

Sawbones 113: The Poison Squad

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[theme music plays]

Justin: Hello, everybody. And welcome to *Sawbones*, a marital tour of misguided medicine. I'm your co-host for Justin McElroy.

Sydnee: And I'm Sydnee McElroy.

Justin: Sydnee, ugh.

Sydnee: How are you feeling over there?

Justin: Bad, I feel bad. It's the day after Thanksgiving, Black Friday. And it has certainly been a black one for me. My stomach is doing things I did not know it was capable of any longer, not since my preteen years of eating my entire Easter basket, have I experienced this level of tummy distress.

Sydnee: That's not good.

Justin: No—

Sydnee: So—

Justin:— it's actively bad.

Sydnee: — I'm assuming then you're, you're not going to be doing any Black Friday shopping as a result.

Justin: Um, no.

Sydnee: Except for that you went out to buy the ingredients to make macaroons. So like—

Justin: McElroy—

Sydnee: — you're not doing too bad.

Justin: [in an elderly voice] McElroy macaroons are a Black Friday tradition.

[Sydnee laughs]

Justin: Go all the way back to last year when I made them.

Sydnee: Would— so would you say that you overindulged yesterday, Justin—

Justin: Yuuuuup.

Sydnee: — on Turkey Day? You should have done what I did and play football to work off some of those kcals.

Justin: Can't, my gout's too bad. My ankle.

Sydnee: [chuckles] You don't have, he doesn't have gout.

Justin: You said I might have gout.

Sydnee: Guys, he doesn't have gout. I said—

Justin: There's a chance I might have gout.

Sydnee: Can I just, at this moment, just— it's totally— it has nothing to do with anything. I would just like to mention that I scored two touchdowns yesterday.

Justin: That, you're right. But I'm glad that you got that in here.

Sydnee: I just, I think that my public persona is kind of a little nerdy, right? You know, like I like—

Justin: Seems— Yeah. Seems legit.

Sydnee: —science and history. And like, none of those things are particularly sexy. But I'm also cool now, 'cause I'm a sport, I'm a sporto—

Justin: Good touch—

Sydnee: I'm sporty.

Justin: You're a good, good touchdown girl.

Sydnee: I am. I did two good touchdowns. My daddy was very proud of me.

Justin: He was?

Sydnee: He was. He gave me, he gave me two high fives.

Justin: Whoa.

Sydnee: And I'm feeling great. And I'm sorry that you're not.

Justin: Yeah, but why am I not?

Sydnee: Well, I mean, probably just because you ate a whole lot.

Justin: Yeah. I don't think it was more than I've normally eaten. I think something more sinister is going on here.

Sydnee: Well, I mean it I guess it's always possible, since yesterday was a day that entirely centered around eating lots of food, that we all prepared ourselves, not that any of us in our family don't know how to cook, but when you're cooking mass quantities for lots of people and you're under a lot of time crunch, sometimes maybe you cuts some corners and maybe stuff doesn't get completely done and...

Justin: Not in my kitchen, but I think, I'm sure in some people's kitchen that's— that is de rigor.

Sydnee: And that could be a setup for maybe a little food poisoning.

Justin: Or maybe a setup for an episode about food poisoning.

Sydnee: Sure.

Justin: Either of those things. Yeah.

Sydnee: Either way, both of those things. So, why don't we— why don't we talk a little bit about what might be going on inside your tummy right now?

Justin: Okay. I guess I'm ready for that.

Sydnee: [chuckles] So first of all, thank you to Hannah and Ariel for suggesting the topic of food poisoning in general, but let's start with what could be going on with you, Justin, which is salmonella.

Justin: Yeah, I know that one because it's the one that Lysol was invented to fight.

[Sydnee laughs]

Justin: From their commercials. The, li—

Sydnee: That's what you know about salmonella. You know, something else about salmonella.

Justin: Salmonella looks like little squiggly lines, and it's left behind by raw chicken.

Sydnee: Okay. I mean—

Justin: And if you spray Lysol on the squiggly lines, they dissipate for 99.9%.

Sydnee: That's... okay. Well.

Justin: That's what I've learned.

Sydnee: Sure. Salmonella is a bacteria, not a squiggly line.

Justin: Mm-hmm.

Sydnee: And we've talked a lot about salmonella actually already. I don't know if you realize this, because it's— The salmonella family, [chuckles] the salmonella family of products, is responsible for typhoid.

Justin: Oh, yeah.

Sydnee: Which remember we talked about.

Justin: I forget that sometimes, but I do know that somewhere.

Sydnee: But there are like less dangerous, like serovars of salmonella that cause I mean, unpleasant foodborne illness, but are much less likely to kill you. You know?

