

# TPWKY – Episode 197 – Detox

**EW:** [00:00:00] Throughout the history of man, there have been constant epidemics of many diseases. Little has been known or understood as to why these things happen. In recent times, it has been believed that these many diseases are contagious and that germs have spread them. This belief has created a monster as the medical field has steadily found stronger and more potent drugs, poisons, and antibiotics in their constant effort to destroy what they believe to be the cause. A large variety of vaccines and antitoxins have been developed because of the belief in a large variety of bacteria and viruses. Yet, in spite of massive research, manufacturing and wide use of these items, mankind still goes on suffering from an ever-increasing variety of disease and disorders with no let up in sight.

Disease, old age, and death are the result of accumulated poisons and congestions throughout the entire body. These toxins become crystallized and hardened, settling around the joints, in the muscles, and throughout the billions of cells all over the body. Germs and viruses do not and cannot cause any of our diseases, so we have no need for finding various kinds of poisons to destroy them. All diseases, regardless of their names, come within this understanding as only varied expressions of the one disease of toxemia. Basically, all of our diseases are created by ourselves because we have never taken the time to discover the true foods meant for man's use.

Very often an epidemic occurs after holiday feasting. Even the very best of foods in excess can create problems. Since germs do not cause our disorders, there must be another logical reason for the triggering of an epidemic. This is a matter of simple vibration. The better the physical and mental condition a person is in, the higher becomes his vibration, but as he steadily becomes clogged with more and more waste matter, his vibration goes constantly downward until he is ready and in need of a change. If he then comes in contact with one or more who have already started the cleansing process, he picks up the vibration of change and all his functions are triggered into the same action. The person with a toxic free body and undisturbed mind is the one unaffected by the epidemic.

**EAU:** It was so hard for me to not make

**EW:** I know. I know.

**EAU:** having to listen to that.

**EW:** know.

**EAU:** I. Was that from, uh, like 2200 BCE? I hope

**EW:** I mean,

**EAU:** I can tell by the grammar that it wasn't,

**EW:** thou art No, in, in many ways yes. And in many ways, no. Okay. That was from a book by Stanley Burroughs called The Master Cleanser. And this book I think was published in the 1970s, but the original Master Cleanse diet was introduced by Burroughs in the 1940s. That's from a little chapter of the book called A Word about "Epidemics" and "Germ-Caused" Diseases.

**EAU:** Sorry. That book was published in the seventies,

**EW:** Oh, Erin, as if there aren't similar ones today. Debunking germ theory. Okay. We usually should not take this much of a dismissive tone already, but it's challenging. I mean, and, and the reason I say it's from older too is because like the same message has basically applied since humans have formed concepts surrounding disease and health. It goes back to like the humoral theory essentially. Even before. Yeah. Yeah. So, um, that's still getting good reads, reviews. A lot of people are still rating, it has a four out five on good reads. I didn't look up how many reviews, but, um, as an example. Yeah.

**EAU:** Okay. Okay. I'm gonna take a lot of deep breaths, uh, cleansing

**EW:** Cleansing breaths. Yeah. We're, we're on the same page. Uh,

hi, I'm Erin Welsh.

**EAU:** And I'm Erin Allmann Updyke.

**EW:** And this is This Podcast Will Kill You.

**EAU:** Today we're detoxing,

**EW:** Oh, boy.

**EAU:** about detox.

**EW:** Yeah.

**EAU:** Mean,

**EW:** What does it mean? Does it mean?

**EAU:** That's the episode.

**EW:** Yeah. Yeah.

**EAU:** Can you do it? Happy New Year.

**EW:** Yes. Happy New Year. First episode of 2026. We're coming to you from the past. We're time travelers here and, uh, predicting that we have all, you know, indulged and eaten some delicious foods [00:05:00] and maybe had a little bit of drinks here and there. And, uh, you might be feeling like you're getting a lot of ads for detox, teas and cleanses, purifying, et cetera, impurities.

**EAU:** So we are here to tell you about that and whether you should or not, except we won't tell you that. 'cause again,

**EW:** This is not a medical advice podcast.

**EAU:** But we'll tell you so you can make up your own mind, I guess.

**EW:** Uh, I am so excited for this. There is so much. This took me in the very, the most unexpected directions.

**EAU:** I love it when it does that.

**EW:** Me too. Me too. Uh, but before we get into like everything, it's quarantini time.

**EAU:** Quarantini time.

**EW:** What are we drinking this week?

**EAU:** We are drinking water

**EW:** That's right.

**EAU:** That's right.

**EW:** We are

**EAU:** water.

**EW:** the easiest recipe so far, and arguably one of the tastiest.

**EAU:** and one of the best for detox.

**EW:** I mean, I think we're, we're kind of getting a little bit ahead of ourselves here with the punchline being water, but yeah, detox teas are not, like, there is no such thing as a detox drink that effectively will detox you from toxins, quote unquote, whatever that means.

**EAU:** Can't wait to talk about what that

**EW:** Yeah. Um, I guess we'll post the recipe, but like, it's water.

**EAU:** It's water.

**EW:** So subscribe to our social media anyway. And you know, we don't even have to put it on our website because it's water again, but if you wanna go to our website anyway, you can find all sorts of cool things. We've got transcripts, we've got, uh, the sources for each and every one of our episodes. We've got links to Music by Bloodmobile, um, who's now on Instagram. We've got links to our bookshop.org affiliate page, our Goodreads list. Uh, what else do we have? Oh, merch, Patreon, contact us form. That's now working again after a spell of not. Sorry about that, everyone. And, um, a submit your firsthand account form. Good stuff. Check it out. Thanks. Thanks.

**EAU:** Well, got a lot to cover,

**EW:** Indeed,

**EAU:** Shall we get into

**EW:** we shall. Let's take a quick break and start detoxing.

Erin, we're gonna play a game.

**EAU:** Oh, I love

**EW:** You ready? Okay. It's, it's easy. Don't worry, don't sweat about it. It's not, it's just a little pop quiz type of game.

**EAU:** Oh, just a pop quiz?

**EW:** I, sorry. Just a little bit of adrenaline rush right there. Okay. I want you to guess the name of the website that these blog post titles come from. Ready? "Does detoxing really work?"

**EAU:** Oh, no,

**EW:** "A heavy metal detox." My personal favorite. "You probably have a parasite. Here's what to do about it."

**EAU:** Oh, okay. Uh, I'm supposed to guess what website those came from.

**EW:** Yeah,

**EAU:** I'm really worried that it's something that you would think is legit, like, I don't know.

**EW:** don't worry too much about it.

**EAU:** good. I don't know. Detox diet.com. Aaron,

**EW:** When we think of pseudo cures and people who promote the spread of pseudo cures, do you wanna take a, is there one name that comes to mind?

**EAU:** Dr. Oz,

**EW:** Mm-hmm. God, there are so many. Okay. I think that the fact that, like, to me, I was like, oh, this'll be like an obvious answer there.

**EAU:** Oh, goop. Goop.

**EW:** Goop. It's goop. It is Goopy goop. Yep. Goopy Goop. Uh, yeah. There are, and those are just a sampling. There's, there's lots more where that comes from, those are the ones that were more detox related. Um, and by the way, do you wanna know about what you're supposed to do for your alleged parasite?

