#32 – Detox in a Toxic World, Part 3: Supporting the Body's Natural Detox Mechanisms Transcript

(Transcripts are generated by AI and may contain errors)

Introduction to the Detox Series

[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 to The Trip Lab. Today we are doing part three of five in our series detox in a toxic world, where we are taking a deeper and more evidence-based look at environmental toxins, how they affect health, and what we can realistically do about them. I also have companion guides to all of these episodes in this series, and you can find them on my website at dr.marielawood.com/guides.

So d r m a r y e l l a w o o d dot com forward slash guides. So a quick recap here. In part one, we dove deeper into what environmental toxins actually are, the major categories we are exposed to in our modern lives, and the main ways that they actually impact the body. Then last week in part two, we shifted into more practical ways to start to reduce exposures starting in the home.

So we looked at the home as a health ecosystem and walked through realistic changes and swaps that you can make. Today, we're going even deeper. So we're going to talk all about the body's already in place detox pathways and what we can do to support them and make them more efficient and more optimal. Because it's not just about removing exposures, which like I said is impossible to do 100%. So I like to think about and I mentioned this in the previous episodes, the idea of the total toxic burden. So that's what really matters. So working on reducing exposures, yes, but also helping the body get rid of exposures and toxins, too. So before we go down this episode, I do want to talk a little bit about the word detox itself. So in a lot of these wellness spaces, detox is made to sound like something dramatic, like a protocol, a cleanse, or a product that you absolutely have to buy, which we'll get more into in part four next week. But I really want to emphasize that your body is already detoxing 24/7.

How the Body Detoxifies

So, it's doing that all the time through beautifully coordinated systems that are constantly processing hormones, waste products, metabolic byproducts, medications, and all these environmental chemicals and toxins. I also want to mention that the idea of detox, more so in the wellness space, is very different from medical detox, which is what we call it when someone is being treated in the hospital for things like alcohol withdrawal, substance use, overdoses, poisoning, or other acute toxicology issues that require close medical supervision. So, that is not what we're talking about here. What we are talking about is something I think that's really foundational to health. We're going to look at the body's actual detoxification and elimination systems, how they work so you can understand them better, and then we'll get into practical things that we can actually do to support them. So, let's start by looking at those detox and elimination pathways that we have. So, we're going to look at the liver, the digestive tract, kidneys, lungs even, that's one people don't really think about, the skin, the lymphatic system, and actually the glymphatic system, which is the brain's detox mechanisms.

So, we'll start with the liver. So, yes, talked about a lot on social media, in these wellness spaces, but it really is one of the body's major detox hubs. So, the liver is constantly helping us process both things coming in from the outside, like environmental toxins, alcohol, medications, and also things generated from inside the body, like hormones and metabolic waste. One of the main ways that it does this is through a process called biotransformation, which basically means taking a compound and transforming it into another form that is easier for the body to safely excrete. So, you'll sometimes hear this described as phase one and phase two detoxification. So, very, very simply, phase one starts that transformation process by modifying a compounds.

And then phase two helps package it up in a way that makes it easier to eliminate. So, some compounds will actually re-enter the bloodstream and then get converted into urine by the kidneys. Some will get put into bile, also

made by the liver, which then enters the digestive tract and gets excreted through the stool or poop. So, in the digestive tract, some of these compounds actually can get reabsorbed if things are not moving well through the gut. So, one reason, which we'll get into in a minute here, why digestion and bowel regularity is really important. So, moving on a little bit deeper into that digestive tract, more of the intestines, the colon. So, one, we have some toxins getting excreted after packaging by our liver. The other part we need to think about is the microbiome.

