#33 – Detox in a Toxic World, Part 4: An Evidence-Based Look at Detox Supplements and Protocols Transcript

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Introduction to Detox Supplements

[music] >> Welcome to The Trip Lab, kitchen table conversations about integrative medicine and psychedelics. [music] I'm your host and attending physician, Dr. Mariela Wood.

Hi everyone, welcome back. Today we are doing part four of five in our detox in a toxic world series, where we are taking a deeper, more evidence-based look at environmental toxins, how they affect health, and what we can realistically do about them. So, quick recap. In part one, we talked about what environmental toxins actually are. We went through the major categories we are exposed to in modern life, and also looked at how they actually affect the body. In part two, we shifted into practical ways to reduce exposures, especially in the home, and we looked at the home as a health ecosystem. Then last week in part three, we moved into talking more about the body, and what the body is already doing 24/7 to detox and excrete these toxins and other toxins, and what we can do to support those natural detox and elimination pathways through nutrition, hydration, movement, sleep, stress reduction, and more. So, make sure to check out those episodes because they are definitely the foundation to all of this.

But today, we are getting into a part of this conversation that I think is super important to talk about, especially in the age of social media, and that is all about detox supplements, protocols, cleanses, and essentially all things being sold in the name of detox. And as a reminder before we begin, I have companion guides for all of the parts in the series that you can find on my website at dr.marielawood.com/guides.

That's d r m a r y e l l a w o o d dot com forward slash guides. So, today, supplements, protocols, products on the market. So, we're going to get into all of that in a really thoughtful way. And I'm actually pretty excited about this episode because my specialty, so integrative medicine, is the specialty of medicine with a board certification that combines evidence-based holistic or {quote unquote} alternative, whatever you want to call it, practices with conventional medicine. So that means that I spend a lot of time bridging the {quote unquote} hard medicine that we learned in medical school and residency with things like nutrition, lifestyle, herbal medicine, mind-body medicine, and that also involves supplements and a lot of the recommendations you see in the wellness world. So every day I'm posting out what actually has evidence and what is just overhyped on social media. And the truth is, if you've listened to any of my podcasts, a lot of these {quote unquote} alternative practices actually do have a lot of evidence to support them. And if you really want to deep dive into where that divide between {quote unquote} alternative medicine and Western medicine came into play, check out episode number 15 on my podcast called how big pharma led us to call Eastern medicine alternative. And spoiler alert, it does have to do with money. But anyways, that's not what this podcast is about. Sort of. We'll get into that. But what I'm really trying to say is that my passion project is really educating people about what they can do to support health and healing in a way that actually helps and does not cause harm. And it's crazy that I have to say this out loud, but I am a medical doctor. And the reason that I state that is because unfortunately the wellness industry is filled with a lot of not doctors that are giving personal medical advice. So wellness influencers, some medical professionals who are not physicians but put on their social media that they are physicians. So a whole slew of people who are not medical doctors, not board certified, did not go through residency. You get my point.

Evidence-Based Supportive Supplements

So I think first and foremost, I just really urge you to be cautious with what you hear or read online. At the same time, I actually do think that this wellness movement is net positive. If you really look at it, it's encouraging people to learn for themselves, to take control of their health, to understand their bodies, and most importantly, to advocate for themselves. And I think that is beautiful and something that is way overdue. And this whole old dichotomy where physicians were the ones that knew everything about the body and everyone else did not is just so wrong. So, we are definitely definitely moving in the right direction here. But, as we move in this direction, I think it's really

