Sawbones 179: More Weird Medical Answers

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Clint: 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 Tyler McElroy!

Sydnee:
And I'm Sydnee McElroy.

Justin:
I'm trying to make it feel more like an event, you know? When I come on the show.

Sydnee:
Like you're an event?

Justin:
Like I'm an event.

Sydnee:
You are an event, honey.

Justin:
Thank you.

Sydnee:
All to yourself.

Justin:
Um, it's the Maximum Fun Drive. We're gonna talk about what that means in a little bit. But, let me give the story.

Sydnee:
It's a very exciting...

Justin:
Yeah.

Sydnee:
... time of the year.

Justin:
Let me give you the short version. You need to go to maximumfun.org right now and donate some money to us and the rest of the shows on this network.

Sydnee:
[laughs]

Justin:
Once a month, uh...

Sydnee:
Nope, once a year.

Justin:
No, no. Let me finish.

Sydnee:
Oh, sorry.

Justin:
Once a month, you'll kick us some money.

Sydnee:
Oh, okay.

Justin:
And it, it really helps us out. We'll tell you why.

Sydnee:
But, we only ask you once a year. So, that seems like a deal.

Justin:
Right. Yeah. It's a bargain really, a bargain, I say. Um, but to celebrate, we decided to, if we're gonna ask you for money, we thought we could offer you some help in exchange...

Sydnee:
That's right.

Justin:
... for—for that.

Sydnee:
That's right. We, uh, usually, uh, well, I mean, our listeners often suggest topics, I will say. So, it's not rare that ideas for what we should talk about would come from you guys, because you are good about sending us wonderful things to talk about. But, uh, sometimes you have questions in medicine. Like, not necessarily questions about yourself in terms of like what's, what's my diagnosis, or what should I do about it. But, just kind of those like, "Why does this work this way? What does this mean?"

Justin:
Sure.

Sydnee:
... kind of questions.

Justin:
So, we're gonna address as many of those as we can.

Sydnee:
Right, because I— I really like to stay away from medical advice.

Justin:
Mm-hmm.

Sydnee:
So, this is more just medical interest.

Justin:
Still just for laughs, folks.

Sydnee:
Yeah.

Justin:
Uh, this is from @sygnesswoman, or perhaps sygness, it's hard to say.

Sydnee:
My guess would be sygness.

Justin:
Sygness, probably. Um, "Why does my bobby, bobby. Why does my bobby..."

Sydnee:
That's a, that's a body, honey. Your body, and I can answer this one, your body is the physical form of yourself.

Justin:
Okay, "Why does my body make tonsilloliths?"

Sydnee:
Yeah.

Justin:
My dad has them too. "How do I live with them and mitigate their occasional vile eruption?" Now, you mentioned this one to me last night. I have no idea what that term means. I have no clue.

Sydnee:
Yeah. So, tonsilloliths are tonsil stones.

Justin:
Okay.

Sydnee:
When you hear lith at the end of something...

Justin:
Monolith.

Sydnee:

Sure.

Justin:
One big stone.

Sydnee:
Right. But, when you, when you hear the lith part in there, otoliths are stones in your ears. When we talk about a nephrolith, that's a kidney stone.

Justin:
Okay.

Sydnee:
Lith means stone. Tonsil stone.

Justin:
Lith means stone.

Sydnee:
There you go. Yeah.

Justin:
Okay, got it.

Sydnee:
Uh, so, we're talking about tonsil stones. And I will tell you that I get asked about tonsil stones not infrequently.

Justin:
Hmm.

Sydnee:
Lots of people wanna know what the deal is with tonsil stones. So, basically, if you've ever had them, you were know right away as I describe them. They're, they're little clumps of like calcified mineral material that can collect in your tonsils, specifically in what we call the crypts of your tonsils. Crypts.

Justin:
Eeh.

Sydnee:

Which are like the... Well, it's just like the indentations. You know, tonsils aren't smooth, typically.

Justin:
Mm-hmm.

Sydnee:
They're kind of like bumpy and they have ridges and little hills and valleys.

Justin:
Okay.

Sydnee:
They're like our state. And...

Justin:
They're yucky.

Sydnee:
No, they're not yucky.

Justin:
You can just say yucky.

