

Sawbones 269: Modern Day Snake Oil Salespeople

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Intro (Clint McElroy): Sawbones is a show about medical history, and nothing the hosts say should be taken as medical advice or opinion. It's for fun. Can't you just have fun for an hour and not try to diagnose your mystery boil? We think you've earned it. Just sit back, relax, and enjoy a moment of distraction from that weird growth. You're worth it.

[theme music plays]

Justin: Hello, everybody, and welcome to Sawbones: a Marital Tour of Misguided Medicine. I'm your co-host, Justin McElroy!

Sydnee: And I'm Sydnee McElroy!

Justin: Our cat is, uh, purring very loudly. She's snoring. I mean, let's call it what it is: she's snoring.

Sydnee: [laughs]

Justin: Underneath the chair, so if you can hear that—

Sydnee: I'm concerned she has sleep apnea.

Justin: —apologies.

Sydnee: Sleep cat... nea. Cat—cat ap—cat—never mind. Forget that.

Justin: But how will we buy her her special sleep a—cat—sleep apnea capnea medicine? Well, it's thanks to you, beloved listener, because this is the last day... or at least it is on Friday. It's the last day of the Maximum Fun Drive.

Sydnee: That's right!

Justin: That's right, this is—we are on a pledge supported network. That means that our shows happen because of people like you that listen to these shows and say, "This is worth supporting. This is worth being in the world."

You know, I was tweeting about last night how I feel like this model for supporting creators is really the only way to keep everything from being owned by like, one monstrous media company. I love the mouse, do not get me wrong. Crazy about the mouse.

Sydnee: [laughs]

Justin: But, it is kinda nice that there are some people that are not directly employed by the mouse. Uh, and we love that support and we appreciate it, and this is the time of year where you do it! And if you can kick in—it's like, monthly donation levels that range from 5 bucks all the way up to 200 bucks a month, and we have gifts at every level in between.

Um, but if you can just do 5 bucks a month, right now go to Maximumfun.org/donate. If you can \$5 a month right now, you are gonna get access to over 225 hours of bo-co—

Sydnee: That much?

Justin: That much, of bonus content, bo-co.

Sydnee: There's some really good stuff in there. We've done an episode before, uh, about Gwyneth Paltrow and goop.

Justin: Yep.

Sydnee: We've done an episode where we went to a pharmacy.

Justin: And made fun of the stuff that didn't work.

Sydnee: Yep.

Justin: It's good. This time we record an episode that's all about not medicine. Just a no medicine episode bonus, just for you. Uh, and you'll get access to all that.

At \$10 you can get a great pro-vax Sawbones pin, designed by Megan Lynn Kott.

Sydnee: It's just the best pin.

Justin: The best pin. Best pin. Uh, I upgraded our donation this year so I could score one. Um, but if you like our show and you support it, statistically speaking, about 9 out of 10 of you have not, uh, kicked in, and that's fine, uh, I get it. But if you're able to, please don't wait, 'cause this is the last day, as long as you're listening to this on Friday. Um, please don't wait. Go to Maximumfun.org/donate, and help us out!

Sydnee: Thank you!

Justin: Thank you! So Syd, what are we, uh, what are we talkin' about today, other than raising money?

Sydnee: So, uh, I thought we would do something a little... it's kind of special, I think. I think it's special. Do you think it's special?

Justin: Yes.

Sydnee: Yeah. For our Max Fun Drive, our second episode of the Max Fun Drive, we always talk about on this show, uh, people in the past who have sold fake medicine or fake medical ideas or diagnostic tests or... that kind of thing. Like, people who made a career off of pushing stuff that isn't necessarily supported by any evidence or science, or maybe just plain ol' fake.

Justin: Mm-hmm.

Sydnee: And we usually call them snake oil salesmen, or women, or people. Snake oil salespeople, if you will. And we talk about 'em like it's a—like it's something that went away! Like it's just, uh, something that occurred, you know—

Justin: From antiquity.

Sydnee: Right. Back when—before the FDA and before stuff was regulated, and that nowadays we don't have that anymore, and it occurred to me that we do! We do have people who push ideas and therapies and treatments and diets and things that aren't necessarily supported by any scientific evidence, so I thought we could use this episode today to talk about a couple of those—of those people.

Justin: Modern day snake oil salesmen.

Sydnee: Yes. People. Salespeople.

Justin: Salespeople! Oh, progressive. We're bringing the term into the—

Sydnee: [laughs quietly] That's right.

Justin: —modern era. I love it.

Sydnee: That's right. Uh, I—that's the, "Hey, it's 2019. Women can sell snake oil, too." [laughs]

Justin: Yeah. Great. Excellent. Good. Yes.

Sydnee: Uh, but some of these—we've gotten a lot of emails about some of these, um, some of these people. And so, you probably have heard of 'em. You may already now some about 'em, but we're gonna get into 'em a little bit more.

Justin: You could make the argument, by the way, that like... I would understand if someone was worried about like, amplifying or elevating, you know, people like this, but I really do believe that like, the only cure for this stuff is to drag it out in the light, so when someone else mentions something you can just be the annoying person who's like, "No no no, wait wait wait, hold on! I know a lot about this." [laughs]

Sydnee: Well, and there are a lot of—there are a lot of people out there who are pushing pseudo-scientific ideas, especially in the field—in like, nutrition.

Justin: Yeah.

Sydnee: There's lots of misinformation out there about nutrition, and I think that the reason is that we don't have a single answer for everybody right now. Right? Like, we can't give everybody the, "Just do this and you'll be healthy forever." We have some ideas of that, but people are different, and—

Justin: Other than "Drink water."

Sydnee: Well, yeah. But you know what I mean.

Justin: Yeah.

Sydnee: So, uh, anyway, I wanted to start off talking about Ben Greenfield.

Justin: Okay.

Sydnee: Justin, what do you know about Ben Greenfield?

Justin: I know that, um... he rose to our attention because he got on some anti-vax stuff, and you kind of, um, stuffed him in a trash can on Twitter.

Sydnee: [laughs quietly]

Justin: I know that.