important to actually parse out the evidence. So, don't believe everything that you hear online and actually look at where did this data come from? So, today we're going to do just that. We're going to look closely at what is actually out there and give you a more evidence-based look at supplements, protocols, detox cleanses, coffee enemas, yes, we are going to talk about those, and essentially all things marketed in the name of detox. So, as we jump in here, I think a really helpful way to frame this, that in my opinion kind of changes the entire conversation, is by clearly differentiating detox supplements from supplements that support detox pathways. And I know that does sound a little bit nitpicky, but I really do think that distinction is everything. Because that is what shifts this conversation away from overhyped marketing claims and back towards actually supporting real physiology. And one last thing that I'll point out before we get into all these is that a lot of the products and protocols marketed as detox can be convincing precisely because people actually feel something happening. So, coffee enemas, detox teas that clearly cause diarrhea, aggressive cleanses, really extreme protocols. So, all of those things actually do create noticeable effects in the body, which then people often take to mean that they are working. But, I think that's actually a little bit manipulative because most of the body's real detoxification and elimination processes are actually not things that you can feel happening in real time. You cannot feel your liver doing biotransformation.

You cannot feel your kidneys filtering blood and making urine. You also don't feel your lymphatic system clearing out waste during sleep. So, just think about that. Our bodies are doing extraordinary things for us all day long without those processes coming into conscious awareness. So, keep that in mind as we go through the rest of this podcast. So, we're going to talk about supplements today. Before we talk about them, the other thing that's really to know when we're talking about herbs or supplements is that they really should be treated like medications. They don't require prescriptions like medications do, but they're still biologically active and can interact with medications, can be a contraindicated with certain medical conditions or certain stages of life like pregnancy. Dose matters. Too high might cause side effects or increase chance of medication interactions. Too low is probably doing nothing at all. So, I encourage you to really think about supplements as medications. And also that they are supplements. So, they are meant to support the body after you're already doing things like nutrition, mind-body medicine, exercise, etc. The other common misconception that I want to say about supplements is that they actually are regulated, but they are not regulated like drugs. So, even though you should still think of them like drugs, they don't go through the same testing and regulatory processes that medications do. So, that means that an herb or a supplement does not have to prove efficacy before hitting the shelves.

Beyond that, third-party testing is not required to sell a supplement. But, I personally am going to be here and require you to make sure that your supplements are third-party tested before you take them. So, there are organizations out there that will test supplements to one, make sure that they actually contain what they say they contain and the dose that is listed on the bottle. And number two, that there are not contaminants or adulterated substances, which is probably more important. So, there was actually a recent study that randomly tested supplements sold online and found that most of them did not contain a single ingredient listed on the bottle. And a lot of them contained prohibited substances like medications in them. Beyond that, a lot of the side effects from herbs are actually from contaminants, not the herbs themselves.

So, all over, really make sure that you're choosing a good quality product that's been third-party tested. And of course, of course, always talk with your personal physician before starting any supplement or herbal product. So, overall, this episode is education to talk to you about which supplements have evidence, which don't, which can be harmful. So, this is an educational-based episode. I'm going to start with the more supportive supplements, then we'll get into some that have a little bit less data, but may actually be helpful and not harmful.

Then we'll get into the ones that have even less data and potential for harm. Then we'll talk about protocols and all those things. So, let's start with milk thistle. So, this is an herb that contains silymarin.

And in herbal medicine, it's considered a liver-supportive herb, which I actually think is the right way to think about it. So, it has antioxidant, anti-inflammatory, hepatoprotective, which means liver-protecting effects, and some evidence that it may actually support glutathione activity, which is our body's master antioxidant, and a word that you'll hear come up a lot in this episode. And we actually have meta-analyses that show that this herb significantly improves liver enzymes and metabolic markers in patients with liver disease.

So, overall, I actually am a fan and I use it in the clinic in certain situations. More importantly, it is generally safe

and well-tolerated, so it can be a great option for a lot of people. That being said, you might not necessarily need it, and since it is still an herb, it may interact with some medications. So, of course, always talk to your doctor before using it.

Next, we have NAC or N-acetylcysteine. I also hear people calling it NAC. So, this one also has quite a bit of evidence. And it is actually FDA-approved for Tylenol overdose and is used in hospitals.