Because the bacteria that live in our gut actually play a huge role in how certain compounds are metabolized. So, all those little microbes can modify bile acids, dietary compounds, drugs, and other xenobiotics as well. So, they're actually helping the body determine which get reabsorbed and which get properly excreted. The lining of the gut also impacts this, too. So, sometimes people can develop what we call increased intestinal permeability, or more in the wellness space known as leaky gut syndrome, which means the gut lining gets more porous than it should. So, more easily absorbing pathogens and toxins and not absorbing nutrients and minerals. So, this increased intestinal permeability or leaky gut syndrome can be caused from a lot of different reasons. So, stress can cause this, inflammation, poor nutrition, infections, a whole lot. We already kind of mentioned this, but proper elimination also plays a role here. So, if someone is constipated, that stool is sitting in the gut for a longer time, which inevitably, makes sense, increases the chance that compounds meant to leave the body actually get reabsorbed instead. So, next, let's talk about the kidneys. So, we kind of briefly mentioned them earlier.

So, the kidneys are constantly filtering the blood, pulling out waste products, extra fluid, many water-soluble compounds, and then sending them out through the urine. So, healthy kidneys actually filter half a cup of blood every minute. It is actually pretty remarkable thinking about how non-stop that work is. So, understanding this helps us understand why hydration matters so much. So, water helps the kidneys remove waste from the blood in the form of urine. And dehydration makes that process a lot harder. So, dehydration reduces blood flow to the kidneys, makes the urine more concentrated, and over time just adds strain to the system. So, moving on from the kidneys, next we actually have the lungs, which again, I think many people may not normally think of as a detox organ. But, every time we breathe out, we are getting rid of carbon dioxide, which is a byproduct of chemical reactions that your cells are constantly carrying out to make energy.

We also exhale volatile compounds. Granted, ones that we are inhaling, so it's more of a strategy in which the lungs prevent entry rather than fully detox. But, if the lungs aren't working in the way that they should, then those compounds are not going to be exhaled, and they can actually enter the bloodstream.

Next, we have our skin and our sweat glands. So, this is a major way that our body excretes byproducts, heavy metals, BPA, and other environmental chemicals.

Kind of along those same lines, we have our lymphatic system. So, another one that I think people talk about a lot in wellness spaces, but often without a clear explanation of what it actually does.

Nutrition for Detox Support

So, the lymphatic system helps move fluid, immune cells, proteins, and waste products throughout the body, and eventually back into the bloodstream, so that they can be processed and eliminated through the other ways that we talked about. So, we can think of it as a major part of the body's drainage and transport network.

So, helping move excess fluid and cellular waste out of the tissues and into the systems that help with elimination. So, I think the lymphatic system is actually really cool and pretty interesting, too, because unlike blood flow, it does not have one central pump, okay, the heart. It actually depends on movement, muscle contraction, breathing, and body position to keep things flowing.

So, this is where we can start to see that things like walking, exercise, stretching, yoga, diaphragmatic breathing, and even lymphatic massage can be really helpful. So, all these things support circulation and also encourage the movement of fluid and waste through the lymphatic system.

Okay, last, we have the glymphatic system. So, this is the brain's waste clearance network. So, this is what moves cerebrospinal fluid through the brain to clear out metabolic waste products.

And this system actually works best during sleep, especially in the deeper stages of sleep, which we'll get into a little bit more. Okay, great. So, that was a little overview of all of our detox elimination systems in the body. Now, let's get into what you can actually do to support all these systems. So, first, of course, we have to start with nutrition. So, I think one of the biggest things here is protein, which starts to get into one of the reasons that I don't love the idea of extreme juice cleanses or restrictive detox diets for long periods of time.

So, the liver needs amino acids, which come from protein, to carry out biotransformation, especially that phase two detoxification. So, if someone's barely eating protein, they're not really giving the body what it needs to do that work efficiently. So, good sources of protein here would be things like eggs, fish. Fish are probably my number one. Chicken, turkey, Greek yogurt, if you tolerate that. Then we have plant-based options like tofu, tempeh, edamame. Lentils and beans are great ones.

And for all these protein sources, choosing organic when possible, I think is also pretty important. This is more so to reduce exposures, but can also have more nutrient contents as well. Okay, next, and maybe equally as or maybe even more important than protein is fiber. So, I really, really want to emphasize fiber. So, fiber helps bind waste in the gut, helps support healthy bowel movements, helps the body excrete metabolized hormones and bile through the stool, and it also supports the microbiome.