Sydnee: Uh, if—I tried to find—I found this very odd. There is no Wikipedia page about Ben Greenfield.

Justin: Ehh, no, that has to be added by people.

Sydnee: Well, I mean, he's worth like, over a million dollars. Like, I thought... I don't know.

Justin: Yeah, I don't know.

Sydnee: He seems like a prominent figure in the bio-hacker community. That is where he has risen to prominence. He's written like, 13 books about... largely about diet stuff, but also about exercise training, he's like, an elite athlete, and he's into high performance... everything.

If you read his bio from his site, uh, that I assume he either wrote or approved—he approved this message—it starts out, "He was a complete nerd."

Justin: Oh, man.

Sydnee: Yeah. He, uh, he was president of the chess club and he played violin.

Justin: Love all that.

Sydnee: Yeah. He—

Justin: This is good so far.

Sydnee: He graduated at 15, he started college at 16—

Justin: [quietly] Yes. Doogie. Doogie 2. Doogie.

Sydnee: —um, he studied—huh?

Justin: Doogie 2.

Sydnee: Doogie 2, exactly.

Justin: Twogie.

Sydnee: He studied all kinds of science stuff; anatomy, physiology, bio-mechanics, pharmaceuticals, microbiology, biochemistry, nutrition. He rose to the top of his class. Uh, he graduated, and he got into... what does he say... six different medical schools, but he decided not to attend any of them.

Justin: Yes! [claps]

Sydnee: And instead got his Master's in exercise physiology and bio-mechanics.

Justin: That—can we stop for a second there?

Sydnee: Yeah.

Justin: You could draw a 100% parallel between that and classic snake oil salesmen.

Sydnee: Yes.

Justin: That is a classic, like—it's the exact—like, "I didn't study at the medical schools," you know. "I—I learned, you know, out here working with real people."

You would hear that line all the time. I mean, aside from the people who just said they were doctors. But like, this is the next best thing, right? The implication is—

Sydnee: "I coulda been."

Justin: "I coulda been. I just... had too many big ideas." [laughs quietly]

Sydnee: Well, and that's kinda where he lives, is like, this idea that he's beyond that. He has moved beyond what medical school may have had to offer.

Justin: Right.

Sydnee: And you know what's hard is that when you get into like, the early years of Ben Greenfield, he really—he was probably—I mean, seems to be a very talented athlete. Um, he's been in a bunch of triathlons, and sounds like he's done very well.

And initially he wrote about training. You know, about how to train to do these really tough athletic competitions, and I'm not gonna sit here and quibble about that, because he got a Master's in exercise physiology. I assume he knows something about that.

Justin: Mm-hmm.

Sydnee: Uh, I am a medical doctor. I am not an exercise physiologist, so I'm not gonna argue that. And I think if he had maybe stuck to that, he wouldn't... well, he wouldn't be the subject of our podcast.

Justin: [laughing] He wouldn't—he wouldn't be on our show!

Sydnee: But the thing is, he wasn't satisfied with just talking about exercise physiology. From there, he had to move into diet, which I think is a natural progression for a lot of these like, athletic kind of people.

They start talking about what they ate, which—I mean, when you get into like, his nutritional advice, it's not that radical. He recommends a wide variety of diets, honestly. Like, if you look on his website, he will say like, "Maybe you wanna try this, which is sort of a low carb thing. Or maybe you wanna try this paleo thing, or maybe you wanna try—" I mean, a lot of it is, uh, centered around limiting carbohydrates and increasing your protein and vegetables and stuff like that.

Justin: Which will probably work.

Sydnee: Which is fine, yeah.

Justin: Whatever label you're gonna put on it.

Sydnee: Which is fine. I'm not—again, these are not things that I'm arguing with, and I think you can take somebody like this, who's trained really hard and performed really well in athletic competitions and say like, "Well, they probably know a thing or two about maybe training or maybe food."

Justin: Right.

Sydnee: But that wasn't enough. He's had to move past that.

Justin: Okay.

Sydnee: And the thing that, as Justin said, called him to our attention initially, is that he—he has... well, he has a website and he has a podcast, and then he writes a lot of stuff on—he's written a bunch of books.

Uh, but he has had anti-vax guests on his podcast, and he's read some books about vaccine propoganda, and now he has started to tweet about vaccines, and how they cause autism.

Justin: Oh, no. Oh, golly.

Sydnee: Uh, he went on to try to defend those to say like, "Well, I mean, they do save a lot of lives, but they have a lot of adverse effects, so we need to address that."

Of course, these... first of all, it is a lie that vaccines cause autism. They do not.

Justin: Right. Which is untrue.

Sydnee: It's a lie. It's a lie, period. And I don't think we should say anything—like, "Oh, he's spreading false information—" no. it's a lie.

Justin: Right.

Sydnee: Uh, secondly, they don't have many adverse effects. They have incredibly rare adverse effects. And, more importantly, they do save lives. He is accurate about that. They save millions of lives.

Justin: So he's right about that part of vaccines!

Sydnee: No. No, he's not right, 'cause he said they have many adverse effects that we aren't talking enough about. No. I mean, we don't need to talk any more about them than we do. They are incredibly rare, and they save millions of lives.

Uh, so because he started talking about stuff that I would consider out of his wheelhouse—

Justin: Mm-hmm. He came into your house.

Sydnee: Right.

Justin: Out of exercise land. The gym, if you will.

Sydnee: [laughs]

Justin: He stepped into your house.

Sydnee: I did not go into exercise land to discuss with Ben Greenfield his exercise and diet. He came into medical world to tell me about vaccines.

So I started looking into some of the stuff that Ben Greenfield, uh, sells, and by "sells" I don't mean like, necessarily literally sells. Um, he sells ideas on his website and podcast. He is also sponsored by a lot of the companies that do this stuff, and working with doctors that are proponents of this stuff. So I'm not saying that he has like—he's not coming to your door with a carpetbag full of these things.

Justin: [laughs]

Sydnee: But in essence, he's selling them. So, he seems very into testosterone, which I would say a lot of these like, athletic kind of people are.

