The Many Uses of Magnesium

Transcript

Hello, and welcome to the Many Uses of Magnesium. I'm Dr. Ritamarie Loscalzo, and I'm excited to talk to you about this extremely important mineral.

I could talk about magnesium all day long. There is so much to be able to say, and my challenge was bringing this down to fit into the half hour to an hour presentation that I usually do for these things, and so that you don't get too much into detail. It's really a matter of synthesizing as much information as there is down to manageable chunks, and then give you things that you can then do with the information once you have it.

Before we begin, I want to let you know that the information in the presentation is not intended to replace a one-on-one relationship with a qualified healthcare professional. It's not medical advice. It's intended as a sharing from my knowledge and my clinical experience to you. I've done a lot of research in this area, and the whole area of nutrition, and I have a lot of clinical experience with it. When I share, it's coming from a place of reading and a place of researching, but also a place of knowing what works and what doesn't with my clients. Everybody's different, so before you go ahead and make your own healthcare decisions, then I would make sure that if you're under the care of a practitioner that you run these ideas by your practitioner and make sure that it's in alignment with what's going on for you personally.

There's a lot of great information that I am going to share, and a lot of eye-opening kind of things about magnesium. It's one of our minerals, right? We've got a lot of minerals that we need — magnesium and calcium and phosphorous and potassium and chromium and, I mean so many of them, yet this one stands out as super important and very overlooked. It is an essential mineral, meaning your body cannot make it and you need it for critical functions.

If you were to go any length of time without magnesium, and then you were to use up all your bodily stores of magnesium, you'd be in big trouble, let me just tell you that. You'd be in big trouble. We'll go through some of what those functions are, and what deficiency symptoms of magnesium look like, so you can recognize those as part of your regime. Maybe there's some things going on for you that you didn't even realize could have been as simple as a magnesium deficiency.

It's very deficient in the modern diet, and I have a whole slide on what kind of things get in the way of having enough magnesium. We'll talk about that in due time, but it's very deficient.

Now, those of you who have been following me and doing the kinds of things that I recommend doing — my green cleanses, being on my B4 Be Gone program, in my Energy Recharge program café, I talk a lot about greens, green leafy vegetables, and getting a lot of greens in your diet. Greens are one of your most magnificent sources of magnesium, one of the most magnificent.

Getting a lot of greens gets you a lot of magnesium, but then there's other things that get in the way. There's things that interfere with its absorption, there's things that make you need more, like specific medical conditions or underlying biochemical conditions, and so it's not just as simple as eating your green, leafy vegetables for some people. For some people, that's all you need to do, right? That's it, that's all you need to do, eat your vegetables and you're good to go. In others, you see signs of magnesium...

Then when you supplement with other supplements, and I know a lot of you do a lot of research and you go out there and you go, "Oh, I read about this thing or that thing or another," and then you find out that, lo and behold, you start to take some supplements and you find you have other symptoms pop up. It could be that one set of nutrients creates an imbalance for the others, or not just a deficiency, but a relative deficiency, meaning you may have plenty of magnesium and plenty of calcium, but your calcium is so out of balance with your magnesium that it appears that you don't have enough magnesium because you don't have enough of it in relationship to calcium. There's a lot of those ratios that need to be thought about and kept into consideration.

Overview, it's vital for more than 325 enzymes in the body, that have been identified already. Enzymes are things, they're little protein kind of molecules in your body, that actually increase, or the speed, catalyze, improve, speed up various reactions in your body. You may have a reaction in your body that would take like, 5 years for it happen without a catalyst, without say, magnesium if that's one of the catalysts, and it could take 5 milliseconds to do. That's an exaggeration, there's nothing that really takes 5 years, but these co-enzymes and enzymes speed up. Enzymes speed up the process, and co-enzymes are those nutrients that those enzymes need in order to do their job, and enzymes happen in all the functions throughout the body.

Magnesium, just a handful of very vital functions, so you get an idea, energy production. It's important in the [inaudible 00:05:12] cycle, so it's important for the production, the transport and the utilization of energy in your body, very important there. It's important for nerve conduction, from the signal that goes from your brain down to your toe, Magnesium is one of the important nutrients for that. It's important for muscle contraction, not just skeletal muscle, like flexing your bicep, or running down the street and using your leg muscles, but for your heart. Your heart is a muscle, and Magnesium is super important for muscle contraction, especially the heart.