Justin: Mm-hmm.

Sydnee: You won't— you don't get quite as sick as you do with typhoid. You know what's crazy is salmonella was actually the first of the foodborne pathogens that we isolated and knew caused illness, like before E. coli or Shigella or any of the other things we think of as like, you know, food poisoning type items.

Justin: I always think of it as like the most boring, regular type of food poisoning. Sa—

Sydnee: Salmonella?

Justin: Salmonella is like the chicken of food poisoning, because it's like it got—

Sydnee: Waka waka. [chuckles]

Justin: — really, it got really hot for— No, it wasn't a joke.

Sydnee: Oh, okay.

Justin: It got really hot for a while. Like for a while everybody was talking about it. For a while, it really seemed like chicken was out to get us. Chicken was finally going to—

Sydnee: Wait, okay.

Justin: — like strike back.

Sydnee: When was it really hot?

Justin: Like, do you remember when Lysol got like really angry about salmonella and—

Sydnee: Okay, all you know is Lysol. This is what I'm getting is the only thing you know about salmonella is Lysol.

Justin: It just, there was a lot of commercials there for a while, like it would be black and white but the chicken would leave behind purple squiggly lines. And I— and it's like, "Wow." It's how people must have felt when they— when germ theory was invented like, "Oh man, that's not just like slime. There's like, there's lots of germs in there and stuff. I hate it."

Sydnee: I think, I think people get nervous about salmonella because, you know, it has something to do with chicken and we eat a lot of chicken. That's my, that's more my theory.

Justin: Yeah. That could be it too.

Sydnee: There have been— And this is probably what you're referencing. There have been outbreaks of salmonella in the US, in recent years, that are like highly, you know, publicized in the— and the media talks a lot about 'em.

It's interesting though, we always associate salmonella with chicken and certainly it can be in poultry and turkey as well, which is why we're talking about it day after Thanksgiving. But it also— You know, from some of the outbreaks we've had, you know, that it— spinach has been the culprit, beef, which we don't ever think about, can carry salmonella. Eggs, peanut butter, actually a couple times has caused some big, some big outbreaks of—

Justin: Oh man.

Sydnee: — of salmonella, but certainly chicken too. I think even really recently in the last couple months, there's been some recalls on some different like chicken type products, like some breaded— like pre-prepared frozen breaded chicken and chicken cordon bleu and stuff that was associated with some, some salmonella.

And of course when you get salmonella in, you know, like the enterica strains is what we're talking about. That aren't— The non-typhoid ones,

basically, the non-typhoid strains. You're mainly going to get like nausea, vomiting, your stomach's going to cramp, you're going to get diarrhoea. Let's see. This would be about the sweet spot in terms of when that's going to start happening for you, because we're about— we're between 12 and 72 hours out.

Justin: Mm-hmm.

Sydnee: From when you ate.

Justin: Well—

Sydnee: So basically I'm asking how you, how are you feeling?

Justin: I mean, never very good. Like—

Sydnee: Never?

Justin: I've pretty much like had a bad tummy since I was like 25, just like every day.

Sydnee: Well, I don't think you've had salmonella since you were 25.

Justin: Some new— That's what I'm saying. I'm like, I'm about baseline, but my baseline is pretty bad. Like my whole family has pretty rough tummies I would say, 24/7.

Sydnee: That's true. That is— that's very true. Well, salmonella is only going to last you about four to seven days. The big thing is just to stay hydrated and you know, and that's true with anything that causes you to puke and poop a lot. Just like, try not to lose a lot of fluid and replace what you do lose. So, and I— By that, I don't mean like take Imodium. I just mean like drink a lot of water and Gatorade. Pedialyte is actually great for this.

Justin: So no real medicine could help.

Sydnee: No, I mean, there are antibiotics that we can give you. And certainly if you are— if you already have certain chronic diseases that might make it harder for you to get over something like this. If you're, you know,

in a vulnerable part of the population like the very older or the very young, or if you just get really sick, for whatever reason from it, we can give you antibiotics. There are lots of different classes that can be helpful, but for most of us, we don't really recommend even taking antibiotics for it, because it really doesn't help that much with your symptoms.

Justin: Mm-hmm.

Sydnee: And it will actually cause you to continue to shed the bacteria. Shed is the word I just used.

Justin: Okay.

Sydnee: We are still a profanity free show.

[Justin chuckles]

Sydnee: But you will shed it in your stool.

Justin: Okay. So, yeah.

Sydnee: For— for longer, if you take antibiotics. So, and that's not— that's not a good thing, 'cause when it's coming out in your stool, that's when we worry about— Remember my favorite, my favorite route of transmission?