Justin: Right.

Sydnee: Like, pushing the idea. And part of this is true. There is a place in medicine for testosterone therapy. Um, it is not nearly the cure-all that a lot of people... we could do a whole show on that.

Justin: Yeah.

Sydnee: That a lot of people say it is. That all you're lacking is testosterone, and that if you take it you're gonna have incredibly huge muscles and all the energy in the world and the best sex of your life and all the things that people kind of pin on testosterone.

That's... not... true, and I would talk to a doctor before you ever consider testosterone replacement. And I always think that that's—that's like, on the—that's in the gray zone. You're pushing a medical treatment, like, as if it's—this is the most wonderful thing in the world and you all need to go to your doctor and ask about it, that can have severe side effects, and is not appropriate for everybody. So I think he's not—that's not necessarily all the way over into like, "Don't do this" territory, but he's straddling the line with that.

Justin: Right. Well, the hope would be that the person's doctor would be like... "No."

Sydnee: "You don't need it—" well, I mean, that's the thing. Like, if your—if I check your testosterone levels and they're appropriate then you don't need it, then taking it won't do anything for you.

Justin: Right.

Sydnee: And I don't see him saying that, but that's—a lot of people on the internet. Uh, he thinks nicotine is a great cognitive stimulant.

Justin: Correct.

Sydnee: He recommends that.

Justin: No, it's great—now, it's good. It's a good appetite suppressant, too. But—

Sydnee: Do you—would you recommend it?

Justin: I would not, because of the other parts.

Sydnee: What's the other part, Justin?

Justin: The cancer and stuff...

Sydnee: Well, the addiction?

Justin: The addiction. And just for nicotine, you're talking about some heart disease, too, right?

Sydnee: Mm-hmm, mm-hmm.

Justin: As a side effect of—

Sydnee: Yes.

Justin: —using it can be dangerous.

Sydnee: Addiction is a big problem.

Justin: Right. Yeah, it's an addictive substance.

Sydnee: Yes. So I don't think I would, uh, go on record recommending that... myself. Uh, he—I saw that he likes to endorse a lot of, uh—there are labs—we're gonna get into this in the second part of our show a lot more—where you can go, um, order—like, you can send a company some of your blood and get your own panels of various labs back, and he has various ones that he endorses. Uh, I'm sure he has like, deals with some of these people. I would imagine.

Justin: I'm sure, yes. You would have to imagine.

Sydnee: I would imagine. Um, and he endorses this idea, and some of these labs that they do are, um... like, food allergy panels and sensitivities and all kinds of—that kind of thing, like—

Justin: Like, looking for whatever the cause is—like, looking for something that isn't there.

Sydnee: And they—and a lot of these labs can be very expensive, and they—some of them are not very reliable. Like, they're labs that, as a physician, I wouldn't necessarily order, because I know without all of the other data—

Justin: Context.

Sydnee: —to support it, this lab could be easily misinterpreted, and it has a high false positive rate and all this stuff, and this isn't... and, you know, if you don't have all of these signs and symptoms you shouldn't order this anyway, because it's gonna waste your money and your time, and you got blood drawn for no reason, and...

Anyway, he endorses that, and I think there's a lot of problems with that idea, the idea of just getting random labs on yourself. And then you get the results and then what do you do with 'em?

Justin: You try to like, makes sense of that information, and...

Sydnee: And you end up googling it and you find lots of misinformation on the internet, or you take 'em to your doctor who like, half the time I'm looking at 'em going "Where—what are the reference of ranges? Where are these from? What are the values? Who—"

Justin: Yeah.

Sydnee: "What is this lab? Is this lab legit? I don't know." So it's really hard for your doctor to interpret, sometimes. So I would say that's not... again, this isn't in the range of like, he's gonna kill people with this information, but it's not good medical advice.

He does push the idea that Vitamin C is a cancer treatment or preventative, that one way or another Vitamin C will kill cancer cells in your body, so I believe his plan was to get like, a Vitamin C infusion?

[pauses]

Justin: Like...

Sydnee: That was the tweet.

Justin: Sunny D.

Sydnee: Yeah.

Justin: Basically.

Sydnee: Just drink—just chug some Sunny D.

Justin: Just chug some Sunny D and cure your cancer!

Sydnee: Uh-huh. Uh, this has never been supported as any evidence as like, a cure for cancer in the body or a treatment, or a preventative—

Justin: Wait, then why is he saying it?

Sydnee: Um, 'cause the—these are all... pseudo-scientific ideas that you can find pushed by various, uh, people who... sell things, and will treat you with things, but they're not true. But if somebody's gonna get paid for 'em, you're gonna find somebody who will say it's—

Justin: Well, there's also if you have, like... this is the goop thing, too, right? Well, part of the goop thing. If you have a lifestyle blog, which... look at this guy's site. That's what we're talking about here.

Sydnee: Yeah.

Justin: It's like a—it's a health and wellness destination. You can call it bio-hacking, but it's—

Sydnee: Wellness.

Justin: Wellness. Um, you gotta fill it up with something, right? Like, you gotta have an article every day that—that—that is there generating content. It doesn't necessarily matter if it's, um... true. [wheezes]

Sydnee: Right. And he gets—and he'll get—the guests on his podcast are a wide variety of people who say they're experts in things, but either don't have their credentials, or they do have their credentials but they're pushing ideas, I mean, that are totally pseudo-scientific.

I mean, that's the other thing is like, just because somebody is a doctor on your show saying something doesn't make them right.

Justin: Right.

Sydnee: I mean, I don't say all this stuff off the top of my head. I go and look stuff up again, and research it again, and make sure that I'm up to date and know the latest stuff. Um, for instance, I saw that he was pushing Kava, which is an, uh...

Justin: What is that? That's like, the, um... aw, man. We've talked about it before.

Sydnee: Mm-hmm.

Justin: Is it, um... something you like, chew?

Sydnee: It's an alternative—it's an herbal thing that can be used for anxiety.

Justin: Right, yeah yeah yeah, that's what I heard about it.