**EAU:** Is it Ivermectin?

**EW:** It is not. Um, according to the author of that blog post quote, "in my experience, an eight day mono diet goat milk cleanse, accompanied by a specific verma, few made of anti parasitic herbs is the most successful treatment" end quote,

**EAU:** what?

**EW:** the parasite that you probably have.

**EAU:** friendly neighborhood? Parasite,

**EW:** But really, you're just pooping out the lining of your intestines. When you see that in the toilet,

**EAU:** mono diet.

**EW:** it means just goat milk. Okay, I'm just saying. I know, I know. Uh, but yeah, I mean, I called out goop because they're one of the biggest offenders in promoting these pseudo cures, but they are far so far, far, far, far from the only ones profiting off of this fear-mongering and snake oil.

In 2025, the detox products market was estimated at nearly \$70 billion globally.

**EAU:** Just for detox products.

**EW:** Yeah. And over the next five years is predicted to grow substantially with a forecasted revenue of 95 billion [00:10:00] by 2030. Sounds like a lot, right? Like \$95 billion is a lot. That's just a tiny sliver of the global wellness industry, which in 2023 was estimated at 6.3 trillion predicted to hit 8.5 trillion by 2027.

**EAU:** Ugh. Wellness. Yeah. Mm-hmm.

**EW:** Yeah. What detox means or what constitutes a detox product? It's not always clear cut by design, but think of, you know. Your master cleanses, your colonics, your chelation therapies, books, promoting detox diets, skincare products that claim to rid you of wrinkle causing toxins, whose stickers you put on the bottom of your feet that are supposed to leach away heavy metals from your body. Uh, I don't know, like magnet bracelets and stuff, green juices and

superfoods supplements that alleged to eliminate harmful waste. I mean, like we could spend the rest of the time just talking about the products.

Yeah, but what is it that these detox products, what are they actually selling? Right? They're not selling you ways to, to detox. They're not selling you some, you know, active ingredients. That's, that's doing anything at all. What they're selling you is an opportunity to reinvent yourself. A sense of protection from the dangerous world outside an absolution, from the unwise, indulgent choices that you have made.

**EAU:** Ugh.

**EW:** Essentially, they're selling you hope and rebirth, and with this detox, products are carrying on a millennia-old tradition, spending money on products that at the best do nothing and at the worst, do harm so that you can feel like you have made the optimal choice for your health. Detox is such a vague term that tracing its history or the history of the idea of detox. It's a slippery beast. But if we think about a detox product as something that you know, restores the body's balance, or quote unquote flushes out waste or jumpstarts your metabolism or enhances your liver's detox capacity, then the history of these elixirs, purgatives, teas diets, cleanses, enemas, goes back millennia.

**EAU:** Mm.

**EW:** And I wanna distinguish here, just right off the bat between like detox as in for, um, you know, certain drug and alcohol pro programs. This is like, we're talking about detox in the wellness industry. And I know you'll talk about the difference. Yeah.

**EAU:** I will. 'cause I do think it's a really interesting part of how we view the concept of detoxification.

**EW:** Yeah.

**EAU:** Like the way that we use that word in medicine can mean multiple different things. And I do think that that's such an, so we'll talk a little bit more about it

**EW:** Right. And it has been co-opted by like the wellness industry to sell meaningless scam products. Do okay. I haven't said these words in a while, so I'm excited I get to say them. The Ebers papyrus, Ebers papyrus, I still don't know the right way to say it,

**EAU:** Someday.

**EW:** Years later, uh, from ancient Egypt, written around 1550 BCE describes various suppositories, purgatives, enemas, and emetics, all to rid the body of the disease causing agent diet. And impure foods were considered to be the primary drivers of disease. And so these formulations were intended to basically like clean out your guts, thus evacuating the impurities and preventing them from reaching your bloodstream where they would cause disease. And maybe these various, uh, you know, recipes would be administered orally, like a mixture of milk, sycamore fruit, and honey, which was guaranteed to open the bowels.

Or they might be delivered another way, like via a cow's horn with the end cutoff.

**EAU:** but.

**EW:** Stuck into your butt. Yeah.

**EAU:** Sorry. Just was like I, was expecting like an enema type, but the cow's horn really threw me

**EW:** Oh, will, that's, that's the tip of the iceberg. That's the, the cow's horn tip of the iceberg.

**EAU:** Okay.

**EW:** Uh, bile salts and ox bile were often common. Uh, enema ingredients delivered this way. Yeah. Hundreds of recipes. Hundreds are listed in the Everest papyrus for medications to be administered via the rectum. The legend goes that the ancient Egyptians invented enemas after watching the IBUs, the bird. You know, like that, that bird, um. Long. Yeah. Storkey thing. Yeah. Oof.

**EAU:** Sorry. Bird

**EW:** Or Anthologist. IBUs. Um, that they, after watching the IBUs draw up water into its beak and then insert it into its butt to wash out decaying poop. IBUs do not do this. Like, they do not self-administer enemas. Let me just say that. Let me clarify.

But apparently they do splash water on glands near their butts. And so [00:15:00] it's probably like they saw that and then they

**EAU:** They use their own little bidet. They've made their own

**EW:** exactly love it. But also, I don't know, like I, is this just like somebody a just so story that somebody was like, oh, and then Galen was like, by the way, the Egyptians saw the Ibis doing this and that's why they thought about enemas.

Uh, so anyway, um, but however people came to use enemas, also enemas were widespread all over the ancient world. They, everyone, everyone came up with enemas.

**EAU:** it makes sense, right? Like you've got two main routes. You're gonna use them

**EW:** You're gonna, you're gonna use them both. Yeah.

**EAU:** Yeah.

**EW:** Uh, and enemas were popular, very popular in ancient Egypt and in ancient Greece and in ancient Rome, and really across the entire ancient world enemas.

Everywhere. Ancient Babylonians used Ada, which is the plural for enema, or is like, you can use that one of the plural, OMATA. Yeah. As early as 600 BCE, this recipe was thought to expel the disease causing demons from the body, ready? " Mix rock salt and ammonia with unmixed wine. Let him take it without food through his mouth, as well as by his anus and sprinkle him with it and he will recover." Just covering all the bases there. Everywhere in ancient Greece, there were literally enema doctors, uh, lateral clusters. Clusters was the much more common word used until the 19th century, but it was not specific to the rectum. It was also like included vaginal douches and like bladder lavage and stuff like that. Hippocrates and Galen loved enema. Uh, and also enema comes from the word, the Latin from meaning. Throw it in, throw it in.

**EAU:** Just

**EW:** Toss it in.

Uh, they were, they were used as a standalone, like just, just to like clean it out. Kind of like you're just purging, right? Or to administer medicines. Some physicians opted for straight up water or saline, while others preferred a more complex mixture with like oil and honey and milk and other ingredients. Bile. Bile was a really common ingredient from various animals from ancient China.

Quote, "secure a large pig's bile and mix with a small quantity of vinegar. Insert a bamboo tube three or four inches long into the rectum and insert the mixture" and quote.

**EAU:** Yeah. Well, yeah,

**EW:** Yeah. Don't really know what bile will do up there.

**EAU:** a large, a large pig's bile is also an interesting, like, what does that mean exactly?

**EW:** like the bile from a large pig. That's, that's my interpretation. It might have been my delivery. No, I don't think.

**EAU:** A large pig's bile. Got it,

**EW:** Yeah, yeah, yeah,

**EAU:** makes more sense.

**EW:** That's my bad. Um, the reverence that these physicians held for enemas is evident in the way that they wrote about them. There are entire books or chapters dedicated to their use. Uh, who they recommended receive in enema. Like this was everyone unless you already had a fever, in which case, like maybe lay off the enema, but everyone, enemas for everyone. And then what they thought enemas could cure- everything. Again, enemas for everyone and everything. You know, there's, uh, kidney stones, gout, jaundice, weight gain, malaria, indigestion, I mean, you name it. Enemas were really just another very popular tool in the toolbox of humeral medicine whereby a buildup of some substance was at the root of disease. Galen in the second century AD basically described it as like every organ in your body produces waste products that need to be fully eliminated. Otherwise they will cause disease.

