

## **Sawbones 479: Pepto Bismol**

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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:** Well, hello everybody and welcome to Sawbones— [voice cracks, laughs] A Marital Tour of Misguided Medicine, I'm your host Peter Brady, apparently.

**Sydnee:** I was gonna say, what's happening over there?

**Justin:** I'm a radio professional. I'm a voice professional, you can tell.

**Sydnee:** Can I say my name now or are you gonna—

**Justin:** I love it. I love it.

**Sydnee:** Would you like to talk some more first, or...?

**Justin:** You should see, Sydnee's giving me the double bird. Why?

**Sydnee:** I'm not!

**Justin:** Why, hun? Why the double bird?

**Sydnee:** I'm not! I'm Sydnee McElroy.

**Justin:** Dr. Sydnee McElroy. She always insists...

**Sydnee:** I never say that.

**Justin:** ... that I clarify.

**Sydnee:** No, I don't! I never— You were always, like, "You should use the doctor," and I never do.

**Justin:** I would never. I would have my first name legally changed to Doctor Justin [laughs] because I would never want anyone to refer to Syd.

**Sydnee:** We had that just last week's episode, right? About Dr. Doctor?

**Justin:** Dr. Doctor, yeah.

**Sydnee:** Dr. Doctor. They just call me the doctor at Harmony House a lot of the times.

**Justin:** That's cool.

**Sydnee:** I know. I didn't ask them— This was not me. This sounds like something I have set up, but...

**Justin:** I mean— I mean, with all due respect, hun, you are the doctor there.

**Sydnee:** I know.

**Justin:** It's not— I mean, it is a charming nickname...

**Sydnee:** Well, the—

**Justin:** ... but it is also a factual statement.

**Sydnee:** Yeah. It's just 'cause there's not another one.

**Justin:** There's not another one. So you are, definite article, the doctor.

**Sydnee:** I like the definite article. Uh, well. I guess I'll start talking since Justin decided this was the moment to take a very long swig of coffee.  
[laughs]

**Justin:** What is— Hey, hey, hey, Smirl? Who pee-peed in your Corn Flakes today? You are, like, so spicy.

**Sydnee:** You— Our youngest woke us up...

**Justin:** Oh, my God. [laughs] Oh, my God.

**Sydnee:** ... so early and I had already not been sleeping well.

**Justin:** It's the elf! It's the elf!

**Sydnee:** She's so excited about finding Clarice, which is the name of our Elf on the Shelf that she gets up now at, like, five AM and wakes us up and won't go back to sleep.

**Justin:** And if you want to tell them the Elf on the Shelf is bad and a bad idea, I know.

**Sydnee:** I know, I know.

**Justin:** Folks, we know. We were much younger—

**Sydnee:** It's too— It's too late for that.

**Justin:** We didn't instigate this legend in our household. It was instigated at a grandparent's home and then it became strange that we did not have one, so we have been unwilling.

**Sydnee:** Yes.

**Justin:** Roped into the elf. We get it, okay? Trust us, no one hates the elf more than us.

**Sydnee:** Yes. But, uh, we were woken up very early. I'm doing my best. I'm not— [laughs]

**Justin:** Why is your best being—

**Sydnee:** I'm not firing on all cylinders.

**Justin:** You are though - at me! It's, like, so spicy! All I'm asking is just, like, I was in the same bed with the child. Like, I know.

**Sydnee:** I got up, Justin decided to take a nap and I couldn't. Once I'm up, I'm up. I can't, like, I don't nap. Once it's day— I should say, once it's daytime, it's daytime.

**Justin:** This was not a nap.

**Sydnee:** I don't nap.

**Justin:** I'm sorry. This was not a nap. That was a false wake up. I just went back to bed.

**Sydnee:** I don't like naps. It's daytime, I'm up. I'll sleep when it's dark. Um, but I made soup—

**Justin:** [laughs] That's what Sydnee does every night, by the way. 5:30 to 5:30 during the winter. 12 hours. If the sun's down, she's down. That's her rule.

**Sydnee:** [groans] I'm a summer girl.

**Justin:** [laughs]

**Sydnee:** I, uh, I made soup. It was great soup. I made soup at eight AM is what I did.

**Justin:** Now who's stalling? I thought you wanted to do a podcast?

**Sydnee:** But the soup, Justin, the soup had a lot of, uh, a lot of spices.

**Justin:** Yeah?

**Sydnee:** Um... And maybe some people find it hard on their tummies if they

don't tolerate things like garlic and chili and stuff well.

**Justin:** Are your feet tired from the long walk you were taking? [wheezes]  
They must be. [crosstalk]

**Sydnee:** You know— You know what they might need?

**Justin:** Tell me, Syd.

**Sydnee:** Some Pepto Bismol.

**Justin:** Were you on the stairs coming down to record and you were, like, "I got it."

**Sydnee:** No—

**Justin:** [laughs] Is this why you burst in the door and you're, like—

**Sydnee:** I just— This was on the fly! This was on the fly, I just did this right now off the top of my head.

**Justin:** Is this why you burst in the door and said, "J-man, don't sweat the intro. I got it, baby!" And then you put on your sunglasses? Is that for that?

**Sydnee:** I don't have my sunglasses on. I have my glasses-glasses on. I couldn't even put my sunglasses on unless I wanted to wear one over the other which I have done before and it's so uncomfortable.

**Justin:** Spicy soup. Why are we talking spicy soup?

**Sydnee:** 'Cause afterwards you might feel like you need—

**Justin:** She grew it all, by the way. I get to brag. She grew it all. She grew the delicata in this soup. She grew the herbs in this soup.

