



1055: Minerals Part 3: Potassium: Blood Sugar, Hormones, Mood, and the Sodium–Potassium Pump (Solo Episode)

Child: Welcome to my mommy's podcast!

Katie: This episode is sponsored by BON CHARGE, and I love so many of their products from their red light face mask to their sauna blankets and everything in between. They focus on high-end wellness tech, and if you're interested in how light can help you, which I talk a lot about, BON CHARGE has so much to offer.

Studies have found that specific red light frequencies can help reduce fine lines and wrinkles when used at the correct brightness and strengths. And some products don't get these correct. The frequencies of red and near infrared light stimulate cellular activity at a mitochondrial level, which I talk a lot about on this podcast.

This can create better energy efficiency in a given location of the body. For instance, red light on your face gives more cellular energy for biological processes. This can help to decelerate the signs of aging and lead to firmer, plumper skin. So the long-term results you can see when using an LED mask over time are things like, reduction in the appearance of fine lines, reduction in the appearance of wrinkles, reduction in under eye bags, firmer skin, tighter skin, reduction in signs of aging, scar fading, plumper looking skin, reduction in visibility of blemishes, and visibly clearer looking skin.

I'm always a fan of getting natural light from outdoors, but for people who are wanting to kind of tackle the aging process head on, this is in a way to kind of give your body some extra benefit from these specific wavelengths of light.

The safe, non-invasive beauty treatment is going to be around for a while, and for a good reason given the results people are seeing. If you wanna check out the BON CHARGE Red Light Face mask, and all of their products, you can go to <https://boncharge.com/wellnessmama> and use the code wellnessmama for 20% off.

This podcast is brought to you by LMNT, and this is a company you might've heard me talk about before, and I really love their products because proper hydration leads to better sleep. It sharpens focus, it improves energy, and so much more. But hydration is not about just drinking water because being optimally hydrated, a state called euhydration is about optimizing your body's fluid ratios. And this fluid balance depends on many factors, including the intake and excretion of electrolytes, which many people don't get the right amounts of. Electrolytes are charged minerals that conduct electricity to power your nervous system. I talk a lot about nervous system on this podcast.

They also regulate hydration status by balancing fluids inside and outside of our cells. LMNT was created with a science-backed electrolyte ratio of 100 milligrams of sodium, 200 milligrams of potassium, and 60 milligrams of magnesium with no sugar. Since electrolytes

are a key component of hydration, here's what happens when we get our electrolytes dialed in.

We have more steady energy, improved cognitive function, suffer fewer headaches and muscle cramps, we can perform better for longer, and especially the support fasting or low carb diet because when we stop eating carbs like during a fast, the absence of insulin allows the kidneys to release sodium.

So replacing that lost sodium with electrolytes can help you feel good on a fast. Since LMNT is zero sugar, it also doesn't break up fast. Electrolytes are also important for maintaining blood pressure, regulating digestion and proper fluid balance. Keeping skin hydrated, which is a big one that I feel like often gets missed and so much more.

I feel like proper electrolytes is a missing piece for a lot of people and I love LMNTs new canned drinks, which are sparkling water with all the same ratios and minerals I just talked about, and they are delicious. You can check it out and learn more at [drinklmnt.com/wellnessmama](https://drinklmnt.com/wellnessmama). And at that link you will receive a free sample pack with any order.

Katie: Hello and welcome to the Wellness Mama Podcast. I'm Katie from [wellnessmama.com](https://wellnessmama.com), and this is part three in the Mineral Mastery Series specific to potassium. So far, we talked about sodium and magnesium. Both of those episodes will be linked in the show notes if you haven't heard them. They're kind of foundational building blocks for this episode, and in this one we're going to go into potassium and its effect and impact on so many things in the body, including blood sugar, hormones, mood, and we're gonna talk about the sodium potassium pump.

I know this is a little bit nerdy, but I love getting to deep dive on minerals. They've been absolutely life-changing for me, and I think that a lot of things that we face in the modern world are from, you've heard me say before, nature deficit disorder and also from being under mineralized.

Before we jump in, I wanna reiterate of course, that nothing I ever say is medical advice or frankly, any kind of advice at all. I'm simply sharing my own experience, my own research, things I've learned along the way, or things that have been helpful to me. My goal is only to offer inspiration or information that I learned, never a comparison, pressure or prescription.

Because you are and always will be your own primary healthcare provider, and I encourage you to be curious to do your own research, to question everything and to listen to your body with a deep reverence and respect. If something in these podcasts resonates and is helpful, that's great, and if it doesn't, please leave it behind and discard it.