**EAU:** Yeah. And, and they apparently cannot do it themselves,

**EW:** No, we must do something. We must take action. Yeah. And so this idea, um, it over the years kind of changed a little bit here and there, but it's very similar to this idea called auto intoxication or intestinal auto intoxication, whereby like it's in, these toxins are coming from inside you. A call is from coming from inside the house. Uh, the Persian physician ena from the 11th century CE also endorsed enemas for this purpose quote. " The enema is an excellent agent for getting rid of the super fluidities at the intestinal tract, as

well as for allaying pains over the kidneys and bladder and for relieving inflammatory conditions of these organs. And also for relieving pain and for drawing super fluidities from the vital organs of the upper parts of the body." Everything, everything. The, this idea of auto intoxication is actually a really interesting one, not just because of like how long it lingered in medical, you know, the medical realm, um, and, but also for the fact that like there [00:20:00] might be some truth to it based in like our gut, uh, brain microbiome axis and like what, there are some dysbiosis that actually can cause major issues, blah, blah, blah.

**EAU:** And that's kind of all part of the same idea that like sometimes things are off balance in our own

**EW:** Yes, yes. Yeah, yeah. Yeah.

**EAU:** Right.

**EW:** Um, but I also find this idea so fascinating because it, yeah, it sounds exactly like, or very similar to the ads for detox teas. Just replace enema with cleansing tea, right? Like this will restore the balance. This will get rid of those impurities that have built up in your body. And I, I did not plan to take us down through the history of enema of enemas mta.

**EAU:** I'm so thrilled that you did though.

**EW:** Me too. There are so, it's such, so much fodder. It's incredible. It's incredible. But I think that like, first of all, enemas were not the only tools out there, right? There was bleeding, purgatives, uh, emetics saunas, fasting water, meditation, herbs, like everything.

So many different cultures practice many different methods to rid the body of what they perceive to be impurities and whatever that meant. Sometimes it didn't involve any physiological thing at all. It was just like meditation, right? Um.

**EAU:** Impure thoughts.

**EW:** Pure thoughts. Ugh, Graham and Kellogg and all that. Um, but, but I, I think that enemas really stood out to me because of the language used to describe, you know, what they do,

**EAU:** very specific of like the, the buildup, the impure,

**EW:** right?

**EAU:** toxins or the like, it's, yeah.

**EW:** And like the vague explanations as to why they do what they do, what they're actually doing, who should have it, everyone again. And um, and yeah, and it's just like also fun. So anyway. They were incredibly popular. So these enemata, you're like, okay, cows horn, that threw me off. That's the least of it.

All right? All shapes and sizes, all different delivery systems made up of all kinds of materials from cane stalks to bamboo, cow horn, of course ivory. Uh, the syringe, like how do you deliver the water might be made from the scrotum of a deer, goat, or ox. It might be made of leather, hide pigs, bladder, or delivered directly via mouth through the tube.

Like you would just have a, an assistant help you with that in later centuries, um, especially with the invention of the vulcanization of rubber, metal and rubber. Replaced these metals.

**EAU:** Uh, side note,

**EW:** Yeah.

**EAU:** that cow's horns were hollow.

**EW:** Yeah, I used to have one that, that I got in North Carolina when I was a child, and I loved it so much. I got it, like one of those little tourist shops and you would blow, like you could make a horn noise, like Yeah.

Yeah.

**EAU:** that. I haven't spent enough time around horns, I guess.

**EW:** It would be heavy to carry around if it were. Yeah. Yeah. So there you go. Instant enema. Uh, yeah. But, so, okay. The, the popularity of enema, so I'm skipping over a lot of history here. There's. We could do a whole episode on enemas. In fact, I held some back in case we do a whole episode. Yeah. Um, but yeah, it, I mean they were pretty much quite popular from ancient times and, and to the 17th, 18th centuries. And then they weren't just like popular. They were the rage, like all the rage. So whereas the, for instance, whereas the 14th century English surgeon, John of Arden recommended that everyone use an

enema three to four times a year, even if you were healthy by the 18th century, early 18th century Parisian socialites were taking them three to four times a day.

**EAU:** what.

**EW:** What? Indeed? Yeah. So,

**EAU:** four times.

**EW:** yeah.

**EAU:** Oh,

**EW:** Yeah.

**EAU:** think of a lot of ways that that could go wrong.

**EW:** Oh, there it did. It did. Yeah. Uh, okay, so for, this is from a 1985 paper on the history of enemas. Quote. Oh, I went deep down the rabbit hole, Aaron.

**EAU:** Give it to

**EW:** Okay. Quote. It became customary in France to take an enema after dinner, and a lady was considered indelicate if it were known that she had omitted the practice end quote. The goal, like why were people taking so many enemas, uh, purification, whatever that meant. Purification.

**EAU:** they weren't just like all constipated and they like needed

**EW:** I mean, I don't know, like, it's so hard to know. Constipation was a preoccupation has been a preoccupation of humans forever. It was the root of, a lot of, it was a lot of [00:25:00] fear around constipation. Yeah. It was like, what's happening to that poop that stuck in my body? It's releasing all these toxins. That's why I'm getting tuberculosis. Like that was sort of the A to B. Yeah. Louis the 11th, who reigned in the 15th century was a big fan of enemas and even ordered them for his pet dogs on occasion. Yeah. And he, he wasn't the only french monarch with a thing for enemas. And also, like, I just, I'm sorry in advance, the papers that I read really highlighted the use of enemas in France. I don't know if there were like a couple of major academic papers that came out. So a lot of these examples come from France.

**EAU:** Well, hey.

**EW:** You know, Louis the 14th, so it was king during the 17th and early 18th centuries received over his reign over 2000 enemas, and reportedly would receive visitors while getting one.

**EAU:** I mean, they take a while sometimes,

**EW:** I was gonna say with 2000 enemas. Like you got a multitask at that point, right? Right. Get that business done.

**EAU:** Yeah.

**EW:** Uh, they were so commonplace enemas that they appeared in literature, uh, like the Shakespeare even mentions enemas, and they also appeared in art and like naughty art. The, the recipes for enemas, uh, or enema liquid grew more inventive. Sometimes it was scented with pleasing odors like rose or orange or tinted with nice colors to give it more visual appeal.

**EAU:** Mm-hmm.

**EW:** And it wasn't just the liquid that people experimented with. The delivery system was also up for improvement. Like the Clyster chair. What is Clyster chair?

**EAU:** Please tell

**EW:** Okay. Quote, A bench like piece of furniture with a rectal nozzle sticking upright in the middle. The user sat on the nozzle while pumping a handle up and down to inject the enema. End quote. Okay.

**EAU:** Yeah. Mm-hmm.

**EW:** because there was also something called the fumigate.

**EAU:** Please tell me about the fum. Ator.

**EW:** I will, I will, I cannot wait. The fumigate was a metal canister filled with burning tobacco, right? You got the, the metal canister, burning tobacco in the middle, two tubes attached to it. One tube went up your butt and the other into

an assistant's mouth to blow smoke up your butt. So you know that, that saying that's what it's from. That's what it's from.