Sydnee: And it is, in some cultures it's a very, uh, popular like—well, kind of like we would use alcohol.

Justin: Yeah.

Sydnee: Like, something to chill you out, relax you, or actually to treat anxiety. Um, and Kava for a long time was thought to be linked to severe liver disease. As we have done more studies on it, we've found that it actually probably is not hugely responsible for severe liver disease, unless you're getting stuff that's not prepared directly or you're drinking a lot of alcohol with it, and you're using a whole lot of it.

So it's not nearly as dangerous as we used to think it is. I'm still not saying everybody should just go take Kava all they want.

Justin: Right.

Sydnee: Um, but I don't think it should be, maybe criminalized over alcohol. You know?

Justin: Yeah.

Sydnee: I would say that it—that's not a fair distinction to make. So like, I'm not gonna take him to task on that because I know better now. You know, Sydnee from 10 years ago may have, but Sydnee knows better now. But that's because I look at science and studies and research and evidence, and not just what sounds good and buzzy.

Um, he sells a lot of supplements, of course, through—Kion is his product line, and among them—a lot of them are the usual stuff that—you know, like protein and things that like, fitness nutrition people sell. Among them—one that I found interesting was goat colostrum.

Justin: Oh, interesting!

Sydnee: Justin, do you remember what colostrum. is?

Justin: It ain't good. [wheezes] It ain't good!

Sydnee: No, it's great!

Justin: What is it?

Sydnee: Colostrum?

Justin: Mm-hmm?

Sydnee: It's the first milk.

Justin: The first breast milk! Yes, now I remember.

Sydnee: The first breast milk, the first stuff that comes out. The really nutritionally dense, concentrated stuff that comes out of breasts in the very beginning of the breastfeeding journey.

Justin: Just that good, choice, goat stuff.

Sydnee: Uh, except for he sells goat colostrum. It's \$50 a bottle, so you can just buy that.

Justin: Poor baby goats.

Sydnee: I don't know why—

Justin: What about the poor baby goats, Syd?

Sydnee: I know, save that for the baby goats. I'm—again, evidence—I don't know. Just... I mean, colostrum's good for babies? It's great for babies!

Justin: If you—if you imagine—

Sydnee: Are you a baby? [laughs]

Justin: Hey Ben, are you a baby? If you imagine a world in which our bodies have evolved—I mean—okay. Either you believe our bodies were intelligently created, or you believe that they evolved over time.

Either way, can you imagine a creator or evolutionary effect that would make it so that we're supposed to look at goats that give birth and immediately think like, "I gotta get in there. I gotta get some of that stuff and just wheeze it straight from the momma goat, 'cause that's what my body needs!"

Sydnee: "My body needs that colostrum. from that goat, right now."

Justin: Probably it doesn't! It probably doesn't need that. Like, it probably needs all the plants and lettuce all over the ground and all that stuff, and it may need the goat, like, itself, maybe? But like, it probably—you probably aren't intended to get in there and just like, pull off that first—[wheezes] [laughing] that first wheeze of goat milk.

Sydnee: [laughs] He, uh—he does something—he got live—he got stem cell injections, so just, um... they were adult—there's a whole new thing—a lot of studies have been done. It's not new. It's been since the 90s. Uh, where we're—they're trying to find alternative sources of stem cells because of all of the ethical concerns surrounding the use of fetal stem cells.

So there have been a lot of scientist trying to find, are there ways to get 'em from adults, and we found that there are cells within adult bodies, throughout the human body, that do have the potential to turn into different tissues. They are not necessarily as, uh, as plastic as like, stem cell stem cells that can turn into any tissue, but they can turn into a variety of tissues.

So, there's been a lot of research into this. Like, are there ways to take these stem cells, sort of stem cells, these cells with some potential, from adults, and put them into heart tissue or lung tissue or pancreatic tissue in the case of diabetics? Or—you know, is there a way to use these to regrow tissue?

And so this has captured the imagination of a lot of people who want to stop aging and just generally like, fill their body with new cells. That's really the idea is like, "I'm just gonna get these stem cells and fill my body with new cells, and be young again!"

It's like a Death Becomes Her kind of—

Justin: Sure.

Sydnee: —thing. Just like, regenerate your whole body. So he had stem cell injections done live. Um, like, on... it was a Canadian sports network, but he got so much—they got so much, uh, feedback from the scientific community on this episode saying this is dangerous, there is no evidence for this, this is unsupported.

Uh, injecting stem cells in your body unregulated—we don't know what all that's gonna do to people. Uh, they're still—like I said, this is still an area of active research, so we don't know that there are any benefits, or if there are what exactly there would be, but we're worried about the possibility that if you inject these cells that they could be—they could cause, um, tumors to form. That there is—is there a possibility that these could cause cancers? We don't know. Uh, we don't know all the reactions to these stem cells that you might have.

Um, there's still a lot of concern about how safe it is just to inject cells into the body, period. Um, and I found like, the place that he advocates for, the US Stem Cell Clinic, and like, on their website you can find like, their rebuttal letters to the FDA, where the FDA has written them with concerns about their practices, and they're like, "But here's our rebuttals to 'em, so you can see these, too."

Which all sounds a little sketchy... to me. And again, this is not an area where I'm saying, like—we just don't know! We have no idea. Like, none of the science backs this up at this point. Certainly not just like, random, just "Gimme a big—big ol' shot fulla stem cells, and I'll be young again." There's—there's no evidence for that, right now.

Justin: Right.

Sydnee: Um, and he's just advocating like, "Yeah, go do it!" He tells you, as of like, yesterday, he was telling people where clinics are that they could get this done. I mean, this is—he's still advocating this.

Um, the big thing is that I found that he, uh—he is involved in the fake cancer cure, uh, arena. Um, he advocates things like metal detox and metal chelation where you get metals removed from your body to try to treat cancer. Um, all of this is—this is fake. This is nothing. This is nothing.

Um, and this is true, too, at a clinic that he recommends. So you can go to what was called the Paracelsus Clinica al Ronc, but it's—thank goodness it's changed its

name, 'cause I felt like that was a betrayal to Paracelsus, who it was named after him.

