

Sawbones 256: Vitamin B17

Published December 15th, 2018
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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 cohost, Justin McElroy!

Sydnee: And I'm Sydnee McElroy.

Justin: Syd, you said—you were very confident about this. You were like, "I'll get us into it. Step back. Outta the way!"

Sydnee: Well—

Justin: "Let *me* do it! Let *me* podcast!"

Sydnee: —we're back. We had to take a week off. We're sorry about that, but we're back, and—

Justin: I'm not sorry.

Sydnee: —I am.

Justin: I ain't!

Sydnee: I—I hate any week we can't record.

Justin: It's the holidays!

Sydnee: But I am excited to get into this story. Not—

Justin: Livin' my own life!

Sydnee: —I mean, that sounds—that sounds weird. Like, it's not a *good* one, but, uh, it's a big story, and I just—I wanna get into it.

Justin: Okay! Well—

Sydnee: There was a topic that was suggested to us by several people; Jay and John and Heather, and I looked into it 'cause I thought, "That can't be right. Surely this can't be happening *still!*"

But it's an old story—it's old as time, really, the story of fake medicines—that is current today, and Justin, I wanna start off by asking you, what is Vitamin B17?

Justin: [sagely] Ahh, yes. One of the most important B's that we have. Obviously the highest... B Vitamin there is. Uh, full of explosive power, and—

Sydnee: If you—if you saw it on a shelf—

Justin: Yeah. I bet it's big. I bet it's big pills—

Sydnee: [laughs quietly]

Justin: —would be my guess.

Sydnee: Well, but you wouldn't necessarily—

Justin: Lotta B's.

Sydnee: —think there was anything wrong, right? If you heard "Vitamin B17." As a—as a non-medical person, it would not occur to you that that is odd, correct?

Justin: This feels like a trap, but I am gonna grant you that no, I would not.

Sydnee: No, right? And, like, if a doctor said you should take more B Vitamins, and then didn't say anything else, and then you saw a B17, you might think, "Well, maybe that's something."

Justin: Yes, this is ex—it is extremely confusing, yes.

Sydnee: Right, okay. So we're gonna talk about Vitamin B17, and how it's not a vitamin.

Justin: Oh!

Sydnee: At all.

Justin: That is, uh—you know what's funny about that is the name feels almost like a misnomer, to me, as a result.

Sydnee: Well, that's exactly—speaking of misnomers, that's exactly what Ernst Krebs Jr. was hoping you would fall into that trap and not know.

Justin: You know, you start to get a sense of people doing fake medicine things by their names, and folks, I'm here to tell you, as a layman who doesn't know anything about this story, Ernst Krebs Jr.. is not a good start.

Sydnee: I—I wanna tell everybody who has any sort of scientific background who listens to our show right up front that this Krebs has nothing to do with the Krebs of the Krebs cycle. I know, Justin, you're thinking, "Why would she make this point?" Because my first thought when I read this guy's name was, "Like of the Krebs cycle?!"

Uh, do you what the Krebs cycle is?

Justin: No, ma'am.

Sydnee: It's what our cells do to generate energy when they're using aerobic respiration. It's a cycle that happens—it doesn't matter. The only reason that I mention it is that if you've taken science classes, you've probably had to learn the Krebs cycle, and it's the thing that doctors always like to reference as, like, the thing that doesn't matter anymore for them to know.

Like, "[blustery tone] Listen, I don't remember the Krebs cycle, but I know how to handle hypertension!"

Justin: [wheezes]

Sydnee: It's like our favorite thing to throw out there as, like, an example of a—

Justin: Thing you don't know.

Sydnee: —basic science concept that we don't remember and don't need to remember, is the Krebs cycle.

Anyway, this has nothing to do with that Krebs. That's a different Krebs.

Justin: It sounds like he's not important anyway.

Sydnee: No, he's a good guy!

Justin: Okay.

Sydnee: He made a cyc—I mean, I don't—actually, I don't know anything about him. But he made a cycle, and he was r—well, he didn't make it. He, like, named it.

Justin: He didn't make it.

Sydnee: He named it. He found it, he named.

Justin: [simultaneously] Jesus—Jesus made it.

Sydnee: O—or evolution and science. Let's not debate that on the podcast.

Justin: [simultaneously] The Christ child, the little baby Christ child.

Sydnee: Ernst Krebs was born—

Justin: Around his birthday and you're besmirching him.

Sydnee: —was born in Carson City, Nevada in 1911, and his dad was a doctor. An actual doctor. But he had some very strong opinions about some medicines that he said could be used for cancer. This is Ernst Krebs Sr. Both Krebs are involved in this, uh, really.

So, Sr. Krebs, who was a doctor, believed a theory that had been created by a British embryologist named John Beard that all cancers come from trophoblasts. Now, I'm guessing you probably don't know what trophoblasts are.

Justin: I am not familiar with the word "trophoblasts," but I like it.

Sydnee: They are cells that form the outer layer of a blastocyst, which is what provides nutrients to the embryo and the placenta in development in embryology.

Justin: Okay.

Sydnee: Okay? So they're just a certain kind of cells that are formed during the first stage of pregnancy, and they are the first ones that kind of differentiate from the egg that has been fertilized. Okay?

Justin: Okay.

Sydnee: These are trophoblasts. He thought that kind of—we're born with... cancer, and the cure for cancer, all innate in the developing fetus. The trophoblasts... could be cancer.

