. Magnesium is a critical mineral used by over 300 enzymatic processes, over 600 biological functions in the body. Doctor Norman Shelly, MD, PhD, researcher, says according to him, magnesium deficiency is associated with every known chronic inflammatory disorder, every known chronic disease, at some level has a magnesium deficiency associated with it, and magnesium deficiency is one of the most common deficiencies in our society.

And the reason for that is because magnesium is to the body what oil is to a car, meaning the more stress we're under, the more we're utilizing magnesium.

And that's because magnesium is critical for all mitochondrial energy production. When the mitochondria has enough magnesium, it can produce a lot of energy.

When magnesium levels get down to low, it's a rate limiting step for mitochondrial energy production. So our energy levels, the cellular energy reduces.

And when cellular energy reduces, we're not able to detoxify as effectively. None of the cells are able to to do their optimal function. They're not able to produce energy the way that they need and express themselves the way that they need for optimal health.

Also, magnesium is key for calcium balance. What that means is magnesium helps keep the optimal level of calcium within a cell. Calcium is really key for all action potentials within all of our neurons, within our muscles.

How Magnesium Supports Energy, Calcium Balance, and Vitamin D

For carrying out any sort of muscle contraction, we need optimal calcium levels. When we have too much calcium in a cell, it over excites the cell and can actually create something called cytotoxicity, which can damage a cell, increase oxidative stress and inflammation in our system.

In fact, a high intracellular calcium and magnesium ratio is associated with a higher mortality overall mortality rate. So it's a really, really big factor.

Magnesium helps balance the calcium levels. Magnesium is also key for vitamin D absorption. We can be exposed to the sun and take vitamin D supplements.

And if we don't have enough magnesium, we're not going to convert the inactive form of vitamin D into the active form of vitamin D that our cells can utilize for immuno modulation, for blood sugar regulation, all the great things that vitamin D does for our body.

So there's a lot of talk about vitamin D deficiency. And it is a really big deficiency. But before we even can address vitamin D, we've got to get our magnesium levels optimized for good vitamin D absorption.

So super key there on top of that, vitamin D helps block substance P. Which substance P when it's elevated in our

system increases overall pain in our body.

And it helps to modulate what we call the NMDA receptor. The NMDA receptor is associated with glutamine activity in our brain. Glutamine is like the gas pedal on all of our neurons in our brain.

And so when we have too much glutamine, not enough of the brakes, which is Gaba, we end up with, irritability, with different types of mood disorders, anxiety with depression.

Right. Because the neurons will actually overexert themselves or they'll cause cell damage. And, ultimately that can lead to a high level of brain of, of inflammation in the brain, which can lead to depression.

And so magnesium is really like a balancer in our neurons and in our brain and keeps the neurons firing at their optimal level, which is going to help improve our mood, our thinking process, our memory.

So better mood, better memory and overall better mindset. So it's super key there. So symptoms of the major signs and symptoms poor cognition and brain fog muscle spasms.

Really really common people have muscle spasms leg spasms nighttime leg cramps, things like that often associate with magnesium deficiency headaches. Now, headaches aren't really a neuronal issue as much as they are, like muscle contractions, oftentimes tension headaches, things like that in and around this area oftentimes can be treated with magnesium, constipation for good muscle activity, good muscle contractions.

We call that peristalsis in the gut. We need to have optimal magnesium levels.

Common Signs of Magnesium Deficiency

Fatigue. Obviously, if we're not able to produce enough energy in the mitochondria, then we're going to have either inadequate muscle contractions or sporadic muscle contractions, which obviously can contribute to constipation and then also fatigue.

We're not going to be able to have as much energy as we need insomnia, which is really big. So when the brain is being overexcited because there's too much calcium in the cells, then we're not.

It's really hard to wind down and sleep, and we end up wired and tired. So we're tired. We don't have energy because we're not overproduce mitochondria energy, but we can't shut down our brain at night because we have too much calcium in the cells, too much glutamine in the cells.

We end up with neuro cytotoxicity where one neuron is damaging the other neuron next to it. It's like a domino effect, and we end up with widespread neuronal damage and really a lot of trouble sleeping and a lot of trouble winding down.

That brings us down here. Mood disorders. We talked about anxiety, depression, irritability, anger issues can be associated with magnesium deficiency, chronic pain because of the increase in substance P substance P elevations in our bloodstream are associated with more pain in the body.