Justin: We love Paracelsus.

Sydnee: So, he has this two week detox retreat in Switzerland at this clinic. Uh, and you can go and you can get, um... I mean... here. Let me tell you some of the things you can get at this clinic. Before I get into the fake cancer protocol.

So, he's gonna give you a liver detox, which, if you haven't heard it on the show before, you don't need to detox your liver. Your liver and kidneys detox your body. That's what they do. Please don't do the detox of any kind.

Um, you'll get things like massages.

Justin: Nice!

Sydnee: And nutritional advice, and that's fine. You'll also get hyperbaric ozone treatments—

Justin: Bad.

Sydnee: Nothing. Nutrient IVs...

[pauses]

Just eat.

Justin: [holding back laughter] Eat some food!

Sydnee: That's nothing. Um, you—and they'll do live blood analysis, which we've talked about before, is not, uh, recognized by any legitimate labs as a real thing that you do. And they'll look at your blood and tell you that you have all these problems, and then they'll do this two week thing, and then they'll look at your blood again and tell you that they fixed it. That's... that's how this works.

They do colon hydrotherapy. Um, they will do reflexology.

Justin: Good. Nothing.

Sydnee: Uh, it's only \$9,000 a person.

Justin: Dang! A bargain!

Sydnee: Yeah. Now, If you wanna do the 3 week stay, that's gonna be, uh, \$20,000. Um, and he does it in conjunction with Robin Openshaw, who is green smoothie girl, who cured... asthma with, um, raw food, plant-based diets, alkaline foods, and vibrational energy.

Justin: Hmm!

Sydnee: She had 21 chronic diseases, and she cured them. With her smoothies.

Justin: Oh, man! Oh, man.

Sydnee: And you can go to this, uh, retreat in Switzerland—

Justin: [loudly] Those are good smoothies!

Sydnee: —and have all this done. In addition, they have a whole cancer treatment protocol—

Justin: [screaming through gritted teeth]

Sydnee: That's right! So if you have cancer, they recommend you can come here. And, uh, they have a diet that you can go on. [quietly] Um, which includes avoiding hazelnuts.

Justin: [laughs] Well, now I'm really out!

Sydnee: Just saw that.

Justin: I love those lil guys!

Sydnee: And then a lot of the same stuff we already talked about, like Vitamin C is in there. Ozone, colon hydrotherapy—all about colon hydrotherapy, you gotta get water up... the colon!

Justin: Gotta get water up that butt. Come on, guys! Don't you wanna be healthy?

Sydnee: Cupping.

Justin: Cupping!

Sydnee: Cupping.

Justin: This is greatest hits!

Sydnee: Uh, and the—so, this clinic will do all this, for lots of your money. Um, you won't be any better off. Again—and a lot of these therapies, it's like we've talked about before. They're pushing stuff that maybe it won't kill you, maybe it's not like, inherently the most dangerous thing in the world, but they're having you come spend your money on that instead of traditional therapies, would be the worry. Like, that if you're gonna spend all this money on that, you're not gonna go get chemo or radiation or surgery, or see an actual oncologist for your cancer diagnosis.

Um, so I feel like he's—I feel like that he's fair game as a snake oil salesman, because of his association with stuff like this. And, he also has a bit about water. On his website.

Justin: Uh-huh.

Sydnee: His thoughts on water.

Justin: His thoughts on water.

Sydnee: His thoughts on water. "There are hundreds of toxic chemicals lurking in municipal water supplies."

Justin: Absolutely unbelievable.

Sydnee: Uh, he believes that the chlorine that's in our water is causing asthma and dementia.

Justin: Oh, yeah.

Sydnee: And that fluoride... is an endocrine disruptor, that can affect your bones, thyroid gland, pineal gland, blood sugar levels, and have major adverse effects... on your brain.

Justin: What an absolute goon. Can I just—we are running, like, incredibly long—

Sydnee: Sorry.

Justin: —on the segment, but I do need you—no no no, I do need you to go back up and address something. You talk about his podcast? Did he legitimately have a Breatharianism supporter on his podcast?

Sydnee: [quietly] Yes he did.

Justin: [loudly] Are you kidding me?!

Sydnee: "Beyond fasting, can humans survive on air and breath? An introduction to bio-hacking—"

Justin: [distantly yelling through his hands like a megaphone] No!

Sydnee: "—the body with Breatharianism by Pranic Breatharian Ray Maor."

Justin: Oh my God, this dude!

Sydnee: Yes.

Justin: It has never been so hard to curse on this show. Are you kidding me?!
[groans]

Sydnee: I didn't listen to the whole episode. I don't—I'm—

Justin: [quietly] I could—

Sydnee: I know he had him on there. I'm not gonna say that like—maybe at the end he goes, "This is all fake!"

Justin: "Just kidding. Anyway, you do need food! Bye-ee!" This is absolute... oh my... Sydnee.

Sydnee: The thing is, like, he—he's—he's putting all this—you're painting all this with the same brush.

"Here's how to exercise really well. Look at me, I'm very fit. Do you wanna look like me? Here's what I do." Okay. Okay, sure.

"Here's a diet that I follow that worked for me, and I feel good and I'm healthy and I'm in the shape I want to be in." Okay.

But then he... all this other stuff he just throws on there, as if it's the same! As if... Breatharianism and—which means you don't eat food, or—you just... you live on air.

Justin: It's absolutely—it's absolutely—hey! Can we not talk about this guy anymore? Are you done?

Sydnee: Yeah.

Justin: Thank you.

Sydnee: I—I don't have anything else to say about him, other than... like, again—

Justin: I mean, here's the wild thing. This is not some—

Sydnee: He's selling—he's pushing the idea that vaccines cause autism. That makes him a public health threat.

Justin: In addition to the past—see also, read above, the past half hour!

Sydnee: Yes.

Justin: Like, okay.

Sydnee: And he's very popular!

Justin: Well... he's like—that's the wild thing. This isn't from 100 years ago! This dude's on Twitter! Right now!