Justin: We're born with cancer.

Sydnee: We're born with it, as well as the treatment, and he believed that enzymes from our pancreas, specifically trypsin, are the treatment. So we are born with these trophoblasts that can cause cancer, and we're born with these enzymes that can cure cancer.

And what's supposed to happen is that when you're a developing embryo, these enzymes will stop the cancer from growing, and so you won't get cancer. Unless something goes wrong, in which case the cancer is there, and it's just gonna, like—

Justin: Do its thing.

Sydnee: —pop up at some point in your life, right? So, like, it's too late. Like, you were born with the cancer from your trophoblasts. Your pancreatic enzymes, the trypsin, did not take care of it. Someday, it will manifest. This was his theory.

This is not... true. By the way. I don't know if you knew that, but this is not.

Justin: Uh, it sounded suspicious to me.

Sydnee: [laughs quietly]

Justin: I will grant you.

Sydnee: So—so he believed, then, that if you didn't take care of it as a developing embryo, then the treatment for cancer must be to just get some of these enzymes, these little proteins from your pancreas, to get some of these enzymes and to inject them into you, and then will cure cancer that way.

Justin: Okay.

Sydnee: That was his belief, based on this theory. He wrote this big paper on this, and I will say that—I mean, this stuff was wrong and it takes us in a very, uh... [pauses] upsetting direction?

Justin: Okay?

Sydnee: Since this will lead to a fake cancer cure that is still on the market today, eventually? That is where the story ends, as you probably guessed.

Justin: Fantastic.

Sydnee: But the paper itself, I will say, is pretty fantastic. It's bananas. It—he compares himself, in his paper about his theory—his *theory* that he just came up with—he compares himself to [holding back laughter] Galileo, and Lister, and Semmelweis, and Pasteur.

Justin: Wow!

Sydnee: Because he is this *genius* who has come up with... this *amazing* theory, and nobody believes him, but he is so sure of himself. He writes in it—this is my favorite. I mean, you should—like, you could read the whole thing and it's just—like, I was laughing. I don't know if everybody would laugh. I was laughing.

But he writes, "This is the reason which confers a lasting truth on the words which I wrote down on December 8th, 1904, and which almost immediately gave the solution of the problem of cancer: the mammalian embryo solved the problem of cancer ages ago. [pauses] 'Still it moves,' commented Galileo."

Justin: [quietly] What?

Sydnee: Galileo supposedly said that. "Still it moves."

Justin: About *his* thing? Like, Galileo read *his* thing from beyond the beyond?

Sydnee: He's saying—he is comparing—he is saying that is what Galileo—

Justin: "My version of Galileo said—"

Sydnee: "What I just said is just like when Galileo said, 'Still it moves.'"

Justin: I will say, it's not, like, t-shirt-worthy. "The mammalian embryo solved the problem of cancer ages ago."

Sydnee: [laughs]

Justin: It's not, like, a bumper sticker.

Sydnee: It's not the same as "Still it moves."

Justin: It lacks the panache.

Sydnee: But I do love the—I love the chutzpah there.

Justin: Yeah, it is. It's excellent. I celebrate the chutzpah.

Sydnee: Even though he was wrong. Uh, so based on—

Justin: Perhaps. Time will tell.

Sydnee: No, he's wrong. Based on this wrong idea from our embryologist, John Beard—based on this theory, Krebs Sr., because he bought it, decided he would sell a pancreatic enzyme. He would sell an enzyme from your pancreas. When I say that, it's just an enzyme made by your pancreas.

Justin: Okay. How would he se—would he extract it from other people?

Sydnee: Uh, he said he—well, he said he could make it.

[pauses]

Justin: Uh huh.

Sydnee: So he promoted something called chymotrypsin, which is an enzyme, and he said you can treat cancer this way.

He had already, by the way—it's worth noting that before he started into the fake cancer treatment business, he'd already made a bit of a name for himself treating patients during the flu epidemic of 1918, the big giant, influenza—

Justin: The bad one, yep.

Sydnee: —yeah, outbreak. He had made a syrup out of parsley called Syrup Leptinol, and he would try to treat patients who were dying of flu with this. He also treated, like, asthma and tuberculosis and whooping cough and pneumonia—I mean, anything like that, but also the flu.

Um, it didn't work at all, and the FDA had already seized a bunch of Syrup Leptinol in the early 1920s and said, "Stop!"

Justin: "Stop! You're—"

Sydnee: "This is fake."

Justin: "This is nothing!"

Sydnee: "Stop. People are dying of flu, and then you're making them pay for parsley syrup on the way."

Justin: Sounds like a co—it does sounds like a cocktail mixer though, doesn't it? Parsley syrup? Doesn't it sound like something you'd ad to, like, gin and... and bitters?

Sydnee: I mean, people may have. A lot of those old—we've talked about that before. A lot of those old patent medicines were, like... I mean—

Justin: Bitters.

Sydnee: [simultaneously] Bitters, yeah. So who knows.

Anyway, so he already was selling fake cures before he got into this chymotrypsin cancer business. Um, now, just to take a quick detour to tell you where Ernst Krebs Jr. fits into this picture, because this is really a father/son act that we'll—you know, that we're gonna follow.