So, NAC is a precursor to glutathione, which again is the body's master antioxidant. And when it's used in the hospital, it's used specifically to protect the liver from further injury from that Tylenol.

And I actually use this one quite a bit in my integrative practice to support detox pathways, particularly in patients who have genetic mutations that may impact detox pathways, like the MTHFR gene mutation. It's also a mucolytic, so can be used for congestion and bronchitis. There's also evidence to support its use in women's health conditions like PCOS and fertility support. Endometriosis is another one. So, overall, I like this one. It has evidence and it is safe if it's used in the right setting and at the right dose.

So, next, we have glutathione, which I've already mentioned a couple times here. So, milk thistle may help support glutathione activity. NAC is a precursor to glutathione, so let's just actually talk about glutathione itself. So, glutathione, which I've said multiple times, is one of the body's main antioxidants. And one of the key molecules that is involved in a lot of detoxification pathways, especially in the liver. So, it helps protect cells from oxidative stress and plays a major role in how the body processes and clears toxins, medications, and waste products.

So, you actually can take glutathione as a supplement rather than taking milk thistle or NAC. But the one issue with this one is it does tend to be a little bit more expensive. Because if you're taking it directly, it does need to be in a liposomal form in order to improve absorption. So, great option, but I personally lean towards NAC over glutathione because it's more cost-effective, more stable, and it's giving the body the raw materials to make glutathione when it's ready and where it needs it. So, a great one if you want to spend the money, I think it definitely can be helpful.

But, I think a more realistic option is NAC. Next, we have alpha-lipoic acid or ALA, which is actually a naturally occurring compound that our bodies do make in small amounts, and we can also find it in foods like spinach, broccoli, tomatoes, potatoes, and organ meats. So, ALA acts as an antioxidant as well and supports mitochondrial energy production, which then in turn helps support our body's detox pathways and also helps recycle other antioxidants, including glutathione, vitamin C, and vitamin E. And we actually have evidence that it may help with diabetic neuropathy, lowering cholesterol, and may also help support weight loss. Not a weight loss supplement in itself, but may help support a weight loss process.

And more specific to detox, we have emerging evidence that it may help mitigate adverse effects of heavy metals and has a very mild heavy metal chelating activity. Next, we actually have a few probiotics that are being studied for their effects to support detox pathways, primarily through the gut microbiome. So, first we have Lactobacillus rhamnosus GR-1 or LGR-1, which has actually been shown to bind heavy metals in the intestinal tract. There's actually a really cool pilot study where the researchers gave pregnant women and children in Tanzania a probiotic yogurt with this specific strain, and they found protection against mercury and arsenic levels. So, this one may actually be an amazing treatment for people living in areas where exposure to heavy metals is a lot higher. We also have several animal studies looking at other probiotic strains as well, specifically Lactobacillus casei plantarum CCFM 8661. So, to make it simple, just think Lactobacillus family. There's animal data that these strains may have supportive properties to help excrete heavy metals primarily through their action on bile acid metabolism. Next, there are few foundational vitamins and minerals that are really important to detox pathways as well. So, the B vitamins, especially B2, B6, folate, and B12 specifically help support methylation, energy production, and biotransformation pathways. B6 though, I do want to call out to be careful with because over supplementation causing high levels of B6 can actually cause neurotoxicity. So, be careful with that one.

Plausible but Limited-Data Supplements

Selenium is another one that can be really helpful because it helps support antioxidant enzymes including glutathione peroxidase. Zinc as well also supports a lot of enzymes. So, for all of these ones, micronutrients, most

of the time I typically recommend getting from food sources, but if you test and a patient has a known deficiency, it can be helpful to supplement as well. Okay, next supplement on our list is glycine which I really like and I use often because it's simple, inexpensive, and it works in a few different ways.