Sydnee: Yeah.

Justin: Like, he's just doing his thing! Out there!

Sydnee: Yeah. This anti-vax stuff was from last month.

Justin: Anyway. So if you see that cat attached to anything, he's full of absolute doo doo.

Um, but you know what's not? The Max Fun Drive. That's right, folks: this—\$9000 for a week at a fake clinic, or \$5, \$10, \$20 a month to support great podcasts that help, like, push back against the darkness.

Sydnee: Think of all the goat colostrum you could buy with that!, though!

Justin: Think—

Sydnee: [laughs]

Justin: —imagine. Folks, if you can, uh, spare a few minutes... let me tell you about the rewards, 'cause everybody loves that, right?

\$5 a month I already talked to you about, the bonus content. \$10 a month you get a pin—you can choose whatever pin. You don't have to do our pin. I just think it's the best. Uh, designed by Megan Lynn Kott, and the, uh... the bonus content.

If you can pledge \$20 a month, you're gonna get a puzzle, a Max Fun themed puzzle, and also the pin, and also the bonus content.

At \$35 a month, you get a beautiful engraved mug with the Max Fun logo, and the puzzle, and the pin, and the bonus content.

Um, this is a network where your donation, 25% approximately goes to the network to pay for, uh—we have sales reps, we have hosting fees, we have all the staff to pay salary for. Uh, and then the other 75%, you pick the shows that you listen to when you do your donation, and then it is split among those shows.

It is you directly supporting creators with your money. And it is, I think, the best way to keep the stuff you like free and independent. Like, it's why we are able... your donations are why we are able to, um, offer this show for free. Like, Sydnee puts a lot of work into every episode. Um, it's, I mean, hours upon hours of work, and I... also am on the show—

Sydnee: [laughs]

Justin: —and, uh—

Sydnee: I had to go down a deep internet black hole for this episode.

Justin: I come home—y'all, I come home and find my wife in tears, um, every other week at least, from researching this program. Um, and I think that that kind of hard work is worth your money.

Um, not everybody can donate. I completely get that, but if you are able to, by donating, you keep the show free for everybody who can't. And I mean, I think that that's—you help it keep existing.

Um, Syd? You have anything to add? I feel like I've been bloviating. I'm very passionate about the, uh—

Sydnee: Well, I think you've said everything I would. I just... we really appreciate... if you are somebody who donates to the network, we really appreciate it. You are helping us continue to make this show that we really care about. All of our shows, but this is the one you're listening to.

Uh, that we really care about and we really think has some value to put out into the world and make available to everybody and, um, I think it's nice that if you think something is valuable and worthwhile, and you are in a position to help support it, to do so.

It's made our lives, personally, better, and I think made our art better, and helped us make more of it.

Justin: Yep. So, if you can, Maximumfun.org/donate. Our goal for this year is sitting—is at 25,000 new and upgrading donors. We are currently sitting at.. 21,832, and we have the rest of the day to do it, folks. We need to grind it out! It's possible.

Sydnee: We can get there.

Justin: We can get there, but we need your support. Maximumfun.org/donate.

Syd, who else do you have for us?

Sydnee: So, the other, uh, snake oil salesperson that I want to talk about this week is Elizabeth Holmes. Now, she is the subject of movies and documentaries and podcasts and books and all kinds of stuff, so I don't think I need to belabor

the story, 'cause you probably are familiar with it. But just in case you aren't... 'cause actually, Justin, you weren't.

Justin: No. I had seen, or knew of it, but not know it.

Sydnee: I just wanted to get into a little bit of the medicine side of this, like what she actually did. So in case you're not familiar, she, uh... Holmes is from a line of successful, wealthy people, and initially she seemed poised to be another successful, wealthy person.

Uh, her father was VP at Enron, and then he had positions at like, the EPA and USAID and all kinds of places. Her mother was a congressional staffer. Her grandfather was a physician who established Cincinnati General Hospital and the University of Cincinnati med school, and her grandmother was heiress to the Fleischmann's Yeast fortune.

Justin: Wow.

Sydnee: [laughs]

Justin: What a diverse background. I mean, not diverse, but, you know! [laughs]

Sydnee: You know! Uh, she went to Stanford. She was in the school of engineering. She was all ready to change the world. Uh, she dropped out to pursue her own company, and started when she was 19, so a prodigy. By all outward appearances, a prodigy. Uh, she started her company, Theranos, which is a portmanteau of therapy and diagnose, Theranos.

Justin: Theranos. It sounds Greek.

Sydnee: And her goal was a worthy one. Her idea was that healthcare needs to be more available to everybody. Uh, it needs to—she wanted to democratize healthcare, uh, more so, by providing a quick, cheap blood test, for like, everything essentially.

Justin: Okay.

Sydnee: She said her fear of needles helped motivate this idea, that she could create a machine and a process by which you could do a finger stick. So just a teeny little prick, contain—that would collect a nanocontainer's—that's what she called it, nanocontainer—nanotainer. Sorry. Nanotainer's worth of blood.

Justin: Big on the pork man toes, huh?

Sydnee: Yeah.

Justin: That's what our daughter Charlie calls 'em.

Sydnee: She calls 'em pork man toes.

Justin: Pork man toes. It's adorable.

Sydnee: Uh, but anyway, she—it was a half inch little container, nanotainer, and she would use it to collect a finger stick worth of blood, just a couple drops of blood, and then you could run like, 70 different studies on this single little drop of blood.

Now, when she initially pitched this idea to some physicians at her school, lab people and experts, they all said the same thing: that's not possible. You can't do that. That's not a thing that can—it's a great idea. It can't—can't do that.

And not in the way where it's like, "Oh, but nobody could ever do that!" It's more like, "Well, no, that's just not how it works."

Uh, but she wasn't buying it. She decided she was gonna do it, and she made something called the Edison machine, which was a secret piece of machinery, secret piece of technology, that, uh... nobody to this day is quite certain how it was supposed to have worked or what is supposed—even people who read the patent said like, they still didn't understand what it was supposed to do. Or—I mean, like, I gave you the general idea, but how it was going to accomplish this goal. Um, and that this machine was gonna use—was gonna do this.