So his son was als—was seeking to become a doctor, but not quite as successful as his father. Uh, he attended the Hahnemann Medical College, which is now Drexel University College of Medicine, for—

Justin: Hold on a minute. I feel like we've had a Hahnemann on the show before. Haven't we?

Sydnee: Mm-hmm.

Justin: Right?

Sydnee: Named for the father of homeopathy.

Justin: Homeopathy, yeah! Yeah, okay. Yeah.

Sydnee: Yeah. Uh, so he attended the Medical College for three years, but he had to repeat one year, and then eventually he flunked out, so he never actually got a medical degree?

Justin: [holding back laughter] You know, what's a piece of paper? [wheezes]

Sydnee: [snorts] He went on to take more science courses to try to pursue a degree in Mississippi and California and Tennessee, but he failed all of his science courses, so he kept skipping around to different universities trying to—

Justin: Find—

Sydnee: —get a degree.

Justin: Right.

Sydnee: And he couldn't pass the classes, so he finally did get a BA from the University of Illinois. He *called* himself a doctor, even though he did not have a doctorate. He claimed to have a PhD, but actually the only thing that he had gotten that was, I guess, somewhat similar to a doctorate, was a, uh—[laughs]

quietly] an honorary degree from the American Christian College in Tulsa, Oklahoma, which I guess does not exist anymore. It did, it was a small bible college. It was not actually—they did not have the accreditation to award any advanced degrees, but they gave them anyway, I guess.

Of course it was an honorary degree, so I guess anybody—heck, anybody can give those, right? Honorary—[laughs] degrees?

Justin: Speaking of, uh, I am—

Sydnee: They also didn't have a department of science.

Justin: Okay, not great.

Sydnee: Just—just so you know. No department of science.

Justin: Speaking of, I am still looking for any higher education facility that will give me an honorary doctorate. I would love—

Sydnee: [laughs]

Justin: —nothing more than to be able to say "Doctors Justin and Sydnee McElroy." Uh, I will do anything. It—whatever it takes to get this honorary doctorate. It just—it has to count. It has to be a real—a real honorary—a real fake doctorate, but I will do pretty much anything. So please talk to your college. I'll fly out there. I'll do whatever it takes. Please. Please. Can't ask enough.

Sydnee: On the flip side, I would ask [through laughter] please, nobody give Justin a degree! An honorary doctorate—

Justin: You shouldn't be threatened.

Sydnee: —I worked really hard for mine!

Justin: You shouldn't feel threatened.

Sydnee: [laughs] I worked really hard!

Justin: Sydnee, I'm a straight white man. Don't I deserve it?

Sydnee: [laughs]

Justin: [laughs quietly] Think about it for a second. Doesn't it seem like I *should* have one?

Sydnee: That's right, I forgot. [laughs]

Justin: Just think about it. I'm just saying, think about it.

Sydnee: [inhales] So anyway, he got this honorary degree from this now defunct college that, uh, did not have a department of science.

By the way, I looked into how he got it. I was like, "Did he attend there? What did he do?"

Uh, he—he went and gave a lecture... on one of the fake medicines he was promoting at the time. One of his dad's fake medicines. Um, an hour long lecture. And for giving this hour long—which—sales pitch, essentially. It was a sales pitch. They gave him the honorary degree.

Justin: God, if that's all it takes, y'all...

Sydnee: [snorts] The—

Justin: I'm happy to come tell you about some fake medicine.

Sydnee: —he did later spend two years doing some graduate work in anatomy? I don't know how that works when you don't—I mean, well, he did have a degree. He did get a BA. But he didn't get a medical degree. He has this honorary doctorate, and then he did two years in some sort of fashion doing graduate work in anatomy, but they kicked him out. He didn't get to complete the work, for—and this is a quote—"His pursuit of what was deemed unorthodox."

Justin: See, that's how they got Frankenstein. That's how they got all the really good ones.

Sydnee: I don't know the details. *Man*, I wish I did.

Justin: That's how they got Dr. Jekyll. Like, anybody who's doin' cool stuff is gonna get that.

Sydnee: Mm-mm.

Justin: That sounds like—

Sydnee: No...

Justin: —being persecuted by the fuddy-duddies that don't accept—

Sydnee: I don't know. I—

Justin: —the power of science.

Sydnee: —I think there's some foreshadowing there. I think that's some very dark—this is where we take a dark turn.

But anyway, so we've got—

Justin: But what are we foreshadowing?

Sydnee: Uh, well, I'm gonna tell ya. [laughs]

Justin: Okay.

Sydnee: But first let's head to the Billing Department.

Justin: Let's go!

[theme music plays]

Justin: Well, folks, our first sponsor this week is Stitch Fix. If you ever see us out on the road and you like what we're wearing, it is a good chance it is chosen by Stitch Fix, our *personal*—our personal styling service.

Sydnee: Well, not just *our* personal styling service. It could be *your* personal styling service!

Justin: It is also ours. That's not incorrect. It could be everybody's!

Sydnee: [laughs]

Justin: If you're so inclined. Uh, they are gonna take your measurements, they're gonna talk to you about your style, they're gonna deliver clothes, shoes, and accessories that fit your body, budget, and lifestyle, right to your door.

Here's how it works: you go to [stitchfix.com/sawbones](https://www.stitchfix.com/sawbones), you tell them what sizes you are, what styles you like, your budget, and then for 20 bucks, their stylists are gonna fix you up with a great look. They're gonna handpick items to send right to your door. You try on the stuff that they send. You keep only the things that you like.