So, glycine is an amino acid that helps the body make glutathione. It's also involved more directly in phase two detox pathways. And it's actually a great sleep support supplement as well, which we also know that sleep is important for overnight detox and lymphatic drainage. And studies have been done for sleep specifically that show when taken before bed, glycine can improve sleep quality and next day fatigue.

Okay, next we have broccoli sprouts or sulforaphane. So, last episode, I talked about how much cruciferous vegetables help support detox. So, this would be a version that you can actually take in a supplement form. And of course, you can always just eat more broccoli or eat broccoli sprouts, but if you're looking for a supplement, specifically sulforaphane activates NRF2, which is one of the body's major pathways for turning on antioxidant defenses and phase two detox enzymes. And more specifically for detox, looking at airborne pollutants, a randomized clinical trial has shown that broccoli sprout beverages increased excretion of benzene by 61% and acrolein by 23% over 12 weeks. Next, we have curcumin or turmeric. So, this one I see come up a lot in detox supplement conversations.

And I would say it's not directly a detox supplement, but it is a potent anti-inflammatory, which can help lower the overall total toxic burden. And turmeric has a lot of uses. I use it in a lot of different scenarios, but it can interact with medications, specifically blood thinners, so also one that you want to be careful with. Next, we have psyllium, which is a soluble fiber. So, this one again, not a direct detox supplement like some of the earlier ones we've talked about, but it can help support regular bowel movements. And as we talked about in the last episode, this is super essential. So, once the liver processes toxins, hormones, and waste products, they then get sent to the gut through bile to get excreted through stool. So, constipation can actually lead to reabsorption of those waste products and toxins. So, psyllium can help move things along and continue those excretion processes. There's also some emerging evidence that fiber specifically can help bind toxins, too.

So, another supportive mechanism. Okay. So, all of those ones I think have more evidence, are safe, supportive, they can help with other things other than detox, so all ones I generally reach for. So, next, we're going to move on to some supplements that may be plausible, but there's just not a lot of data to support these ones. So, first on my list is chlorophyll. So, I see this a lot in wellness spaces. A lot of my patients are taking this one in the hope that it may bind certain toxins in the gut. So, what is it?

Chlorophyll is the natural green pigment in plants and algae that absorbs sunlight for photosynthesis. And the data to support detox is really emerging and at this point pretty theoretical. I think probably the most interesting study showed that chlorophyll did show some reduced aflatoxin DNA biomarkers.

So, aflatoxin is a toxic and carcinogenic compound produced by molds. So, it reduced aflatoxin biomarkers by 55% in high-exposed populations. So, interesting, plausible, but again, just one specific contaminant in highly-exposed populations, so not great data for general use. Chlorophyll is actually generally safe and well-tolerated, but I do think the benefits are overhyped at least right now. Along those same lines, next on my list is spirulina, which is a nutrient-dense blue-green algae that is being studied for its antioxidant, anti-inflammatory, and possibly heavy metal binding effects. And there is some evidence. I think the most notable human study is in chronic arsenic poisoning, where they studied a combination of zinc and spirulina, and they did see some improved clinical signs and increased urinary arsenic excretion when compared with placebo.

Potentially Harmful Detox Products

So, very interesting, but I think still very different from saying that spirulina is a broad-proven detox supplement for everyday use. And outside of very specific contexts like that, the evidence is still generally pretty limited. So, again, plausible, interesting, generally safe and well-tolerated, but not high enough on the evidence list that would make me recommend it to people. The one caveat here that's really important is that some spirulina products can vary in quality and have contaminants that can be harmful. So, sourcing again, good supplement quality really matters here.

Next is modified citrus pectin, which is basically a form of pectin that has been broken down into smaller pieces so that it's more absorbable and easier to use as a supplement. And the reason that it comes up in these detox conversations is that there is some evidence that it may help bind certain compounds in the gut, and also some interest in its effects on galectin-3, inflammation, and tissue repair.