It's important for skeletal strength, it's important for the structure of your bones and your teeth. The skeletal structure, your strength, the strength of your bones, your ability and also muscular strength, the strength of your muscles. Another thing that's super important is DNA and RNA synthesis, so DNA is like the blueprint of your cell, and RNA is what carries out and puts that blueprint into place and creates the proteins, and the various things that the DNA tells it to do. Well these DNA and RNA, they reproduce themselves. When they get damaged, they need to be repaired and reproduced. Magnesium is important in that process.

Also, just general cell reproduction and growth. Our cells grow and they are born, and they die, and they are born and they die, they are born and they grow, they die. They are born and they grow, and they die. Different parts of your body have different cell life lengths, so for example, the cells in your small intestine turn over in 5 days. Magnesium is important for that turnover. Your nerve cells take a lot longer. Your liver cells can take up to 7 years to turnover, right? Red blood cells for example, they last about 120 days. Magnesium is important for cell reproduction and growth, so you could see that your general function and your overall health can be depleted when you don't have enough Magnesium.

Let's talk about the impact of Magnesium deficiency. I have a very long list, and I'm going to go through these in just general terms. Some of them, I may stop and linger on a little bit longer. When people have Magnesium deficiency, they sometimes don't know about it. They don't sit there and go, "Wow, I wonder if this is a Magnesium deficiency." It's unlikely somebody is going to present to their regular medical doctor's office with any of these complaints. Some of them they would, but most of them, a medical doctor won't have a clue that Magnesium deficiency might be an underlying cause. Anxiety and panic attacks, Magnesium is important for proper function of your adrenal glands and in some of the neurotransmitter pathways. When somebody is prone to anxiety and panic attacks, it could be a Magnesium deficiency.

Asthma, asthma is the inability to fully exhale from your lungs. It affects your breathing. Well, the bronchi, which are the little tubules that transport the air from your mouth, your nose, down in to the lungs, those bronchioles, they go into spasm, and that can create asthma. Also, Magnesium is important for the histamine production, and it doesn't allow the histamines to be broken down, and so you get histamine, which is mucus buildup. It causes mucus buildup. You couple mucus buildup with spasms, you can't breathe real well, so it affects your lungs. It affects blood clotting. The blood becomes thicker when you have a deficiency of Magnesium, so any diseases that could be related to blood clots, so there's sclerosis, stroke, embolisms, those can all be related to a deficiency of Magnesium.

When I say these things can be related to a deficiency of Magnesium, I'm not saying Magnesium would be the only cause, but Magnesium can certainly be a cause, and a very often overlooked cause in many, many people. Bowel disease, Magnesium contributes to the contractility of, the motility of your large intestine, the movement, the way that the digestive tract moves. It slows that down and you can get constipation. Constipation can lead to all sorts of problems in your gut. Extra toxins that get reabsorbed, which affects you systemically, but slower bowel function can cause obstruction and it can cause all sorts of imbalances that predispose you to cancer, and you get over-growths of bacteria that don't belong.

Cystitis, which is a bladder infection, can cause the bladder to go into spasm, and not fully empty, which can allow bacteria to grow there and be a contributing factor for cystitis. Diabetes and blood sugar imbalances, those of you who have been in my B4 Be Gone program know that we talk a lot about Magnesium as one of the prime nutrients for helping you to restore insulin sensitivity and blood sugar balance. We look at that and it helps the glucose get transported into the cells. Without Magnesium, you can't shuttle the glucose effectively. It works together with Chromium in doing that and helping the glucose get across the cell membranes, through the insulin receptors, into the cells. Chronic high blood sugar as a result of lack of transport, could be due to lack of Magnesium and can contribute to diabetes, hypoglycemia, insulin resistance and other blood sugar imbalances.