**Sydnee:** I didn't have enough—

**Justin:** Grew the scallions for this soup.

**Sydnee:** Yeah. Yeah, I didn't have enough just yellow onion, so I had to use the scallions I grew.

**Justin:** So proud.

**Sydnee:** I was proud.

**Justin:** Okay.

**Sydnee:** I don't think a lot about Pepto Bismol. I didn't come from a Pepto Bismol house.

**Justin:** Okay. We—

**Sydnee:** You know? We don't have it in our house now and I didn't have it in my house growing up, so it wasn't— You know? I feel like a lot of people use it but it's not a thing you're a fan of either, right?

**Justin:** Well, I hate it, but we were a Pepto house. Like, we did—

**Sydnee:** Oh, you were.

**Justin:** I remember, actually, uh, when my dad used to... Dad used to— I say, "used to," he still frequently does, judges the chili fest. If you're ever around in September, by the way, folks, come down to chili fest. It's a lot of fun, you'll enjoy yourself. Anyway, dad used to be a judge and I remember he had a holster that they gave him. A, like, faux leather holster for his Pepto Bismol that he could, like, put in there because, you know, chili. Hard on the tummy.

**Sydnee:** Well—

**Justin:** It's a bit of a gag. But I remember— That is my biggest memory of Pepto Bismol. It was enough of a thing that, like, they absolutely did it, but I could never stomach it. I mean, I find it repellant.

**Sydnee:** It just wasn't something we ever used. And it's not for kids, so we

wouldn't have it for our kids and we say that several times throughout the episode. It's not for kids.

**Justin:** Not for kids.

**Sydnee:** Not for kids under 12.

**Justin:** Sorry, kids.

**Sydnee:** And really, it's really more of an adult... There are lots of other medicines for kids that work better and are safer. It's not for kids. Um, I also have always kind of thought, like, isn't there stuff that works better than that? Is that really what we need? I guess I'm biased against it. I'm kind of, like—

**Justin:** You do, you got a problem with it.

**Sydnee:** I do. Um, and so I'm glad we're doing this episode about it because I think I was little bit unfairly biased against it, um...

**Justin:** Oh, really?

**Sydnee:** Yeah. I think— I think I was, uh, but I did assume that everybody knew about it. It feels so ubiquitous.

**Justin:** It does.

**Sydnee:** Everyone knows about Pepto Bismol.

**Justin:** Yes.

**Sydnee:** So I was really surprised when we got the following email, which we were given authorization to share, uh, "Hi, guys. I'd like to propose a brand episode." Well, you're not doing this, though.

**Justin:** No, no, no. This is all Syd.

**Sydnee:** Yes. "On the mysterious pink and kind of ominous looking

substance that is Pepto Bismol. Backstory, I'm from Iceland and the other day I was at a pharmacy in my hometown getting my meds when an American couple walks in. They wait in line and they go to the counter and ask for a bottle of Pepto Bismol. When they are told that Pepto Bismol is not sold in Iceland, they are flabbergasted, as I am."

**Justin:** Wild.

**Sydnee:** "They ask for something else that will soothe an upset stomach, fix heartburn, relax your esophagus, and most importantly, it had to taste good. I was baffled. Is Pepto Bismol an old patent medicine? Do adults drink it? Why is it that color? Why does it taste like this? Is it a cure-all? Does it do anything? Please help me. All my best, Thora." Thank you, Thora, because I didn't know that there are a lot of places in the world where there's no Pepto Bismol.

**Justin:** If you don't have Pepto Bismol, you probably have it— There was probably a lot of products like it in your country where it seems weird that it is even sold, it just seems like there is one in everybody's medicine cabinet. Like, you don't remember getting it, you don't know why you have it...

**Sydnee:** Everyone just has Pepto Bismol.

**Justin:** ... you just, like, have Pepto Bismol. We do not because we're pretty strict about it but, like, most people probably just have some lying around.

**Sydnee:** Yes. Yeah.

**Justin:** Especially, like, 20 years ago.

**Sydnee:** And it's so...

**Justin:** I would say, like, a lot more prevalent in the era before. I feel like some of those, um, pro-pro-pro...

**Sydnee:** Proton—

**Justin:** Proton pack—



**Sydnee:** Proton...

**Justin:** Proton pack inhibitors?

**Sydnee:** Proton pump inhibitors, but close.

**Justin:** Proton pump inhibitors, they...

**Sydnee:** Or PPIs for short.

**Justin:** ... they got really big and I think Pepto got a little bit less ubiquitous when everyone was popping Nexium and et cetera, but—

**Sydnee:** Exactly. Which, that's what you're talking about with proton pump inhibitors. Things like Nexium, Prevacid, Prilosec, all those kinds of meds.

**Justin:** Yeah.

**Sydnee:** Um, you were exactly right. I don't feel like it's as common, although I will say, I'm asked for it a lot and the only reason that we don't commonly have it at Harmony House, because I kind of— I mean, like, we get tons of donations that I don't, like, approve or disprove, they just arrive. Um, that's why we have, um, occasionally we have some homeopathic medicines...

**Justin:** Mm-hmm.

**Sydnee:** ... within our donated pharmacy.

**Justin:** For a bit. [laughs]

**Sydnee:** For long enough for me to say, "Oh, no, no, no, no." [laughs]  
Um...

**Justin:** [laughs]

**Sydnee:** But we don't actually get donated a lot of Pepto Bismol and I

don't— When we do our purchasing, when we have grants where we can actually buy OTC, over the counter, meds. OTC. Um, I don't usually think of it. But we do get asked for it a lot and, uh, if you're not familiar with it, the thing that, like, makes Pepto Bismol so well known, I think outside of, like, everybody knows it's for stomach stuff...

**Justin:** Mm-hmm.

**Sydnee:** ... is its color.

**Justin:** Yes.

**Sydnee:** It's bright pink. It's famously pink. It is so known for being pink that you can say something is Pepto Bismol colored and pretty much anybody would know what you meant.