In one small pilot study, modified citrus pectin did show an increase in the urinary excretion of arsenic, cadmium, and lead in children over a few days of use. So, interesting, but not a ton of data here. I think the bigger concern is that it may actually interfere with absorption of certain nutrients or supplements, which again may be preventing detox if you're not getting what you need. Okay, so three with some plausible data, probably not harmful if you're getting the right product.

Next, we're going to move into some supplements that have potential for harm, so I generally don't recommend it. Some of them have not a lot of evidence, some of them have caveats, so this is where we're getting a little bit dicey.

So, first I'll start with activated charcoal. And this one I really want to talk about because it does actually have real medical use. So, it is used in the emergency room for certain kinds of acute poisoning or overdose. So, it binds substances in the stomach and the gut and reduces how much actually gets absorbed into the body. So, mechanism, very real. We actually use it in the hospital. I think where things get a little messy is when activated charcoal gets pulled into the wellness world and it's added to everything. I've seen smoothies, lattes, ice cream, detox drinks, and it's marketed as this magic thing that's going to bind toxins. The problem is it does not selectively bind only the bad things. It also binds medications, supplements, nutrients, and if you take too much, it can cause constipation, vomiting, and other GI issues. We've also seen it cause bowel obstructions, so for this one, definitely potential for harm if used too much. Kind of along the same lines, we see things like zeolite or bentonite clay, which again, both are marketed as binders because the idea is that they can bind certain compounds in the gut and help carry them out through the stool. However, for these ones, the evidence to support these claims is very limited. And many clay-based products actually contain heavy metals like arsenic and lead, which obviously is the opposite of what you're trying to do.

And again, just like charcoal, it can cause constipation. So, these ones I would say probably just avoid. And piggybacking off of both of those, I would say anything that says heavy metal detox kit or home chelation kit. So, these are usually products sold as powders, drops, capsules, tinctures, and they often contain some kind of mix of binders, herbs, minerals, sulfurs, clays, and a bunch of ingredients that are marketed as chelators.

So, real chelation is an actual medical treatment used for confirmed heavy metal poisoning. So, it's really not a casual wellness protocol. And the scary part is that a lot of these can cause dehydration, kidney injury, and even cases of death. Now, of course, that's the dramatic end point, but most people don't actually need heavy metal chelation therapy. I think this is really where we need to think about the fact that wellness influencers are not doctors. So, they did not go through 12 years of formal medical training. So, I really encourage you not to listen to them when they recommend home detox kits. That they honestly probably have no idea what's actually in them and are probably also getting a kickback if you purchase them. So, there are so so many things that you can do for your health and wellness, but taking medical advice from a wellness influencer that is not a doctor is not one of them. So, unless they can explain how glomerular filtration works, tell you what macula densa cells do, explain what cytochrome P450 enzymes are, what medications and herbs they interact with, or they can tell you what the relationship between the sympathetic nervous system and the renin-angiotensin-aldosterone system is, I would be cautious.

Okay, anyways, we'll move on from there. Related to the heavy metal detox kits and the home chelation kits, I would also strongly advise against detox tea blends, colon cleanse blends, and liver cleanse blends.

And aside from detox, when it comes to any herb or supplement in my practice, I generally shy away from products that are blends, especially proprietary blends, because they don't actually list the amount of each ingredient in there.

And kind of what I talked about in the beginning, a lot of these detox blends tend to produce very noticeable

physiologic reactions. So, people actually feel cramping, urgency, diarrhea, or a flushing feeling, so they think that means the product is working.

But again, feeling something happen does not equal detox is happening. So, remember that these detox reactions are working behind the scenes, and they're not actually part of our conscious awareness.

So, all these cleanses contain unregulated doses of laxatives, diuretics, stimulants, herbs, and other irritating ingredients that can cause dehydration, loss of sodium and potassium, and other electrolyte disturbances, kidney damage, infections, even bowel perforations, which literally means a hole in your bowel, which is actually life-threatening and requires emergency surgery. So, just in general, do your due diligence before you take a product recommended by a wellness influencer.