**EAU:** What did they think that this did? I mean, aside from like a new way to enjoy your tobacco.

**EW:** I ca I have to imagine that first of all, they thought it did everything. And then there were people who were like, obviously, like I think that some of the plays from France were especially like tar, like making fun of this widespread faith in Ada being like, they don't actually do anything. So I think the phrase blow, like, don't blow smoke up my butt. That's what this is from. Is this like, okay, you're failing to deliver on your promise.

**EAU:** feeling.

**EW:** Uh, yep,

**EAU:** so fascinating, Erin.

**EW:** I know.

**EAU:** And they were all used for like so-called medical purposes because I feel like I could also see these being used for pleasure reasons

**EW:** they were, they were also hence the naughty art. Yeah. Yeah. Yeah.

**EAU:** But that's like makes more sense than just

**EW:** No, this was like very, very much medical. Yeah. Um, the, the Fumi Gator was thought to be especially helpful to resuscitate the drowned or the nearly drowned.

**EAU:** Oh dear. Okay.

**EW:** Yep. Uh, then there was Kellogg as, as you know, as in Kellogg, cereal Kellogg

**EAU:** Mm-hmm.

**EW:** Pure oxygen enema.

**EAU:** Do you know Erin? When I was on the tram recently in Denver, I saw ads for home oxygen canisters that you can just have at home.

**EW:** Yeah, yeah.

**EAU:** you could use it for an enema now,

**EW:** Well, I don't, I don't, yeah. Don't think you should. Definitely don't think you should. Yeah. Uh, and I do think it's really interesting, like the parallel between, you know, just thinking about these, the m kind of like, what were they used for? Everything, right. Have it, just have it there. Healthy, sick, whatever. This is what you need. And just like today, women in the 19th century were specifically targeted with advertisements for enemas. The prevailing belief that was that women were more susceptible to constipation and thus more susceptible to toxins than men. And so some doctors recommended daily enemas in conjunction with leches and castor oil for quote, rheumatism, asthma, epilepsy, hysteria, ulcerated, sore throat, convulsions, and influenza. End quote. [00:30:00] Yeah. I mean, they were so out of control, popular that in some countries laws had to be instituted, restricting their administration to be done by doctors alone because too many pharmacists apparently were getting their hands in the enema game.

**EAU:** People were getting hurt, I presume.

**EW:** Yeah,

**EAU:** Yeah. Okay. It's just a given.

**EW:** it's a given. It is absolutely happened.

**EAU:** Yeah. Okay.

**EW:** The number of like patented enema delivery systems from the 18th and 19th centuries is truly outrageous. Like I was, I was working on this on all of our recent travel, like on airplanes, and I kept having to like shield my screen or like turn down the brightness that people wouldn't see as me scrolling past these illustrations of enemas over and over and over again.

Yeah. Uh,

**EAU:** imagining the people sitting next to you,

**EW:** being like, what is she doing? Probably no one even looked at all. But, but eventually, as with all things, of course, enemas fell out of style as patent medicines and nostrums took over things that you could swallow rather than having to administer through your butt while the delivery system changed for a lot of these, like, you know, detoxification, purification recipes, the claims and vague medical language did not.

So Brandreth's Universal vegetable pills from the late 18 hundreds asked quote, "what is it that causes this poor abject wretch to look so downcast that eggs him to desperation? And that takes away all the joy and happiness of this life?" end quote the answer quote, "in nine cases out of 10, it is simply the result of a disordered liver." end quote These pills rid the body of rer. They reorder so they, uh, they rid the body of "evil forces that might upset the digestion and render the blood impure" end quote.

**EAU:** Can you remind me? The year

**EW:** That was the late 18 hundreds.

**EAU:** late? 18 hundreds. Okay. So they, at that time, this is interesting in the context of how our bodies actually detoxify. They were pinpointing the liver even all the way back then.

**EW:** I mean, it's a, it's a good, yeah, I don't know when the functionality of the liver. Was clear or when people were working on that.

**EAU:** at that time, they were like, you need to purify your liver. We can, with our

**EW:** Yeah, yeah,

**EAU:** enhance the function of your liver. Okay. I

**EW:** yeah, yeah, yeah, yeah. But it, it also sounds like that, so you, I just read you that ad and you have that in your mind, and I'm gonna read you an A, like the claims from a cleanse, tea from 2023

**EAU:** Yes. Give it to me.

**EW:** Quote Had too much of a good thing, feeling out of balance, a bit heavy or puffy. Then it's time to get clean the ingredients, cleansing properties,

encourage healthy digestion and help to keep the kidneys flushed. End quote. It's the same.

**EAU:** It's the exact same. We're gonna say kidneys this time.

**EW:** Yeah.

**EAU:** Liver's overdone now.

**EW:** Great. Let's just get a little bit of a specific organ though in there to kind of add some scientific credibility. Mm-hmm. Mm-hmm. Right. So there's like. The vague claims about toxins and/or physiological upset, check a promise that all parts of your life will improve if you just take this pill. Tea, cleanse, enema, check,

**EAU:** Check

**EW:** no substantive information about active ingredients, mechanism, concentrations, et cetera. Check

**EAU:** Check

**EW:** not subject to mandatory safety testing. Check.

**EAU:** Check

**EW:** It's true that the 2023 tea is required to disclose ingredients unlike Brandreth's universal vegetable pills, but that tea does not have to state and basically none do today. How much of each ingredient is present or they don't have, they also don't have to establish a safe limit for those ingredients.

**EAU:** Nor do they have to provide any efficacy data whatsoever.

**EW:** NOPE

**EAU:** None.

**EW:** none. Long story short, the detox teas and cleanse supplements of today are essentially the enemas of the past or vegetable pills of the past, just with updated language. It's less rid thy self of impurities and more flush out those yucky toxins.

**EAU:** Ooh, you're so puffy.

**EW:** By the end of the 19th century, this idea of toxins causing a vast array of diseases, it took on a more scientific tone as some physicians formalized this idea or like formalized this idea, auto intoxication, which I referred to earlier, where it was believed that the bacteria in your retained poop led to a buildup of toxins and ultimately disease. And so this kind of married this new concept of germ theory with the ancient, deeply held innate belief that poisonous substances from the food we eat, from the water we drink, from the air we breathe, even from within, are at the root of all of our illnesses. A leading proponent of auto [00:35:00] intoxication wrote in 1887. "I have said that the organism in its normal, as in its pathological state, is a receptacle and laboratory of poisons. Man is in this way, constantly living under the chance of being poisoned. He is always working toward his own destruction."

**EAU:** That's so interesting, Erin.

**EW:** I know.

**EAU:** I mean, 'cause it's not like wrong.

**EW:** I know.

**EAU:** we are constantly exposed to toxins

**EW:** are.

**EAU:** and to toxic substances and to things that can cause cell damage and so is every animal and living thing

**EW:** And the thing is, like auto intoxication, it's, it's not, there are impurities, there are choices that we make that where we eat food that's not great for us. Ultra processed foods, right? Um, cured meats not great for us Alcohol.

**EAU:** They're carcinogen

**EW:** Try, yeah. Tobacco. And yet the problem is not with those claims, but it is in saying that this pill, this supplement, this tea will fix that for you.

**EAU:** Well, it's, it's like assuming that like, because oh, I found this thing, therefore bodies are all broken

**EW:** Oh,

**EAU:** and like, I will sell you the key. I, uh,

**EW:** oh, yeah. Yeah. Because it's like, well, what do you do about if auto intoxication, if, if this idea that like our retained poop is causing all these toxins in our body, what do we do about it? Well, again, constipation is the issue. Right? But what causes constipation in the eyes of some leading auto intoxication proponents? It's the colon. So the scientific, yeah.