And there are actually many studies that show that fiber actually binds microplastics, heavy metals, and other contaminants. So, all around, a great option for detox. And great high-fiber foods include things like chia seeds, flax seeds, lentils, beans, oats, avocados, raspberries, pears, apples, broccoli, Brussels sprouts, and artichokes.

And just as a reminder, the companion guide to this episode has all of these details, so list of foods, all the things that we're talking about, and it can be found on my website at doctor.marillewood.com/guides.

Okay, so fiber. Really emphasize fiber. Next, a more specific category is cruciferous vegetables. So, these definitely are fiber in and of themselves, but beyond their fiber properties, they also contain compounds like glucosinolates, which actually directly help support detox. So, this is where we can start to think of food is medicine. So, we're actually giving the body compounds to support processes. So, cruciferous vegetables are going to be things like broccoli, cauliflower, Brussels sprouts, kale, arugula, cabbage, bok choy, all great options. Next, I want to talk about colorful polyphenol-rich plant foods. So, my rule of thumb is the more colorful, the more potent the color, the better.

I'm talking natural foods, plant foods, not colorful artificial flavorings, of Of So, the potent color in foods like berries, pomegranates, beets, purple cabbage, all contain antioxidants that help with detox. And each color actually has its own unique phytonutrients and helpful ingredients. So try to eat the rainbow as they say. Next, we have healthy fats. So these are really important because bile flow depends in part on fat intake. So healthy fats would be things like olive oil, avocados, nuts, seeds, and fatty fish. So kind of moving on a little bit from food, but related is hydration. So I know this gets thrown around a lot on social media as the answer to everything, but in reality it really does matter a lot. We kind of talked about this already.

But hydration supports blood flow, kidney filtration, urine production, bowel regularity, and even lymphatic flow, too. And you do not need to drink gallons of water a day.

Movement, Sweating, and Lymphatic Flow

A good rule of thumb is just look at your urine. Is it light yellow? Or is it dark and concentrated? So just use that as a reference for your personal intake. On the hydration note, I do also want to briefly mention electrolyte powders here. So I think in general, my take is that I think they're overused, and a lot of them actually contain added sugars, flavorings, dyes, and unnecessary ingredients, which kind of defeats the point if you're trying to lower your overall chemical burden.

There definitely are scenarios where they can be helpful. So if you're sweating a lot, I would say child labor would be a good scenario in which to use them. So I'm not against electrolytes, but I do want to emphasize making sure that you're getting a simple and clean formula. And actually, just a pinch of sea salt in the water does the trick. You

can also get more electrolytes through food, eat more potassium-rich foods like leafy greens and citrus, too.

Okay, so we did food, water. Next, we have exercise and movement. So getting out and moving our bodies, either through formal exercise or walks, stretching, yoga, so really anything is one of the most important things you can do. So this helps improve circulation, which helps move nutrients in and waste out. It helps support lymphatic flow because like we talked about earlier, the lymphatic system depends heavily on muscle contraction and body movement to keep fluid and waste moving.

Exercise and movement also helps support mitochondrial health, which helps our body produce and use energy, which helps essentially all of the detox pathways earlier that we talked about. It also helps support lung function simply by helping us breathe more deeply and more efficiently. Exercise also helps support gut motility, which is a big deal because if things are not moving through the digestive tract well, elimination of toxins suffers, too.

So, so much more than just burning calories. It is supporting full body systems involved in circulation, drainage, and elimination. I also want to give a special mention here to yoga because it can be a really beautiful detox-supportive practice. So, the movement and breathwork connection can help support lymphatic drainage, circulation, and nervous system regulation all at once. And there's certain poses or asanas, especially twists, that also may help support digestion and gut motility. So, what is the best exercise? The one that you will actually do and the one that you enjoy. So, moving on from exercise, but very related to exercise, is sweating. There are actually many toxins that are better excreted through sweat than other pathways.