Justin: The fecal oral.

Sydnee: The good old fecal oral route.

Justin: Wow.

Sydnee: That's how that happens, is 'cause you're wiping and you're not washing, which is never a good plan. So, you know, if you're— Most people really shouldn't take antibiotics. You should just grab your Gatorade and take a few days off work.

Justin: Why is Lysol so upset about salmonella then? Is it because of the kids? Please, somebody think the kids and their salmonella.

Sydnee: Yeah. Well, I mean, I think it's an easy thing to educate people about and it's a good way to [chuckles] sell your product probably because a

lot of us, like I said, I mean, unless you don't eat meat, you probably eat chicken maybe more than other meats. I don't know. I feel like we do.

Justin: Yeah, I would say a good amount.

Sydnee: Like, I mean chicken is a very— is like a staple for most people and you can buy a lot of it. It's good for feeding lots of people. And raw chicken oozes and you get goop and everything everywhere. And so it's like a— it's a good reason to have Lysol I guess.

Justin: Yeah.

Sydnee: I think it's just a great way to sell it. It's a good marketing campaign.

Justin: For sure. Like you got to be clean for some reason.

Sydnee: So why not? Why not salmonella?

Justin: Why not salmonella.

Sydnee: Yeah. The other place that salmonella lurks in addition to chicken though, the other big thing that we don't talk enough about are reptiles. And I thought this was an interesting fact. So, you know, have you heard this before, turtles and iguanas?

Justin: Uh, no.

Sydnee: Specifically, green iguanas and red-eared slider turtles.

Justin: Okay. And are either of these teenage or mutant?

Sydnee: Not to my knowledge.

Justin: I'm not that familiar with turtles.

Sydnee: I don't— I don't think that's what the salmonella does to them.
[laughs]

Justin: Is that— wow. I used to think it was mutanogenic ooze, but apparently it was just plain old everyday salmonella.

Sydnee: Salmonella.

Justin: Has a different effect on turtles.

Sydnee: In 1975, I think this is great. So yes, reptiles can carry salmonella, and that's a fear if you're going to let your kid or— I mean, if you're an adult, you can own a turtle too. But I mean, the big fear was like if your kid wanted a turtle. So the FDA issued a regulation, a law in 1975 called the 4-inch law or the 4-inch regulation.

Justin: Mm-hmm.

Sydnee: And what it said was that any turtles sold in the US had to have a carapace that was at least four inches in length. And do you know what that is? What a carapace is.

Justin: Well, yeah, their shell.

Sydnee: Yes.

Justin: Yeah.

Sydnee: Well, specifically it's the dome-shaped back part of the shell.

Justin: In *HeroQuest*, the—

Sydnee: I don't know, we're gonna.

Justin: There's items you can get, the carapace.

Sydnee: Yeah, okay. This is—

Justin: Made out of shell.

Sydnee: Well, this is video games again. That's just—

Justin: Yeah.

Sydnee: That's good.

Justin: They're very educational.

Sydnee: Apparently about turtle shells.

Justin: Not just Pac-Man anymore folks.

Sydnee: So— They had to be at least four inches long, the top part of the shell, because basically it would be harder for the kid to fit the turtle in their mouth if they were at least that long.

Justin: That's awesome.

Sydnee: And that was—

Justin: That's a great law.

Sydnee: That was the worry, was that kids are going to get these turtles and then stick 'em in their mouths and then get salmonella. And I believe that having a kid now, they stick everything in their mouths. So yeah, they'd st— they'd probably stick the turtle in their mouth probably, right?

Justin: Do you know how—

Sydnee: Charlie would.

Justin: Do you know how chill things must have been for the Food and Drug Administration that they like took a day? It's like, "Let's get this turtle thing figured out."

Sydnee: [laughs] I—

Justin: "Kids are putting turtles in their mouth like crazy." Like why is it just— You know there, there is actually— If you wanna get— As a parent, here's just something I've learned. About half of the things that there are are small enough to fit in a baby's mouth. Like if you've got— And will kill them. Like if you have a determined baby, a determined suicidal baby, like they'll jam anything in there. Can we pass the four inch law on everything? Like nothing can be smaller than four inches, at all.

Sydnee: [chuckles] Not, well, and I— Let's just treat everything like it's draped in salmonella.

Justin: Right.

Sydnee: Not just turtles. I wanted to talk a little bit— There are a lot of different bacteria that can cause food poisoning and frankly, a lot of them can— deserve their own episode. Salmonella just doesn't now, because I already took out the big gun, typhoid.

[Justin chuckles]

Sydnee: So I want to talk about, in general a little bit about foodborne illness. It's been known— I love this term, throughout history as "death in the pot". Is what you called it when somebody died from, I don't know, they ate something and they got sick and they died. And—

Justin: Right.