Sydnee:
And, um, you can get little stones stuck down in there. Calcified lumps of material. And people don't like them because they can be uncomfortable because you can feel them. Some of them can even be larger and they can be pretty uncomfortable because you feel them in the back of your throat.

Justin:
Mm-hmm.

Sydnee:
They also usually contain anaerobic bacteria. And anaerobic bacteria, it's actually the same ones that can cause like gum disease and stuff.

Justin:
Okay.

Sydnee:
So, those bacteria produce sulfide compounds that can smell bad.

Justin:
Okay.

Sydnee:
So, people also don't like them because they feel like they make their breath smell bad.

Justin:
And where are they?

Sydnee:
They're in the back of your throat in your tonsils.

Justin:
Like stuck to them?

Sydnee:
Mm-hmm.

Justin:
Okay.

Sydnee:
Mo— we— usually we diagnose them just by looking and seeing them.

Justin:
Okay.

Sydnee:
Like, I look in the back of your throat, I see a white lump on your tonsil, you got a tonsil stone.

Justin:
Okay.

Sydnee:
It's that simple. About 7% of the population has them. So, it's not, not uncommon. They might be related to recurrent bouts of tonsillitis. So, that might be why you have them, is if you have a lot of tonsil infections.

Justin:

Mm-hmm.

Sydnee:
Inflammations of your tonsils when you were younger. Or you might just have them.

Justin:
Sorry.

Sydnee:
Sorry. Um, you know, almost 10% of the population does. So, you might just have them. They're not usually a big deal when we think of medically speaking. Like, they don't, they don't do anything for the most part. Certainly a really large one might cause some infection there, an abscess, but for the most part, you can kind of pry them out with the tip of your tongue.

If that doesn't work you can use like a soft toothbrush. I mean, you don't wanna do anything that's gonna cause harm to the tissue. But, you can use like a soft toothbrush to brush them out, uh, you can rinse them out. Rinsing the back of your throat is always pretty effective to get rid of them.

In really severe cases, you can do things like laser cryptolysis where a doctor would go in and actually smooth the surface of your tonsils with a laser, because then there's no crypts for, in which the stones can form.

Justin:
But there, but there shouldn't be any medical reason why you would need to do that.

Sydnee:
No, it, and that, a lot of doctors...

Justin:
And will they reform if you? Even if you have the surgery?

Sydnee:
Well, if you don't have the crypts there, no.

Justin:
Okay.

Sydnee:
Like, the crypts aren't gonna reform. They're just... But, so, you shouldn't get the tonsils anymore, you shouldn't get the stones anymore.

Justin:
Okay.

Sydnee:
Um, but again, since they're not dangerous, that's kind of quite like should we really do that? I mean, I guess in severe cases you could take your tonsils out. But again, that's a surgery for something that, most of the time, is not severe. Now, they do, like I said, they can be associated with bad breath. Although, some of that is just your perception.

Justin:
Mm-hmm.

Sydnee:
As, as they come out, they do smell bad. Like, the stone itself smells bad. But, it's not necessarily making your breath smell as bad as you think it is. They have assessed this with something called halitometry. I only mention this because there is a way we have come up with to objectively assess whether or not your ba—your breath is bad.

Justin:
Okay.

Sydnee:
It measures those, uh, sulfur compounds that I talked about, that anaerobic bacteria make, uh, VSCs, volatile sulfur compounds in parts per million in your breath. So, we don't have to say your breath is stanky, we can use a halitometer.

Justin:
Okay. [laughs] Listen, don’t take it up with me. Take over the robot.

Sydnee:
Sorry, it's not my fault. The halitometer says your breath is stanky.

Justin:

Sorry. Um, here's a question from Gwen Cooper that says, "Can you have gas pain anywhere else besides the abdomen? My best friend used to say she had gas pains up near her shoulder?!"

Sydnee:
[laughs]

Justin:
That's a, it's a question mark, exclamation point. It is one step short of an interrobang.

Sydnee:
No, that's, that is true that people will complain of gas pain in their, in their chest, and in their shoulders, and in their upper body. I have known people, maybe, that are sitting in this room who have said things like that to me before.

Justin:
Hmm, perhaps, yes. Perhaps.

Sydnee:
Perhaps, yes. And, uh, there is... What you're probably talking about is what we call referred pain. Do you know what referred pain is, Justin?

Justin:
Um, it's... I mean, I can come up with something. But, I—I don't think it'll be true or right.