Okay, next. Coffee enemas. So, people are literally putting coffee up their butts. And this is all over social media, like all over. As I was doing some research for this episode specifically to see what people were doing for detox, this was probably the number one thing that I saw. So, let's talk all about it. Where did this come from? Why are people doing it? So, the idea actually became popular largely through Gerson style cancer protocols, because those protocols theorized that coffee absorbed through the colon would stimulate the liver and gallbladder and increase bile flow to help clear toxins. Which, okay, okay, plausible. Coffee by mouth does impact bile secretion and colon motility. But, when you actually look into it, there are actually no studies out there that support this theory of coffee absorbed through the colon. And we actually do have one human study looking at coffee enemas that found no beneficial effects on glutathione or oxidative stress markers. So, what I kept seeing online was this claim thrown around everywhere that coffee enemas increase glutathione by 700%. So, that stat was on basically every video, blog post that I saw about why coffee enemas are good. They're great because they increase glutathione by 700%. So, I did some digging.

And where this claim came from was actually one single study in 1982 where mice were given ground coffee beans, so not coffee enemas, and they found that it increased glutathione S-transferase activity.

Detox Protocols and Fasting

So, not glutathione, but glutathione S-transferase activity by 700%. So, not in humans, not coffee enemas, and not actually glutathione itself. So, I think this is just a perfect example of a number gets thrown around and then it gets taken and transformed and used by hundreds of thousands of people and no one actually knows where that number came from. And they think that it increases glutathione by 700%, but there's actually no studies to prove that. So, all in all, there's no evidence to support the coffee enema claims. And in fact, we actually have evidence that debunks those claims.

Additionally, and I think more importantly, is that we do have evidence that coffee enemas can cause electrolyte imbalances, dehydration, infections, proctocolitis, rectal burns, rectal perforation, so again, a hole in your rectum, and death. Now, of course, those are very severe side effects. They're not common, but if we're thinking about a risk-benefit comparison, there's no proven benefit, and there is potential for harm. So, all in all, my recommendation, just drink your coffee.

You don't need to put it up your butt. Okay, now let's talk a little bit about detox protocols because I actually do think that there are some out there that are actually pretty helpful. >> [snorts] >> They're definitely some that are harmful, so we'll talk about both types here. But, I'll start off with my general take. If a detox protocol is depleting the body or stressing the body in a prolonged fashion, then it is actually undermining the very physiology that it claims to support.

So, remember, our bodies are designed to detox. So, any protocol should support all the organs involved, the liver, the gut, the kidneys, the nervous system, not deplete them and then create a scenario in which you have to recover from. So, I would say on the more harmful end of detox protocols would be things like prolonged fasting, very low protein cleanses done over long periods of time, high-dose laxative protocols, which we've already talked about, repeated diarrhea-inducing supplements, and in general, just very restrictive plans that leave people underfed, wired, dehydrated, and then ultimately constipated.

So, that is not support. That is physiologic stress. And if the body is underfed, losing electrolytes, not stooling properly, sleeping poorly, and just running on stress hormones, it is very hard to argue that detox is being supported during that process. And for liver cleanses specifically, they truly are doing the opposite of what people are taking them for. So, they may help push toxins out of the liver and into the gut, but they're also constipating. So, then those toxins just get reabsorbed rather than excreted. Fasting specifically does have some benefits, which I'll talk about in a second, but when it is is and depleting, it genuinely causes harm, and can lead to longer healing times, and a shutdown of a lot of the detox pathways because your body is truly just trying to survive and get out of that fight or flight and into a mode of safety. Okay. So, what about some examples of protocols that I actually do think are helpful?

