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

[theme music plays]

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

**Sydnee:** And I'm Sydnee McElroy.

**Justin:** Do you think... I like the alliteration, but do you think saying that it's— that we're married— in the tagline, adds anything to the pitch? I don't know if it adds to the tagline right? Are you more inclined to listen to it cause it's like... marital?

**Sydnee:** I... Umm... I think it draws attention to like, what's fun about our dynamic, maybe?

**Justin:** Maybe?

**Sydnee:** That we're married?

**Justin:** Some—

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

**Justin:** I worry some people might read it as, “a martial tour of misguided medicine—”

**Sydnee:** I have had people say that.
Justin: ... and then it's like—

Sydnee: I have heard—

Justin: It's like a militaristic—

Sydnee: Mm-hmm.

Justin: Sort of...

Sydnee: I have been introduced at things as the host of a martial tour of misguided... And then I have to be like, “Ha, ha, ha.”

Justin: Ha, ha, ha.

Sydnee: Marital. Ha, ha, ha.

Justin: Marital, ha, ha.

Sydnee: Because I don't want to correct. It's— Like, it's never a cool look to correct someone. But it is not... It has nothing to do with martial anything. So I don't want to get that...

Justin: Yep. Um—

Sydnee: ... confused.

Justin: Hey, listen, it is a, maybe you’d guessed by the looseness of our intro here, but we're having fun this week with another one of our medical Q&A's. Always one of my favorite kinds of episodes that we do.

Sydnee: These are the fun medical questions. I have been answering not fun medical questions all morning. Is that interesting? Can I give a peek into what I'm doing?

Justin: Yeah. Please.
Sydnee: Is that—

Justin: Yeah.

Sydnee: I don't know if this is... Justin says it's interesting. Maybe it’s not. I am—

Justin: I think everything you say is interesting, sweetheart.

Sydnee: I'm a board-certified family physician—

Justin: Here she goes!

Sydnee: Which means—

Justin: Okay!

Sydnee: [laughs]

Justin: Humble-brag!

Sydnee: No, I'm just... I am clarifying, because if you're not ensconced in the world of having to maintain certification...

Justin: She does this everywhere.

Sydnee: You—

Justin: [As Sydnee] “I'm a board-certified family physician and I would like two chicken nugget Happy Meals, please.”

Sydnee: [laughs] I don't do that. I don't do that and I'm pretty good about not putting “MD” after I sign something that isn't an official doctor document.

Justin: You would never— I would never say my name again, that... if it didn't have “Dr.” before it. “MD” would be on everything I signed.
**Sydnee:** No, do you know how embarrassing it is to like, sign or... like, get a receipt or something and sign it with an “MD” and then just look like the worst person. Like you look like such a like, [mock fancy voice] “Oh am I... Am I impressed now that you signed your Applebee's receipt with an MD?”

**Justin:** [laughs]

**Sydnee:** Like, “Why did you feel the need to tell me that?” Like it’s such a “ugh” move and it's totally... Anyway, I don't usually.

**Justin:** Anyway, you're a board-certified family physician.

**Sydnee:** The point is I just thought it would be interesting for people to know. In order to maintain board certification you have to do a bunch of stuff and you also have to pay a bunch of money. That's a whole other conversation.

**Justin:** Yeah,

**Sydnee:** But you gotta do a bunch of stuff to prove that you still can be a board-certified whatever kind of doctor.

And I have to do... You either have the option of taking a big, giant test once every ten years on all of your field. Which, as a family doctor, is kind of intimidating because most of us don't continue to do all the things that family medicine can do for our entire career. Some people do.

But like, I don't deliver babies anymore. I used to, but I don't now. So that part of my medical knowledge is rustier than like... I'm really good at acute management of wounds. I'm really good at substance use disorder management. I'm really good at... There's a lot of other things I'm great at now because that's what I do all the time.

**Justin:** Yeah. Yeah.

**Sydnee:** Anyway. I opted to do this thing where I take 25 questions every three months for four years. [laughs]
Justin: Yeah.

Sydnee: Which I thought sounded better.

Justin: The ever-going test, the ongoing, forever test.

Sydnee: It's a forever test and it sounds like not a big deal, but then it's just in your mind all the time that you either have to do the questions or like I just finished them this morning and I'll be thinking about finishing the next 25 for the next three months. And it's also open book but timed.

Justin: Mm.

Sydnee: I think that it feels worse to miss an open book question.

Justin: Mm.

Sydnee: I think there's something about that that makes you feel like, “Ohh... You could have used any book and you didn't get the right one.”

Justin: [laughs] “You had access to all the world's information...”

Sydnee: [sighs] I'm doing fine so far. I'm going to... I mean, knock on wood, I'm going to maintain my certification. I feel like everything will go okay. I'm just sharing that this is what you have to do to maintain board certification and it's a giant pain and very stressful.

But it ensures you that your doctors are always studying and learning. I don't know. There's a peek behind the...

Justin: Yeah. But we're going to be asking you easier questions, today, Squid.

Sydnee: Yes, these... And won't be timed, right?

Justin: Yes.

Sydnee: You're not gonna have a five minute—
Justin: Well, except in the sense of the listener interest, is always a timer that we're working against.

Sydnee: [laughs]

Justin: They could at any point switch to any of the countless other forms of entertainment. So we gotta keep it peppy.

Sydnee: Alright.

Justin: Keep... What is? [snapping fingers] Keep something—

Sydnee: Keep it peppy.

Justin: ... peppy.

Sydnee: Something snappy.

Justin: Okay, first—

Sydnee: I got something for ya.

Justin and Sydnee: [doing a scene from That Thing You Do!] I... quit! [snapping fingers in time] I quit!

Sydnee: Okay, we’re gonna have to stop that.