We are each very individual, and I hope that if anything these conversations are just a starting point for you to connect with yourself in a deeper way. So with that said, let's jump into potassium. I feel that this is actually one of the most under consumed, misunderstood minerals, and I know I've also said that about sodium recently.

But I feel like potassium gets even less talk and is also vitally important in a much smaller amount, but not less important. I feel like if anything, people think, oh, potassium comes from bananas, and that's about the extent people know. And if, the way I think of it is sodium is the charger, magnesium is the relaxer, potassium is the balancer, which will make sense when we talk about sodium potassium pump.

But it's the balancer, the stabilizer, and the inside the cell conductor of electricity, which is really important. We'll come back to this because potassium determines how cells fire, how the heart beats, how our muscles contract, how blood pressure responds, and how your hormones behave and how calm you feel.

And yet a lot of people are profoundly deficient. And just like magnesium, we don't get as much from food as we used to. And also just like sodium we, when we eat a whole foods diet, we can actually become deficient at times in potassium.

The recommended intake. There are varied estimates and this one is one that because it is pretty personalized, there's not a specific RDA as there are with some other nutrients, but usually somewhere in the range of 3,400 to 4,700 milligrams per day. Yet statistically most people are getting barely half of that.

And especially in light of we're also not getting enough sodium. I actually think this might be a big contributor to a lot of electrically based issues in chronic disease. But let's break down why potassium matters, how it works with sodium and magnesium, where to get it from in a food source and how to supplement if necessary.

Before we get into the how though I'm gonna dive a little deeper on what potassium actually does, because to me, understanding this was critical in kind of understanding mineral balance within the body and dialing in my own mineral levels. So potassium is the primary intracellular electrolyte. Sodium is the primary electrolyte in the body and it lives mostly outside the cells.

Potassium lives mostly inside the cells and between them there's something called the sodium potassium pump, which makes sense. And this is the movement of sodium out and potassium in which creates an electrical charge. And this is actually vital for a lot of things within the body. And I've said before, I think we talk a lot about the biochemistry of the body, but if we think of the body first as an electrical and electromagnetic organism, we get a whole different perspective on the body.

And because this charge, the sodium potassium pump movement charge, runs things like nerve firing, muscle contraction, heartbeat, rhythm, and cellular energy. So it's a big deal if we don't have enough of these things. And potassium in particular drives the sodium potassium pump. So this pump moves both back and forth.

But this pump uses 30% of the body's total energy and up to 70% of brain energy and its job is to move three sodium ions out and two potassium ions in on repeat. Without enough potassium in the body, this pump slows down, which means metabolism slows down, energy production slows down. Brain fog increases, blood sugar can get worse, hormones can dysregulate, and heart rhythm can get weird.

So potassium is basically the mineral that keeps your electrical system alive. And like I said, I hear a lot of talk about magnesium, which is awesome, and more talk about sodium lately, which is great. I feel like potassium doesn't get enough airtime and there's certainly more to this than just eat more bananas.

Potassium also affects nerve relaxation, and I find this also especially fascinating. So sodium, kind of think of it like sparks the nerve, like a spark plug, potassium resets it so it can fire again. So without the potassium, it's kind of just in the on position or without enough potassium, nerves can kind of fire erratically, which can be linked in the body to things like anxiety, palpitations, twitching.

I think this can also be connected possibly to restless leg. There's also the magnesium connection there as well. Also not as well known, but potassium is required for insulin sensitivity, and here's why. Potassium need, or cells need potassium to uptake glucose. Low potassium can mimic insulin resistance, and the demand for minerals, as I said in the last two episodes, goes up in certain hormonally charged periods of life, including around menstruation for women and around perimenopause and menopause and insulin or resistance is something that people often also struggle with in those time periods. And potassium might actually be one of the puzzle pieces as to why. In fact, getting adequate potassium from whole foods or correct supplementation, which is really important, can improve blood sugar dramatically.

So why are we seeing so much potassium deficiency? We've already covered in other episodes why we're seeing, in my opinion, a lot of sodium deficiency, drastic magnesium deficiency across almost the entire population. But here's why we're seeing it also with potassium, and if you're noticing the trend, we are not getting enough minerals across the board and they drive the electrical communication of the body so this is a big deal. But for when it comes to potassium from a food perspective, it's because we are not eating as much fruit and roots as we used to. Because ancestrally humans ate potassium rich foods

pretty much daily. Things like tubers, fruit, leaves, broths, things that were in seasonal abundance.