When we get a tissue tissue injury like we hurt our knee, we fall on our knee or something like that, we get an increase in substance P, particularly locally, right in that one area causing swelling, pain, inflammation, all part of the healing process.

We don't have enough magnesium. We're going to get higher amounts of substance P really throughout our whole body, which is going to make pain. It's going to lower the threshold for where our brain experiences pain.

Pain is an experience in our brain. We may have an area that's damaged, but the area we're actually where we're perceiving the pain is in our brain. And so the lower the threshold, the pain threshold in our brain, the higher amount of pain that we're going to experience, things that wouldn't normally cause pain may now cause more pain

in our system.

And so again, so shaded with magnesium deficiency, heart improper heart rhythms like heart arrhythmias or tachycardia is where we have, excessive heartbeat, that can be associated with magnesium deficiency as well.

Because magnesium deficiency is super key for keeping all the muscle contractions working well, including the heart numbness and tingling because of the association with pain with substance P, we're going to end up with more numbness, more tingling, perhaps if we have a magnesium deficiency.

So these are the most common signs and symptoms. And really the reason why people get magnesium deficiency. It's either going to be inadequate intake or it could be poor absorption. Right.

So we may not be consuming enough. We also may not be absorbing enough because we don't have enough stomach acid. Stomach acid is key for actually chelating minerals zinc, magnesium, calcium and absorbing that into our system.

So we need optimal stomach acid. So a lot of people are very low and stomach acid. They're eating on the go. They're eating bad foods that stress their system.

And that can cause low stomach acid, low mineral absorption.

Why Magnesium Deficiency Happens

People with celiac disease or irritable bowel may not be able to absorb enough magnesium from their diet, so that can be a really big factor as well. If you have blood sugar imbalances.

If you have insulin resistance, we actually need insulin to get magnesium into the cell. So if we have insulin resistance and blood sugar dysregulation, we're not going to be able to actually get the magnesium into the cell where it can balance the calcium and magnesium ratio, where it can act on the NMDA receptor, where it can reduce substance P levels, where it can optimize vitamin D absorption.

And so if that's the case, we're going to end up with magnesium deficiency in fact really common. Anybody with insulin resistance pre-diabetes diabetes they're all magnesium deficient.

Like we've got to really upregulate their magnesium levels in as part of the process of helping them get well. So that's one way. And then also we can have too much excretion.

We're going to excrete a lot if we're over consuming caffeine, if we're drinking a lot of alcohol, if we're eating a lot of processed foods, high carbohydrate foods, we're going to excrete more of this.

If we're taking certain types of medications. Almost all medications cause us to excrete more magnesium. And so we might be losing too much. We might not be absorbing enough or might not be consuming enough magnesium.

Either way, research says that roughly 80 to 90% of our population is magnesium deficient on a chronic basis. And then even if you're healthy, the more stress you're under, the more you're using magnesium.

So even like somebody like myself that's very aware of this, I can go through periods, time where I'm magnesium sufficient. And then let's say this is the threshold I'm under more stress.

Magnesium goes down right, and I've got to upregulate it. And so you could most people, even healthy people are going to at least b b magnesium deficient at throughout different periods of time throughout the day.

So supporting your magnesium levels is super critical for overall health. So how do we go about that? How do we optimize our magnesium levels? Well, the RDA says you need about 300 to 420mg of magnesium a day, depending on if you're a male or female.

Males typically need more. You're about your overall body size, your age. You know, they say men over 30 need roughly around 420mg, whereas like a woman under 30, roughly around 300mg.

And of course, the more overall body mass you have, the more magnesium in general that you need. The less body mass, the less you need. Now in functional medicine, we say the optimal is really about 450 to 800mg.

That's what we're looking at in a functional nutrition world. We want to make sure that we're not just, you know, patching up some of these symptoms, but we're optimizing our overall mitochondrial function and our overall expression.

So we need more magnesium. In some cases we'll do something called magnesium loading where we'll do something like 1000mg of magnesium a day for a period of time, and sometimes even more to help optimize magnesium levels for somebody that was very, very deficient in magnesium.

So when we're looking at that, it's going to be really hard to get that from food.

How Much Magnesium You Need

You know, the foods that are high in magnesium are going to be things like green leafy vegetables, lots of different types of nuts and seeds, pumpkin seeds, things like that.

But those also have anti nutrients, have oxalates. They have enzyme inhibitors, things like that that can reduce overall absorption of a lot of these nutrients okay.