**EAU:** Uh, no.

**EW:** no Metchnikoff, who was like a very famous scientist, he claimed that the colon was a vestigial organ.

**EAU:** Oh my gosh. can't,

**EW:** I found, I found a paper by Kellogg, our, our fave in 1917 titled, I love this. Should the colon be sacrificed or may it be reformed?

**EAU:** our whole entire colon, oh my gosh.

**EW:** know, so then it was like,

**EAU:** weeks till our poop episode so you can understand how important your colon

**EW:** V important V, V, V important. Uh, yeah. So, okay, remove it. That is one strategy First. First though, maybe try some colonic irrigation enemas. Bring those back onto the scene. But if those didn't work, then yeah, elective removals of the entirety or bits of the large intestine were done. And I don't know how many were done, but there, the Colectomy era, quote unquote, lasted about 10 years from, let say 1910 to 19, 20 19.

Oh seven to 1917, roughly.

**EAU:** That feels way too recent.

**EW:** Oh yeah. Oh yeah. Uh, but fortunately fell out of favor. People were like, even Kellogg was like, I think the colon can be reformed. I don't think we need to get rid of it. But the concept of detox or products or practices to eliminate

impurities from your body that was here to stay. In the 1940s, Stanley Burroughs introduced the master cleanse, which you heard in our firsthand account. It was a liquid only concoction of, uh, also known as lemonade diet, I think lemon juice, maple syrup, water, cayenne powder, you know, the famous one, classic.

**EAU:** few years it really makes a comeback and everyone

**EW:** Yep.

**EAU:** into the master cleanse specifically.

**EW:** Yep. Yeah, it, it's because celebrities jump on the train. They're like, oh, you know, so and so did this for this movie and lost 20 pounds in a week.

**EAU:** Yeah, they did.

**EW:** It's not starved themselves. Yep. And, um, yeah, so this, the master cleanse promise, not only detoxification, but also weight loss. So then weight loss kind of became wrapped up into this really starting in the late, uh, 18 hundreds, but then in the 20th century, just increasingly so.

**EAU:** Okay.

**EW:** And the, the master cleanse might've like really kicked off what our modern era of this is and really incorporated the dieting part of it. But they're spraying up throughout the, in the decades that followed countless diets, teas, superfoods, supplements, regimens, programs, bracelets, accessories, procedures that promise to eliminate toxins from the body, thus bringing you a happier, healthier life.

**EAU:** You

**EW:** Yeah, I mean, it would take hours just to list the product names, let alone the baseless claims that they make. And I know that you'll explain why these claims are baseless, but to quote a paper I read about fad diets, quote, "detox approaches defy the general principles of human physiology as the liver and kidneys are quite efficient in removing both exogenous and endogenous toxins from our [00:40:00] body, along with extra renal excretion of toxins and sebum and sweat." End quote. Yet these products are ubiquitous and the industry is growing like never before.

**EAU:** Mm-hmm.

**EW:** How, like why? Uh, I can't hope to answer that huge of a question, but I do think it has to do a great deal with how they're marketed.

They start off, they all start off with this, this premise of fear. A lack. You are living in a risk filled, dangerous world. Everything around you, the food you eat, the liquids you drink, the air you breathe contains harmful substances that will accumulate in your body. You're missing something in your life and that's why you are unhappy. And then there's this sense of blame. If you didn't eat those foods, maybe you wouldn't feel so bad. But no one is exempt from this moralizing, right? Next they offer agency. These substances will continue to ferment in your body building and building until you act. Not only do you have the agency to do something about this with X product, but you would be foolish to let this opportunity go. You have a responsibility to yourself and not drinking this tea or committing to this diet would be a shameful act not only to yourself, but to your loved ones. You can and should make the right choice here. And then they promised the stars. If you follow this diet, the precise way this will happen. If it doesn't, it's because you have failed. You did not commit. You did this.

**EAU:** Yeah.

**EW:** There's, uh, I wanna read you a quote from a Goop post titled, does detoxing Really Work?

**EAU:** Oh no. Okay. Let

me prepare myself

for this

**EW:** Okay. Take a deep breath cleansing breath again. All right, here we go. Quote. "We must turn this thinking around and adopt a detox lifestyle where we are living in a healthy and reasonable way most of the time so that we are constantly detoxing because we are constantly exposed to unwanted chemicals. And save the binging for the bad stuff. Break down and have some yummy barbecue ribs and fries, if you must, but make that the exception. Or maybe a cheese platter is your big weakness as long as it isn't a daily cheese platter." End quote.

**EAU:** There's so much moralizing around food.

**EW:** Around food. Yeah. You must be constantly vigilant to the danger that surrounds you. And if you aren't, you're a failure. There is no range of acceptable choices. There is one right answer. And this advertising strategy works so well because these companies convince us, they manipulate us into believing that we can optimize our life, that our lives are incomplete. But contentment is just around the corner for a mere 1999 a month plus shipping and handling. And I'm not saying that people shouldn't want more or shouldn't buy whatever things that they want to buy or that they should just be, you know what? You should be happy with what you've got like. It is natural to want more, to want to be happier, to fill your things, fill your life with things that, you know, that's all fine. What I'm saying is not about the wanting. Um, my issue is with the companies that do such a great job of manipulating us into feeling that inadequacy. Like detox teas promise, promising to rid us of impurities when our kidneys and livers are already doing a heck of a job. If we look back at the history of science and medicine in this country, we can see this, this really remarkable pattern where patent medicines and snake oil salesmen absolutely flourish in times of chaos and crisis, which feels, I mean, very much like what our world is going through right now.

**EAU:** yeah

**EW:** And I think it comes down to feeling like there is so much out of your control that we want to make any changes that we can, we wanna have whatever control we can. And so we can say, I wanna fix this one thing in my life because I can. This company is telling me that I can.

**EAU:** Right

**EW:** So my hope for 2026 is for us all to cling to reason, established expertise, and shift our skepticism, you know, to the brands making these sweeping claims without a shred of evidence.

And I talked way too long, Erin, because I got really into this episode, but now I'll turn it over to you to tell us what toxins actually are and how detoxification actually works within our bodies.

**EAU:** I cannot wait to, I'm so excited.

Before we get deep into how our bodies quote unquote detoxify, I do wanna focus for a second on this idea of toxins

**EW:** Thank you. Thank you.

**EAU:** Yeah, I think that this word, comes up so much in like these disinformation campaigns that people love to run and it's far more reaching than just the idea of detox. let's get into it,

**EW:** Mm-hmm. Mm-hmm.

**EAU:** talked on this [00:45:00] podcast so many times about how the dose makes the poison,

**EW:** Yeah.

**EAU:** Essentially, any substance that exists can be harmful to our bodies and to our cells at a cellular level, dependent on the dose, there are some things like water, which is essential for life. That is. Beneficial at most doses, but still can cause harm if in excess. And there are other things like arsenic or mercury that are incredibly harmful, even in very small doses. Right? And those are the kinds of substances that we usually think of as toxic, right? These are substances that even at small doses are harmful to our cells. If you really wanna get pedantic, and you know that I love to,

**EW:** Love it.

**EAU:** technically a toxin means a biologically produced substance. So yeah. So technically the word toxin is only referring to things that are from plants or animals, or bacteria. It has to be biologically produced. And if we're talking about substances that cause harm that are toxic, that are maybe metals

**EW:** Mercury, arsenic, whatever,

**EAU:** or things that are like drugs, uh, phosphates, like stuff that we are making, those technically aren't toxins. The correct term would be toxicant

**EW:** Oh,

**EAU:** like toxic substance.

**EW:** okay.

**EAU:** I love that. I got to teach that too 'cause I felt like I was getting really too much

**EW:** I mean, it, it is pedantic, but I appreciate the designation. I, I can appreciate PP when you are pedantic. Yeah, I think it is. Pet.