It's important for fatigue, so if you have a Magnesium deficiency, it may show up as fatigue. You may be just chronically fatigued. If you have chronic fatigue and muscle spasms, you're often told you have Fibromyalgia. Well, that combination can be due to Magnesium deficiency. That's not the only thing, but a lot of people get a lot of relief by taking Magnesium, upping their Magnesium containing foods. It's really important for the Krebs cycle, and there's this particular early part of the Krebs cycle called Glycolysis. The Magnesium is a really important co-factor there.

What else can Magnesium cause? Well, what else? Heart disease. It affects the contractility of the heart muscle. People who go into the hospital in emergency situations are often given an injection of Magnesium sulfate. This is one situation where medicine does recognize that importance. You could pull somebody out of a heart attack state by getting Magnesium. You can decrease the spasms in both the heart and also in the vessels leading to the heart. Hypertension, which is high blood pressure. Often times high blood pressure can be related to a Magnesium deficiency and your vessels go into spasm. Well, what else? Insomnia, people don't usually associate Magnesium with insomnia, although I know people who take Natural Calm at bed time, which is a powdered Magnesium citrate supplement and that helps them to calm down. It helps to relax their muscles, but what most people don't realize, that Magnesium is important in the formation of melatonin, so it's an important nutrient.

It can effect kidney disease by leading to atherosclerosis in there, the spasming of those vessels in there and not allowing things to move can cause blockage in the very tiny vessels that supply the kidney, okay? Also in the urethras and the ureters, that can go into spasm, so kidney and bladder stuff can be a problem. Migraine, one of the things people don't realize is that serotonin is related to migraines and often times some of the medications that are used, have to do with serotonin. Magnesium can contribute to that serotonin. Serotonin is dependent on Magnesium. That can also be a problem with depression. Somebody can have depression as a result of Magnesium deficiency also, related to the serotonin and also related to nerve conduction, which is one of Magnesium's important functions.

Fibromyalgia, we talked about that briefly, but fibromyalgia is a disease that's often ... I wouldn't even call it a disease, I call it more of a dysfunction, usually related to spasms in muscles, trigger points. Spots where you touch people and they jump. They're usually very specific spots, and that can be related to Magnesium deficiency. Muscle cramping and spasms in general, so if you have a stiff neck and a lower back, or you have stiff biceps, you tend to have muscles that stiffen up and spasm, and cramp. Other people who have cramping at night, you know, you wake up in the middle of the night with a calf cramp that keeps you awake, or hurts so much. They're really hard to let go of. That can be a Magnesium deficiency. It can also be related to a Potassium deficiency as well.

Vertigo, because of the affects on the nerve and the nerve conduction. Vertigo is a dizziness and often times, dizziness for no apparent reason. Either the room is spinning, but they feel like they're spinning, but Vertigo can be related to a Magnesium deficiency, most people don't realize that. Osteoporosis, we all think about Calcium when we think about bones and bone strength. Osteoporosis is a disease of porous bones, fading of the bones and Magnesium is very important, as well as Calcium. Part of the problem is, a lot of folks will supplement with Calcium, but they don't supplement with Magnesium, or enough Magnesium and they go into a relative Magnesium deficiency, and the bones don't strengthen the way they ought to. There's 20 or 21 different nutrients that are important for bone formation and in our brilliance in Western culture, we tend to focus on one, Calcium and people just taking their Calcium.

Meanwhile, they might be throwing off the other nutrients that are important for bone formation, including Magnesium. Raynaud's, Raynaud's is often times post injury and there's this numbness and coldness of an extremity. That can have to do with Magnesium, Magnesium can contribute to that, because Magnesium is important for nerve conduction, for the spasming of those vessels and the muscles going into the area. That can contribute to loss of nerve sensation and that feeling of coldness, the loss of blood supply and also loss of nerve conduction. That would be the tingling and the coldness.

Tooth decay, very similarly to Osteoporosis. Deficiency of Magnesium, if you have a lot of tooth decay happening, it may be that you don't have the right nutrients for the support of those teeth, and Magnesium is one of the important ones. There's a particular complication of pregnancy that usually happens in very late stage pregnancy, towards the end, it's that hypertension, very high blood pressure with a host of other syndromes. It's called Pre-eclampsia and women are often hospitalized and they're put on Magnesium sulfate when they go into Pre-eclampsia, so Magnesium is really important for those complications. There's also related to other female type issues like PMS, the imbalances that happen in that last part of the menstrual cycle, what's called the luteal phase, from after ovulation through to menstruation.