Sydnee:
It's pain that is felt in a place other than the place it originates.

Justin:
Okay.

Sydnee:
So, here's... Okay. Now, why would this happen? Why would you have a problem down in your stomach and feel pain up in your shoulder?

Justin:
Well, there's... It's a little thing called innervation, Syd.

Sydnee:

Mm-hmm.

Justin:
Nerves connect different parts of your body. So, just because you hurt yourself in one place, doesn't mean you're necessarily gonna feel it in that place. Like, sometimes you wipe too hard and your throat hurts. You know what I mean?

Sydnee:
No. That's not a, that's not a thing that happens. But, you were almost there. You were so close.

Justin:
I was... The second part was a joke.

Sydnee:
It does have to do with nerves..

Justin:
The second part was a joke.

Sydnee:
[laughs]

Justin:
No, that's not a joke. It is actually... That is a real thing that has happened to me before.

Sydnee:
You're wiping wrong.

Justin:
I wiped in the wrong place and my neck hurt.

Sydnee:
You're wiping very wrong. So, let me give you an example. This is the classic example of referred pain. The nerves that sense pain in your gallbladder... Now, do you know where your gallbladder is?

Justin:
Yeah. It's right here.

Sydnee:
Could you described where you just pointed to?

Justin:
I'd rather not. Let's just take it at faith that I pointed to the right place.

Sydnee:
Right. It was at your right upper abdomen.

Justin:
Would you say that's where it was?

Sydnee:
I would say that's where it was.

Justin:
Yeah, me... Yeah, I agree.

Sydnee:
Uh, so… [laughs] So, the nerves that feel pain in that area of your stomach, where your gallbladder is... Your gallbladder kind of sits right nestled underneath your live there. Uh, they enter your spinal cord at the levels, uh, T5 to T10. What that means, they're thoracic vertebrae T5 to 10. It's kind of in the middle of your back, okay?

Justin:
Okay.

Sydnee:
The thoracic vertebrae is right in the middle where your ribs connect around in the back, that area, okay?

Justin:
Okay.

Sydnee:
So, that's where those nerves enter your spinal cord. That is the same, what we call dermatome, which means... And when we talk about dermatomes, the way that you feel things, it's due to different nerves, as you travel down the body, that come from different places in your spine.

Justin:
Okay.

Sydnee:
And so, you can look at really cool charts of this. I mean, if you just Google dermatome, you'll find a picture of like a naked person all covered in multi-colored stripes. And each stripe is—has a letter on it. C1, T5, L4. And it has to do with where that nerve root, what patch of skin is innervated and makes you feel from that nerve level.

Justin:
Okay.

Sydnee:
So, if at the same nerve level your gallbladder nerves enter and the patch of skin that is right over your shoulder blade enters. If your gallbladder hurts, your shoulder will hurt.

Justin:
So...

Sydnee:
That is a classic example of referred pain. If you have a gallbladder problem, your right shoulder might hurt. Similarly, on the left side, if your spleen ruptures, your left shoulder might hurt.

Justin:
So, if I have gas and my heart hurts, it's not because there's gas in my heart and I'm dying?

Sydnee:
No, honey.

Justin:
Okay, because like, I feel like I'm learning something new right now.

Sydnee:
A lot of this has to do with just, uh, your visceral organs, organs in your gut, where their innervation enters. And if like you have gas pain because something's getting stretched or moved around and, then it's the same

nerve root as something in your upper body, you're gonna get some pain there.

Justin:
Uh, here's another question from Ulysses Satournin. Um, "Why do cross runner—", sorry, "Cross country slash track runners poop themselves while running? I've heard this happens."

Sydnee:
Yes, this can happen.

Justin:
I've never run enough. Shame on me. I've never run enough to poop my pants.

Sydnee:
[laughs] I haven't either and it really is something that tends to happen to people who are, who are doing marathons.

Justin:
Mm-hmm.

Sydnee:
Who are doing long, long distance running. Not the kind of running that Justin and I typically would engage in. Uh, it's been called runner's diarrhea or runner's trots, which I—I enjoy.

Justin:
It's unfortunate.

Sydnee:
I like runner's trots. And, and it has to do with a couple of different factors. Because this is a real thing. Either the need to poop frequently while you're running or losing control of your bowels while you're running.

Justin:
Mm-hmm.