**EAU:** i, I feel like in common parlance, obviously we use the word toxic, we use the word toxin to refer to a lot of different things. But I do feel like just knowing that helps you be a little bit more alert. Like, are people even using these words correctly?

**EW:** Absolutely not.

**EAU:** what are you talking about?

Right?

**EW:** not.

**EAU:** But how are substances that are harmful to our cells that are toxic substances? How do they cause damage? They can do this in so many different ways. Some substances might, as we break them down, generate free radicals, right, which can cause damage to our cells via oxidative damage. Some substances might end up depleting our cells ability to metabolize things like we talked about in alcohol metabolism. Other substances just might straight up damage cells. They might induce cell death. There's a lot of different ways that so many things that we come into contact with every day be their medicines, drugs, heavy metals, pesticides, organic or inorganic pollutants, things that we eat in our foods because plants are full of toxins or toxic substances, secondary metabolites that they make in order to, we think largely e escape predation from herbivores, right?

**EW:** Mm-hmm.

**EAU:** We are exposed to toxic substances all the time. So we have evolved mechanisms to deal with toxic metabolites in our bodies.

**EW:** We have.

**EAU:** Evolutionarily, all animals have these mechanisms. this idea of quote unquote or so-called detoxification is real insofar as our body does in fact have to manage and deal with toxic substances on a cellular level. All of ourselves have to deal with this, and like cell by cell. We have detoxification mechanisms that I'm not gonna dig deep into because the superstars in our body when it comes to like body system level clearance of these toxic substances our liver

and our kidneys, and also our GI tract, which I don't think gets enough credit in. This

**EW:** Yeah. Okay. We can give some cred.

**EAU:** will give some credit.

**EW:** Yeah.

**EAU:** But I wanna real quick also mention that I do think that some of the reason that we, like, I'm gonna go through the steps of how our liver and kidneys process these toxic substances. What does detox mean in our bodies? Right? But I think that some of the reason that we use the word detox to mean a lot of other things. Like sometimes we use detox colloquially to mean like we're abstaining from like digital detox.

**EW:** Yes. Yeah.

**EAU:** just means I'm not doing technology for a while.

**EW:** Right, right, right,

**EAU:** I think that maybe comes from the fact that we use the word detox or detoxification in medicine clinically also to mean weaning somebody off of a substance on which they're dependent. So that's like alcohol or opioid detox, something like

**EW:** Mm-hmm. Mm-hmm.

**EAU:** That process is about. Abstaining from a substance waiting as your own body metabolizes that substance. And sometimes might require additional medications or things too, like monitoring to make sure that it's a safe process. But I think that maybe that version of [00:50:00] detox, like alcohol, detox, that kind of a thing might be part of why we think of this as just like, oh, a quote unquote cleanse. I don't know.

**EW:** Hmm. Yeah.

**EAU:** Like it's, but it's a different, I'm gonna not talk about that. I'm talking about what is our body doing

**EW:** Yeah.

**EAU:** deal with toxic stuff.

**EW:** Right.

**EAU:** Okay. So our liver, I said, does most of the detox of most potentially harmful substances, and it does this in three main phases, metabolism conjugation and elimination. Not every substance has to go through each of these, so we'll talk at the end about like other ways to rid the body of toxic substances. But first, we metabolize things, so that means that we break substances down into smaller pieces, or we break them down in ways that hopefully makes them less toxic.

**EW:** Mm-hmm.

**EAU:** Much of this process happens with a group of enzymes called our cytochrome P four fifties.

**EW:** Should I know this or, okay.

**EAU:** I love Cytochromes so much, but these are a group of enzymes. There's like six, there's tons of them, but there's six major ones that are responsible for the breakdown or the detoxification of nearly all of the drugs and stuff that we are putting into our body. Like the drugs, the, the foods, like anything that is producing toxic substances, so-called xenobiotics is like a

**EW:** Okay.

**EAU:** Term for a lot of this stuff. Most of them are broken down phase one by a group of enzymes called these cytochrome P four fifties. But there are a bunch of other enzymes that are involved in this, this process. goal is to break things down to be less toxic. Sometimes though, it actually creates more harmful substances. As we talked about in our alcohol episode, the breakdown process of alcohol, how we add like OH groups to it and break other things off, actually produces things like reactive oxygen species that can end up causing damage to our cells. But that's why phase one is not the end. The second step in this detoxification process is called conjugation, which just means sticking things

**EW:** Mm-hmm.

**EAU:** So this means literally sticking on other compounds to the stuff we've just broken down, specifically to make them more water soluble. So it turns out that a lot of the toxic stuff that we might be exposed to or ingesting is what's called lipophilic. So it's attracted to fats

**EW:** Yeah.

**EAU:** and just like water and oil, don't mix in your salad dressing unless you have an emulsifier in there.

**EW:** Mm-hmm.

**EAU:** Our liver has a whole system of other enzymes that help to emulsify these toxic things in our bloodstream. That's not a great analogy 'cause it's not quite emulsification, but you

**EW:** I'm trying to imagine just like what the liver is doing. Like shake it up,

**EAU:** You, it's just, it's just adding things to it. Right. You gotta add

**EW:** you gotta, okay. Buffer buffering. Yeah.

**EAU:** So that allows for these fat soluble compounds

**EW:** Hmm.

**EAU:** stick around in our bodies to be dissolved so that we can pee or poop them out. And that's the final phase, or this third phase of detoxification, which is elimination.

**EW:** Yeah.

**EAU:** So most of the stuff that we make water soluble will end up passing through our kidneys and our kidneys. They also do some detox on their own, but they are the important part of our system, of our body system that is excreting all of these metabolites that our liver does a good job of breaking down.

**EW:** Right, right. They're carrying it away. Goodbye. Yeah. Mm-hmm.

**EAU:** The other big player is our biliary system. Old friend of the pod. That's our liver, our gallbladder, et

**EW:** Ah, yes, yes. Old friend. Old friend.

**EAU:** And that means that our, as this stuff gets broken down, sometimes, instead of going to our kidneys, we squeeze it into our gallbladder and push it out with our bile, and then eventually we poop it out.

**EW:** Hmm.

**EAU:** Okay. That's how we detox sometimes. Phase one, two, and three. Detoxification doesn't work for every substance, right? For some things elimination might not be possible. We might not have a mechanism for that like we see with iron, for example.

**EW:** Hmm.

**EAU:** So with some substances like heavy metals, our liver, again enzymes and mechanisms to bind things up that they are in a form that they're not causing any damage.

So iron, if we're using that as an example, gets bound to a protein called ferritin, and that way it's not just roaming around causing free radical damage, it's bound up in a protein and therefore not causing harm.

**EW:** Hmm. That's very interesting. Also, I just like thinking about the evolutionary pathway [00:55:00] that had to ha, like I would love to, to get some sort of comparative physiology going on here for like, yeah.

**EAU:** paper that was more focused, and I didn't end up citing it because I didn't use a lot of this, but they're, they were looking at like plant secondary metabolites and herbivores and

**EW:** Yeah.

**EAU:** detoxification pathways and things like that in these herbivores to deal with these plant, uh, secondary metabolites and stuff.

It's super interesting.