Justin: “I quit, Mr. White.” Okay.

Sydnee: [laughs]

Justin: [laughs] Weird medical questions. Here we go.

“Hi, Justin and Sydnee, why do we—” This is... That is a pitfall for Sydnee and I. If something is ever close to a quote from That Thing You Do!—

Sydnee: That Thing You Do!
Justin: Somebody starts talking about a really nice van or anything like that.

Sydnee: Anything from *The Room*.

Justin: Anything from *The Room. Rent* is probably the worst.

Sydnee: Ohhh, yeah.

Justin: Anytime we start talking about New York City, it's the center of the universe...

Sydnee: Mm-hmm.

Justin: Okay, anyway...

Sydnee: Okay, you can't say the next line.

Justin: “Why do we want to rub our eyes when we're tired? And why does it feel so good?” That's from Zia.

Sydnee: You know I didn't know... I also have observed this phenomenon. I don't— They never taught us in medical school why people do that. So I actually had to look this up to figure out like, why do we do that?

Justin: Can I take a guess?

Sydnee: Yeah.

Justin: Okay. When you're getting tired and you're sleepy, your eyes are wetter because that helps to hold your eyes closed. And so when you rub them, you're helping to get the water works going up there and help to keep your eyes closed. That's what I think.

Sydnee: That's... Okay. You're sort of... Like you're in the right area.
Justin: Don't patronize me. Just go ahead and tell me what the right answer is.

Sydnee: No, but like, seriously, you're in the right area but it's kind of backwards. Actually, and I didn't know this was true, when you are trying to stay awake, when you're actively fighting that fatigue, you blink less.

Justin: Oh.

Sydnee: Your eyes get drier. It is thought that rubbing your eyes like that is an attempt to stimulate those lacrimal glands, your tear...

Justin: Ohh, so—

Sydnee: To stimulate moisture.

Justin: ... keep 'em wet so you could stay awake longer.

Sydnee: Well to— Not to stay awake longer, but to soothe your eyes. That's why it feels good, because your eyes are getting dry and that's uncomfortable. So when you rub them, you stimulate that moisture, you moisten your eyeballs [laughs] and they feel better.

Justin: Okay.

Sydnee: So that's why it is—

Justin: Must have been so satisfying to you to find such a concrete answer to this question.

Sydnee: It was... I mean, it was a really cool answer. I also— I didn't know that we blinked less when we're tired. I didn't know.

Justin: Yes.

Sydnee: But apparently that's part of your, like, subconscious trying to stay awake. You're like, resisting blinking because you might blink so hard, you fall asleep. [laughs]
Justin: I've gotten so bad at it, anymore. Like, I used to be able to stay awake pretty well. I'll just be, like, literally telling my body, like, “Do not fall asleep, keep watching this movie. I know you started it too late, but stay awake.” And hoo, it's just nothing doing. I'll just realize that I just missed some.

Sydnee: And can I tell you, a scary movie about aliens where there is like, one line of dialogue in the entire movie? That is not—

Justin: Oh, yeah.

Sydnee: ... the choice when you're trying to stay awake.

Justin: It was rough. Hey, um—

Sydnee: It was not a bad movie, but still.

Justin: Long-time listeners, first time callers here with some questions. We have a normal one and a weird one. Here's the normal one. “Do mineral salt deodorants work? If they do, how? Is aluminum in deodorant bad for you?”

Sydnee: So I wanted to focus on, first of all, I didn't— I wasn’t— I'm not really familiar with mineral salt.... I had to look up these mineral salt deodorants and there's like... Basically, they're... What they're saying is these don't have chemicals in them. They're all natural and so they're supposed to be better for you.

Here is the take home. Whether or not you think these work better for you...

Justin: Mm-hmm.

Sydnee: Because, I mean people say that they do the same thing, from like, in terms of they keep you from sweating and they fight odor.

As far as I can tell, they don't work as well. From everything I'm reading, they're like, “These don't always work right away, and you may actually sweat and smell more when you first start them.”
Which makes me think like, “Well. You just… Over time you adapt to the fact that you're sweatier and stinkier. I don't know.

**Justin:** I guess, you get used to the smell, maybe?

**Sydnee:** I have no idea. I don’t use them. I use— I'm not going to plug a deodorant. I use a deodorant that is a standard sort of commercial product.

I think the important thing to know is that there has never been any proven danger from these other deodorant formulas that contain aluminum or the other things they tell you that are bad.

So I think that my bigger problem is if you like a certain kind of deodorant, because it does have some other sort of natural ingredient and you like the way it smells, or you like the way it feels or you think that it works well for you... That's fine.

I mean, 'cause it's all about your comfort, right? We don't wear, for the most part, you're not wearing prescription deodorant for a medical reason.

**Justin:** If you were—

**Sydnee:** That does happen. But I'm not saying— In most cases, for like me, I'm wearing it because I don't like the feeling of sweat under my armpits. So I wear deodorant. So whatever works for that purpose for you is fine. And that there is no danger to all those other deodorants that contain aluminum, that anyone has found at this point.

**Justin:** Matthew McConaughey says you should skip it all together. You know? Just use your natural musk.

**Sydnee:** I mean, I think that's fine too, if you want to. I don't... I don't have any problem with it.

**Justin:** Whatever you want.
Sydnee: I just think it's important to know that we don't have scientific evidence for these claims.

Like the National Cancer Institute says, “These deodorants with aluminum have never been shown to cause cancer.” I mean, we learn new things every day, but as it stands now, I think this is a little bit of fear mongering.

Justin: Fear mongering as marketing.

Sydnee: And use whatever... Use whatever deodorant works best for you.

Justin: Do you have a take on the weird question?