Sydnee: And we didn't understand why, because we didn't know anything about bacteria, germs, or anything.

Justin: But there was death in the pot.

Sydnee: But there was death in the pot.

Justin: It was a new recipe. And it said a half cup death. And I thought, "Oh, it sounds like a lot, but oh, okay." When in Rome.

Sydnee: Actually that's very apt because the Romans used these lead pots and the lead they've seeped into their food and they probably all got lead poisoning from it. That's a really great— But that's a whole nother story for another day.

Justin: Yeah, I knew that. No, I knew that anecdote.

Sydnee: Um—

Justin: That's why I decided to go there.

Sydnee: [chuckles] We've known that different foods or different forms of food, as in like raw food or whatever, has been dangerous since ancient

times. And we know this because we have studied like mummies and bog bodies and skeletons and copper lights.

Justin: Copper lights. I'm not familiar.

Sydnee: It's like, like old, like mummified poop.

Justin: Mm, charming.

Sydnee: And found like parasites and bacteria and all kind— You know, evidence that people got sick and got certain different kinds of, you know, foodborne illnesses all throughout ancient times.

Justin: Great.

Sydnee: Although, nobody probably knew that that's what they had or that that's what their, you know, family or friends had died of. In the beginning we probably just figured out what not to eat by either watching what food animals avoided. Other animals, you know, how they, you know, the whatever, or the saber-tooth tiger won't eat that. So, this is like a *Flintstone* history. [chuckles] So I won't eat it either. Or trial and error or like "Ah, did you see what happened when Bob ate that?"

Justin: I think we do have some understanding that— [sighs] food that is cooked through— I don't know if this is like epigenetic or just learned or whatever, but I think that we do have some sort of inherent revulsion to meat that is not finished being cooked. Like I think there is some genetic, like some trigger that we have for meat that is not all the way we done.

Sydnee: Well, we may have touched on this once before, but the— it's really interesting, the concept of like disgust.

Justin: Mm-hmm. Right.

Sydnee: You know, like you're like being disgusted, something— finding something gross or disgusting, is— it's an advantage. It's an evolutionary advantage. It is something that we have developed. The things that we tend to just naturally find gross and repulse us and we wouldn't want to put in our mouths, tend to be things that could make us sick.

So there's a reason that when you see, you know, like a wound that's infected and is oozing with pus, that you go, "Ugh" and try to stay away from it because that's your, you know, your DNA's way of saying there are, there's bacteria there.

Justin: Right. Right.

Sydnee: Stay away. Stay away. And food that's rotten probably, you know, it's the same idea.

Justin: Mm-hmm.

Sydnee: Some of it certainly is learned. But yeah, I mean, there is something innate, something that, you know, something animal about that, avoiding things that make you sick.

Justin: Huh.

Sydnee: Of course, there are biblical references to certain foods that you should avoid because they could cause illness, or different ways to prepare food. And a lot of this could have been, you know, connected to— I mean, there was the idea of things that were cle— you know, clean in a spiritual sense, but also things that were clean in a very practical sense.

Justin: Right.

Sydnee: You know? Hippocrates actually used to advise his patients to either boil their water, and later he even developed a filter to use for water. Not really, again, not understanding that there could be anything in the water that might make people sick, you know, any kind of— any kind of food poisoning or water poisoning or anything like that. He just noted that clean water tasted better. And so stuff that smelled or looked dirty, he wanted cleaner just because it— he thought it tasted better.

Justin: His filtering thing had to be madness, right? Like three T, three old t-shirts and some herbs that he found, whatever.

Sydnee: [laughs] What kind of t-shirts does— did Hippocrates wear, do you think?

Justin: Well, he had somebody from like different bands, of his friends, you know, they weren't in it anymore, that he just had like a pile that he would use just for filtering the water.

Sydnee: You think Hippocrates was the kind of guy who just collected all of his old t-shirts then just wore them for years—

Justin: You know, it's—

Sydnee: — and then like after they got faded and like holey and everything?

Justin: Sorry. It's not intentional. It's like, one day you wake up and you're like, "Where did all these t-shirts come from?" And he decided to use 'em as filters.

Sydnee: Is this you or Hippocrates we're talking about now?

Justin: I would never go through the trouble of like filtering my water and I—

Sydnee: Cool. Cool.

Justin: — care too much about my old t-shirts.

Sydnee: In ancient Greece and Rome, we knew there was— it's evidence that we knew not to eat diseased animals.

Justin: Mm-hmm.