**EW:** Ooh. Well, and then like you think about herbivores and then what if there's like a carnivore that's an eating the herbivore that has, that has those mechanisms, but then what if the me, the mechanisms haven't taken care of that poison yet, and then the toxin, and then

**EAU:** And if your carnivore doesn't have those same mechanisms Yeah, it's, it's a lot.

**EW:** what's gonna happen?

**EAU:** anyways. I'm not gonna get

**EW:** Ooh, they do.

**EAU:** enough about it. Mm-hmm. Don't quote me.

**EW:** Okay.

**EAU:** But similarly, sometimes we just have to, if there's a lot of reactive oxygen species, which is a common, common common, common cause of damage to our cells that may be produced in so many different ways, and just during normal metabolism, sometimes we just have to neutralize those and we're not doing this whole phase one, two, and three. We have other ways, whether it's enzymes or just chemical antioxidants are binding up these blocking them essentially, so that they're not going out and causing damage. Finally, there's increasing evidence of the role of our gut microbiome in the detoxification process. In mammals in general,

**EW:** I mean,

**EAU:** we don't know.

We don't fully understand it, but microbes also have to detoxify, and they have similar, but usually different enzymatic processes to what we see in our own livers and kidneys, so they're not using the exact same enzymes.

**EW:** okay.

**EAU:** But they are still doing the same stuff, if that makes sense.

**EW:** Yes, yes.

**EAU:** different ways. So yeah. Uh, we are doing detox all the time, and it is our liver and our kidneys and our guts that are doing it. And this is a complicated process. All

**EW:** I mean, it sounds quite, a lot of players involved, a lot of steps. Yeah.

**EAU:** I'll also just throw out there that there is known genetic variation in our metabolism in terms of a lot of these cytochromes especially, but also some of the like phase two metabolism stuff, which means that some people might be faster metabolizers, some people might have a buildup of toxic substances longer than other people.

So there is a lot of really interesting research being done on that, especially for people who are really into like per the idea of personalized medicine,

**EW:** Yeah.

**EAU:** we know how you are going to metabolize X, Y, and Z, then we might recommend one drug versus another, or you might need a higher or a lower dose of something.

And so I think that's an interesting area of future research. But right now for very few things, do we have like you need a genetic test before X, Y, and Z medicine. There are some medicines that like we have to do a genetic test because we know that you're gonna metabolize it differently if you have one gene versus another.

**EW:** That's, I mean, that is such a fascinating world of. Yeah. Personalized medicine, like what's,

**EAU:** Yeah,

**EW:** yeah.

**EAU:** here. that's

**EW:** Yeah.

**EAU:** that.

So I wanna answer the question of whether any product that claims to detoxify, you can actually do it. And hopefully if you've heard all of the steps that it takes to deal with toxic substances in your body, it is very clear that the answer is no. There is no single product, food supplement, topical administration of anything that you can do that will detox for you. Your body has to do

that

**EW:** Mm-hmm.

**EAU:** However, companies are smart now as we heard in those things. So the next thing that they love to do is claim that their product supports your own detoxification mechanisms.

**EW:** Erin, I'm I ha ooh, I hate it so much. I ha I cannot stand seeing that on supplement bottles or cereals. Right. Supports heart health, supports kidney function,

**EAU:** exactly. So is there any data to support this idea? There is no good data to support not just any particular detox diet or supplement or fasting protocol, but even there is no data to support the idea of detox diets on a broad scale.

**EW:** right?

**EAU:** And let me tell you why. Like, I wanna dig a little deeper onto why that is that that we don't have data to support

**EW:** Yeah.

**EAU:** First, our bodies are complicated. The types of toxic substances that we encounter are really varied. So there's two main [01:00:00] questions that we have to answer that have not been answered be able to say that any of these products work right. First, anything that you ingest change or so-called support your body's own detoxification mechanisms broadly? So I'm gonna get into that.

**EW:** Okay.

**EAU:** Is there anything that we can be ingesting that would actually support our liver health? Okay,

**EW:** Probiotics.

**EAU:** listen, and two, the heck are we trying to detox from

**EW:** Oh, I mean, everything Erin, the world is a dangerous place. And also, but it is.

**EAU:** It is, but you gotta be specific. What are we being exposed to and at what levels and are these things harmful at the levels at which we are being exposed? So let me dig into the evidence on these two points. Okay?

**EW:** but yeah, but you, you just said you gotta be specific. No one is specific. No one has to be specific.

**EAU:** I know, but

**EW:** That's the beauty.

**EAU:** be So To get at question number one, is there anything that we could be eating that could be helping our kidneys or our liver be better at detoxifying?

**EW:** Like all the foods that have antioxidants in them, like blueberries and super foods.

**EAU:** So here's the thing, Erin, is certainly data out there that there are certain foods or certain chemical compounds. If you wanna dig really deep down in our foods, like antioxidants, like various vitamins that may help, or in some cases even be essential in our body's detoxification

**EW:** Mm-hmm.

**EAU:** Some of these substances might be necessary co-factors in some of these enzymatic reactions. They may function as antioxidants themselves, be protective in our bodies against reactive oxygen. There is definitely data that there are compounds in especially our fruits and our vegetables that are beneficial for our bodies. However, almost all of the data on these substances is in cell culture or animal studies,

**EW:** Ah,

**EAU:** in clinical trials,

**EW:** ah.

**EAU:** If we are trying to say, do these substances help support detoxification mechanisms? These enzymes that we know are involved in detox, right? These data that we have on this is not in human trials,

**EW:** Okay, so, but let's just like pause there and I wanna try to understand physiologically the mechanism that jumping from extrapolating from lab and animal studies to humans, like you said, that some of the products that are contained or the, the, the co-factors and vitamins in fruits and veggies and so on are essential for us. Are we getting enough on a daily basis with the food that we eat? Okay.

**EAU:** I don't know.

**EW:** Well, but like, you know what I mean? We talked about like vitamin C and scurvy and like the vast majority of people have get, get vitamin C.

**EAU:** of vitamin C. So yeah, the same is true for most of the other

**EW:** Okay.

**EAU:** And it is important to note, like you're saying, that the dose makes the poison even for these beneficial substances because there are some compounds that we found in plants in vegetables and fruits that might help induce detoxification enzymes. So might help them to work better at one concentration, but inhibit them completely at other concentrations.

**EW:** Okay.

**EAU:** So the short answer then is like, no, there's no one thing, there's no one magic pill, there is no one supplement. And it's very interesting that, 'cause I read a couple of papers that were written by people who have their own like detox clinics. Okay.

**EW:** Ooh. Okay.

**EAU:** And I could quote from them,

**EW:** I mean, we're talking detox clinics as in like what we've been talking about these past two episodes, not detox clinics in a clinical sense. Got it,

**EAU:** about detoxification lifestyle programs

**EW:** it.

**EAU:** That they will sell you, that you can go to their clinic to learn how to do. But even in those, and I won't actually quote 'cause it's like way too long, but all of those papers come to the conclusion. That is the exact same conclusion as every major medical and public health organization that has ever come up with dietary recommendations. And that is that to support your body's intrinsic detoxification processes, our diets should be composed of a variety of whole fruits and vegetables. Whole grains should be mostly based on plants. We should get a variety of proteins, make sure we're getting lots of fiber, drinking mostly only water and not other beverages, avoiding [01:05:00] alcohol, having access to clean water that's uncontaminated by heavy metals and being engaged in moderate activity and exercise like it is mind blowing to me that even who are selling this stuff know that there is not one thing that we can pick out of a plant that is ever going to be better than whole plants themselves,

**EW:** Yeah.

**EAU:** It's,

**EW:** Is it mind blowing though? Like Yeah, of course they are. 'cause it doesn't matter like that, the science behind it doesn't matter except the science is used is to sell information. Is is misused. It is weaponized, yeah.