Sydnee: Well, I just thought it was interesting to bring up because I've also—

Justin: Ohh no, this is entrapment!

Sydnee: I didn't write this.

Justin: “Why do I always burp when my wife is next to me?” [laughs]

Sydnee: [laughs]

Justin: Okay. “Whenever I come home or even just go to sit next to her in another room, within maybe 5 minutes, I will have burped a few times. Is this a known bug? Nobody I know seems to experience this. It's literally every time. Please help me. It's ruining my make out game.”

That's from Cas and Gabe. So I—

Sydnee: Well, and I'm not sure... Gabe, are you the burper? I don't know.

Justin: It doesn't matter. We don't need to—

Sydnee: It doesn't matter. I'm— Well, I'm going to tell you, you do know somebody who has experienced this. You know... You said you don't know anybody else who has experienced it? You do. His name is Justin McElroy.
Justin: Okay—

Sydnee: And his wife, Sydnee McElroy, has experienced this. I feel like you save them. And not just your burps. Your grodiest ones, you save for when you're in proximity to me.

Justin: This is not true. This is— Okay—

Sydnee: So that I can go, “Why!?“

Justin: [laughs] Here. Okay. I can answer this question. I’ll answer this question.

Sydnee: You also don't even attempt to like, turn your head or anything.

Justin: [laughs] Now—

Sydnee: Sometimes you'll lean towards me.

Justin: [laughs] I'll answer this question.

Sydnee: [laughs]

Justin: Okay, I'll answer this question for you. Hi, Dr. Justin here. There's two factors going on here. One is you are probably within proximity of your partner when you are eating food a lot and drinking. And that— Because that's usually a communal time. So you're ingesting more and thereby creating more gas, and that is part of the effect, right?

Sydnee: ’Cause when you swallow, air gets in there and that can come out in the forms of burps or hiccups or farts or whatever.

Justin: And I don’t know your relationship—

Sydnee: Well, farts are a whole other thing. But still.
Justin: I don't know your relationship, but I know some people in some relationships, maybe when they burp at all around their partner it's such a gigantic federal case that you're abundantly aware of it.

What I'm saying is there is an observation bias going on here. When you let one of those beautiful boys free on your own, wouldn't even pass your notice. Who cares? Well, why would you even attempt to note that you just let out a grody burp?

But when you're around your partner, you become abundantly aware of every little bit of mouth gas that escapes your lips.

Sydnee: I— No. Okay. Okay. I'm not gonna—

Justin: I'm just saying, it's a theory.

Sydnee: I'm not gonna belabor this. I don't have a problem with burping in public, personally. Personally.

Justin: All signs to the contrary.

Sydnee: What has always amazed me is that if I am burping in public, I kind of do a little like... I turn my head or I kind of... almost like I'm going to sneeze or something. Like I do a little vampire, like to— So that I'm not just like, burping in everyone's face, I in some way try to like, muffle that process.

Justin: Mm-hmm.

Sydnee: And you usually like, lean your body forward and announce the burp to the room.

Justin: Sometimes that's to get it out. Why is this—

Sydnee: [skeptically] Yeah...

Justin: Why am I on trial?
**Sydnee:** Let's... let's talk about the next question.

**Justin:** “Hi Sydnee (and Justin).” In parentheticals. Thank you.

**Sydnee:** [laughs]

**Justin:** How derisive. “Between having older relatives who sometimes need me in the exam room with them to help advocate for/remember things, and my own chronic health issues and gender affirming care, I've seen a lot of doctors.

I noticed that, completely separate from bedside manner, they vary a lot in how well they explain things and how willing they are to explain them. They run from ones who struggle to explain why they need multiple incisions for gallbladder surgery, to my family care doctor growing up, who loved having a curious kid asking her questions, her diagnosis and medicines.

Plus, one surgeon who positively beamed when I mentioned I'd taken organic chemistry, because that meant he got to properly explain why he couldn't drain an abscess under a local anesthetic. I know that med schools are trying harder to teach bedside manner, but is this a skill they're also trying to instill in future doctors?

Even with the short appointments we get, it's been really useful to help me and family members do a better job of advocating for ourselves, point out issues and ultimately do what we need to do to get or stay healthy.

Thank you both,

*Tara*

**Sydnee:** I think it's an... I thought this was a really interesting question because we are taught, as part of our clinical skills— Because, I mean we have a class that is called “Clinical...” Well, at my med school it’s called “Clinical Skills.” I don't know. Something similar.

So the idea of not just knowing the medicine, but also taking care of the patient and that envelops like bedside manner and then communication
skills and all that. That is taught in medical school. That is definitely part of it. In terms of specifically explaining things to patients, we're definitely taught things like don't use medical terminology.

**Justin:** Mm-hmm.

**Sydnee:** You know? Like, speak their language. We kind of learn this whole other language in medical school. And if I use that to a patient who didn't go to medical school, they may not have any idea what I'm saying, right?

So we're taught that kind of stuff to, like, use layman's terms and ask, “Do you have any questions?” And then do your best to answer them. But like skill sets in communicating scientific information or like complicated medical information to somebody who doesn't already have that knowledge base, I would not say is a huge focus, generally speaking, in the medical world.

And that's reflected by the fact that there are a lot of people who are brilliant in their field but can't tell you anything about it in a way that you'll understand. And I think that's a science problem in general, right? Like, not just medicine. It's all of science where we have this issue.

So I would say the other part of it is probably it depends on where you trained and culturally what that area is like.

**Justin:** Yeah.

**Sydnee:** In some areas you'll find a lot more what we call paternalism in medicine. Meaning that your physician may be a lot less likely to explain things to you and more likely to just say, “Here's what it is. Trust me, this is what you need to do.” And might tell you some things to look out for.