A lot of women experience either a week, 2 weeks or 3 days of that imbalance, that irritability. Your nerves are irritated and Magnesium and B6 are often associated with PMS. Magnesium more so with the cramping and the physical kinds of feelings that women get then. I've seen people just up their Magnesium during the second half of their menstrual cycle, and have tremendous improvements in the PMS and the menstrual cramps.

Mental confusion. Again, nerves. The nerves to the brain, conduction from one nerve to the next, Magnesium is an important co-factor there and you can end up with mental confusion. Depression I've already hit on a little bit when I mentioned serotonin, but most people don't realize that Magnesium is an important co-factor for the production of serotonin. We think a lot about B6, Vitamin B6, a lot of people know about that as a co-factor for serotonin and 5HTP, which is the Amino Acid, but if you have 5HTP and you have B6 and you're not getting the effects that you think you should in terms of depression, maybe it's Magnesium, maybe that's the missing link.

Finally ... Finally, there's 325 of these different things, but another thing that's important would be slow detoxification. Some of the enzymes in the liver that do phase 2 detoxification are Magnesium dependent. Especially those that detoxify metals. It seems like Magnesium deficiency has been associated with aluminum toxicity, because you can't detoxify real well. The other thing that Magnesium can affect, and I'll talk a little bit more about that when I go into the topical use is, DHEA production. You can actually stimulate DHEA production, it has been shown to improve with topical administration of Magnesium.

Why the heck are people Magnesium deficient though, shouldn't we just be taking our one a day vitamins and getting your RDA of Magnesium? Well, most people don't agree that the RDA, most alternative, functional medicine type practitioners anyway, don't agree that the RDA for Magnesium, which is set at about 400 milligrams a day, is sufficient for most people and there's a number of reasons. Caroline Dean is one of the most outspoken medical practitioners about Magnesium. She wrote a whole book called, The Magnesium Miracle.

She talks about it on her blog and if you look her up, Caroline Dean, I don't remember exactly what her website is, but just type in Caroline Dean, Magnesium, she's written a lot of blog posts and a lot of, lot of stuff and a whole book about Magnesium.

She talks a lot about the deficiencies and why we're so deficient, and how Magnesium is an overlooked mineral. It's just not considered. Calcium is King, you know? Calcium is the bone, and without Magnesium, you're going to have plenty of Calcium and you're not going to end up with strong bones. You may end up with a lot of Calcium deposits in your joints and soft tissue as a result of not being able to be utilized to create bone, because of lack of other co-factors and minerals that go along with it.

Why are we becoming Magnesium deficient? As a society, especially Western societies, people are very Magnesium deficient. The soil for one, our soils have become deficient. With the adent of so much ag. you know, the better living through chemicals type agriculture, we're not replenishing the soil and the soil is deficient, so we're not getting as much Magnesium in our foods as we think we are. Processed foods are devoid of Magnesium, it's been stripped away. If you're eating white rice, you're eating breads, you're eating pastas and all refined grains, it's very common. A lot of people go on a gluten free diet and they start turning towards these gluten free products, and they're eating these breads that are made with rice flour. Well, that's depleted, it's depleted of B vitamins, it's depleted of Magnesium and Zinc, and a whole host of other nutrients that you need.

Processed foods is a contributor to not just Magnesium deficiency, but whole scale deficiency. People say, "Well, I don't do that much. I mostly do brown rice. A few times a week I'll have white rice, or I'll have bread. It's hard to give up bread and I've given up gluten," but really, those gluten free crackers and breads, and all that are really deficient in Magnesium. Fluoride is an antagonist to Magnesium and when you have Fluoride in the water, which most states quite frankly, here in the US have fluoride added to the water, and it will deplete, it will interfere with the absorption and the utilization of Magnesium. Fluoridated water, in addition to being problematic for a thyroid and an antagonist to iodine which is important for your thyroid, the fluoride in the water is a really serious problem.