**Justin:** I want to say, didn't we talk about this during— Remember that color episode where the person thought there was a certain—

**Sydnee:** Baker-Miller pink.

**Justin:** Baker-Miller pink. Like, it is like that. Pepto Bismol pink is just, like, it's ubiquitous.

**Sydnee:** Mm-hmm, yes.

**Justin:** It is so pink.

**Sydnee:** Yes. You know what that is. You can use Pepto Bismol as a shorthand for pink.

**Justin:** Right.

**Sydnee:** It's so common. So what is it— I mean, I think the first thing to... So, what is it? It's a pink medicine. It comes in a liquid or a tablet. I think most people think about the liquid, but it is in a tablet too, if you prefer. Um, and it is a staple. The active ingredient that we're gonna talk about is bismuth subsalicylate.

Um, there's a ton of generics of Pepto Bismol, so if you see pink bismuth on anything, if you— I mean, obviously, if it says bismuth subsalicylate, these are the same thing, essentially, as Pepto Bismol. It's sold— I guess there's some other names? Pepto Calm and Bisbacter? Never heard those. Might be outside the US brand names...

**Justin:** Yeah.

**Sydnee:** ... possibly. Never heard those names.

**Justin:** Very common for that, Vick's has a different name in the UK, for example. Like, I think.

**Sydnee:** Yeah. So if you— So if you have a— But as far as I know, it's pink everywhere we go.

**Justin:** Yeah.

**Sydnee:** Um, which doesn't come from the compound. Bismuth subsalicylate is not pink, it's, like, beige in case you're curious. Um, well, we— So, how does it work? We're not— It's interesting. It's one of those medicines where we don't know entirely all of the things it does or how.

**Justin:** Mm-hmm.

**Sydnee:** We know some of it's mechanism action, for sure, but there are still some more, like, theoretical, like, we also think it does think and we think it probably works like this, too. Um, but we're not 100% sure. I always think that's interesting.

**Justin:** There was a lot of advertising, like, when the... during the, uh— Especially during, like, I want to say, like, the 90s as the most thing where, like, it was one of those where the tag line of it listed all the different things it could do.

**Sydnee:** Mm-hmm.

**Justin:** It was, like, the heartburn stomach blah-blah-blah something medicine. It was just, like... It was promoted for, like, no matter what's wrong with you, as long as it's below your nipples and above your crotch, Pepto Bismol is there for you.

**Sydnee:** Well, do you remember the, like, I remember what I can be used for because they said it so many times in the commercial that it became... Like, that was— I was gonna quiz you, do you remember?

**Justin:** Heartburn.

**Sydnee:** Uh-huh.

**Justin:** Upset stomach.

**Sydnee:** Uh-huh.

**Justin:** Diarrhea.

**Sydnee:** Uh-huh.

**Justin:** [pauses] Indigestion?

**Sydnee:** Yes.

**Justin:** Um... Sour stomach?

**Sydnee:** You're forgetting one thing.

**Justin:** [singing] For upset stomach, bum-bum, sour stomach, heartburn, acid, indigestion...

**Sydnee:** See, the more recent one was, [singing] nausea, heartburn, indigestion, upset stomach, diarrhea.

**Justin:** [wheezes]

**Sydnee:** You don't remember that?

**Justin:** I'm gonna— Sorry, uh...

**Sydnee:** [laughs]

**Justin:** I'm gonna need 'diarrhea' clean so can use it as a text tone for people.

**Sydnee:** No, no, I won't do that. I won't do that. I was gonna quiz you on that, but yeah. That was in the advertising for that...

**Justin:** That was the...

**Sydnee:** ... which I remember.

**Justin:** ... old jingle.

**Sydnee:** Yeah. Yeah. And, uh—

**Justin:** So, what did they put in? What's the new...?

**Sydnee:** Nausea.

**Justin:** Nausea. Oh, yeah.

**Sydnee:** Nausea, yeah, yeah. Um...

**Justin:** See, this is where the breakdown is for me on Pepto Bismol, because that would 100% exacerbate any nausea that I was experiencing.

**Sydnee:** Have you ever taken the tablets, though? Because they don't, I mean, like, it's a little easier, I think, than the liquid. I think liquid medicines, if you don't like the flavor of something, a liquid can be really rough, right?

**Justin:** Yeah.

**Sydnee:** Like, uh, Nyquil or Dayquil, if you don't like those meds...

**Justin:** Yeah.

**Sydnee:** They come in capsules now. Um, anyway, uh...

**Justin:** Oh, you know what else I just remembered that's weird about this? Pink Chiclets have the Pepto Bismol flavor. The—

**Sydnee:** Mm-hmm.

**Justin:** I remember, like, the ones that were pink.

**Sydnee:** Yes.

**Justin:** You think they're gonna be, like, strawberry or berry—

**Sydnee:** We're gonna get to the flavor.

**Justin:** Okay, sorry.

**Sydnee:** We're gonna get to the flavor.

**Justin:** Alright!

**Sydnee:** Um, okay. So, the subsalicylate part. So, when you say bismuth subsalicylate, separate it out. That might sound familiar to you if you, you know, certainly if you're a chemistry person.

Um, but also, like, do you take aspirin regularly? 'Cause then that salicylate, salicylic acid, you might start to see where this is derivative.

**Justin:** Mm.

**Sydnee:** What is this? What is this a compound of? Like, what is it, you know, used for? And also, maybe if you ever had acne and used some over the counter acne medications, salicylic acid...