But they don't really get into specifics because like, it’s... they're being paternalistic. And there are some patients who want that. I've had patients before who are like, “Don't... I don't need to know all that. Just tell me what to do.”

**Justin:** Right. Like me at the mechanic.
**Sydnee:** I would say that we are— [laughs] Yes. I would say that we’re moving in a direction where we’re urged not to do that. And that certainly I was trained that way.

Don't just say, “Do this because I'm telling you you need to do it. Explain to them why it matters. Explain... Like form an alliance with your patient so that you are in this together and working together on this issue.” And the only way to do that is with shared knowledge.

But I mean, you're going to find it different from place to place and... And I don't know. I think science communication in general could be more of an area of focus in all the sciences, right?

**Justin:** I absolutely think so. This question is inspired— Oh, they're also working in a broken system that doesn't incentivize them spending an extra second, with you when they could be in another patient’s room, making more money.

**Sydnee:** I could get— Well, I could get into that too, like, if I spend more than—

**Justin:** Making more money for the hospital, not like for personal...

**Sydnee:** Not in the work I do.

**Justin:** ... in some cases, but—

**Sydnee:** I don't get paid for the work— I do outpatient now, so I don't have this restriction now, but previously, if I spent more than 15 minutes with my patient explaining things, I'm losing money for the practice. Which is not a concern to me, personally.

**Justin:** Right.

**Sydnee:** But I could end up reprimanded, fired, whatever. I'm not saying this about my old practice, just generally speaking.

**Justin:** Mm-hmm.
“This question is inspired by the recent episode about the carpet python parasite, specifically when you talked about washing food before eating it, and the perils of kids eating dirt and sand. Hypothetically, would there be a way to wash or cook dirt or sand—” [laughs]

Sydnee: [laughs]

Justin: [snorts, continues laughing] “Would there be a way to wash or cook dirt or sand that would kill potential parasites and make it more safe if ingested? I suppose this is more of a cooking question.” [laughing] “But I figured I’d ask.”

That's from Faith. Faith wants to know if you can cook dirt and enough to make it clean. [laughs]

Sydnee: So, I mean, yeah, like you can...

Justin: Sure!

Sydnee: You could, if you... I— This is really like—

Justin: You can milk anything with nipples, Greg.

Sydnee: [laughs] This is really like a food handler’s question, Justin. Like you could field this. Like if you... if you theorize that chicken or fish or pork or whatever sort of thing that we cook intentionally—

Justin: Yes.

Sydnee: ... to kill any other sort of microorganisms that are in there, including parasites. Right? Like very specifically, there are cooking recommendations for fish—

Justin: Yeah.

Sydnee: ... because fish are known to have parasites.
**Justin:** Yes.

**Sydnee:** Other things too. But you know. So there's very specific temperature guidelines.

**Justin:** Yeah.

**Sydnee:** Both on the high end of the spectrum, like that, you know you can get 'em hot enough to kill all the parasites and you could freeze 'em.

**Justin:** Yeah.

**Sydnee:** That will kill most known parasites.

**Justin:** Yeah.

**Sydnee:** So yeah, you could do that with sand or dirt. I don't know why you couldn't like, boil... sand.

**Justin:** Yeah.

**Sydnee:** Or bake.

**Justin:** I don't think you could boil sand, with it not being a liquid, but I do understand what you're saying.

**Sydnee:** Well, put it in water and then boil it.

**Justin:** Yeah, that's mud though.

**Sydnee:** Yeah. Well... Then you’d have to dry it.

**Justin:** But you have to dry it out.

**Sydnee:** So then you put it in a food dehydrator...

**Justin:** But then there's open air. Like they could get... it could get re—
Sydnee: Or you could bake.

Justin: You could bake sand... Ooh, baked sand.

Sydnee: Yeah, baked sand.

Justin: That sounds good right now.

Sydnee: No, there—

Justin: Well, you get glass. That’s—

Sydnee: I mean, if you got an autoclave, that would work too.

Justin: Yeah.

Sydnee: But yes, there would be ways to sterilize dirt or sand so that you could eat it.

Justin: As a party trick, I guess?

Sydnee: And not— [laughs] And not get a parasite. There are other like, and I am not an expert in this. We're moving outside of my area of expertise into like, all the other stuff that might be in dirt or sand that isn't—

Justin: Almost certainly metals trace elements—

Sydnee: Exactly.

Justin: Yeah.

Sydnee: That isn’t a microorganism, that are good reasons not to eat dirt or sand. But in terms of parasites. Yeah, you could cook dirt or sand. [laughs]

Justin: In school I learned God made—

Sydnee: [laughing] Please don't eat sand or dirt. I'm not going to encourage this.
**Justin:** Yeah. I—

**Sydnee:** Even if you cook it. Even if you boil it. Please don't eat sand or dirt.

**Justin:** I did learn in school that God made dirt, so dirt don't hurt.

**Sydnee:** Yeah.

**Justin:** That is what I learned.

**Sydnee:** [incredulous] You learned that in school?

**Justin:** I learned that in school.

**Sydnee:** Thank you...

**Justin:** ... from my colleagues, not from my teacher.

**Sydnee:** Oh, I was going to say—

**Justin:** “Hey—”

**Sydnee:** ... thank you, West Virginia educational system.

**Justin:** “Hey, Sydnee and Justin, I know that I occasionally twitch a little as I fall asleep. My wife twitches a lot and she's falling asleep. Usually it's just a small finger or arm twitches. Why does this happen? Is it some evolutionary relic?”

That's from Brian in Seattle.

**Sydnee:** Hey Justin, can I tell you something?

**Justin:** Yes, dear.

**Sydnee:** You do this.
Justin: Oh yeah, I know.

Sydnee: Yeah. You know?