Uh, she created this company, Theranos. It was based around this machine, and they came up with this whole website with like, 240 different diagnostic tests that they were going to run, eventually.

Justin: Mm-hmm.

Sydnee: They had like, a whole menu of diagnostic tests that you could go search, and they were all listed by price. And they were, I will say, looking at their prices, much cheaper than those tests at like, our lab, for instance. Or most hospital labs, I would say.

Um, but you could go and you could buy whatever test you want. The Edison was supposed to only do immunoassays, which are tests that look for antigens or antibodies, so there are tons of lab tests you would have done by a doctor that wouldn't... that wouldn't fall into that range, but the Edison was supposedly just the beginning of this.

Um, by the way, it was called the Edison machine because of Edison's famous quote, "I have not failed, I've just found 10,000 ways that won't work."

Justin: Hm.

Sydnee: She said this was their 10,001st one.

Justin: Great.

Sydnee: So.

Justin: So it worked!

Sydnee: So the Edison machine. Uh, no.

Justin: [laughs]

Sydnee: But hold on, hold on. You might wanna know, how is this different? This machine that can take a drop of blood. It's important to know that traditional lab tests need more blood because, uh, for one, there are different kinds of tubes. Have you ever noticed that they collect your blood in different tubes?

Justin: Yeah.

Sydnee: If you've ever had blood taken. And they have different colors on the top of them, usually. It's because they have different things in there that help keep the sample in a certain condition to run it. So like, sometimes we're looking for stuff that's just in the serum and we don't need like, the blood... like, the clotting factors and the blood cells and that kind of stuff, so we have stuff in there that will make your blood clot, and we'll just take the serum.

Sometimes we have, uh, something that we need to keep unclotted to check for certain things, so we have like, anticoagulants, anticlotting things in there. So they're—different tubes have different things in it, depending on what tests we

need to run. So it's kind of wild to think that you could take a couple drops of blood and then run tests that need opposite preparations on it.

Um, in addition, you just need more to do most things. From those single drops of blood, it's really hard to run a lot of these tests that they're talking about. You just need more sample. You can dilute it to like—make it go further, but you create more opportunities for error every time you dilute out a sample. So it's bad—it's bad practice. Um, she raised millions in venture capital, though. Millions. Millions of dollars.

Justin: Of course.

Sydnee: She got people—like, Henry Kissinger was on her board.

Justin: Again, \$5 a month. Maximumfun.org/donate.

Sydnee: [snorts] Uh, she became friends with Chelsea Clinton. She was named a presidential ambassador for global entrepreneurship by President Obama. Uh, I mean, she was in with everybody. Like, everybody who was important in business, in technology, in silicon valley, in politics, everybody thought she was a genius, and everybody likes to talk about, she modeled herself after Steve Jobs. She would like, wear the black turtleneck.

Justin: Sure. Me too. Me too, there's nothing wrong so far.

Sydnee: Uh, she got—her company was estimated to be worth 10 billion at one point.

Justin: Hatchi matchi!

Sydnee: She got a deal with Walgreen's to put, uh, what were called Theranos Wellness Centers in all the Walgreen's where you could go get your blood collected in the nanotainer and get the tests run at Walgreen's. Well, get it collected at the Walgreen's and sent to the lab.

The thing is, the machine didn't work.

Justin: Oh, well that's less than ideal!

Sydnee: Like, it didn't work spectacularly. Like, it—like, pieces of it fell off.

Justin: [wheezes and laughs]

Sydnee: Like, doors on it wouldn't shut when they needed to. Like—

Justin: That's not—that's not great.

Sydnee: Like, it did not function. Um, and all of the testing, all the like, data that she would show people to try to prove that it worked was only internal. It was never like, verified by external sources. Um, and she wouldn't let anybody in to like, check it out and prove that it was working.

I mean, initially, like, nobody... it was just—people were investing without even seeing this thing, or seeing evidence that it was working. Um... she, uh—when you sent your samples to Theranos initially, the people who used this service as it got out there, especially like through Walgreen's and everything, it was being processed actually using traditional lab machines.

Justin: Mm.

Sydnee: So they were like, just using... Siemens is the big maker of a bunch of lab equipment. They were using Siemens equipment to run the labs. They weren't even using any of their fancy supposed technology.

Justin: That's wild.

Sydnee: Um, the only test that the FDA approved using the nanotainer, using the little finger stick method, was for a herpes test. Which theoretically, like, because of the way you can do that test, you could use a small amount of blood 'cause you can like, get some DNA from it and amplify it, so you don't need a lot of blood for that. So like, theoretically that is possible, but that was the only test that they ever approved using the nanotainer. The rest of the time, do you know what they were doing?

Justin: What?

Sydnee: Just drawing blood! Just the regular old way. They weren't doing the finger stick. So you would go to these Theranos Wellness Centers sometimes and like, just get blood drawn! And then sent to a lab that just did basic lab tests on you!

Justin: You know what's wild? This kind of thing happens every time a field, I think, is moving quickly. Too quickly for other people to—like, your Obamas and your Chelsea Clintons aren't gonna go in the lab and see if the technology works, right? It's that—

Sydnee: Sure.

Justin: —the assumption is made—there's a guy named Micheal Fenne, who was actually a fugitive named David Kim Stanley, in the dot-com bubble, who created technology called Pixelon, and it was gonna be... this is like, the 90s, and he was going to stream video when no one else was doing it, and when—he got all this investment, and when he streamed video, uh, he was just, like, playing a video off a hard drive, and he wouldn't let anyone look at the technology. He wouldn't let anybody test it. When anybody asked about it, he would fire 'em.

So it's like that—the windows for this I think exist anytime that technology moves really fast. I think that that's where we're at with health technology, right? Where like, it's moving so fast, who can verify if it is working or not, right? Like—

Sydnee: Well, and that's—that's exactly what she would do. Like, anybody who questioned, any of her employees who would come to her and say, "This isn't working," she'd fire 'em. And so she created this like, bubble of silence around it that—

Justin: Which is the exact same thing. I mean, it's the exact same thing as the Ben Greenfield thing, just the exact opposite approach, right? Like, there is a window here to rip people off, I'm gonna go for it.