**EAU:** Exactly. And the other way that it's weaponized and misused is in this idea of that second question, like, do we have any evidence that we actually need detoxification support? Are we being exposed to such high levels of so-called toxic substances that we need? over the counter chelation therapy. Those are very dangerous by the

**EW:** Very dangerous.

**EAU:** not a good idea.

**EW:** No.

**EAU:** But if you are exposed to high levels of heavy metals like lead or mercury at a level that can cause harm, then yes, you will need treatment because your liver and your body might not be sufficient or fast enough to get rid of these compounds before they're causing harm. is why we have medications that have to be administered under strict supervision because they are also dangerous medicines. To be able to bind up things like heavy metals

and rid our body of them, allow us to poop them out because we use things like chelation therapy. There are definitely things that we are being exposed to in our modern world today that we maybe weren't exposed to hundreds or definitely not thousands of years ago.

**EW:** Mm-hmm.

**EAU:** There are also things that we were exposed to a lot more we're not exposed to as much today.

**EW:** Yeah.

**EAU:** And it is true that we still don't know enough about what should be considered maximum safe exposure levels of things like persistent organic pollutants like we see in pesticides, or things like BPA or other phalates that are in plastics. And there is a lot of news, of course, out there about forever chemicals in general,

**EW:** Yeah.

**EAU:** don't have enough data about them. It's true.

**EW:** Yes. And there is like, I, I, I feel like we are living in a world that is full of things that can harm us, but we don't, like you said, we don't know enough about how much of it. We all live very, very, very different lives. Even if you're living on the same street as somebody else, how much you're getting exposed to your, your genetic, uh, predisposition to how fast you metabolize certain toxins.

Like all of these things are very variable. That can all be very true. And it is, and

**EAU:** there are plenty of companies

**EW:** I.

**EAU:** are claiming that their product

**EW:** Yeah.

**EAU:** detox you from these compounds, be they heavy metals or other environmental pollutants, even if you have no data to suggest that you have

actually been exposed to levels high enough to cause harm. 'cause especially for heavy metals, like we actually do have data on that,

**EW:** Mm-hmm.

**EAU:** is going to cause harm. There is no data that any of these products that are claiming to detox you from these substances will do anything for you.

**EW:** Or blogs, or recipes or diets, any of these things.

**EAU:** they can cause serious harm, especially the ones that are targeted like that. Like,

**EW:** Yes.

**EAU:** Metal detox, you need a parasite cleanse. Those often end up damaging your liver, and like the over the counter chelation therapies and things that they market, they can a bind up other metals that are actually quite important in our body in trace amounts. So then they can make you be de deficient in zinc or copper or things like that. And they can also end up binding calcium. So then you can be severely hypocalcemic and then you can die.

**EW:** Mm-hmm. Mm-hmm.

**EAU:** these things are not without the potential for harm. So like, yes, we

**EW:** Yeah.

**EAU:** be ensuring that our regulatory agencies and our scientific research agencies are doing the research and asking the right questions, especially about these chemicals that we are being

**EW:** Mm-hmm. Mm-hmm.

**EAU:** levels of exposures do we have the potential to cause harm in the short term and the long term?

**EW:** Mm-hmm.

**EAU:** And also the research on, in the event that we are being exposed to high levels, what are additional treatment options? We should be looking into these

things that are in our natural products, what things can support detoxification or elimination if someone is actually exposed to high enough levels to cause harm. None of these products or diets or fads that are on the shelves have any data to back them up?

**EW:** No. And they continue to sow mistrust in established science and medicine by saying germ theory isn't real. Do buy my book on the master cleanse instead.

**EAU:** I think, honestly for me, if I just can complain for [01:10:00] a moment,

**EW:** we, that's what we've been doing for the past hour and a half.

**EAU:** Know I. For me, I think one of the thing,

there's a lot that gets to me about this detox trend in general, and it's not just the clear grift that the supplement companies or other organizations claiming to detox you are running. It's not just that like they're counting on and they're preying on are lack of understanding about biology. It's not just those things. For me, it's also so frustrating that these detox products push this notion that our bodies are broken and we need their products to fix them because our bodies are dang incredible. Like our kidneys and our liver are working so hard every day. They never get appreciation. And to be told that a tea can do their job is offensive.

**EW:** I know. I mean it's, there's just like, there is so much that is, is upsetting about it because it's like, every single product is telling you that this is going to change your life for the better. This is the thing that you need that will make your life happy.

**EAU:** Yeah

**EW:** And that's not the case.

And it just is like, it just kind of feels gross.

**EAU:** I know

**EW:** I feel toxified by detox advertisements.

**EAU:** Yeah, I agree. The end, Erin.

**EW:** Sources.

**EAU:** Yep.

**EW:** I have so many sources about, about enemas and beyond. Uh, I have a lot. There's a two-parter I read by Frieden Wald and Morrison. Uh, they're both published in 1940. The History of the Enema, it's a two-parter. And um, then there's a paper that I really enjoyed by Bacchi from 2025 called The Eternal Allure of the Panacea, how Narratives and Biases Sustain Panaceas. And then by, this is one of my favorite papers I've read recently. It was Everyone Should Go, it's by Eberhardt published in 2022 titled You probably have a Parasite Neoliberal Risk and the Discursive Construction of the Body in the Wellness Industry. Absolutely fascinating.

**EAU:** I love that. I'm gonna read it.

**EW:** Yes.

**EAU:** Uh, I don't know that my papers are quite that amazing, but, um, biggest bummer for me, it was hard to find more up-to-date studies. So the

**EW:** Mm-hmm.

**EAU:** ones that I found that were really like overviews of, especially those, the detox diets and the detox pathways and things, uh, the two best papers I found were both from 2015, 1 was by Hodges and my niche, it was titled Modulation of Metabolic Detoxification Pathways, using Foods and Food Derived Components, A Scientific Review with Clinical Application. And the other was by Klein and Kio. in 2015, detox diets for toxin elimination and weight management. A critical review of the evidence. There was one other one from 2017 that was really more focused on weight loss strategies, but they had a little bit about detox, but there wasn't a lot of updated ones. I also had a few different papers that go way more deep dive if you want it on hepatocyte detoxification and like detoxification pathways in the liver. So there's a paper from 1991 and a book chapter from 2018, and then I have more, like I said, including ones that were written by people who are huge proponents of the idea of detoxification. So you can find 'em all on our website. This podcast will kill you.com.

**EW:** You can big thank you to Blood Mobile for providing the music for this episode in all of our episodes.

**EAU:** Thank you to Liana Sachi and Tom Bre Fogel, and Pete. I realize I don't know everyone's last name. Huh? Pete and Brent and Jessica and everyone that makes this possible.

**EW:** Yes. Thank you. Thank you. And thank you to you, listeners and watchers. Uh, happy 2026. Welcome to another year of this podcast Will Kill You. Thanks for

**EAU:** and subscribe. We forgot to say that at the beginning.

**EW:** start off your year right by rating, reviewing, and subscribing to this podcast will kill you. Did you like that? Thank you. Thank you.

**EAU:** thank you as always, speaking of subscribing to our patrons. We really, really appreciate your support so much.

**EW:** we absolutely do. Until next time, wash your hands.

**EAU:** filthy animals.