Justin: I know you’ve told me before.

Sydnee: Oh, okay.

Justin: You are never shy about drawing out and diagramming all of my many failings.

Sydnee: No. You made me nervous for a while because you were doing it so much.

Justin: Oh, wow yeah.

Sydnee: I think that was why I asked you about it. But we figured that out and everything's fine.

Justin: Yeah.

Sydnee: Hypnic jerks.

Justin: It’s my brain pills, right? My brain pills?

Sydnee: I believe... I believe it is a side effect.

Justin: Yeah.

Sydnee: Yes, I believe that is what we are experi— But it does not seem to disturb your sleep, is what I've noticed.

Justin: Mm. Yeah.

Sydnee: Like you—

Justin: I'm a great sleeper.
Sydnee: Well, there are nights where you do that. I know you do, 'cause I always fall asleep after you. And you still wake up feeling well rested, you tell me, and so I—

Justin: It happens sometimes—

Sydnee: ... believe you're still getting quality sleep.

Justin: ... when I'm like, half talking, like trying to stay awake during a movie.

Sydnee: Yeah.

Justin: Like you were saying, like, I'll start getting the twitches and jerks.

Sydnee: Mm-hmm. Yeah, and they're— So they're very common. It's the same as if you've ever said, like you had a sleep start. Or like that dream of falling off a building sensation kind of thing.

Justin: Mm-hmm.

Sydnee: Like it doesn't always have to be that clear-cut, you had a dream where something happened and then you jerked and you jerked in your sleep. It's not always like that.

Because it's just this you know, involuntary contraction or jerk. So something just moves. It can be smaller or larger. You could have one as you're falling asleep, or you could have multiple. Some people do.

There are certain triggers sometimes, like things like caffeine can trigger them. It's thought that maybe alcohol before sleep could.

Justin: Mm-hmm.

Sydnee: General sleep deprivation and then trying to catch up on that.

Justin: It did help—
**Sydnee:** So like, there are some specific things and then some people just have 'em.

**Justin:** I stopped drinking at night and that did actually help, I think somewhat.

**Sydnee:** Mm-hmm.

**Justin:** Maybe. But it's hard for me to say because I am... asleep. [laughs] But...

**Sydnee:** You... You still have them.

**Justin:** Yeah.

**Sydnee:** Yeah. Well, because it always takes me a minute... I might still be looking at TikTok, and I'll find a funny TikTok and I'll be like, “Is Justin still awake?” And you'll move and I'll think, “Oh, he is.” And I'll be like, “Oh, no. Almost fell for it. That's a hypnic jerk.”

**Justin:** Now you'd think that always stops her from showing me the funny TikTok. But sometimes Syd just decides I gotta see it, right now, man. “Get up. Get up homie. It's time to go.”

**Sydnee:** It's some kind of startle reaction. It may be that your brain thinks as all your muscles kind of relax as you're falling asleep, it may actually think you're falling. And so it's trying to jerk you back awake for a second.

**Justin:** We used— Our ancestors slept in trees, right?

**Sydnee:** Yeah.

**Justin:** Like it’s not wild to think that we would have a little bit of that evolutionary... It's also good to remember, folks, this is something I've been thinking about a lot...
Remember that you are not the evolutionary endpoint. You know? When you're talking about, even like a game that's been out for 20 years, they're still patching it. Still making fixes. This is it. We're not done—

**Sydnee:** Mm-mm.

**Justin:** ... as a species. This is something we'll iron out—

**Sydnee:** We’re in flux.

**Justin:** ... in future generations, I'm sure.

**Sydnee:** If these happen during the daytime, you need to go see somebody about that.

**Justin:** Yeah.

**Sydnee:** These are associated with falling asleep. So if they're happening like, “I just jerk in the day,” please go talk to somebody about that. That's not what we're talking about here.

And generally speaking, if it's concerning to you or disrupting your sleep, or if your partner is really worried about it, or whoever noticed it, go get it checked out.

But most of the time a hypnic jerk while you're falling asleep is not... It's not in and of itself dangerous or indicative of danger.

**Justin:** Sydnee, this is my first time checking the timer since we started recording.

**Sydnee:** I know. I was about to tell you.

**Justin:** Yes, we gotta go to the Billing Department. Then we're gonna have to lightning round this... this guy.

**Sydnee:** That's okay, we can.
Justin: Let’s do it.

[theme music plays]

[ad break]

Justin: “Hey, Dr. Sydnee, I got one. Why does my voice get deeper in the morning? What about the same thing when I’m sick? Also, it’s gotten deeper as I’ve aged? What’s the deal?

Love, Paul.”

Sydnee: Do you know?

Justin: Well...

Sydnee: Specifically, morning voice, I thought was an interesting question.

Justin: Morning voice, I would guess... I guess the lack of hydration, if I had to guess. I know performers when they want to be at their best voice drink a lot of water, honey tea, whatever.

Sydnee: That’s the main thought. Your vocal cords, those two pieces of tissue, have been still and then air has been passing over them for some number of hours, however long you slept. And so you need to lubricate them and work them out. It’s like stretching a muscle before you run or exercise.

If you’ve been sleeping all night and you jump right out of bed and then go do some sort of strenuous activity, you know, your muscles aren’t ready. It’s the same thing, your vocal cords. You just need to lubricate them. They’ve gotten dried out. And then you need to start using them and then they start flappin’ and making sound.

And the sound gets closer to what it typically sounds like and then it happens all over again the next morning.

Justin: I have definitely noticed the voice lowering as I’ve gotten older though.
Sydnee: Mm-hmm.

Justin: Even through my like, 30s, my voice has gotten low. Like if you go back and listen to early episodes it's much... My voice is much higher.