**Justin:** Yeah!

**Sydnee:** ... is very common in—

**Justin:** That's in those, uh, Tums with the gas... gas stuff.

**Sydnee:** No, no, no. No. That's simethicone. That's a totally other thing.

**Justin:** Salicylic acid, is that what's in Stridex pads?

**Sydnee:** I believe some Stridex pads do have that, yes.

**Justin:** Okay.

**Sydnee:** Yeah, there's benzoyl peroxide in some stuff for acne and then there's salicylic acid in other stuff for acne, over the counter. But, yes, if you look at your— If you have acne products, you look, you may see this.

Anyway, it's in that same family and you may remember, because we've talked about aspirin on the show before, I'm fairly certain, because it famously comes from willow bark. It's from plants.

We derived salicylic... the salicylates, things that are salts of, uh, salicylates and salicylic acid from plants, from willow bark. It's in, um, wintergreen leaves. Um, and acetylsalicylic acid is aspirin. That is what aspirin is.

**Justin:** Mm. Okay.

**Sydnee:** Um, so we know that that does something, right? Because we know that this is a chemically active compound.

**Justin:** Right.

**Sydnee:** We know that's medically active, um, and we know that it's absorbed very well. When we take Pepto Bismol, we absorb enough of that for it to get our bloodstream at therapeutic levels.

**Justin:** Right.

**Sydnee:** To do something.

**Justin:** We love it.

**Sydnee:** Yes. The subsalicylate part of the medication, the way it's supposed to work, is to reduce inflammation which is similar to what salicylates do in other compounds, right?

**Justin:** Okay.

**Sydnee:** Um, so basically, it's going to get in there, reduce the inflammation in the intestinal or stomach wall and that's gonna make you feel better.

**Justin:** Okay.

**Sydnee:** That makes sense.

**Justin:** Sure.

**Sydnee:** So, like, there— You know. That is a sensible thing. The bismuth part is interesting. Bismuth is a metal.

**Justin:** Oh. Okay.

**Sydnee:** Yeah. And it's actually very poorly absorbed. It gets into your, uh, into your stomach and its broken down and creates bismuth salts which are insoluble, pretty much. So you're not gonna accumulate a ton of that, which is important to know because accumulating a tone of bismuth is dangerous. Um, which is, as we'll get into, part of why it's banned some places.

**Justin:** But is it still having an effect, like, even if you're not absorbing it?

**Sydnee:** Yes. They have found that it has some... The salts themselves that are formed have antimicrobial activity, meaning they can kill and then prevent the adhesion of certain types of bacteria.

Um, and then they have also found that it can increase the reabsorption of fluid. So if you're having diarrhea and you're worried about dehydration...



**Justin:** There you go.

**Sydnee:** There you go. So, um, and it also can decrease inflammation in some secretions of stuff in the intestines. So there is some... There is definitely a chemical basis for both of these components addressing these issues. So, like, I think the question of, like, is this one of those fake cure all patent medicines that everybody—

'Cause there are, like, and I know that sounds like a wild thing to say, like, "Well, but it's being sold... It's been sold for this long, it has FDA approved uses."

**Justin:** Mm-hmm.

**Sydnee:** There are several that are, like, vetted by the FDA that we have studies to back up, but even with all that, we definitely have medicines that we use over the counter to this day that people consider mainstays that do not do anything. That is still true.

**Justin:** What's the first one that comes to your mind.

**Sydnee:** Oh, gosh. It's, like, any cold medicines.

**Justin:** [laughs] Yeah, those have had it tough.

**Sydnee:** I mean, phenylephrine, right? Like, there's been a ton of recent data about the fact that, like, phenylephrine, which is found in a lot of over the counter, like, sinus or, like, combo cold meds.

**Justin:** Mm-hmm.

**Sydnee:** If you look at, like, one of those cold and sinus meds that have, like, five different things in them? Phenylephrine is probably one of them and it doesn't do anything.

**Justin:** [laughs]

**Sydnee:** So, I mean, but unlike that, uh, Pepto Bismol does do stuff and, like I said, it's supposed to treat nausea, heartburn, indigestion, upset stomach, diarrhea. So you can see how it would become a mainstay of sort of... especially in the US, our home, you know, pharmacy. It— Everybody gets these—

**Justin:** One of those things you just have on hand.

**Sydnee:** Right. So there's definitely active compounds. Um, and there are studies to back it up, like, I wanted to— One in particular, there was a 1987 study that actually suggested you should take two tablets of Pepto Bismol four times a day if you're traveling to reduce your risk of traveler's diarrhea. And it works!

**Justin:** Really?

**Sydnee:** Yes. Reduced the risk by more than 60%.

**Justin:** That's wild.

**Sydnee:** Yeah. It was a small study. Um, people challenged it of course, because it was smaller, but there definitely was evidence that taking Pepto Bismol not only could treat these things, but could actually prevent you from getting, um, traveler's diarrhea.

**Justin:** Huh.

**Sydnee:** Um, there've also been some placebo controlled studies to show that it can be used for dyspepsia, so like, upset stomach, reflux, that kind of thing. Um, and then, uh, for helicobacter pylori, which is a specific bacteria that causes stomach ulcers...

**Justin:** Mm-hmm.

**Sydnee:** ... it is commonly used— Now, this is an off-label prescribing, but it is commonly used in combination with two antibiotics and a proton pump inhibitor to treat this infection.

**Justin:** Hm.

**Sydnee:** So that— There's a four-drug regimen that is often prescribed for that and that is part of it. So it works for stuff!

**Justin:** Hey!

**Sydnee:** Um, so let's get into, like, where did it come from, who made it, and why is it not everywhere.

**Justin:** Okay.

**Sydnee:** After we go to the billing department.

**Justin:** Let's go!

[theme music plays]

[ad break]

**John:** Hello, sleepyheads. Sleeping with Celebrities is your podcast pillow pal. We talk to remarkable people about unremarkable topics, all to help you slow down your brain and drift off to sleep. For instance, we have the remarkable Neil Gaiman.