Also, I think that's a big piece, is eating seasonally whatever is in abundance is a big part of this. However, modern diets are typically lower in fruit, lower in roots, higher in processed foods like grain and grain-based foods which can often be high in added sodium and low in potassium, which I dove deep into in the sodium episode, and also keto and low carb approaches often eliminate the best dietary sources of potassium and of other nutrients as well. So there's a lot of reasons in the modern diet that we are seeing just people actually not getting a dietary access to potassium in general. And like I said, this is why there can be a time and a place for supplementation, but also this is one thing you can get in decent amounts from real foods if you're including those foods in your diet.

We also know that stress increases potassium loss, so cortisol changes mineral handling in the kidneys. It affects sodium and magnesium as well. But chronic stress means urination pattern shift, and more potassium is removed from the body. So not that we ever think stress is good, but this is yet another reason that stress impacts the body on an electrical level.

Another lesser known one is drinking too much filtered water because similar to how and when I talked about this related to magnesium, filtered and reverse osmosis water have almost zero minerals. And we need not just hydration from water alone, but hydration from water with the correct amount of minerals.

So if we are thinking we're hydrating well, but only drinking filtered water without adding back minerals in or missing potassium, also things like sweating and heat exposure reduce potassium because we do also lose potassium in sweat just like we lose sodium and some magnesium. So sauna, workouts, hot climate, we lose more potassium and need to replenish it.

This is something I personally don't do blood tests for low potassium. This is a little bit of a controversial subject, but in general, blood tests are not that accurate for minerals for the most part because not that much is stored specifically in blood, and blood may not actually be the best window into the body and what's happening.

And like I said, none of this is medical advice and certainly not diagnostic, but from the literature I've read, some things we know that can be connected to low potassium are things like fatigue, heart palpitations, high blood pressure, muscle cramps, constipation, blood sugar swings, or insulin resistance, anxiety or internal shaking.

PMS fluid retention, feeling puffy or salt cravings as the body tries to adjust the sodium potassium ratio and bring things into balance. And of course, all of those things can be

multifactorial and have other related causes as well. But I feel like those are often very common symptoms and not often attributed to potassium.

I also wanna talk about potassium and its connection to hormones, mood and blood sugar a little bit more. Because I feel like this is worth understanding, especially considering how simple it can be to replenish potassium compared to other things people can try. And I feel like this is one that can have positive impacts throughout the body, and certainly did for me. From the hormone side, potassium supports progesterone production indirectly because it stabilizes the stress response. And I know across the board as I got my minerals into a better range I did see my hormones improve as well. Also low potassium is connected to high aldosterone, which is connected to water retention, bloating, and PMS symptoms.

There's also the mood and anxiety connection. I've touched on this a little bit, but potassium calms nerve firing. So without it and without enough magnesium we tend to see more of a sympathetic nervous system response and kind of being stuck there. To elaborate a little bit more on the blood sugar and insulin connection.

So like I said, cells require potassium to take in glucose. So when potassium is low, insulin becomes less effective, and so we have to make more of it. And low potassium can mimic insulin resistance, even if the diet is clean and everything else is okay. And then from a digestive perspective, smooth muscles in the intestines use potassium to contract normally.

And low potassium can lead to constipation, slow motility, and bloating. Since we've already covered sodium and magnesium, briefly I'll touch on how potassium works with these other two, what I consider master minerals. In other episodes we'll talk about minor minerals, which are not minor because they're less important, but minor because we need less of them.

But here's how potassium plays with sodium and magnesium. I consider these three, the trifecta. So sodium is the outside the cell charge. Potassium is the inside the cell charge and balance and magnesium runs the pump like the conductor. So when potassium is low, you don't process sodium correctly, so you retain sodium, which when we, if you've listened to the sodium conversation, might be yet another reason sodium is unfairly blamed for a lot of problems. When potassium is low, blood pressure can rise, muscles can feel tight and sprain more easily. The nervous system can become twitchy or kind of be stuck in the firing on position. And magnesium supplements won't quote unquote work fully because we don't have the ability to electrically process them correctly.

And also hydration might not feel hydrating. I noticed a couple of those are untangible, but potentially, or essentially, potassium is essential to make magnesium usable and sodium

balanced. So this is why this trifecta of the three electrolytes are important together and in the right ratios, and I feel like a lot of the modern lifestyle misses the mark on these three.

So here's how to get enough potassium, or at least here's what I do. If you wanna take a food first approach, which I think it's always great and it's worth doing a both and.

Potassium can be obtained through whole foods, and it's still available in the diet when we get enough of these foods, including things like coconut water, potatoes, and sweet potatoes, avocados, bananas. And in fact, just to mention, coconut water, potatoes, and sweet potatoes and avocado all have higher potassium amounts than bananas, even though we somehow think bananas are the highest potassium food, they're actually not. White beans also have more potassium than bananas. Other sources are beets, citrus, fruits, melons, squash, salmon, spinach, tomatoes, and pomegranate as well as kiwis. So there's a lot of food sources.