Most people drink tap water, even some people who are well-meaning and well-read are just doing a lot of tap water, rather than doing purified water and that fluoride, "Yeah, yeah, yeah. Oh yeah, have fluoride for dental work, have fluoride because it's good for preventing cavities," it's stripping your body of iodine and Magnesium, and other minerals. There's also food antagonists. If you have a high protein diet and what do I mean by high protein diet? A lot of those diets out there are just like, just eat animal protein with every meal and they're high in protein, and that can strip away your Magnesium in addition to your Calcium, because it creates an acidic environment in your body and that strips away a lot of your alkaline minerals.

Magnesium is one of those.

Yeah, you may need protein in your diet, especially if you're dealing with adrenal fatigue, or you're dealing with insulin resistance, you do need to have good quality protein, but be careful about getting too much protein, because it's going to strip away your minerals, especially Magnesium and Calcium. There's a chemical called tannin and tannin is found in things like coffee and especially tea, black tea. A lot of people say to me, "Well I've given up coffee. Isn't it okay to drink tea," and I'll say, well there's caffeine in tea too. "Well what about decaf tea?" Well black tea has a lot of tannins, very high levels of tannins and they interfere with mineral absorption, especially Magnesium, so be careful with that. Green tea is an option. Green tea doesn't have the same tannins as black tea.

Oxalates, and oxalates are found in green vegetables, especially spinach and chard, they're very high in oxalates. Some people are very sensitive to oxalates and other people should just keep their levels of oxalates down to a manageable level, because too high of a oxalate intake will absorb the Magnesium. The good news about oxalates is that when you cook the food, it does destroy the majority of the oxalates. For some people who are extremely sensitive, they have to cook them a lot, like you know, 15 minutes of boiling on that broccoli, but the main foods just in general for Magnesium, is not to overdo on spinach and chard. What I find is that a lot of people will start to do their smoothies, oh they're so excited about the smoothies. I always say it's important to rotate, it's always important to rotate your greens, because there's different nutrients in each one and some of them have toxins in them.

I tell people, rotate your greens, and a lot of them tell me, "Well I have spinach, I have a spinach smoothie everyday." Well, having a spinach smoothie everyday is not a great idea. Avoiding spinach altogether is not necessary or a good idea, because there's a lot of good nutrients in spinach. I do spinach smoothies, but I alternate that. I don't do spinach everyday, I'll do it maybe a couple of times a week, or if I do it in a smoothie with other greens, if I'm doing a mixed smoothie, like I'm down to the wire and I only have a little bit of everything left, I'll put some spinach in it, but I'm not putting a huge amount. A pound of raw spinach everyday, over and over, over the course of weeks and months can lead to the buildup of oxalates, which can interfere with your Magnesium.

Something else called phytates or phytic acid, you may have heard about it, it's related usually in grains. It's an acid that's found in grains that will bind to the Magnesium and carry it out of the body. That's basically what the oxalates do too, it will bind to the Magnesium and carry it out of the body. You don't want to have too many of these. They're in wheat berries and rice, and millet and quinoa. Not saying those are bad foods, just saying that you don't want to be overdoing these foods because of the Magnesium deficiency that it can cause, you know?

Other things, like I said before, the mineral antagonists. Calcium and phosphorous in particular will antagonize Magnesium. If you're drinking a lot of soft drinks for example, they have phosphorous in them, you're going to get a high level of phosphorous. High level of meat will do that too, meat contains a lot of phosphorous. Calcium, a lot of people are just taking a lot of Calcium, they're taking Calcium pills and I would not recommend taking Calcium unless you're also taking Magnesium. To go with the levels, not these huge amounts, because they antagonize each other, but you have to make sure that they're in balance, okay? You don't want to be taking Calcium and then find out that you have a Magnesium deficiency.

Drugs, there's a variety of drugs that can contribute to Magnesium deficiency and can deplete the body, antagonize the body's Magnesium. Insulin, when people take insulin because of blood sugar imbalances, diabetes, that can antagonize Magnesium, which is kind of a catch 22, right, because we want them to be able to utilize the insulin and Magnesium is important for the utilization, but if they're taking insulin it's antagonizing Magnesium and it's even more important for them to be taking it.