**Neil:** I'd always had a vague interest in live culture food preparation.

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[ad break ends]

**Justin:** So Sydnee, why is this not a ubiquitous thing? Why are we not all absolutely obsessed?

**Sydnee:** Um, I'm gonna get into why it's not. I want to tell you, like, while I've made a case for the fact that it does actually do some stuff...

**Justin:** Right.

**Sydnee:** And this doesn't mean everybody should always be taking Pepto Bismol, I always try to—

**Justin:** [laughs] That would be wild.

**Sydnee:** I always try to list what the side effects and, like, contraindications and as always, you shouldn't— Nothing I'm telling you is any sort of medical advice. Everybody's care is individualized. Please seek the help of your own health care professional.

**Justin:** Who is not a podcast.

**Sydnee:** Who is not a podcast.

**Justin:** Your doctor can't be a podcast. I'm sorry, folks, I've done the research.

**Sydnee:** Um, but the thing that it was used for originally, the thing it was made for, it probably wasn't the best treatment for. So, Pepto Bismol, um, and I will say, the use of these bismuth salts like we find in Pepto Bismol actually date back to, like, the 1700s, the idea that they could be used for diarrhea is an older idea.

But what we know now as Pepto Bismol, or at least the roots of it, really start in 1901. And I searched and searched for the name of this doctor. All I find is "a New York doctor, a New York doctor made this stuff, a New York doctor." I don't know who the New York doctor.

**Justin:** So it's a New York doctor.

**Sydnee:** A New York doctor— I searched and searched. I'm, like, Googling, like, "Who is the New York doctor who made Pepto Bismol?"

**Justin:** Hey, I— Listen...

**Sydnee:** Somebody's gonna know this and tell me.

**Justin:** Hey, yeah. Somebody will know it and tell you but, like, hey, no lie. We've been doing this show long enough, I hear that Pepto Bismol isn't exactly crowing about the person who invented it and my alarm bells start to go off, like, uh-oh!

**Sydnee:** Well... Uh-oh.

**Justin:** What don't you want us to find out?

**Sydnee:** Now, see, it's 1901. Usually when the roots are a little foggy it's because... It was a Nazi. That's usually—

**Justin:** That is what—

**Sydnee:** I'm sorry! But, like—

**Justin:** Okay, that's why I didn't want to say—

**Sydnee:** Well, that's a lot of medical history. This would have been a weird time. It's 1901.

**Justin:** Yeah.

**Sydnee:** But still.

**Justin:** Still.

**Sydnee:** But still, no. There is and, I mean, for good reason.

**Justin:** It's also possible that he stole it from somebody who wasn't a white man because that is the other one that tends to, uh, clow that.

**Sydnee:** And then sometimes, it's a little bit of astroturfing where the company's going back and making up a backstory. I am not saying in any way...

**Justin:** We just—

**Sydnee:** ... that Proctor and Gamble has done this. Absolutely, I am not...

**Justin:** We're just asking the questions!

**Sydnee:** ... saying that. I am saying that there are times where you see this sort of story of, like, the doctor who came up with this or whatever and it's maybe not really true. It's just to sell something.

Um, one way or another, somebody came up with it and the way the story goes is that it was so popular, this compound that was originally called Bismosal: Mixture Cholera Infantum.

**Justin:** [wheezes with laughter] That sounds like a fantasy novel!

**Sydnee:** [laughs]

**Justin:** The epic of Bismosal.

**Sydnee:** Mixture. Cholera. Infantum.

**Justin:** Cycle one: mixture cholera infantum.

**Sydnee:** So Bismosal's a good name. But he— It was so popular he, or she, but it's 1901, let's be honest, probably he.

**Justin:** Let's be honest. Probably, yeah.

**Sydnee:** Probably he. That he could not keep up with the demand because he was making it at home.

**Justin:** Right.

**Sydnee:** And so in order to try and make enough, um, to meet the demand, he, uh, basically sold his formula to Norwich Pharmacal Company, um, with this original name, Bismosal and they were manufacturing it in, like, 20-gallon drums of Bismosal to get out there.

**Justin:** They're, like, and we're also agreed with this sale, we're definitely changing the name just the moment we can.

**Sydnee:** Yeah. [laughs] And they, um— And by the way, if you— You probably guessed from "Mixture Cholera Infantum," it was originally aimed babies with cholera.

**Justin:** Yes.

**Sydnee:** That's who they— That's what it was made for. Like, we had this really deadly disease because cholera was and still is today, if not treated and managed properly, if you don't have the right resources to treat it. Um, cholera was definitely very dangerous for the young who can't sustain a ton of fluid loss, you know, easily.

And so, they would become severely dehydrated and maybe die of cholera. So this was supposed to help treat that diarrhea and, you know, keep you alive until it kind of ran its course, which can happen with cholera. Although, today, I will say, we treat it a totally different way. We don't use Pepto Bismol for cholera, certainly. We use fluid replacement and antibiotics. 'Cause we have antibiotics now, thank goodness.

**Justin:** Yeah, they're great.

**Sydnee:** Um, in 1919 is when we see it renamed Pepto Bismol and we see it marketed under that name and later, of course, Norwich would be acquired by Proctor and Gamble who sells it today. That was in 1982. So a very long time that Norwich Pharmaceuticals made this drug. Um, it was bright pink from the beginning. You know why?

**Justin:** Why? The flavor?

**Sydnee:** Kids like pink. I don't know, man.

**Justin:** [laughs]

**Sydnee:** The original creator of the medicine made it pink. It's just an artificial dye. It has nothing to do with what's in it.