Everything else—it's so easy, you toss it into a—you're not gonna have to, like—I hate havin' to go to the, you know, uh... go out to mail something, and you get a bo—it's so easy. You throw it in a bag, and there's a label, and you put the label on the bag. It's, like, 10 seconds.

Sydnee: Mm-hmm. Leave it on your porch, and they take it away.

Justin: Yeah. But usually—uh, a lot of times we don't have to do that at all with any of the items, 'cause you enjoy them so much.

Sydnee: I'm on, like, a six month streak now, I think?

Justin: Of not returning anything.

Sydnee: Of not returning anything. I love everything they've sent me.

Justin: So get started right now at [stitchfix.com/sawbones](https://www.stitchfix.com/sawbones), and you'll get an extra 25% off when you keep all the items in your box. That's [stitchfix.com/sawbones](https://www.stitchfix.com/sawbones) to get started today.

We are also joined... in monetary spirit this week, by, uh, Blue Apron: a better way to cook. That's the tagline. You're supposed to say it at the end, but I'm gonna say it at the beginning, because it can't be emphasized enough.

The holidays are comin' up, folks. It's a busy time. No one's got time to do anything. You barely have time to eat, but *cook*? Are you kidding me?!

Sydnee: We barely have time to record a podcast! [laughs quietly]

Justin: Yeah, no kidding. Imagine if making wholesome, delicious meals at home was easy, because it can be! [pauses] With Blue Apron. They've got mouthwatering options that fit your tastes. I'm very excited about this week. There looked to be some popcorn chicken with jasmine rice with sounds... [clicks tongue] *mighty* good.

Sydnee: It does sound very good.

Justin: I'm very excited about eating that. Boy, I'm hungry. I'm just now realizing. Hatchi matchi.

Chef-designed recipes to eat fresh, seasonally-inspired, perfectly proportioned ingredients... I said that already, but I wanna reaffirm it, 'cause it is... [snorts] they're in there, folks!

Sydnee: [laughs]

Justin: Don't think you're gonna get a box of—that is ingredient-free. [through laughter] You're gonna get ingredients every single time with this one.

Sydnee: And they're gonna be exactly what you need, so no waste. I love that.

Justin: Yeah.

Sydnee: I love that about Blue Apron, is that I'm not throwing away, like—

Justin: Dill.

Sydnee: Yes.

Justin: Like, I got a pound of dill. [wheezes]

Sydnee: Exactly. So you—they send you just what you need. You use it, and great! You got a great meal.

Justin: Uh, check out this week's menu and get your first three meals free at blueapron.com/sawbones. That's blueapron.com/sawbrones. Not Brones. That's nothing. Sawbones. Blue Apron: a better—

Sydnee: Still!

Justin: —still, after all these years, a better way to cook. [laughs]

Sydnee: So when we left—when we left the Krebs, Krebs Jr. was getting his honorary degree, but no other degree. And that's okay, though, because he was gonna practice fake medicine anyway, so you don't need a real medical degree.

Justin: Right.

Sydnee: To practice fake medicine.

Justin: Absolutely.

Sydnee: You don't need any—any kind of certification.

Justin: You just go for it!

Sydnee: Yeah. That's what we've learned. So, him and his dad—I mean, that's kind of, like... I guess that's kind of nice.

Justin: Aw, that is nice!

Sydnee: Father, son, just a little—

Justin: —found a project they could work on together.

Sydnee: Sr., Jr. project. Um, [holding back laughter] they started promoting fake cancer cures.

First was the chymotrypsin, as I already mentioned, but they needed to go bigger. They needed to go further. They wanted their own meds, so Krebs Sr. started promoting a substance called "pangamic acid."

They named it for the words that mean "universal" and "seed," and they said that it came from seeds. Specifically apricot seeds.

Justin: Hm!

Sydnee: We're going to get into some more apricot seeds, but initially they're just saying, "We've got this stuff. It comes from seeds."

Um, they patented the process that they used to isolate it.

Justin: That's good, you gotta protect your work.

Sydnee: Except no one could ever reproduce this process.

Justin: That's a whole other—next level patent.

Sydnee: Here—here's the wild thing about this. We've talked about a lot of fake medicines on this show, and most of the time it's like, it was really just some, like, honey and whiskey and maybe some cocaine thrown in there.

Justin: Sure.

Sydnee: Whatever, and some herbal stuff. This substance, whatever this supposedly was, we've never been able to isolate... what it is.

Justin: [quietly] That's not great.

Sydnee: It may not have ever been one thing. They may have made it all up.

Justin: Ooh!

Sydnee: So they were selling—I mean, there was an actual, physical substance that they were selling.

Justin: Somethin' was in the bottle.

Sydnee: Somethin' was in the bottle, but as far as what it was, all the studies of the various, uh, pangamic acid brands that sprung up after this, and things that were being sold, none of them were found to be the same thing. One was just lactose. I mean, they never—some preparations actually had cancer-causing substances *in* them, they found.

Justin: Bad!

Sydnee: So it was never—like, the FDA eventually said, "This is an unidentifiable substance. We don't even know how to ban it, 'cause it's not a thing. You're just selling bottles [holding back laughter] that say 'pangamic acid.'"

Justin: "We don't know how to ban the trash in your bottle."