Various drugs, so let's talk about some of the drugs. We talked about insulin and it is a catch 22, because you take the insulin, because you can't manage your blood sugar and you're trying to get the sugar into your cells, and then the insulin interferes with Magnesium, which is important for shuttling it in, so kind of a catch 22 there. Birth control pills, a lot of women are on birth control pills and don't realize the widespread ... Oh, lots of things that birth control pills interfere with, Magnesium and Zinc and Vitamin C, and a whole host of things. It's really important, if you are on birth control pills, if you have a daughter, sister or whatever on birth control pills, talk to them about supplementing with a really good vitamin/mineral supplement, especially the Magnesium.

Steroids, people on steroids for various injuries or autoimmune diseases, that can interfere with Magnesium. Nicotine, like smoking. We know smoking is not good for us and you're on these calls, you probably know it already. If you are smoking, you're wishing you can get off of it. You know, you get it, right? A lot of people don't, they don't get it. Magnesium is one of the very many, there are many things that nicotine interferes with, but that's one.

Cocaine, use of recreational drugs like cocaine will interfere. Bronchodilators, so things that people are taking for asthma, right? We know Magnesium is important for asthma and again, taking a bronchodilator is going to deplete the Magnesium, so you're making it worse. You're taking a drug that actually, could be making your situation worse. Then finally, some diuretics that people take for high blood pressure to get their water or excess fluid out, but again, it's one of those things that, it depletes the Magnesium and the Magnesium is important for keeping the integrity of those vessels. It's really important to be looking at the big picture here, when it comes to Magnesium.

Finally, deficiencies in Vitamin D can contribute to Magnesium. Vitamin D is so important for all of our functions in the body, so it's important that you get a test done and make sure that you're getting enough Vitamin D or adequate sunshine. Really, testing to see ... There's a lot of people I'm testing recently with genetics and finding out that their Vitamin D receptors are sub-functioning as a result of a genetic thing, and so you might be laying out in the sun thinking you're getting all this Vitamin D and finding out that your body, the receptors need more to really pull it up and utilize it. That's the causes.

How do we get more Magnesium, right? How do we get more? Well, Magnesium in food, right? We know green, leafy vegetables are hugely important, very big, big piece of it, but there's a whole bunch of other stuff you may not know about. I'm looking at a chart and it's in Caroline Dean's book, and some of the things that have a decent amount of Magnesium, and the RDA for Magnesium is about 400 milligrams a day and really, depending on what your situation is, if you have exposure to some of these antagonists, if you've got a lot of stress going on in your life, you probably need a whole lot more than that and I often times like to supplement to bowel tolerance, but we'll talk about that in a bit.

Let's talk about some foods. These are foods that are high in Magnesium, Kelp. We talk about Kelp as being good for iodine, well remember, fluoride interferes with Magnesium as well as iodine, so kelp is a really good food. It's loaded with all sorts of minerals. It's also good at dragging radiation and other heavy metals and things out of your body, so kelp is a good food. I usually recommend people get anywhere from an ounce to 2 ounces a week of sea vegetables in their diet. Either as powder added to their smoothies and their sauces, and their salads and things like that, or as salad in and of itself. There's some very delicious ones and one of our vital calls, just a few months ago was on sea vegetables. It was actually a kitchen show where I showed you how to use sea vegetables, what they look like, so I highly recommend you go back to the library and pull that one up, and take a look at that.

Almonds and cashews are a good source of Magnesium, as well as Brazil nuts, dulce, millet, pecans, English Walnuts. There's also a few things she listed that I'm not telling you, which are gluten containing foods, so there's things related to wheat and rye, and wheat bran and germ and all that, but I'd prefer that you not eat those. Tofu is a decent source of Magnesium, coconut is actually decent. You can get 90 milligrams in a 100 gram serving of coconut, the dried coconut, which is a substantial amount, so it's maybe not as good a source as we might think. Dates have a decent amount of Magnesium, but again, a 3 and 1/2 ounce serving of dates is way too much for your blood sugar to get a measly 58 milligrams of Magnesium. The rest of these are just small amounts and the greens, the greens are way up there, okay?

She doesn't list a lot of the greens specifically, just general. That's some of the food sources. There are some herbs and off the top of my head I can't think of the specific herbs that are high in Magnesium, but it's a good thing to be looking at various herbs.