So, specifically, the BUS or blood, urine, sweat landmark study showed that BPA, heavy metals, and phthalates were excreted more efficiently through sweat.

So, when I say sweat, that can be through exercise, steam rooms, saunas. So, truly anything that just gets you sweating counts. Kind of related to that, too, is the bigger picture of heat therapy in general. So, saunas and steam rooms, even hot baths, they actually do more than just help us sweat and excrete toxins through the sweat. They also increase circulation and support cardiovascular function. So, the heat, especially really high heat, activates what are called heat shock proteins, which helps protect cells under stress and support protein repair. This process also helps support autophagy, which is the body's cellular cleanup and recycling process.

So, a very heavily cited Finnish study that followed over 2,300 people found that those that used a sauna four to seven times per week had substantially lower rates of fatal heart problems and all-cause mortality compared to those who only used it once a week. So, in this specific study, the average sauna session was about 15 minutes at around 175° F.

Now, infrared saunas may actually offer similar benefits at lower temperatures because they heat the body more directly. So, essentially raising core body temperature without needing the air to be as hot as a traditional sauna. So, I love sweating, saunas, steam rooms. I could talk about them all day, but we'll move on here. Next, I want to talk about more targeted ways to support lymphatic flow. So, exercise, walking, also great way to do this, which we mentioned earlier. But, there are some other simple and powerful tools like diaphragmatic breathing. So, this kind of deep breathing creates pressure changes in the chest and abdomen that actually help move lymph more through the body, especially through the thoracic duct, which is one of the main lymphatic vessels. Lymphatic massage can also be helpful, especially for people dealing with fluid retention, sluggishness, puffiness, or actually post-surgical swelling, as well.

So, this type of massage, or manual lymphatic drainage, is designed to encourage movement of the lymph and reduce fluid buildup. I think regular massage can also be supportive, but more so just in a general broad way by improving circulation and that relaxation response. There are also some more traditional or home-based practices like dry brushing and gua sha. So, these support circulation, tissue movement, and local fluid flow. And many people actually find them pretty helpful, especially for drainage or depuffing. Also, for lymphatic drainage, there are more traditional medicine-based practices as well.

Sleep, Stress, and Nature

So, we already mentioned yoga with the twisting poses or asanas, but other asanas or poses like inversions, breath-led flow, and gentle rebound-style movement can also support circulation and drainage.

In Ayurveda, practices like abhyanga or warm self-oil massage may be supportive by improving circulation, calming the nervous system, and encouraging that sense of flow throughout the tissues. Okay, next we have sleep, which is definitely one of the most important, but often underestimated parts of this whole conversation. So, I mentioned briefly the glymphatic system in the beginning, which is basically the brain's waste clearance network.

So, it helps move cerebrospinal fluid through the brain and clear out metabolic waste and debris that builds up over the course of the day. And like I said, this system is most active and most efficient during sleep, especially deeper sleep. So, sleep, regulating sleep is important for that. But beyond the glymphatic system, sleep also shifts the whole body into a state of repair, regulation, hormone balance, immune restoration, and tissue recovery. And bodies that are constantly sleep deprived slowly start to work less efficiently over time. So, really, really protect your sleep. So, things you can start thinking about, try to go to bed and wake up at roughly the same time each day, within half an hour, even on weekends, which can be hard to do. But that is going to help regulate your circadian rhythm, which [clears throat] then will help support hormone signaling, metabolism, and sleep quality. Other things for circadian rhythm is try to get morning light first thing in the morning. There's also sleep hygiene tips like keep the bedroom cool, dark, and quiet, reduce screens and bright light at the end of the night, especially close to bedtime, watch your timing of caffeine and alcohol, because both can actually disrupt sleep architecture, even if you're still falling asleep. And if the problem is that your brain is just staying on at night, this is where things like breath work, a wind down routine, stretching, reading, yoga nidra, a personal favorite of mine, or even a hot bath can be really helpful.

Okay, so sleep, very important. Next, we have stress reduction and some mind body medicine techniques that you can do to actually help support the body's detox pathways. So truly the mind can influence the body and vice versa. So we'll chat through how and why really so you can understand this a little bit better. When the body is under chronic stress, it shifts into what we call a survival state.