And so a lot of particularly magnesium. And so because of that some animal foods, if you have enough stomach acid you can get magnesium from eggs, from grass fed meats, wild caught salmon, from sardines with the bones, bone broth in general.

Right. All of those things are great. I just recommend when it comes to diet, you stick with real foods. Okay, I wouldn't overly concern yourself with anti nutrients or with, you know, maybe negative things you may have heard about animal foods.

I would stick with organic, grass fed, pasture raised animal products or organic fruits and vegetables. Right. And consume really a healthy, nutrient dense diet.

But I would recommend supplementing with magnesium. Just about everybody benefits from some level of magnesium supplementation. It could be as little as 100mg a day of a highly absorbable magnesium.

For many people, 200 to 400mg of additional magnesium plays a really big role, and they notice a huge difference in their overall health.

Best Food and Supplement Sources

Their brain functions better, they have better memory, better cognitive acceleration, their ability to think sharply and quickly, gets upregulated, their energy levels improve, their pain reduces better overall mental awareness, better mood, less anxiety, less depression.

They sleep better at night. I mean, all of these things can improve with as little as, you know, even 100mg of magnesium supplementation. So some of the best forms of magnesium are magnesium citrate, magnesium malate, magnesium glisson, magnesium or irritate.

And you know, my favorite magnesium l theanine. Which threonine? Which is the type that has been researched for to actually cross the blood brain barrier most effectively.

And so, there's a form called mag 18, the trademark form of magnesium L three and eight that crosses that blood

brain barrier really effectively and has really quick results at reducing anxiety and helping improve overall mental function.

And so that's my favorite type. But malate, magnesium, magnesium citrate a lot of great, great, health benefits to those forms of magnesium as well, and even elemental magnesium that you can get in certain types of supplements, as long as it's in a form where you can absorb it, and utilize it, that's going to be effective.

And there's lotions that you can put on. And also you can also do Epsom salt baths. Right. So Epsom salts naturally high in magnesium. And so a lot of people notice that taking magnesium transdermal works really well for their body.

So whether it's an Epsom salt bath that they're taking, Epsom salts have magnesium and sulfates. Sulfates help with liberty talks vacation magnesium does as well.

It's very important for liberty talks vacation and then also the magnesium absorbs from the Epsom salts in the bath absorbs into your body. If you don't have time for a bath, you can do Epsom salts, in water and just put your feet in it, right.

And just stick your feet in it. And that will help. If you drink Epsom salts, you're not actually going to absorb much of the magnesium in there. Early is not a good form.

It will act more as a laxative and just flush you out. So if you're really constipated, you can drink Epsom salts that will help flush you out. And almost like give you an enema in a sense, an oral enema.

But you're not going to actually absorb the magnesium into your system effectively. So that's what you got to remember with Epsom salts also doesn't taste good at all.

In fact, it'll make you kind of nauseous if you consume a lot of that. And so with that said, Epsom salts, great way to get it. Transdermal. There's also transdermal creams, magnesium chloride, or different types of magnesium creams and oils that you can actually put on your body.

So you can put those on your body, rub them in really good. And that's a great way to absorb magnesium as well. And then of course there's oral magnesium supplements.

There's powders and capsules that you can take again good forms. Magnesium citrate, magnesium malate, magnesium glistening magnesium orate all good forms magnesium chloride, good form.

And my favorite magnesium. All three and eight for the brain nervous system that sense to work the best. Although you'll get some benefit from all of those for all for for neurological function with all of those.

So with that said, that is the truth about magnesium.

Magnesium Forms and Final Recommendations

My favorite brand of magnesium is our brain calm magnesium, which is a form of it's got the Mag 18 formed by MIT researchers magnesium L three and eight.

On top of that, it's got the magnesium malate and magnesium. Listen eight glisten eight in album forms, which is the research form for the highest level of absorption.

And so this product was really crafted for optimal magnesium absorption, getting a blend of three different types of magnesium to really help help optimize your neurology or muscle function, and your overall health and well-being.

Magnesium is key if you're going to supplement with one thing I would say get a really good, highly absorbable magnesium on board or do something like we talked about Epsom salt baths, magnesium lotions to get more

magnesium into your system.

So hopefully you guys enjoyed this video. Got a lot out of it. Please share this information with somebody you know and you care about it. And we'll see you guys in a future training. Be blessed.