Sydnee: That we had some understanding that we would get sick. And we know that, we know that we already understood that because people used to try to hide it. People used to try to cover up if the animals— You know, people who would sell— butchers who would kill and sell animals would try to hide that the animals had been sick—

Justin: Draw—

Sydnee: — by—

Justin: Like draw a smiley face on 'em. That kind of thing.

Sydnee: [chuckles] No. On the steak? No.

Justin: Yeah. [chuckles] Just draw a smiley face on the steak. You could see it's good.

Sydnee: "It's fine."

Justin: It's a good steak. Very happy.

[Sydnee laughs]

Justin: Very happy.

Sydnee: No, no. By— once they had slaughtered the animals, they would treat the meat with nutmeg, because nutmeg would hide the taste and smell of decaying, rotted meat.

Justin: Ugh.

Sydnee: And this— for a long time nutmeg was really— Even, even today, I think nutmeg is used in a lot of like sausages and hot dogs. And that's where this comes from.

Justin: Oh man.

Sydnee: No. Well, not because they're rotten now, but because of this like link with meat, it was so closely associated with meat because it was used to hide that we're selling you diseased, rotten, meat.

Justin: [sighs heavily] It's like I can't even enjoy sausages anymore.

Sydnee: And there's a whole lot, if you want to talk about the history of adulterating food, of like trying to change food and drink that we know is dangerous in order to sell more of it? There's a— this is a long, I mean, there are laws against this like hundreds of years back.

[Justin chuckles]

Sydnee: Because people have been trying to sell each other rotten meat, [chuckles] as long as we've been trying to sell each other meat. Pliny.

Justin: Yeah.

Sydnee: Warned about this.

Justin: Know he had to weigh in on this.

Sydnee: Yeah, Pliny the Elder. He, of course, and when it came to wine, he warned specifically that there were some— there were some wine sellers who would taint their wine with some noxious herbs, some stuff that would end up making you sick as a way of making it appear fresher and brighter and more flavorful.

Justin: Mm-hmm.

Sydnee: And then you'd get really sick from the stuff that they were putting in it.

Justin: Who even wants fresh wine? Didn't they know back then that it's like better if you wait like a hundred years or whatever.

Sydnee: Yeah. I don't think it's a hundred years.

Justin: I think like it's a hundred years. Yeah.

Sydnee: We obviously don't know what we're talking about.

Justin: We don't actually know exactly how long you need to age your wine.

Sydnee: As we move through history. You know, at first we thought that like some food might make you sick because of something we, you know, we couldn't understand, maybe there was some sort of chemical property or something like that, a toxin, you know, this is after we stopped thinking it was like a punishment from the gods.

There were some experiments done in the 1700s by Al— Albrecht Von Haller, who did a lot for the study of physiology. But one of the things he dabbled in was injecting decaying material into animals.

Justin: Hmm.

Sydnee: To see if they got sick. To see like, "Okay, just because something is like dead and decaying, does that inherently make it dangerous? It's gross. It doesn't smell good. But how does that make you sick?"

Justin: Right.

Sydnee: He still didn't understand, but he got the picture that it does make you sick. But it really wasn't until the 1850s, when Louis Pasteur recognized that—

Justin: Sure. Invented germs.

Sydnee: — you know, invented— [chuckles] When Louis Pasteur invented germs.

Justin: Well.

Sydnee: No, but recognized that germs existed and that food, germs in food probably caused illness and developed pasteurization or the process of heating food to kill the germs, and then that's when we really started to put it all together.

Justin: Mm-hmm. Thanks Louis Pasteur. First pasteurizing milk, and now this. What guy, what can't that guy do? He can't make us any money. That's the answer.

Sydnee: What, what— what can make us money?

Justin: Well, let's go to the billing department.

Sydnee: Good idea, Justin!

Justin: Thanks. It's the first time I've ever come up with it myself.

Sydnee: [laughs] Let's go.

Justin: That's my line. [snorts]

[ad break]

Justin: Okay. Where were we? I know we were just singing the praises of Louis Pasteur, and I'm still a big fan of that guy, even after the commercial break.

Sydnee: So you know, once we understood that inadequately prepared or cooked food caused disease, and then we understood that there were bacteria involved and we kind of got the idea of foodborne illness. You would think that would solve all our problems, right?

Justin: Yeah.

Sydnee: No.

Justin: Argh.

Sydnee: Because as we're moving into a time, and specifically we're talking about a lot about us history right now, when food was being prepared in mass quantities outside the home. You know, you weren't raising your own animals and your own vegetables and all that and killing your own animals at home and preparing everything in your own kitchen, you were buying this stuff in stores. So it was being kind of prepared for you somewhere else.

Justin: Right.