Sydnee: It just has to do with the way those vocal cords, if they've changed over time, if they're thicker than they were, you know, if they're a little drier, a little moister, that changes in the moment.

But then if they have changed slightly in thickness...

Justin: Could... could fluctuating weight change that too? Because I know that that can alter the hormones in your body, right? Different amounts of fat tissue in the body?

Sydnee: Uh, I mean, it's not fat tissue, but it's an interesting question.

Justin: Oh, well thank you.

Sydnee: We know that... But, I mean, yes. I mean hormonal levels definitely affect... We know that because we can see with hormone administration.

Justin: Sure.

Sydnee: We can see voice change in, you know, pitch. And so definitely hormones can affect it as we age. Not necessarily— But like weight loss in the sense of, do they get bigger or smaller? Not... No. You know what I'm saying? Not that.

But like, yes, yes. Hormonal shifts, whether due to weight or age or you're taking hormones or whatever, definitely affect the vocal cords.

Justin: Sickness is probably inflammation, right?

Sydnee: Yeah.

Justin: Is creating thicker vocal cords, lower sound?
**Sydnee:** Exactly. Or if they're like a little bit inflamed, if they're like, you said inflammation. But like, if they're holding on to fluid would be the other thing. So we talked about dried out. But like if they're a little bit swollen—that would be a good word for it—then that would change the tone too.

**Justin:** “After being on the antidepressant...” [hesitates]

**Sydnee:** Venlafaxine.

**Justin:** Oh, thank you. That’s Effexor.

**Sydnee:** Mm-hmm.

**Justin:** “… for about 20 years, I weaned myself under medical supervision off of it. It took over a month to do it and during the process I experienced gaze-evoked tinnitus. It is freaky. What causes it and what is going on?”

That's from Mark. I’d never heard of that before.

**Sydnee:** [palpably excited] I had never either.

**Justin:** Really?

**Sydnee:** Yes. This is a pretty rare form... So have you—You've experienced tinnitus [short second “i”] before?

**Justin:** Yes. I said “tinnitus” [long second “i”], didn’t I?

**Sydnee:** Either way.

**Justin:** Tinnitus [short second “i”].

**Sydnee:** Whatever you want to call it. Well, and what—and can you describe what that is?

**Justin:** A ringing of the ears.
Sydnee: Yeah. And sometimes people experience it as a buzzing or humming. But like—

Justin: It can be... It doesn't sound that serious. It can be really bad for some people.

Sydnee: Mm-hmm.

Justin: The former... The former chief of Texas Roadhouse killed himself because his tinnitus was so bad.

Sydnee: Oh my gosh.

Justin: This is a true story about the former head of Texas Roadhouse.

Sydnee: I didn't know that. I didn’t know that.

Justin: It’s true.

Sydnee: So, it is. It can be, in terms of quality of life, even if it doesn't...

Once you've had it evaluated, even if it doesn't mean there's anything like, you know, fatal or serious or terminal associated with the symptom, your quality of life can be greatly impacted by it.

Specifically gaze-evoked tinnitus is when you move your eyes in different directions and it changes the... how loud the sound is.

Justin: Whoa! [laughs] That would be wild.

Sydnee: Yeah. So like specifically, like you look off to the periphery and the sound gets louder.

Justin: I bet that's pretty wild for like, a day, before the novelty wears off and it's just the pits.

Sydnee: He— [laughs ruefully] Yeah. Here was what was interesting. As I was looking into this it— I couldn't find a lot of reports of it being associated
with antidepressant discontinuation syndrome. The reason I say that specifically is that you don't withdraw from a lot of these medicines in what— in the way that we think about withdrawal, right?

Justin: Mm-hmm.

Sydnee: Like, there aren't... It's not dangerous, for the most part. I'm making generalizations. So we don't call it a withdrawal syndrome, but we do call it a discontinuation syndrome because we know that when you stop these medicines, you can definitely experience some physical and emotional, mental, psychological sensations, that are unpleasant or uncomfortable, but they are transient. They do go away once it's completely out of your system.

Tinnitus was listed as both a side effect of a lot of these medications and part of the discontinuation syndrome. Gaze-evoked tinnitus was not, that I could find. So certainly that can happen, but this must be a rarer side effect. And generally this kind of tinnitus is pretty rare and usually only associated with a patient who has had a specific kind of tumor removed.

Justin: Hmm.

Sydnee: So it's not with the tumor itself. There's a specific tumor you can get called an acoustic neuroma or a schwannoma. You were... They looked at you for that—

Justin: Mm-hmm.

Sydnee: ... when you first experienced tinnitus to make sure you didn't have it. It's a nerve sheath tumor. So the nerve sheath, the sheath around the nerve, grows abnormally. It's typically a benign tumor, but as it gets larger, it can cause symptoms.

And so we generally remove them. It's around the, you know, auditory nerve. So it's in your brain. After you remove it, the— what we think is happening, because some of the— A lot— No, I shouldn't say a lot. It's still pretty rare.
But people who have had this tumor removed can develop gaze-evoked tinnitus. And the thought is that it has to do with, as those pathways regrow after surgery, as your brain is forming these new little tracks and connections, there is this cross between movement and like—not necessarily movement, but like your visual area and your auditory area, like the nerves, get rewired in the wrong way.

**Justin:** Mm-hmm.

**Sydnee:** So that they connect the two. So that when you look in a different direction, you hear something.

**Justin:** That’s wild.

**Sydnee:** So it's like a... yes. Things that normally don't connect become connected. So that's usually what it's associated with. So, that's what it is.

**Justin:** This is a question from Austin and it's basically, Austin was trying to find out on the Internet how far to space out ibuprofen and acetaminophen and got a very wide range of answers.