Sydnee: [laughs]

Justin: "But it's—it is bad. We all agree."

Sydnee: "I mean, we don't wanna ban lactose, but we do want you to stop selling it and calling it something else."

Uh, they—they claimed it could be used for detox, which we know, right? Is not a thing.

Justin: Folks...

Sydnee: You don't need to be... detoxed.

Justin: Put up your alarms, every time.

Sydnee: Yeah. Your livers and kidneys do that for you. They also said it was a treatment for—I mean, it was one of those cure-alls. Asthma, or joint pain, or if your nerves hurt. [through laughter] Or if you have skin problems.

Justin: You know—you know how when your nerves hurt? [laughs]

Sydnee: They also said it was good for racehorses.

Justin: [coughs]

Sydnee: So...

Justin: I mean, good enough for racehorses, good enough for me, I say.

Sydnee: So you can take it for your asthma, or give it to your horse. They started referring to it as Vitamin B15.

Justin: Oh. Okay, that's weird.

Sydnee: Not quite 17 yet.

Justin: They had to find a few more B's.

Sydnee: [chuckles] Uh, and they would also market it later for cancer, for schizophrenia, and then they would say things like "It improves your oxygen. It's good for your heart."

Justin: "[holding back laughter] The more you eat it..."

Sydnee: [laughs quietly]

Justin: "The more you fart." [wheeze-laughs]

Sydnee: [laughs]

Justin: Sorry, it's it's a side effect, folks! We're workin' on it.

Sydnee: [through laughter] I don't—I don't think they said that.

Justin: Okay. [laughs] It's not intended.

Sydnee: Uh, thi—and this—

Justin: That's how you know it's workin'!

Sydnee: —this vitamin thing is a trend. We'll get into it a little bit, but if you call something a vitamin, it's regulated different.

Justin: Hmm.

Sydnee: It's a supplement.

Justin: Hmm.

Sydnee: It's not longer a treatment.

Justin: Burden of proof much—much lower.

Sydnee: Mm-hmm. So it's easier to get away with certain things. If you're wondering why they're making up vitamins. And apparently, it's not that—I would've thought it would be really hard to make up a vitamin.

Justin: Yeah, right?

Sydnee: But as we've discussed, pangamic acid wasn't even a substance.

[pauses]

Justin: [snorts]

Sydnee: [through laughter] And it got—it was named a vitamin!

Justin: [laughs]

Sydnee: And it wasn't even a thing!

Justin: "Hi, science. It's me. [cough-laugh] Krebs. I've invented a new vitamin."

"Well, what's in it, Krebs?"

"Um... I dunno. Nothin'. [through laughter] It's trash!"

Sydnee: "Depends on which bottle you get, I guess!"

Justin: "It's—it's trash and nothing, and I put it in a bottle. Is it... a vitamin?"

"Yeah, I guess so! What's the next number [wheezes] that's not taken? We got 17, it'll slot right in there. Perfect. Great."

Sydnee: [laughs quietly] Okay. So, this wasn't enough. This was not to be their legacy, because they needed a substance. They needed something that could be put in multiple bottles and at least—at least proven to be the same thing, even it was still not effective in any way.

Justin: Right.

Sydnee: So their greatest legacy is a substance that they—they built upon the work of other scientists, who had been isolating something from almond seeds called "amygdalin," and they wanted to isolate this same thing, amygdalin.

Now, Krebs Sr. had a lot of different stories about where and why he got this stuff, how he came up with it, and what his process was, and all that. In his book, he said that he had already theorized that, uh, cancer proteins, whatever he was calling cancer proteins, could be broken down by an enzyme, and he had actually made this when he was a student.

Uh, he initially tried it out in animals, and he found that it was toxic, so he had to boil it down, and eventually he came up with this substance that we are going to learn the name of, is laetrile. Laetrile. Laetrile.

Justin: Laetrile?

Sydnee: Laetrile?

Justin: L-A-E-T-R-I-L-E.

Sydnee: It's a made up thing, so...

Justin: Who cares. [laughs quietly]

Sydnee: Laetrile. So, Laetrile. Now, there were other stories later that came up, so it's not quite clear exactly how he came up with this stuff, or how his version was synthesized. Um, and as time would go on, it would be a variety of different things as well, although there is something here. There is an actual substance at the root of it all.

There was another story that he, for a while, ran a business where he would, um, analyze whiskey for wood alcohol? And he developed it while he was working on a bourbon flavoring extract, somehow?

Justin: Just kind of a side hustle!

Sydnee: [laughs] Um—

Justin: Kind of his side hustle to curing cancer.

Sydnee: Yeah, that he—that he somehow isolated this enzyme accidentally from, like, mold growing on bar—I don't know. There's a bunch of wild stories. Um, what he eventually started using to get this substance, to synthesize this substance, however he started, he eventually started using apricot pits.

Justin: Huh. Okay.

Sydnee: For it. So that is—that is where, um—

Justin: [uncertainly] To get the s—to get the... whiskey?

Sydnee: No. To get the—

Justin: To get the bourbon flavor?

Sydnee: —amygdalin, to get the laetrile, he used apricot pits.

Justin: Okay. This is not bourbon related.

Sydnee: No.

Justin: Okay.

Sydnee: This just may have been—there's all these, like... usually if you find— usually, when a scientific discovery is made, it's a pretty clear cut story, you know? Like, we've talked about Fleming and Penicillin, right?