**Justin:** That's hilarious.

**Sydnee:** It has nothing to do with what it does. It has nothing to do with bismuth or salicylates or any of the things. It has nothing to do with the flavor that we're gonna get into. It was just pink 'cause it was pink 'cause kids like pink. That was the—

**Justin:** I thought it's not for kids, though.

**Sydnee:** Yeah, but at the— Well, at the time—

**Justin:** Or I guess it was in the time, 'cause it was for infants. Okay, got you, yeah, yeah, yeah.

**Sydnee:** At the time— Well, and that's exactly what I was gonna say. While it is not, not, not recommended for kids today, back then, they didn't know about something called Reye Syndrome.

And this is why we don't recommend it for children now is, you may have heard, if your kid has chicken pox— Well, nobody gets chickenpox in places where the vaccine is available these days. Um, but when we were little...



**Justin:** Yes.

**Sydnee:** We got chickenpox.

**Justin:** God, that makes me feel so old.

**Sydnee:** Or, if your kid— I know, it does make me feel— Or if your kid gets the flu or some other viral illness, you may have heard do not give them aspirin, have you ever heard that?

**Justin:** Yes.

**Sydnee:** Yes. This is why, because of the development of something that can be severe and fatal, possibly, uh, called Reye Syndrome which can cause neurological damage and liver damage and all kinds of complications from the interaction between the original viral illness and then administering aspirin.

So we know not to give kids aspirin and since this is a salicylate as well, you also should not give them Pepto Bismol. Of course, we didn't know all this back in 1901, um, when it was first made for that. The formula that was originally made in 1901 which would then be changed when it was reformulated in 1919 and called Pepto Bismol.

The original formula, um, was pepsin... Pepto. Pepsin, which was known at that point to be a digestive enzyme that can help, you know, break stuff down, help with digestion. Zinc salts, salal, which is a bismuth compound, that's where that... comes from an oil of wintergreen, along with some artificial color to make it pink. Um, the, uh, wintergreen part, by the way, is interesting.

**Justin:** Why's that?

**Sydnee:** Because it is not— So, if you look at the flavor of the original, it was oil of wintergreen or teaberry.

**Justin:** Mm-hmm.

**Sydnee:** Because the teaberry is the berry of the wintergreen plant.

**Justin:** Okay.

**Sydnee:** You know the flavor of wintergreen.

**Justin:** Yes.

**Sydnee:** Would you say that Pepto Bismol tastes like wintergreen.

**Justin:** No.

**Sydnee:** No. But you did say it was minty, right?

**Justin:** It has a minty-ish... Yeah.

**Sydnee:** Yeah, it is. It's minty-ish. It's the teaberry.

**Justin:** Yeah.

**Sydnee:** It's the oil of wintergreen, it's the teaberry.

**Justin:** Teaberry gum, I know they used to have it at, like... It's, like, a old timey thing.

**Sydnee:** Yes.

**Justin:** Like a flavor people used to enjoy for whatever reason.

**Sydnee:** Minty-ish.

**Justin:** It's, like, mint— Gross minty? Like worst mint— Worse? I'm not a big mint guy. The only mint I can kind of mess around with is spearmint.

**Sydnee:** Mm-hmm.

**Justin:** I can get into spearmint sometimes.

**Sydnee:** People like— Well, I love mint stuff, but people like teaberry.

**Justin:** Well...

**Sydnee:** People like the taste of Pepto.

**Justin:** People are wrong about lots of stuff.

**Sydnee:** [laughs] Um, but that's why, even though the current formulation of Pepto Bismol... Like I said, the main active ingredient now, um, is bismuth subsalicylate, so the pepsin is no longer in there. It does still contain the same, like, the original Pepto Bismol does still contain the same flavor, um, from that winter green plant except it's not—

Instead of using actual wintergreen oil, they just use methyl salicylate which is the same compound that gives wintergreen oil its flavor. We just synthetically derive the chemical and make it, right? But, like, that's the— So, original flavor Pepto Bismol, teaberry, wintergreen oil. That's what you're tasting. That is what that— That's why it's pink, but tastes minty.

**Justin:** Mm, okay, gotcha.

**Sydnee:** Right? And maybe that's what's off-putting to you, is that we don't think of pink as the color of something that's minty.

**Justin:** God, that's a really interesting— If it was, like, white or green, I wonder if I would... I need to chug a whole bottle of Pepto Bismol, see how...

**Sydnee:** Well, and that also—

**Justin:** I'm realizing also as we're talking, like, I have not ingested the stuff in probably 30 years, so.

**Sydnee:** I can't remember the last time I tasted it. Um, this also— Well, no, I've taken the pills. I can think of times...

**Justin:** Oh, yeah.

**Sydnee:** ... actually, in traveling, when I've taken the pills, but not the liquid. But that's— And that's probably why it now comes in two flavors.

**Justin:** Cherry and...

**Sydnee:** And original. Yeah. Cherry flavored probably makes more sense for people, maybe visually and what they expect, like, it looks pink, it tastes like cherry... That— I get it. But some people still prefer that original flavor, that mintiness.

**Justin:** I don't think cherry's any great shakes either, I'm not a big cherry person over here, so I don't know.

**Sydnee:** Um, on that note, they've actually done studies to see if, like, the color of medicines effects the way people respond or what they look for. What they'll buy is what they're really looking for, right? Like, what people are gonna buy and have a positive reaction to. Um... Pink, people definitely assume it's sweeter, not necessarily fruity, but we do assume if something's pink...

**Justin:** Yeah, that makes sense.

**Sydnee:** ... it will taste sweeter.

**Justin:** Yeah.

**Sydnee:** Um, so it would be a good medicine for if you're trying to attract children to medicine. Now, I would say that if you're trying to attract children to medicine, that's not... I mean.

**Justin:** Yeah.

**Sydnee:** That's not great. If you're trying to make medicine that a child needs more palatable, I can see it that way, right?