“And basically, a lot of folks rarely have the time and resources to call a nurse line or ask a doctor. So why does Dr. Google feel so dodgy for basic health information?

Thank you, Austin.”

**Sydnee:** And Austin also wants to know if there are specific websites I trust—

**Justin:** Yeah.

**Sydnee:** ... or how do I search for stuff. Um. Okay, this is tough to give like general recommendations for, because there's... You're going to get as many bad answers to any medical question as you will good answers on the Internet.
Generally speaking, if they're being put out by a medical facility, if you're looking at information about something from Cleveland Clinic or from Mayo or you know—

**Justin:** Mayo Clinic has a lot of these. They have a lot of these, like...

**Sydnee:** Patient information.

**Justin:** They pop up a lot.

**Sydnee:** Yes, they do. If you're looking... Or if you're looking at CDC recommendations, you know, National Institute of Health recommendations, the US Preventative Service Task Force, is what gives all, like screening recommendations.

If you're looking at these organizations, you're looking at evidence—based information that someone has vetted who has medical knowledge and is putting out into the world.

So that should be valid information.

If you are reading from some popular medicine website, blog, newsletter... I... I have no idea. Fifty-fifty. Could be perfect. Could be totally wrong.

**Justin:** Could be... could be AI-generated.

**Sydnee:** Mm-hmm.

**Justin:** That's becoming more and more common. Just AI scraping other articles and tossing together something.

**Sydnee:** So I wouldn't... I would never trust any of that. If you're listening to other people's anecdotal experiences, I'd be very wary of that because an anecdote does not equal evidence. And so it may apply to you, or it may not. And the person may be well-meaning. Not all of this is malicious.

**Justin:** Yeah. I mean, there's an aspect of this where a lot of the advice is going to be extremely nonspecific because there's a legal—
**Sydnee:** Yes.

**Justin:** ... ramification of giving you a specific thing that turns out to be incorrect. That's why we always have the disclaimer at the beginning of the... our episode. And we have a doctor on this show. [laughs] You know what I mean?

**Sydnee:** Yes.

**Justin:** Like, it's... No one wants to be in that position of saying like, “You told me on your website that I could do this and it hurt me and now I'm suing you,” so...

**Sydnee:** We... Well, we follow evidence that is based on generalized, you know, data that we've gathered from many people, and that we apply then to all of our patients.

In the clinic room, in the exam room, we're individualizing that treatment plan in the way that works best for that patient.

**Justin:** Mm-hmm.

**Sydnee:** And that is not something that you can answer easily on a website.

**Justin:** Mm-hmm.

**Sydnee:** I would check and see, our office, for instance, has a 24-hour on-call line where you can talk to one of our doctors if you have a specific question that you're really concerned about, and you can't wait until the next day to call.

**Justin:** Who mans that? You ever had to do that?

**Sydnee:** Our residents.

**Justin:** Oh. Okay.
**Sydnee:** So I did, as a resident, yes. But you might check into that and see if your primary care office has that.

**Justin:** Would that be a fun gig? Would—

**Sydnee:** And if you don't have a primary care provider you should—

**Justin:** Would you like to do that? It seems like that'd be kind of a fun gig.

**Sydnee:** ... and you can, you should get one.

**Justin:** Just hanging out in a room, answering questions for people.

**Sydnee:** I... honestly. It's so hard to answer them in a safe way without being able—

**Justin:** Oh...

**Sydnee:** And especially if it's a patient you don't know. ‘Cause you're answering for the whole practice.

**Justin:** You probably end up saying like, “Just come into the office” a lot.

**Sydnee:** A lot of the time it's just triage. Either, “Go to the ER now” or “That sounds like something that you can come in and be seen for in the morning.” It's really hard to do that effectively.

**Justin:** “Hey y'all, this has been a weird one for me. I recently had LASIK done. I've been using a ton of eye drops. The weird thing is I can often taste them in the back of my mouth after.

It kind of tastes like when you have a hard time swallowing an uncoated pill, bitter and chemical. Why can I taste something I'm putting on my eyes?! If this is normal, I feel like more people should mention it.

Thanks, Hadley.”

**Sydnee:** That is normal. You can taste eye drops.
Justin: Why?

Sydnee: Because of something called your nasolacrimal duct. It is a duct, so a tube, an empty space, that runs from the inside corner of your eye, where... that's also where tears can be generated.

Justin: Yeah.

Sydnee: And then there's a tube where they can go back in. [laughs] Moisture and fluids can go back into this tube and down into your nose.

They drain down into the back of your nose. Which can then drain down the back of your throat.

Justin: That's why sometimes if you sneeze bad it blows out your eyes. [laughs]

Sydnee: [laughs] It's all connected.

Justin: You... You ever had that?

Sydnee: It's a— I have not, but it—

Justin: Oh man, it's bad.

Sydnee: It's all connected up there. So yes if you... When you put the drops in, if they drain down that duct and then especially if you lean your head back, they're going to go right down the back of your throat. You're going to taste 'em.

Justin: Okay.

Sydnee: Yep.

Justin: "Hi, Sydnee and Justin. Recently I was scrolling Facebook and saw an ad for lithium supplements."
“As someone who works closely with folks who have mental illness diagnoses, I know lithium is a treatment for bipolar and major depression. Upon further investigation, the capsules that are sold are one milligram. I tried to do some research and I'm not a doctor or a scientist. I just had a hard time understanding anything I found.

I thought ‘Man, I wish that Sydnee could explain this to me.’ So yeah, my question: Is this one of those homeopathic remedies slash vitamins that you don't really need? Or is there real benefits to lithium? Thank you.”