Sydnee:
It has to do with a couple of different things. One, probably just the jostling around of all of your intra-abdominal organs and the stuff inside them. So, your intestines are bouncing around, all the stuff's bouncing around, it's

moving along. That, that mechanical action probably has something to do with it.

Uh, but there are other reasons. There's a lot of fluid and electrolytes shifts going along—going on inside your bowel because you're using so much fluid.

Justin:
Okay.

Sydnee:
And you're, you're using up fluid very quickly. Uh, that's causing fluid shifts inside, what we call the lumen, which is like inside your intestine. The inside part.

Justin:
Mm-hmm.

Sydnee:
Or inside the tube. Um, in and out. And that can cause things to move along a little faster in the GI tract. The other things is, that you don't get as much blood flow to your intestines.

Justin:
Huh.

Sydnee:
Um, and that can cause things to kind of shuttle along faster. Um, and then there's things like, you're probably amped up and nervous right before you go running and that probably plays a role in it too.

In addition, for some runners, it's simply a matter of you lose time if you go poop too often.

Justin:
So, they're just hardcore love...

Sydnee:
There are some pictures. If you start looking into this, because I did...

Justin:
I'd rather not.

Sydnee:
There are some pictures of some, I don't, I don't know if you wanna call them brave. We'll just say brave, some very brave marathon runners out there. Very brave.

Justin:
Vis-à-vis, pooping their pants.

Sydnee:
They're wearing those little runner shorts and there's just diarrhea everywhere.

Justin:
I hate this question. Thank you for asking it. I hate it.

Sydnee:
There are even worse cases, uh, be—I mentioned that you have decreased blood flow to your intestines when you run long. You can, not always, not always.

Justin:
Mm-hmm.

Sydnee:
But you can when you run long distances. That can even cause damage to your intestines. Something called ischemia, which means lack of blood flow, can cause damage. And you even have runners who have bloody diarrhea from bleeding afterwards.

Justin:
Ugh. Ugh.

Sydnee:
You can avoid this somewhat by making sure you're nice and empty before you run. So, some... Like, I found some runners blogs that would advise things like have a little bit of coffee or something to get you going beforehand so that you're completely cleaned out, so you don't have to poop while you run. Uh, some other things I saw were avoid really fibrous food the day before. Stuff that's gonna make you go. Try to hold off on that.

Justin:

Yeah.

Sydnee:
And don't challenge yourself with a brand new food you've never had before. Um, or something that you know makes your stomach a little queasy the day before.

Justin:
Peanuts. I always wanted to try those. Um, some running peanuts.

Sydnee:
Right. For—for energy.

Justin:
Sydnee, is there, this is from Richard S., is there a pedagogical reason why... Pedagogical?

Sydnee:
Pedagogical.

Justin:
Not pedagogical?

Sydnee:
Yeah. Pedagogy as in teaching, is there a teaching reason.

Justin:
Pedagogical reason for the long hours interns, slash, residents work, or is it a hazing kind of thing? I know this one.

Sydnee:
Go for it.

Justin:
It's so rare that I know one.

Sydnee:
Do you wanna... Go for it.

Justin:

There is a good reason for doctors, uh, to work such long hours. And it is, uh, continuity of care. So, if you have somebody check in to the hospital and they're there, check...

Sydnee:
Like, like they would at a hotel.

Justin:
"Hello? Is someone taking my bag... of urine?" Sorry, I'm in a hospital. Um, if you have somebody, uh, admitted to the hospital and, uh, they're gonna be there for 24 hours, if you have people swapping out every, um, eight hours or whatever your typical shift would be, you're gonna have people passing off control of that person's care every eight hours. And every time there's a handoff like that, there's gonna be some loss of continuity of care. So, there's more room for error and more room for mistakes. And also, time loss by having to re-explain like what's going on with the patient. Is that pretty much right?

Sydnee:
That's a really good answer, Justin. And it's always a balance. Let me say that this has been a debate in medical education and what we call graduate medical education, which is residents, and interns, and fellows, uh, since as long as we've had that concept. How do you balance a tired resident with the danger of multiple transitions in a patient's care? Because that really is, that is the most precarious moment in a patient's care, is when you're handing them off from one physician to another.

So, I have to leave the hospital for the day, I'm handing care of this person over to you. I'm gonna communicate everything that's happened, all the issues, you know, every results, every complaint, everything I did, everything we talked about, the entire physical exam. I gotta tell you everything. And it has to be written down in some way, and I have to do that for every patient I've taken care of.