Sydnee: And as far as what standards people had to follow in that somewhere else where your food was being prepped, I mean there, there weren't any.

Justin: Everybody's trying to run a scam. Everybody's trying to make a quick buck.

Sydnee: Yes. Everybody's trying to put stuff—

Justin: The wheeling and dealing, early 1900s. Everybody's on their grind.

Sydnee: Exactly. It's all about making money. It's all about capitalism. And it is not about looking out. It's a very much a caveat emptor.

Justin: Mm-hmm. These periods—

Sydnee: Kind of buy everywhere, period of time.

Justin: These periods where regulation hasn't quite caught up with innovation pop up from time to time. And if you realize that you're in one of them, historically speaking, I really can't express like emphasize this enough, make sure you take advantage.

[Sydnee laughs]

Justin: Because people are going to get rich before John Law decides to catch up and start getting his, you know, his share, a slice of the pie and making a bunch of laws to keep people safe. So if you ever find that you're in one of those times where—

Sydnee: You're in a culture lag time—

Justin: You're in a culture lag where—

Sydnee: — time in history.

Justin: — innovation has not yet been outstripped by regulation, make sure you get them ducats. Get as much as you can get, as much as you can take, save it, stack it away for rainy day. And once John Law comes to find you, make sure you've moved your entire operation offshore so he can't even get one single taste.

Sydnee: [laughs] That's a great reason to study history, so that you know when to take advantage of people in the present time, right?

Justin: A lot of, yeah, exactly.

Sydnee: That's good. Excellent.

Justin: You got to know where to strike when the iron's vulnerable.

Sydnee: I'm really glad that—

Justin: That's the old saying.

Sydnee: — that we're helping those people out.

Justin: So anyway, sorry. [laughs] Go ahead.

Sydnee: So—

Justin: I'm just really jealous, I never really like got in on one of these, one of these gold rushes. [wheezes]

Sydnee: Maybe you just don't have the insight, honey. So in the early 1900s in the US, we start— You know, there are smart people working for the United States government who start worrying that we need to find a way to regulate food quality. Now, what I want to talk about is, it's a little— it's a little removed from the idea of bacteria, you know, germs in our food. And I'm focusing a little more on other things that may have been in your food at the time.

Justin: Mm-hmm.

Sydnee: Specifically, there were a lot of preservatives and additives that were tossed in with foods that were sold, that were not studied in any way or evaluated for what they would do to you.

Justin: Right.

Sydnee: They were known to maybe make— The— For instance, there was a copper— copper sulfate was used to make like peas look greener.

Justin: [chuckles loudly] 'Cause that's important.

Sydnee: Right. Well, they sold better. So you would use that.

Justin: Sure.

Sydnee: Borax was used in meat to—

Justin: [imitating Borat] My wife.

Sydnee: — treated it.

Justin: Right?

Sydnee: No, no, no, borax.

Justin: Okay. Got it.

Sydnee: Man.

Justin: [chuckles] So sorry.

Sydnee: [chuckles] I love Borat humor 'cause it's so timely.

Justin: Okay. Yeah. You can say—

Sydnee: And everyone is really into it right now.

Justin: You can say that joke was a great success. Borat.

Sydnee: Anyway, borax was used to preserve meat commonly, and again, like nobody was evaluating this stuff. Nobody even had to say that they put it in their food, they just sold it.

Justin: Yeah, right.

Sydnee: Like here, eat this stuff America.

Justin: It is like—

Sydnee: Deal with it.

Justin: It's weird to kind of think about like we've grown up in a time— I vaguely remember, before nutritional labels. You probably don't, do you?

Sydnee: Mm, I don't really. No.

Justin: No. I— like I vaguely remember before—

Sydnee: I mean at like fast food restaurants, they didn't have to have them. I remember that.

Justin: Yeah. But, no, I mean like when I— when I got started, it was not— it just wasn't there, and it's— there would be an ingredient list, but you wouldn't the nutritional information. It's crazy to think there was a time period where it's just like the box would just say, peas. I don't know.

Sydnee: [laughs] "Trust us, they're just peas."

Justin: "And—

Sydnee: Wink, wink.

Justin: "And this is just— And this peanut butter, please enjoy it. What else is, I mean, how do you, does it matter? It says peanut butter on there. That's what you wanted, wasn't it?"

[Sydnee laughs]

Justin: It's a nickel. Everything's a nickel. Nobody can see complain.

Sydnee: "Everything's going to get much more expensive eventually and then you'll get to know what's in it. Okay?"