Justin: Right.

Sydnee: Like, it's just—it is what it is. Like, he left some petri dishes out.

Justin: [simultaneously] Left some petri dishes out.

Sydnee: And then mold grew. It's not, like... you know? There's not—[laughs]

Justin: "I was working on, like, a bourbon flavor, and—"

Sydnee: There's not a mysterious, convoluted, multiple tales about where it came from. There's usually just, like—

Justin: [simultaneously] It's not—it's not—

Sydnee: —'cause it's, like, written in a paper!

Justin: —it's not various legends. [laughs]

Sydnee: No!

Justin: Usually.

Sydnee: And most of the time, it's not even as exotic as Fleming's penicillin story. It's usually just, like—

Justin: "We tried a bunch of things, and then one thing works, and—"

Sydnee: It's like Formula 409, right?

Justin: Right.

Sydnee: It was the 409th formula. That's usually the way these stories work. So when you see all these, like, myth—mythos surrounding the origins—

Justin: Right.

Sydnee: —I would raise an eyebrow. Anyway—so, they finally settled on apricot pits as the way to get this extract, and sell it as laetrile. And in 1949, Jr. actually modified the process and branded it, and that was the official—this is beginning of this substance, laetrile.

It was pushed as a medicine that could cure cancer, at first. "This is a treatment." They started selling it as a medicine, as a treatment, "This would cure your cancer, we know because of this weird background story, and we promise we did some animal studies. We're gonna suggest maybe we did some human studies even though we *definitely* did not."

Justin: [through laughter] Right.

Sydnee: "We did not do any studies. We're gonna kind of hint that we might've, and we're gonna sell it," and of course the FDA came in and was like, "Whoa, whoa, whoa, whoa. You can't—no. No. No, no, no. None of this is right. You can't say any of this."

So they re-branded it as a vitamin, B17.

Justin: Okay, sure.

Sydnee: Now, here was the problem: they had already come up—

Justin: Where was B16? Yes, I agree, Sydnee.

Sydnee: —they said that it worked by breaking down cancer proteins, right? Like, that was their whole thing. "We know how cancer is formed. We have this weird theory, and we need to break down these proteins, these cancer cells that come from trophoblasts. We need to break it down with enzymes, and this is why this works."

Well, if all of a sudden it's a vitamin, that whole theory falls apart.

Justin: Right.

Sydnee: So they changed their theory about cancer to go with it. Then they said, "Never mind. We were wrong about what cancer is caused by. Instead, it's just a deficiency of this. All cancer is just a deficiency of Vitamin B17, and we sell Vitamin B17."

Justin: "So you do the math."

Sydnee: So this is all fake, but it's a very simple pitch, and it's easy to see, I think, why people sometimes fall into the traps of these fake cures, because that's a very logical progression. If you accept that cancer is just a deficiency of a vitamin, then taking the vitamin would cure cancer.

Justin: Sure. Or at least prevent it.

Sydnee: That makes sense. Now, all of this is wrong, but it's a lot simpler of a pitch than the actual science behind... anything in medicine, right?

Justin: Right.

Sydnee: Which is a lot more hard—it's a lot more difficult to explain. Anyway, a lot of different doctors and medical boards started hearing these claims and getting complaints about it, because this was... bananas.

Uh, however, there were other doctors who heard them and said, "Hey!"

Justin: "Sounds good!"

Sydnee: "Maybe that's true!" Uh, specifically there was a family medicine doctor—

Justin: Aw...

Sydnee: —hurts my heart, I know.

Justin: Bad job, y'all.

Sydnee: In California named Arthur Harris, who became a huge supporter, and he changed the name of his office, his family medicine office, to the Harris Cancer Clinic. I don't think you're allow—I mean, I guess—well, you shouldn't do that.

Justin: [laughs]

Sydnee: I don't know if you're allowed to, but you shouldn't. And the California Medical Association began to receive complaints, so they actually approached Krebs and said, "We need some evidence of this. Like, now we've got these cancer clinics popping up, and we don't know why, and this stuff shouldn't work, and... you know, give us some evidence."

He provided some case reports, like, "Well, here's some stories of patients I cured," but no trials. No big, large studies to prove anything.

Justin: Right.

Sydnee: They offered him the chance to perform a study. At LA County Hospital.

Justin: And he did it, and it worked!

Sydnee: No.

Justin: And now—

Sydnee: He said, "I will only do it if you let me put my supporters in charge of the entire study."

Justin: Hey! No! Bad! Right? That's bad, right? For science?

Sydnee: Right. Well, that doesn't—so of course the California Medical Association said, "Well, no, we can't—that—no, we can't do that."

And so he said, "Well, never mind. You can't do the study then." So that was that.

Justin: Yeah.

Sydnee: Um, this may have just faded away, like their other attempts at fake medicines, if it weren't for a certain individual who was not, uh—not necessarily—he had no medical training, but he did have money, and, uh, power, and the ability to market a substance. Andrew McNaughton.

Justin: Who's that?

Sydnee: Uh, this was a guy—he met Krebs in 1965, and he had already kinda made a name for himself as, like, a test pilot for the Royal Canadian Air Force. He'd gotten training in electrical engineering, and geology, and mining, and business, and he'd—he'd already made a huge fortune. He was a very rich, powerful guy. Like, he'd worked with Castro, and Castro had made him an honorary citizen of Cuba for some of the work he'd done.