Sydnee: It's like Fyre Festival. It reminded me a lot of Fyre Festival.

Justin: Yeah. Yeah yeah yeah, that's not that far off, actually.

Sydnee: Uh, so she lied about it. She misled people. She created fake results for Walgreen's to get them in on stuff. Like, they were just fake results. Uh, she lied to investors about the money stuff, too. So not only was the lab stuff, the medical stuff, the technical stuff not really true, but there were all kinds of inflate—like, inflated projections and things. All the money stuff that I don't understand, as well. She lied about all that, too.

So, she came under fire from the FDA, from the SCC, from the Centers for Medicare and Medicaid Services, and eventually the FBI. Uh, there was a reporter

for the Wall Street Journal, John Carreyrou, who talked to a bunch of whistle blowers and did this huge undercover investigative report, and then eventually published all the results in 2015, and everybody figured out what she was up to.

Justin: Journalists are our heroes. Just wanted to say that.

Sydnee: Yes. Yes.

Justin: Okay.

Sydnee: He is the hero of this story. In 2016, she had to throw out 2 years worth of test results, so everybody who had gotten test results from their company in the last two years, she threw them out and said they don't—they're fake. I mean, well, they're unreliable. I don't know if they're real or not.

Justin: The blood, you mean?

Sydnee: No, she told everybody, if you've gotten any results from us in the last two years, you can't rely on us.

Justin: I thought you were saying that she threw out a lot of blood! I thought, "Man, Dracula's gonna be stoked!" [wheezes]

Sydnee: Uh, but then she—you know that same year she went to the American Association For Clinical Chemistry annual meeting and announced that she was making a new machine called the mini-lab.

Justin: Mm.

Sydnee: Same idea, 160 microliters of blood, run up to 40 tests, including a Zika test 'cause that was so hot.

Justin: Yeah, sure, sure.

Sydnee: Zika was so hot.

Justin: Gotta get in there.

Sydnee: Uh, but this wasn't gonna be in stores. This one was gonna be in places outside the lab, but in the hospital, sort of like a NICU, like a Neonatal Intensive Care Unit.

Justin: Okay.

Sydnee: It's a great—great group to target, there. That's really gonna get the sympathy from people. Um, but by this point nobody was buying it, so things continued to crumble. Theranos, came under fire, eventually like, lost all of its money, lost all of its investors. I think it officially started dissolving this past winter. Fall, winter, September, October, something like that is when it started dissolving. She is now facing multiple charges of fraud, possibly 20 years in prison. Um, and the company is defunct, essentially.

It's interesting, though, because part of it is, how does this happen? Like you said, where—it's just amazing to me. It didn't work. Nothing worked, and everybody just believed it and put millions of dollars into it!

Two, it's probably best if you let somebody who knows something about medical science advise you on what lab tests you need. I mean, I do—I believe everything should be cheaper. It's all way too expensive. The cost of these labs, uh, at Theranos versus the cost at a hospital? I understand. It's egregious, how much you're up-charged when you get labs done at any—not just a hospital, but hospitals, those are the highest. It's egregious how much they cost. They shouldn't.

But at the same time, there is—it does not help you just to have giant panels of random labs ordered willy-nilly. Like, you're gonna get information that you can't necessarily use, or that you didn't need or know what to do with, or might take you down a totally wrong road as to what's going on.

Um, like I noticed among the tests they had one for Lyme antibodies. Interpreting Lyme panels is incredibly difficult and they're often wrong, and so just ordering a test for Lyme disease randomly, and from an unreliable lab, and then just getting the answer—even from a reliable lab, we don't know if it's right. I don't know. They just—it's really dangerous, and you're at huge risk for getting ripped off and misled, and it's really important that somebody who understands the implications of all this helps you decide what tests you need. It should be a joint decision.

Justin: Well, this has been grim. [wheezes]

Sydnee: Has it been grim?

Justin: At least Theranos, uh, at least she's goin' to jail, probably. That would be nice. That's something.

Sydnee: I don't think Ben Greenfield should go to jail, honey! I just think he should stop giving medical advice, because he's not a doctor.

Justin: Uh, yeah. I mean...

Sydnee: That's all I'm saying. I'm saying, you're an exercise physiologist. By all means, talk to people about exercise.

Justin: Yeah...

Sydnee: Stay in your lane!

Justin: I guess he doesn't need to go to jail. Just get back in his lane. And delete your website. Um... and your accounts. And become a hermit.

Sydnee: [laughs]

Justin: Um, this has been Sawbones for the Max Fun Drive, last episode. Again, Maximumfun.org/donate! I'm not gonna—I'm gonna save you the whole spiel, 'cause honestly time is short. If you appreciate this program, if you appreciate the work that we're trying to do to help spread reason and science and tamp down, uh, in our own little way, the... lunacy!

Sydnee: [laughs quietly]

Justin: Uh, then please kick in a few bucks a month. It really helps us out. Maximumfun.org/donate. \$5 a month, \$10 a month, whatever you can comfortably do. Um, and don't put yourself out. It's still—they're still just podcasts. But anything—whatever you can comfortably do.

Sydnee: [laughs]

Justin: We really appreciate it. Maximumfun.org/donate!

Sydnee: Thank you. Thank you, thank you.

Justin: Thank you. And thank you to The Taxpayers for the use of our song Medicines as the intro and outro of our program! You know what I realized? The

Taxpayers website link that I've had on Libsyn for 100,000 years, uh, hasn't worked for a while. So, uh, I have a new link that totally works now to their Bandcamp so you can download songs there.

Sydnee: Good job, Justin.

Justin: [goofy voice] Hooray! [normally] Uh, that's gonna do it for us. Thank you so much. Until next time, my name is Justin McElroy.

Sydnee: I'm Sydnee McElroy.

Justin: And as always, don't drill a hole in your head!

[theme music plays]

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