**Justin:** Yeah.

**Sydnee:** Famously, the amoxicillin you may have taken as a child is pink.

**Justin:** Yeah.

**Sydnee:** Tastes like bubblegum.

**Justin:** Eh. Does it?

**Sydnee:** Sort of.

**Justin:** Does it? Yeah.

**Sydnee:** Um, but that's also why we've also done studies to show people see a red or orange medicine and assume it is stimulating and will keep them awake and if they see a blue or green medicine, they assume it will make them sleepy or drowsy or calm. Can you think of a perfect example of that in, like....

**Justin:** Nyquil?

**Sydnee:** Yeah. And Dayquil.

**Justin:** Yeah. Oh, that's true, yeah.

**Sydnee:** Dayquil is red or orangish.

**Justin:** Yeah.

**Sydnee:** Nyquil is blue-greenish, I don't know. Yeah. Which— And that is probably intentional because you will see it and think, "this will put me to sleep and I want to sleep."

**Justin:** Yeah. "This looks like night." [laughs]

**Sydnee:** Yeah.

**Justin:** "Good. This one looks like the sun, I'm gonna eat this this morning."

**Sydnee:** Yeah, "This one looks like the sun, I'm gonna eat it and stay awake all day."

**Justin:** [laughing]

**Sydnee:** Yeah. [laughs]

**Justin:** God, we're dumb.

**Sydnee:** I know. There are studies that show all that, like, there are reasons— And, I mean, again, a lot of this goes into the marketing piece.

**Justin:** But that's, like, food too, right? McDonalds and all the other restaurants use a lot of red and yellow 'cause it makes you hungry and we're just big dumb animals, walking around going, "Ooh! Red and yellow! I could eat!" [wheezes with laughter]

**Sydnee:** [laughs]

**Justin:** It's so stupid.

**Sydnee:** But as you say that, I'm now thinking about eating McDonald's French fries, 'cause they're yellow in a red box and that makes me hungry to think about, so. Um, so that's where the flavor and the color and all that come from. Where— Why is it not everywhere? Uh, the bismuth part.

**Justin:** Mm.

**Sydnee:** So there have been scares in the past about bismuth-containing medications accumulating... Which it can, right? Like any metal, even though it's not very well-absorbed, if you're taking enough of it in high doses over time...

**Justin:** Mm-hmm.

**Sydnee:** ... you will get some of that in there, right?

**Justin:** Right.

**Sydnee:** Um, now they have done a lot of studies to show that if you're taking Pepto Bismol or any other bismuth-containing substance, uh, as prescribed appropriately...

**Justin:** Right.

**Sydnee:** ... then this is not something that should happen. However, if you don't take it appropriately, and we all know that one guy, right? Like, there's gonna be that one guy who's...

**Justin:** My dad.

**Sydnee:** Who's gonna take, like, a ton of something.

**Justin:** Yeah, my dad. My dad would be that guy. My dad would be the guy to hurt himself with Pepto Bismol.

**Sydnee:** Your dad would do that?

**Justin:** Yeah, I think so.

**Sydnee:** Can I say, though...

**Justin:** The man once knocked himself out dumping ammonia onto kitty litter... or bleach onto kitty litter. So, um... He poured bleach trying to clean up kitty litter and he knocked himself out with the fumes. So, yeah, Syd. Yeah, I do think that the person who makes up half of my genetic material... It would, sad as it makes me to say, hurt himself with too much Pepto Bismol.

**Sydnee:** Can I— Maybe this will comfort you and if your dad hears this and then anyone else who does this. If you are thinking, "Oh, no, I am that guy," or that person, I should say. I shouldn't say that guy, I should say that person. If you're that person, um...

**Justin:** But probably that guy.

**Sydnee:** [laughs]

**Justin:** [laughs] Let's be honest.

**Sydnee:** Mm. If you're that person, um, I will say I recently learned after I had this interaction, uh, in my day job that, uh, sometimes patients will think that their antibiotics will work better if they give themselves, like, their own little loading dose. Like, "I'll take a couple right away" or "three or four right away to really get it in there and get it working and then I'll follow the directions on the bottle."

**Justin:** Right.

**Sydnee:** "But I want to give myself a boost." And I started asking around about that and found that that is way more widespread a belief than I ever was taught in medical school or realized, that a lot of people think, "Well, maybe a little more will get it in there and make it work faster." And, like, with medicine, the dose makes the poison, right?

**Justin:** Right.

**Sydnee:** Like, sometimes more helps more. Sometimes more does not and can be very dangerous. Um, but I think that that's— It's a good thing to recognize is a lot of people have that belief and are doing it with the best of intentions. And we have a lot of things in popular culture that lead to that. I'm rewatching House.

**Justin:** Mm.

**Sydnee:** Do you know how often a patient isn't responding to a medicine and House tells them to double the dose?

**Justin:** [laughs]

**Sydnee:** Do you know how wild, as a medical professional it is, to hear somebody who's supposed to be a doctor telling someone, like, "double the dose of their antibiotics to make them better faster?" That's not a thing!



**Justin:** [laughs]

**Sydnee:** That's not— I mean, there are— Yes... There—

**Justin:** Listen, they only got 44 minutes, Syd. They've got to crank.

**Sydnee:** There are medicines that higher doses will make them more effective, but then there are other medicines where it's, like, you use this dose or you don't use this dose, but that's it, that's the thing. That's what works. Anyway... So that was a side note, but you know there's gonna be somebody who's gonna overuse a medication and that's the concern in countries, like, specifically France does not allow these kinds of compounds.

And there are some other places. So, like, in Europe, in general, it's not very popular and obviously in Iceland, it's not something that's sold, um, because of that concern that if your body accumulates enough of those bismuth salts...