Justin: Folks, again, if you can't offer—

Sydnee: Big, powerful guy,

Justin: —if you can't offer an honorary doctorate, if you *can* make me an honorary citizen of Cuba, that would work too. That's fine.

Sydnee: [chuckles]

Justin: I'll take what I can get, at this point.

Sydnee: Just honorary anything.

Justin: Honorary anything.

Sydnee: So—

Justin: Anything that doesn't require work, but does... like, seem impressive, I'm down for.

Sydnee: So McNaughton's this big, powerful, rich guy, who already has a foundation where he's trying to fund projects that he deems on the outer limits of scientific knowledge.

Justin: [holding back laughter] Ooh, spooky!

Sydnee: So he meets Krebs, and Krebs intrigues him. He tells him about the laetrile wars. "[dramatically] The wars." Over this—he's created a cure for cancer, nobody wants him to get it to the public—

Justin: Nobody has the guts.

Sydnee: —he is totally swayed by this argument, and he starts promoting and distributing it. Um, he founded the International Biozymes Ltd. to distribute it in Canada, and he built factories in seven countries, and he basically makes it this giant thing. He even, like, helps with the PR for it. He commissions a freelance writer to publish articles about it, to write a book. This guy, Glenn Kittler, writes a whole book about the hidden cancer cure that nobody wants you to know about.

Justin: Ugh!

Sydnee: He paid for a surgeon to come—this guy, John Morrone, to come attend a lecture and then publish articles about it.

So McNaughton is really the guy who—I think they call him now, like, the Godfather of laetrile or whatever, but he is the guy who made it a thing. With his money and his influence, everybody got on board.

If you're curious, he would later get in trouble for stock fraud.

Justin: Ah.

Sydnee: And be—[laughs quietly] but all he was—he was fined \$10,000 and was sentenced to one day in jail. [pauses] He served neither.

Justin: [laughs]

Sydnee: He did not pay the money, nor did he serve the day in jail. I think he just left Canada or something.

Justin: That'll do it.

Sydnee: So anyway, because of all this, more fake—more doctors got on board with this fake cure. Um, it became very popular with Dr. Ernesto Contreras, who was working just across the border from where Krebs was a lot of the time, in Tijuana. And so it became, like, this—he would, like, funnel patients down, as stuff was getting cracked down in the US.

As more and more doctors are getting shut down for doing this in the US, Krebs would just kind of draw patients in, and then funnel them down across the border to Contreras, where he could give them the laetrile, charge them, like, \$150 a month.

Uh, he treated thousands of patients there, and, like, when they asked for any evidence, "Do you have anything to publish? Like, you treated thousands of people, you say you cured 'em. Where's your—where's your data?"

Justin: Right, what do you have to show for it?

Sydnee: Yeah. He only ever presented 12 cases. And of the 12, 6 of them had—had still died, so it didn't... work. Two ended up using conventional cancer treatments. One still had cancer, but was still alive, and three they could never find.

Justin: So that's a—

Sydnee: Out of the thousands he claimed—

Justin: —that's a zero. [wheezes] On that.

Sydnee: Right.

Justin: That's a zilcho.

Sydnee: So legal battles raged over this for years. Um, various doctors getting shut down and reprimanded and, you know, losing their licenses, and the

government seizing, you know, shipments of laetrile in different parts of the country, and all kinds of stuff.

The National Cancer Institute did two studies to try to, like, one, investigate or—I mean, you know, is there anything here?

Justin: Sure.

Sydnee: And two, prove, if there isn't, let's just put it to bed. Um, one was, like, a retrospective study where they just sent letters out to, like, every doctor and health professional who had ever used it. It was, like, 385,000 doctors and 70,000 other health professionals, and said, "Send us your cases."

Justin: Right.

Sydnee: "Send us your proof." They got 93 responses. Of these, only two of those patients were actually in cancer remission. Four were in partial remission, and they could never prove that these people even existed.

Justin: Great.

Sydnee: It was all just word of mouth. It was all just stated.

They also received a bunch of case reports from doctors saying that it *didn't* work, which they didn't ask for. They just said, "Send us your success stories," and they got a bunch of "Well, I don't have those, [through laughter] but here are a bunch of cases where it didn't work."

Justin: "Here's another thing I have."

Sydnee: Uh, they did a clinical trial after that, using laetrile, and the results were absolutely clear. Not a single patient was cured. Not a single patient was stabilized using laetrile. And they used the stuff made by his company, by the way.

Justin: So, the official—

Sydnee: The official laetrile. Uh, the—the survival rate was 4.8 months from the start of therapy, and in those who were still alive, their tumors had gotten bigger. Um, in addition, several patients experienced symptoms of cyanide toxicity.

Justin: Hmm.

Sydnee: Why did they experience symptoms of cyanide toxicity? Well—

Justin: Because in apricot seeds, much like Lima beans and apple seeds and a few other things, there is something in it that causes your body to produce cyanide.

Sydnee: Yup. [pauses] Very good, Justin.

Justin: Thank you. I remembered that.

Sydnee: Very, very good. So yes, not only was it not curing cancer—

Justin: Or your body *produces* cyanide, or processes *as* cyanide?

Sydnee: You end up—as a byproduct, you have cyanide, yeah. So yes, so it also was giving some people cyanide poisoning.