And this is a supplement. So I'm guessing not like a prescription, like this is—

**Sydnee:** You can look it up. Lithium orotate is the form that most supplements were in. Oro, O-R-O—tate. T-A-T-E.

**Justin:** Okay. Oh.

**Sydnee:** That is—

**Justin:** Yeah, this is just like—

**Sydnee:** Yeah.

**Justin:** Yeah.

**Sydnee:** You can just buy it.

**Justin:** Like five bucks at Walmart or something.

**Sydnee:** Yeah. So that is not the same form of lithium that is prescribed, you know, for... usually for bipolar disorder, is what we're talking about. This is not the same. Like it is a different complex.

**Justin:** Okay.
**Sydnee:** It's not lithium carbonate, so it's lithium orotate. Lithium can be combined with different things to make different salts. And those different forms have been tested.

Since we've known about lithium's ability to manage certain things, to—specifically bipolar disorder—for a very long time. We've... you know we've known about lithium's psychoactive components since the 1800s, at least.

We have tried lots of different chemical forms of lithium. The stuff that you're prescribed is not lithium orotate. Lithium orotate has been studied since at least since the ’70s.

There was like a renewed interest where they tried to say, “Because of the way this lithium molecule is comprised, we think this would be a better... it would have... it would penetrate the blood—brain barrier better and you'd have higher concentrations in the brain.”

Meaning you could use less of this to get the same result of lithium carbonate. That was the theory behind it.

The studies were really inconclusive. They did one that sort of showed that. They did another that... And this was in rats. They did another one that also killed the rats’ kidneys.

So then they were like, “Well, maybe it's more dangerous.” Which is a known, by the way, all of these things, you have to measure levels because these... There are a lot of known problems with lithium toxicity.

**Justin:** Right.

**Sydnee:** Meaning like, your levels get too high.

**Justin:** Are you saying, Sydnee, that the dose makes the poison? Is that what you're saying?

**Sydnee:** I am saying that. Especially with lithium, is a great example of the dose makes the poison.
Lithium orotate does not have evidence behind it to show that it would be better, that it would be more effective, that using lower doses definitely would have the same effect as other forms of lithium, but with less toxicity because you're using a lower dose.

**Sydnee:** We have no evidence that conclusively supports any of that at this point. Which is why it is sold, unregulated, as a supplement in extremely low doses that are much lower than we would ever think would be active in your body in any way.

So, here is what I would say about these supplements. Best case scenario, they're probably doing nothing.

**Justin:** Yeah.

**Sydnee:** The bioavailability is in question. So like, how much of that are you actually absorbing? And is it getting anywhere in your body at all?

**Justin:** Mm-hmm.

**Sydnee:** Are you basically taking something homeopathic?

**Justin:** Yeah.

**Sydnee:** I mean, there's lithium in there, but like, is it enough to do literally anything? That's the best case scenario.

The worst case scenario is, you're taking something that is chronically giving you low-dose lithium exposure. And we don't know what that's going to do.

**Justin:** Yeah.

**Sydnee:** Or, as in one case report I read, you take too many and then you do exhibit symptoms of lithium toxicity.

Which there was someone hospitalized with signs and symptoms of toxic levels of lithium from taking these over—the—counter lithium supplements.
They're being pushed for things like alcohol use disorder. And other... Any other psychiatric diagnosis. But that was the one thing I kept seeing it pushed for.

Like, “This is a great way to quit drinking.”

**Justin:** Yeah.

**Sydnee:** I would... I would... That makes me very upset. I would stay far away from anything that claims to be better than what we know are evidence—based conventional therapies.

Because, again, best case scenario: they just don't work. Worst case scenario: they're harming you and keeping you from accessing treatments that we have evidence that work.

**Justin:** Some of these are shady. I'm looking at some. Most of them just say like “one milligram, two milligram.” This one here says 1,000 micrograms, which sounds bigger doesn't it? [laughs]

**Sydnee:** It does. Mm-hmm.

**Justin:** That sounds real. Wow, that’s a lot.

**Sydnee:** And if you don’t—

**Justin:** That’s a lot of them.

**Sydnee:** Well, and see their playing on like—

**Justin:** That’s one milligram.

**Sydnee:** For me— Exactly. And for me, because I took a ton of science classes, I immediately see that.

But if you... If your specialty area of, you know, knowledge or interest or whatever is something else, you're not going to immediately see the “micro”
and "milli" and understand why they're tricking you, or how they're tricking you. It's not going to be readily apparent.

**Justin:** Yep.

**Sydnee:** So this is why I would stay away from any of these things and I would go talk to someone who is an expert in this area to help you manage whatever your concern is, whether it's bipolar disorder or alcohol use disorder or another substance use disorder, whatever.

Please go talk to a healthcare professional. Don't take these supplements. Best case scenario, you're wasting your money. Best case.

**Justin:** Best case. Hey, thanks so much for listening to our podcast. We hope you've enjoyed it. If you want to see us live, October 13th, we're going to be at New York City.

**Sydnee:** [laughs]

**Justin:** It's in conjunction with New York Comic Con, but it is not... You do not require a badge to get there. *Sawbones* will be opening for *My Brother, My Brother and Me*. A long night for the J-man, but for you, my public, anything.

I will also be putting myself through a similar Herculean trial in Philadelphia two nights prior. If you wanna come see us with *My Brother, My Brother and Me* in Philadelphia that's October 11th at the Miller Theatre, October 13th at the Javits Center.

October 12th, there's going to be a New York City TAZ show, *The Adventure Zone*. You can get tickets for all of them at bit.ly/mcelroytour.com.

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. We hope you—we answered all your queries satisfactorily.

But until next time, my name is Justin McElroy.
Sydnee: And I’m Sydnee McElroy.

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

Also, I don't know why I said, “We answered.” I mean... we all know...

Sydnee: Yeah, it was just me.

Justin: Yeah...

[theme music plays]

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