Justin: Yeah. [laughs]

Sydnee: So, so there was a lot of concern at the time about, you know, these kinds of chemicals and some of them were pesticides, and toxins that may be in your food, and if it's okay. So one doctor, one chemist who is particularly concerned about it was Harvey Washington Wiley, who worked for the US government, and this was before the days of the FDA, but would lead to the creation of the FDA.

Justin: Hmm.

Sydnee: And he said, "We need to study this stuff." And here's what he proposed. "I want to get together a group of 12 guys. They've got to be vigorous and voracious." Were his words.

Justin: Mm-hmm.

Sydnee: They all had to take a civil service exam. They needed to be screened for having high moral character.

Justin: Okay.

Sydnee: They needed to have reputations for sobriety and reliability. And they have to be willing to pledge to, for an entire year, to eat only what we give them.

Justin: Okay.

Sydnee: And to be studied thoroughly during this. So they would come ahead of time to get like weight and height and blood drawn and urine samples and hair samples. And then they would be measured and studied basically every day before and after they ate all this food. And what he was going to do is poison them—

Justin: Great.

Sydnee: — with increasing amounts of different compounds to see what happened to people. So like borax was what he started with, and that actually ended up being what they were most famous for, was eating a bunch of borax. I think Dr Wiley was known as Dr Borax for a while. But he did it with lots of different compounds. And this group— this group of 12 young men eventually became known as the Poison squad.

Justin: That's so rad.

Sydnee: So, what's great is that men volunteered for this.

Justin: To get onto the squad.

Sydnee: Yes, 'cause they wanted to join the squad. I found one of the letters that was written to Dr Wiley from a young man, asking if he could be considered to join. And this— this is the letter. This is— I'm quoting to you. "Dear, sir. I have read in the paper of your experiments on diet. I have a stomach that can stand anything. I have a stomach that will surprise you. I am afflic—

Justin: [laughs] "Try my stomach, it might surprise you."

Sydnee: "I am afflicted with seven diseases. Never went to a doctor for 15 years. They told me 15 years ago that I could not live eight months. What do you think of it? My stomach can hold anything."

Justin: That's so rad. That's like the raddest. Like put that to like a rap beat. Like it's— it's a really hard, like really, really tough line.

[Sydnee laughs]

Justin: Like it's really— that— that's putting yourself out there.

Sydnee: "I have a stomach that will surprise you." That was actually, that was the first thing that Justin said to me that really piqued my interest.

Justin: "Excuse me ma'am, I have a stomach that will surprise you if I just have a minute of your time."

Sydnee: Oh, do you? [laughs]

Justin: Come on.

Sydnee: Tell me more. Buy me a drink. So Dr Wiley put together his young, tough men. Now a note, I should say about Dr Wiley, because this is a—

Justin: He invented Mega Man.

Sydnee: [chuckles] No.

Justin: No, he hates Mega Man.

Sydnee: What?

Justin: Sorry. Dr Light invented Mega Man.

Sydnee: Okay.

Justin: Dr Wiley hates Mega Man. He was trying kill him.

Sydnee: I don't— I don't know anything you're talking about. Sure. Okay.

Justin: It's the year 20XX Sydney, and Dr Wiley's trying to stop Dr Light and Mega Man.

Sydnee: Somebody's really enjoying this. I'm sure.

Justin: It's me!

[Sydnee laughs]

Justin: The search is over!

Sydnee: So, he was, he—

Justin: I have a stomach that might surprise you!

Sydnee: So Dr Wiley was a smart guy. He worked really hard to improve safe— food safety. He was a good scientist. One interesting note. He was a terrible chauvinist. He thought that women lacked the brain power of men, which is why there were no women involved in this. They at one point tried to allow a woman to be one of the cooks. The main cook was Perry, by the way, that's important to remember. That's all— that's the only name I know about, Perry.

Justin: Okay. Perry.

Sydnee: Perry was the main cook. But he— he claimed that women were too dumb to even be able to poison people correctly. So he couldn't involve any women—

Justin: Okay.

Sydnee: — in the process. He was also fired by Purdue University. I think for riding a bicycle.

Justin: [chuckles] That was strictly prohibited.

Sydnee: Which wasn't really his fault, [chuckles] but I guess it wasn't dignified.

Justin: “No staff of ours would be seen on a half-car.”

Sydnee: [laughs] That's— that's what bicycles were known as.

Justin: A horseless half-car. A—

Justin & Sydnee: [simultaneously] — horseless half-cars.

Sydnee: So an interesting guy. But as I said, he was a good scientist because he went about this experiment very rigorously. He started with borax. He fed them various amounts of borax. And you can find like a published like list of like their Christmas meal, and it ends with like how much borax was in with it. He went— he went from there to sulfuric acid, saltpeter, copper sulfate, formaldehyde. He gave higher doses, took all the samples, monitored them. And of course they got sick every time.