So that stress response increases cortisol and sympathetic nervous system activation, that's that fight or flight. And over time, that chronic activation actually directly increases inflammation. We literally see increased inflammatory markers on blood work. It also causes blood sugar dysregulation, sleep disruption, impaired digestion, changes in gut motility, and overall full body physiologic strain.

So if the body is constantly having to divert resources towards survival or that fight or flight stage, the systems that are involved in repair, digestion, elimination, and detoxification are just not going to function as efficiently and can sometimes actually shut off altogether. More directly and in real time, stress slows down and disregulates digestion, impairs sleep, and worsens inflammation in the acute sense, too. So this creates more oxidative stress that you will then need to detox out later.

So it is quite literally adding to your total toxic burden. It's not just some theory. So what can we do about it? We'll talk through some high yield mind body practices.

First, we have mindfulness, which is fully being in the present moment with non-judgmental awareness. So meditation is one type of mindfulness practice, and there are of course other types of meditation you can do, too.

And I think what's really important to mention here is that even 5 minutes a day, done consistently, can actually rewire the brain over time. We also have breathwork, another great one.

So again, that longer exhale shifts the body in real time into parasympathetic or rest and digest, so the opposite of fight or flight. And then also impacts general repair and elimination or detoxification.

So you think one simple super simple easy way to do this at any time is what's called the physiologic sigh. So you have a big inhale and then an audible prolonged exhale, like >> [sighs and gasps] >> Vagal nerve toning is another simple, quick, and highly effective one.

>> [clears throat] >> So the vagus nerve is the biggest parasympathetic nerve in the body, and there's different ways to stimulate it. So things like humming, singing, actually gentle cold exposure, can actually {quote} {unquote} tone the vagus nerve and make it more readily available for you. Okay, last thing here and kind of along the same lines as mind-body medicine and stress reduction, we have time in nature and grounding. So getting out, getting in nature sounds so simple, but it's surprisingly is something that most of us do not do enough. But we actually have a research showing that it lowers stress, literally see biomarker stress reduction evidence, regulates the nervous system, improves mood, and improves sleep. So trees and plants actually release biologically active compounds into the air called phytoncides that reduce stress hormones and support the immune system.

So related to just time in nature, there's also this idea of grounding or physically putting your bare feet on natural surfaces like grass, sand, or soil. So the theory is that direct contact with the earth supports an exchange of electrical charge that reduces inflammation and autonomic balance. So the scientific data here, specifically for grounding, is still emerging. But, the broader idea that the body works through electrical activity is not new. We measure this actually all the time with things like EKGs for the heart, EEGs for the brain.

So, the earth has electromagnetic fields, our bodies do, and all of the technology we use, so chargers, Wi-Fis, also emit electromagnetic fields as well. And synthetic EMF exposures, from screens, phones, etc., is actually an active area of ongoing research that is actually pretty interesting.

So, we'll get deeper into that in the part five when we talk about digital detox, but I did want to briefly mention that here. So, with all that, I want to close out and encourage you all to give your beautiful body more credit.

It is working so hard for you every single day, processing, clearing, adapting, repairing, and handling an enormous amount of inputs all the time. So, I really wanted to put this together because if we can understand it a little better, we can also support it a little better.

So, just as another reminder, all of these episodes in this series have a companion guide to organize everything for you. You can find them on my website at dr.maryellalwood.com/guides.

So, with that, next week, part four of our detox series, we're going to talk all about those detox supplements and protocols that I mentioned in the beginning. So, we'll dive into everything from binders, powders, cleanses, all of the products being sold in the name of detox. So, we're going to look at the evidence to understand them a little bit better. We'll talk about which ones actually may have a supportive role and which ones I use in my practice, which ones are definitely overhyped, probably unnecessary, and then actually, most importantly, which ones are actually very harmful. So, thank you for listening to this episode and taking this detox journey with me. I'll see you all 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]