So, there are a lot out there that are actually structured around intensive periods of eating and living really well. For example, Dr. Hyman's 10-day detox is great. It's basically a short, intentional reset built around whole foods, no processed sugar, no ultra-processed foods, better sleep, hydration, movement, and just in general reducing inflammatory inputs. University of Wisconsin also has a detox handout with similar principles. I also think programs that have fasting mimicking styles and very short-term can also be helpful if done every once in a while, because those ones are supporting fasting physiology while still giving the body nutrients, and it's done over a short period of time. So, let's talk about that fasting physiology. When we fast, the body starts to shift from constantly running on incoming glucose and towards using more stored glycogen, fat, and eventually ketones for fuel. So, when that happens, insulin levels fall, glucagon rises, and the body moves into a more metabolic switching state.

And that shift helps reduce oxidative stress, improve insulin sensitivity, and activates some of the body's own repair and clean-up pathways. So, that short time-limited fasting state supports autophagy, mitochondrial efficiency, improved metabolic signaling, and in some cases liver health, too. There's also pretty decent human data showing that time-restricted eating can improve things like body weight, waist circumference, fasting glucose, insulin resistance, and some liver markers, especially in people with metabolic dysfunction.

So, intermittent fasting, or more accurately time-restricted eating, is one way to do this. So, this can be a 12-hour overnight fast or 14:10 or 16:8.

So, with 16:8 means that you eat within an 8-hour window. So, we'll say noon to 8:00 p.m. or 11:00 a.m. to 7:00 p.m. And then you fast the rest of the 24 hours.

Another way you can get the benefits of fasting is to do a full 24-hour fast very occasionally, like maybe a couple times a year. But, make sure you're still drinking plenty of fluids during that 24-hour fast. And of course, this too should all be individualized. If you're on medications or have a complex medical or psychiatric history, this really should be done under the guidance of a physician. Okay.

So, this episode was a little bit more ranting and myth debunking than I've ever done on a podcast, but let me know if you found all this helpful. Because integrative medicine really does sit at this unique intersection between wellness culture and medicine. So, I think it's really important to talk about the claims that people hear online and really look at the evidence behind them. And if you got lost in the weeds here, just a reminder that I have a companion guide to all of these episodes in this detox series that you can find on my website at dr.maryellwood.com/guides.

So, d r m a r y e l l a w o o d.com/guides. But, as we close out this episode, I really want to bring us back to the bigger picture. My goal here really is to not be cynical about supplements or to assume that everything in the wellness world is nonsense. My goal is to really get a little bit more discerning.

Closing Thoughts and Next Episode Preview

So, some supplements and some short-term protocols really can be supportive in the right person and in the right context. Others may be mostly marketing. And of course, like we talked about, some can actually be genuinely harmful. And honestly, the best detox support is still the least glamorous option. So, nourish the body well.

Hydrate, support your sleep, move, sweat, address constipation actively, reduce exposures where you can, and if

you're going to use supplements, use ones that actually support your physiology rather than products that can just create a dramatic reaction and give the illusion of healing.

So, remember, your body's already doing extraordinary work for you every single day. It does not need to be punished or shocked into detox, and usually just needs support.

Varying levels of support for different people and for different things, but really if you support the body, it's going to do the job. So, with that, next week in part five, we're going to tackle a new lens in the world of detox. So, we're stepping away from environmental toxins, the liver, the gut, glutathione, and we're actually going to talk about digital detox and the new age of toxins.

We'll dive into a lot of interesting topics, so what we know about screen time, overstimulation, EMFs or electromagnetic fields, more into stress physiology, red light therapy, all those sorts of things that are actually pretty new and wasn't even around just decades ago.

So, we'll talk all about what it means to protect your health in a world that's not just chemically toxic, but also cognitively and energetically toxic as well. So, thanks for listening. I will see you next week.

Thanks for listening to The Trip Lab. If you liked this episode, please subscribe and share so we can get the conversation started about integrative medicine and psychedelics to destigmatize it and fully explore what this could mean in the world. >> [music]