**Justin:** Mm-hmm.

**Sydnee:** ... you could develop some neurotoxicity, some damage to your neurological system. Which is a big deal, right? Um, so that is why, you know, and you'll find, like, travel blogs that will recommend, if you're going overseas, just take Pepto Bismol with you because there is no guarantee that wherever you're going will have Pepto Bismol available to you. Which, again, just speaks to how, like, deeply ingrained it is in the American psyche as something you need.

**Justin:** Yeah.

**Sydnee:** Take it with you when you go overseas because what if you can't get Pepto Bismol?

**Justin:** [laughs] Think about it!

**Sydnee:** Um, and then again, it is helpful. We have studies that show for traveler's diarrhea, so. So there's a good reason. Um, it can interact with some meds like Warfarin, specifically, so, as with anything, if you're thinking

of starting an over the counter medicine, it's always better—

Especially something you're thinking about taking all the time, you should talk to your healthcare provider. It's not for kids, especially under 12. Do not use it. Um, it's not for cats, it's very dangerous for cats. I don't know why you want to give it to your cat but don't, um... It's bad for cats—

**Justin:** If your cat has the poops, obviously.

**Sydnee:** Over six weeks, you should not be using it. So if you're thinking you need it longer than that, you really need to be talking to a medical professional at that point about whatever is causing you to think you need Pepto Bismol. Um, and it can turn your mouth or your poop black. Especially if you eat a lot of sulfur-containing foods or you're taking a medication...

**Justin:** And you know me.

**Sydnee:** ... that's sulfur-based, like Bactrim. It's an antibiotic that is...

**Justin:** Mr. Eggs, they call me. I'm just pounding those eggs.

**Sydnee:** Anything that contains a lot of sul— There's your reaction and, like, your mouth and tongue can turn black and then you definitely can turn your poop black, which can be very scary for people.

**Justin:** And that fuzzy tongue? Can't you get that from the...?

**Sydnee:** Just black.

**Justin:** Just black.

**Sydnee:** Just black. It is temporary and it is harmless. Um, the actual turning black of your tongue or your poop, but it can be confusing because your poop can also turn black if there's blood in it, digested blood. So it can be upsetting and scary and lead to unnecessary testing if you think— You know what I mean? So it's good to know. It's good to know this stuff.

Um, and uh, one other wild thing, we just figured out the chemical structure,

how it looks under a micro— Like, how it would look if you could blow it up and look at what the chemical structure looks like. We just figured that out last April. Like, last year. 2022. It was very difficult to derive the chemical structure of the bismuth subsalicylate and it took that long.

It's been around since— This exact compound has been around since, what did I say? 1919? And we just last year figured out exactly what that structure looks like, which I think is pretty cool.

**Justin:** Well, Syd, if I'm Proctor and Gamble right now, I'm breathing a little sigh of relief. You know, when I heard the Sydster was coming for Pepto, I probably was on pins and needles, but I feel like you've been very fair.

**Sydnee:** I think, uh, I mean, it does the stuff it says it's gonna do, more or less. And, obviously, it's caught on because it's catchy and it's pink and it's been around for so long. But I think that there is something to the fact that it does actually do something. Um, that probably makes it so ubiquitous.

**Justin:** Mm-hmm.

**Sydnee:** I don't know. I mean, maybe that's a bad argument to make because a lot of people were taking those cold medicines with phenylephrine.

**Justin:** Mm-hmm.

**Sydnee:** Now, I will say these are not— It is not the end all be all for nausea, vomiting, or for nausea, heartburn, indigestion, upset stomach, diarrhea. I don't necessarily take it for any of those things. Um, there are other medicines and I would argue some that probably work a little better.

**Justin:** See, now they're getting worked up again. They're, like, "She's going back in. Is she gonna drop something else on us?" No. Okay.

**Sydnee:** It's not curing— Well, I mean, I think— Here was the last question. Is it a cure-all?

**Justin:** Well... Yes.

**Sydnee:** I think if you use it to manage those symptoms, that's one thing.

**Justin:** Mm-hmm.

**Sydnee:** It is not curing anything, per se, right?

**Justin:** Right.

**Sydnee:** It's not gonna— If you have, like, an underlying problem that is causing it, it's not gonna cure it. It's gonna help alleviate some of the symptoms of the underlying problem, which as always, means if the problem persists, please seek medical attention. Don't sit at home and take more Pepto Bismol.

**Justin:** Thank you so much for listening to our podcast. We hope you have enjoyed yourself. Uh, you know, it's almost, uh, it's almost, um...  
Candlenights time here.

**Sydnee:** Hey, yeah.

**Justin:** Yeah. And, uh, it is, uh, the perfect time to go secure your tickets for the virtual Candlenights spectacular. We do it every year. It's always fun, it's gonna be December 16th at 9 PM.

**Sydnee:** Do you wanna... Do you wanna give them any hint?

**Justin:** Uh, we'll be returning to our beloved medicine called Christmas Franchise. Uh, that's all I can— I'm at liberty to say at this time.

**Sydnee:** And there will be songs.

**Justin:** There will be songs. Um, it's going to be a lot of fun and it is also going to be a great benefit to Harmony House, a shelter that Sydnee has a lot of experience with. It provides services for people experiencing homelessness in our area. You can get tickets right now, head on over to [bit.ly/candlenights2023](https://bit.ly/candlenights2023).

Got lots of guests, got lots of fun, got lots of songs, got lots of tears? I don't know, you'll have to watch and find out. And uh, if you purchase that, by the way, you don't have to watch it live. There's a VOD for 15 days after the show. So fantastic.

Uh, I hope you'll make it. Thanks to the Taxpayers for the use of their song Medicines as the intro and outro of our program and thanks to you for listening. That's gonna do it for us. 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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