Just go online and look up Magnesium and say, good sources and there's a site that usually shows up when you do a search like that, called WH Foods, and they have a really good database of foods and all the nutrients, and what foods have what nutrients in them. If you look up a particular nutrient, then it will give you charts that show you what foods are good sources of them. You can pick and choose amongst those foods to see like, well maybe there's some foods in there you don't really want to do. Another way is oral supplements and there's a number of ways you can take oral supplements of Magnesium.

You can get liquid Magnesium, you can get ionized Magnesium. There's a company called Trace Minerals, that has something called Mega Magnesium, you get like 400 milligrams of Magnesium in 1 or 1 and 1/2 little dropper fulls. Body-Bio is another company that has oral supplementation of Magnesium in liquid form and there's a number of others like that, that have the liquid form. You can get a liquid combo, for example, Sun Warrior came out with a ... It's a Humic Acid and Fulvic Acid mineral combination, that has a good source of Magnesium in it as well. Then you can get powdered Magnesium. Often times Magnesium citrate is sold as a powder. There's a very popular brand called Natural Calm, and people take that at night, because it calms them down, it helps them to have a bowel movement first thing in the morning, calms the digestive tract down, so that's a good source. Some people have really sensitive digestive tracts.

The Natural Calm ... Citrate, you need to be careful, some people have to be careful about Magnesium citrate, because citrate can be a little bit more irritating to the gut than say, Magnesium orotate or Magnesium glycinate, but powdered Magnesium is good. The reason I like powdered is because you can titrate the dose. What do I mean by titrate? I mean, you can gradually increase the dose to find out what's the optimal dose to you. You can similarly to doing it with Vitamin C, where you can take your bowel tolerance dose. It's recommended that you just kind of increase your Magnesium and keep increasing it a little bit, until it causes you to have slightly loose stool, and then you back that off. That would be the amount that your body can handle. As soon as your body can't handle it anymore, it will flush through your bowel.

An exception to that is if you take too much at the same time. If you just take too much at the same time, you might have been able to take 2,000 milligrams over the course of the day, but if you take it all at once, it may cause you to flush, so I would say, divided doses with the Magnesium, 2-3 doses throughout the day. You can take capsules, like everything else and you can take pills. I don't recommend tablets generally, because tablets tend to have all kinds of binders and fillers that prevent them from being well absorbed. Same thing with Magnesium. I think it's always a good idea when you take Magnesium, or any minerals, is to make sure that you take something acid with it. Often times, I just put a pinch of Vitamin C.

I'll put my minerals, I have various minerals in liquid form that I take from time to time, different days I take different ones.

I will put a little pinch of powdered Vitamin C in there. You could also put a little bit of Apple Cider Vinegar, or you can put a little bit of lemon juice or something, but something that has an acid in it that helps the minerals to break down and be absorbed better, really good idea.

Topical has gained much, much notoriety lately and topical Magnesium is getting a lot of popularity recently. There's a book on transdermal use of Magnesium, Mark Sircus wrote it and it's very, very informative and enlightening. When you put Magnesium on the skin, it can get absorbed really well and you can do it without getting the digestive upsets. You can do it topically as Magnesium oil. I laughed when I first heard of Magnesium oil, I'm like, Magnesium oil? Come on, Magnesium is not an oil, it's a mineral. It really isn't an oil, it feels kind of a little tacky, but it absorbs into your skin. I bought a whole like, half gallon of it on Amazon when I started reading about it and finding it was very useful. Great for areas of muscle spasm if you've had injuries, great for putting over your belly.

You can rub it in on your belly in helping to calm menstrual cramps, or you can do it in combination with a castor oil and mix it with Magnesium oil, and put it as a pack over your belly for menstrual cramps or intestinal cramps, or things like that. You put it over areas where there's muscle spasm. It really gets in there and relaxes the muscles a lot. There's all sorts of uses and I haven't completely gone through and read that book, but there's a lot of extra stuff in there where it gets in.