Justin: Right.

Sydnee: It— You know, eventually different doses, the men would get sick and then he would claim that, or then he would, you know, declare this was not something we should be putting in food. The media was following this. They went wild. They actually were where the— the name, the Poison Squad, came from. And even though a lot of these were trying to be suppressed by the food lobby—

Justin: Mm-hmm.

Sydnee: — in the US, these studies that he, you know, wrote these papers did leak out, and mainly because of the media, this got out to the public and people started freaking out and demanding that we do a better job of stopping this.

Justin: Mm-hmm.

Sydnee: And so from this came the Pure Food and Drug Act of 1906, as well as the Meat Inspection Act. Although I should note that that part of this, we have to give props to *The Jungle*.

Justin: Yeah.

Sydnee: By Upton Sinclair.

Justin: Well, there's a lot—

Sydnee: And that was— that was actually part of what— Although that was not his goal, that is part of why there was regulation of the meat industry as well.

Justin: Well, and the Drug Act, part of it came from a lot of other sources too. Yes?

Sydnee: Yes. But the Pure Food and Drug Act was initially called the Wiley Act. So I think we can say—

Justin: Okay. Yeah.

Sydnee: — that Dr Wiley was pretty instrumental. The only reason it actually that name didn't stick is Teddy Roosevelt, who got really involved and championed his cause and took credit for a lot of it. And he was really good at talking and, you know,—

Justin: Yeah.

Sydnee: — making loud speeches. So he kind of ended up outshining Dr Wiley, and so it became known as the Pure Food and Drug Act instead of the Wiley Act. But—

Justin: Yeah.

Sydnee: But of course, these acts led eventually to the creation of the FDA and food safety guidelines, and Wiley being known as the father of the FDA.

Justin: Yeah. I mean, we— You know, you give a lot of hard time to putting borax in food, but it did get us the FDA and you can't really fault it for that. You know?

Sydnee: [laughs] It's like—

Justin: That does have a silver lining.

Sydnee: I don't— I don't even know what to say about that. But there is— I don't— I don't have it here. I can't sing it all for you because I don't know the tune. I tried to find this. There is a song called the Poison Squad that they—

Justin: All right.

Sydnee: — wrote about these 12 men who—

Justin: Oh, I thought you were going to say they wrote about themselves.

Sydnee: No.

Justin: They're just really tripped out on borax on night—

Sydnee: I don't, I don't know.

Justin: — and then—

Sydnee: And they wrote a song about themselves called the Poison Squad.

Justin: Check, check this one out. "My stomach can hold anything."
"Hey, that's good. That's a good one."

Sydnee: "I have a stomach that will surprise you."

Justin: "I've been puke free since '93."

Sydnee: [laughs] That's 1893.

Justin: That's 1893, mind you. [laughs] I want to say a big thank you to me, MeUndies. Remember, it's holiday time, get out in front of this thing. Don't get caught by surprise. To go meundies.com/sawbones, and get 20% off your first order of the most comfortable underwear on the planet. Thanks to Maximum Fun Network for letting us be a part of their f— extended podcast family. Tickets for MaxFunCon are on sale now. That is a annual gathering of delightful human beings that you can take part in.

I want to let you know that I got a new podcast with my brothers and the guys who make the show *The Worst Deal of all Time*. It is an annual eternal podcast called *Til Death Do Us Blart*. Where we watch *Paul Blart Mall Cop 2* every year and we release a review of it on American Thanksgiving. So the first episode was just launched, and you can find that on iTunes.

Also Candlenights is an annual podcast festival that we host here in Huntington, West Virginia. And it is going to be on December 21st and it is at 8:00 PM and that's gonna feature *Sawbones* and also *My Brother, My Brother and Me*, two podcasts that— for just one price, which I think, like I said, I think's 20 bucks. But you can go to bit.ly/campbellknights2. And you

can buy those tickets. We're just about— It's I think 60— 50 or 60% sold out, we've sold quite a few. So it's— I would not wait on that too long. But now it is time to wrap up.

We've been joined at the very end by our special guest Charlie Gail McElroy. Hello, Charlie, how was your nap? Thank you for letting mommy and daddy do their podcast, I really appreciate it. She's just kind of staring at me agog. But I think that's everything. Thanks to the Taxpayers for letting us use their song "Medicines" as the intro and outro of our program. You can find all their stuff on I believe Bandcamp. Just search for the Taxpayers, then buy everything that you legally can. And that is really going to do it for us, seriously this time. We're done. And until next Wednesday, my name is Justin McElroy.

Sydnee: And I'm Sydnee McElroy.

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

[outro music plays]

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