Justin: Cool. Cool vitamin.

Sydnee: Yeah.

Justin: Mm, vitamins!

Sydnee: So it is not a vitamin, it might kill you, and it won't cure your cancer.

Justin: Get this into Flintstones, come on!

Sydnee: So this—and this study, by the way, was back in the 80s. This should have closed the books on laetrile forever.

Justin: Should have!

Sydnee: Should've.

Justin: Should've!

Sydnee: It doesn't work, and it might give you cyanide poisoning.

Justin: Yes.

Sydnee: Uh, despite all this, you can still buy apricot seeds, apricot pits... you can buy B17, you can buy amygdalin, whatever you wanna call it, online.

Justin: By laetrile?

Sydnee: It is still sold—uh, I don't know if laetrile the brand—

Justin: Is that a brand—

Sydnee: Yeah, yeah. Well, I think it's still—but I think they still use that name. Proponents of it still use that name. Um, the—the hospital that Contreras founded down in Tijuana is still open, and they provide a variety of alternative treatments for cancer, and... fake treatments for cancer, and this is among them. You can still get this.

It can, indeed, give you cyanide poisoning. I'm not gonna say that happens most of the time, but it might happen to you.

Justin: It's possible.

Sydnee: And more importantly, [speaking with emphasis] it does not treat or cure cancer at all, period.

Justin: It doesn't do anything.

Sydnee: No. it doesn't do anything. But it's still out there, and you can buy 'em online. I found—that was how I got to this topic, is our wonderful listeners suggested it, and I followed their link, and found where I could buy bags of apricot seeds. And they're actually—

Justin: [sarcastically] And Syd, what is that URL, so people can get some of their very own, right now?

Sydnee: No, I'm gonna—I'm not gonna do that. I mean, you can look at it, but they tout them for everything. 'Cause they've changed their claims over the years. They've said, "Well, you know, maybe it doesn't cure cancer, but it definitely stabilizes it. Well, maybe it doesn't stabilize it, but it definitely helps chemo. If you get chemo, you can do this too, and it helps it. Okay, well, maybe it doesn't

do that, but it definitely helps cancer pain. Okay, well, maybe it doesn't do any of that, but it's really good for you! It detoxes you, and it's good for general wellness." That's what—when—

Justin: Ehh.

Sydnee: —when you don't know what else to say about your fake medicine/supplement, just say it's good for general wellness, because that means nothing!

Justin: Means absolutely nothing.

Sydnee: And you can, I guess, put it on a bag and sell it to people on the internet.

Justin: There you go. Well, folks, B17 sounds real. It isn't, so if you see anybody you know and love talking about B17, make sure you point them towards this episode, so they'll have a rich—full, rich understanding of B17.

Sydnee: Yes. It might—it might harm them, and it will not help them.

Justin: Uh, Syd! The holiday season has arrived, and we had a special plug. Uh, two things we wanted to mention. Why don't you go first, then I'll go second.

Sydnee: Well, first of all, we would ask—again this year, we are doing the Candlesnights Stars. If you remember last year, we picked an organization in the state of West Virginia that needed a little bit of help this time of year, and we are doing the same thing this year with the Women's Health Clinic of West Virginia, Women's Health Center of West Virginia.

They are the last remaining health clinic in this state that provides comprehensive reproductive health services, for anyone in need. It is a nonprofit organization. They won't turn you away no matter what, and so they need donations to help keep them afloat. Even if you don't have insurance, they don't care. They're there to help you. They provide comprehensive gynecologic, family planning services, contraception, pregnancy management, everything. All reproductive health services, and they're the last one in the state, and they need our help.

And so we are asking, if you would like to contribute to that, we have a GoFundMe page for Candlesnights Stars. So just go to bit.ly/candlesnightsstar, and

if you can contribute, anything will help them. What we're asking is if you can give \$5, we will put your name on a star, and it will be displayed on the Candelights stage this year. We're not doing a giant banner, because that took a really long time. We're gonna do it in beautiful garlands. [laughs]

Justin: Beautiful, beautiful garlands.

Sydnee: Uh, we also won't accidentally get hot glue on the stage that way.

Justin: And our hands. And our beautiful, baby hands.

Sydnee: That's the bigger thing. But if you can give even \$5—if you can't, even just sharing the link, spreading the word, it really helps people in need, people who deserve to receive reproductive health services and might not be able to in this state.

Justin: Uh, folks, I have one real quick, too. It's *My Brother, My Brother, and Me* Angels time once again. There's this list called Empty Stockings that our local paper puts out every year, which features a lot of really heartbreaking needs in our area for this holiday season. Some are parents who just wanna get something under the tree for their kids. Some are adults who need a little help, and we are—well, our listeners, really, work together every year to try to meet those needs.

If you go to mbmbamangels.com, you can claim items. They are almost all claimed up, but you can also donate money that'll go towards larger items. They've bought beds, they've bought, uh, wheelchair ramps for places that—it is really an amazing effort. If you to mbmbamangels.com, you can get involved with that.

Uh, so folks, that's gonna do it for us. Thank you so much for listening. We really appreciate you. Sydnee, anything else?

Sydnee: No, I think that'll do it. Thank you so much, and—

Justin: Oh, thanks to The Taxpayers for the use of their song "Medicines" as the intro and outro of our program!

Sydnee: That too!

Justin: That's gonna do it for us folks. So 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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