The other way to get topical Magnesium is Epsom salts, as a bath or as a [inaudible 00:37:26], or as a soak. One of my colleagues shared a story with me many years ago. She said she'd been working with this patient and this patient had just so many muscle spasms, and so she'd been working on her and trying to get her to calm down, and she had been giving her Magnesium, because she thought it was a Magnesium deficiency, but it wasn't working. She told her to try and Epsom salt bath and the Epsom salt bath did more than the oral Magnesium, so she must have had other things that were interfering with her ability to absorb the Magnesium through her digestive tract, but once she got in that hot bath with the Epsom salts and that got through her skin, that relaxed her muscles dramatically. It's really great to do. You can put the Magnesium oil in the tub as well.

I think it's more cost effective probably to do it with the Epsom salts, which is Magnesium sulfate. Magnesium sulfate is also used as a laxative, you can use it to clean you out, but that's in very extensive doses. Like I said, if you take way beyond your bowel tolerance, you can use it to clear yourself out, but it could be a little bit uncomfortable and create a lot of urgency. Topical Magnesium, really check it out.

I've read stories, Caroline Dean was talking about stories of somebody who put Magnesium oil on an area of injury and then she found that, her stomach upset her, the ulcers were getting better, right? Seizures, just all sorts of things that can be useful by doing the topical Magnesium oil.

I have a friend who is a massage therapist and she's had chronic injuries and chronic really fascial instability. The fascia gets really tight and stiff, and she had a lot of pain. She started rubbing the Magnesium oil on it. Now she incorporates it into treatments that she does with people where she does this muscle stripping with the Magnesium oil. It's a really effective way to get the Magnesium in. You can also do it, a shot. That's not something you would do, you'd have to go to a doctor to have it done, but you can get IV Magnesium and inter-muscular Magnesium, which they use therapeutically for things like pre-eclampsia and with cardiac stuff. Lots of really great uses of Magnesium. It's a really, highly under-utilized Magnesium, although Caroline Dean and others have done a really good job of making it popular and making people aware of how widespread the issues can be.

She's got tons, I'm just flipping through her book right now. She has tons of different types of studies and cases, and just situations where you would just be like, "Woe, Magnesium for that, that's so awesome," so consider it. If you're having any kinds of major issues going on, especially if you've got nerve related things or nerve conduction type things, consider Magnesium and start with the topical. Especially if you've got a lot of digestive stuff, it may be helpful to do the topical to start to get your Magnesium levels up. You can go onto the oral and get up to bowel tolerance. I worked with one woman with an autoimmune disease that, it destroyed her muscles and we had her go up to bowel tolerance, and it caused amazing relief in the muscular type pain that she was having.

There's a lot of uses of Magnesium, it's really miraculous. Like I said, Caroline Dean spent 300 pages in her book. Some of the other books, Mildred Seelig, A Magnesium Factor, the multi-hundred page books are written about this magnificent nutrient and then finally, the transdermal Magnesium Therapy, Mark Sircus. All of these are available on Amazon if you really want to dig, but otherwise just really look to see, are you suffering from any of these conditions we talked about earlier, to see.

Anxiety, asthma, blood clots, bowel disease, any kind of bowel disease, right? Constipation, cramping, cystitis, diabetes, blood sugar imbalances, fatigue, heart disease, hypertension, insomnia, kidney disease, migraine, fibromyalgia, muscle cramping, spasms, Vertigo, osteoporosis, Raynaud's, tooth decay, complications of pregnancy- that's kind of a one time deal, every time you get pregnant it's not something you're going to be walking around with, but if you've had that issue, then it may because you have a Magnesium deficiency and you may still have a Magnesium deficiency.

PMS and menstrual cramps, mental confusion, depression, slow detoxification, these are all things that can be contributed to by a Magnesium deficiency.

Is Magnesium going to cure all of these things? I'm not at all saying it's a cure-all. I don't want to be misinterpreted to think that. It's not at all a cure-all, it's something to be looked at in all kinds of places. It's an easy thing to test. It doesn't require a prescription, it's not expensive, it's easy to find, if one form doesn't work you can try another. Orally, I would say, start with the liquids, because the liquids are going to be best absorbed. Powder dissolved in liquid would be next, before you go to capsules. Just try it, give it a try and see what you think. Send some feedback. I'd love to hear what your thoughts are and what your experience is with this.

Thank you so very much for being here for our talk on Magnesium, the many uses of Magnesium.