Like I said, a lot of ketogenic diets remove those sources. Now, the one confounding factor here that I personally consider is that I try to eat seasonally as much as possible, and the, a lot of these are seasonally based foods and there are ways to choose seasonal foods and still get enough potassium. However, I personally don't know about the balance of trade and trade off of, for instance, consuming tropical fruit in the middle of winter in the climate that I live in and would probably choose to get potassium from more seasonally appropriate foods personally.

Same thing with like coconut water, isn't something I would have access to in my local climate during the winter. But I personally consider fruits and roots the primary potassium delivery system, and they're designed for the human nervous system. So if we can tolerate eating them, they are a great source of potassium.

Many of those foods I listed are also a great source of fiber and other micronutrients as well. And I personally consume a lot of those foods regularly. I also have a caution around supplementation. So caveat, potassium is something I often supplement. It's also something I think it's worth really researching and understanding before supplementing and like the perfect amount is great.

More is not better when it comes to potassium. Potassium supplements require more caution for sure than magnesium or sodium. With those two, with sodium and magnesium, I personally err on the side of I'd rather get too much than too little. With potassium, I'm a little bit more cautious because here's why.

You might have noticed if you've ever seen potassium supplements that they are all 99 milligrams or less, and the FDA actually has this limit on over the counter potassium

because potassium shifts very quickly in the body and even in a medical setting, they're very careful with potassium dosing because it can work so rapidly.

So powders and food-based blends can help as well. But just keep that dosing in mind that like it can shift very quickly and this is an area where I personally would want to pay a lot of attention to my body and what was going on and make sure I was balancing with sodium and magnesium as well.

I think the safest approach and what I do is increase potassium rich foods first. At least seasonally use coconut water strategically. So I use it in the summer, especially post-workout, sauna. During pregnancy it can be really helpful. Add more fruits, roots and beans. And then I like LMNT which has small amounts of potassium and in a ratio with sodium and magnesium.

And then if needed, I also supplement beyond that. But like I said, do your own research. This is very personalized and you definitely wanna understand the dosing and know what's appropriate for your body before just adding in a lot of potassium. I also wanna talk a little bit more, I find this fascinating about potassium and the electrical body.

So kinda to tie this into the mineral series, potassium stabilizes the resting membrane potential of the cell, and here's why that's important. Without enough potassium inside the cell, the cell can't fire or reset properly. So overly simplified, but low potassium basically equals low voltage. And I'm gonna do a whole series likely as well on voltage.

But I think when we think from an electrical first lens of the body, we actually get much better data. So potassium is how our cells kind of keep the lights on, but in a calm and controlled way. So sometimes low energy might actually just be that we're not getting enough of these key electrolytes that are our cellular energy within the body.

Also as with all minerals, potassium is a safety signal. So just like sodium and magnesium having the right, so again, not too much, but most of us are actually deficient, the right amount of potassium in the body is connected to smoother heartbeat, more stable blood pressure, more stable blood sugar, and stable nerve firing.

And you can probably understand just from that little short list why that's so important. Because when those things are off you typically can feel it in the body, but potassium like the other master minerals, tells the body that everything is okay, tells the brain that everything is okay. Many people notice that when potassium levels are adjusted and get into sufficient range anxiety drops naturally without having to try to calm down.

So key takeaways. Potassium is the primary intracellular mineral that controls electrical balance. Almost everyone is deficient. Same is true with magnesium. If you missed any of

those episodes there in the show notes, potassium supports mood, heart rhythm, digestion, and hormone balance. It interacts tightly with magnesium and sodium.

We need all three. This is a both and across the board. The easiest fix is increasing consumption of fruits, roots, coconut water, potatoes, beans, greens, and whole foods, hopefully in a seasonally appropriate way. And potassium is the calm electricity mineral. So without enough, the body stays in stress mode.

And I will say just purely anecdotally and personally, when I really dialed in my minerals and was intentional about this, it was drastic how different I felt. I also pulled a few other personal levers like choline and glycine and inositol and some others, and I'll do a whole podcast soon on the forgotten nutrients.

But the minerals were a master switch for me. Next up in the series, I'm gonna talk about humic and fulvic minerals, which are a little bit different. They're not what I would consider master minerals in the same way, but I do think they're vital. And I'm also gonna talk about the trace mineral layer and kind of the missing piece of modern soil.

But for this one, thank you so much for joining me, for sharing your time and your presence today. It means the world that you are here and that we get to learn together. If you found this episode helpful, the very best way to support it is to leave an honest review wherever you listen to podcasts. This helps other women and families find and listen to the podcast and join the community.

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