Justin:
Mm-hmm.

Sydnee:
And that's a very difficult thing to do, uh, well, correctly, and efficiently. And the more, just like you said, the more you have to do that, the more opportunities there are for errors. And so, a lot of studies have said, are tired residents really more dangerous than more handoffs? And the truth is, probably not. You're probably better off having that sleepy resident still

there who know the situation than you are handing the care off multiple times. Um, so, I know it seems mean and I've lived it. And it feels mean and it feels rough to do it.

Justin:
To answer your question, there is also definitely a hazing element to it because that's why the residents and interns are doing it and the attending physicians are not.

Sydnee:
Okay, well, but it's not...

Justin:
And I don't mean, I don't mean hazing, it's just like they're the new people and they have to do it and then the next new people have to do it.

Sydnee:
That is true. There is a seniority issue here. I don't do this anymore because I'm an attending physician. No, I think there are people in some higher demand specialties, like trauma surgeons, who may feel differently about that comment. But, um, as a family practice doc...

Justin:
I don't care. I'm not married to them.

Sydnee:
Uh, I don't do a lot of that anymore. It isn't hazing though, because I don't feel like hazing has a purpose. And hazing...

Justin:
Hazing has a malicious, uh, yeah. A malicious...

Sydnee:
There is no malicious intent. This is just part of your training. And you learn more this way too. If you're able to admit a patient, care for them for the entire, the beginning of their admission for the diagnostic process and beginning the therapeutic process, and then you leave, you're much better suited to manage that problem in the future than if you admit somebody and then leave an hour later and never fi—and you don't find out what happened until the next day. You've missed all those critical steps.

So, it helps with teaching, it helps with training, it helps reduce patient error. Yes, it's hard. And yes, it's a balancing act because there is a limit. We—we are only human. We can only work so much before then it does become dangerous.

Justin:
Mm-hmm.

Sydnee:
But there, people are thinking about it.

Justin:
Uh, I wanna get in one more question before we take a break. Hmm, "Do weighted blankets actually help with anxiety?" That's from Terra.

Sydnee:
Have you heard of this?

Justin:
No.

Sydnee:
This is a true, this is a true thing. So, there are studies that have shown that something called deep touch therapy, DTP, which can involve hugging, squeezing, swaddling, stroking, holding, uh, and kind of simulating that with something like a weighted blanket, is effective in calming anxiety. And they also use it for some other things like cognitive developmental disorders and sensory modulation disorders. Uh, it really, it really does help with that.

Justin:
Okay, well...

Sydnee:
So, so, that's one thing that they found for, um, you know, i—in children, I think, swaddling is a really good example.

Justin:
Mm-hmm.

Sydnee:
If your baby's really upset and you wrap them up really tightly, they chill out most of the time. And so, they found that for certain adults and, uh, and

older children, that, you know, this act of like hugging somebody very tightly or if they, if you don't necessarily want that physical contact, or they don't desire that physical contact, a weighted blanket can do that.

Justin:
Um, uh, we're gonna take a break right now to talk to you all about the Maximum Fun Drive. Um, there are a lot of shows on the Maximum Fun network. All of them need your support and if you listen to shows on a network, I know you do because you're here and you're hearing this...

Sydnee:
[laughs]

Justin:
But, especially if you listen to multiple shows on a network, um, we come to you once a year and say, "Hey, can you help us out and help pay for shows in the network?" That goes into, uh, hosting cost, it goes into equipment fees, it goes into paying people who make the shows, and people who host the shows, who edit the shows, and—and people who make art for the shows, and so on and so forth.

Sydnee:
And it helps us, uh, make our shows better and bring new shows.

Justin:
That's exactly right, Syd. Um, so, we really need the Sawbones fans, you, a Sawbones fan, to help support us. And the cool thing is, when you sign up and you say you listen to Sawbones, while you pledge, your money goes directly to the shows that you say you listen to. So, a portion goes to Maximum Fun, the rest of it goes to us or whatever other shows that you listen to, it gets split up between them. So, you're directly supporting their shows.

And, we're gonna say thank you, uh, when you do this, with these really cool pledge gifts. At five dollars a month, you can pledge just five dollars a month, it really will go a long way. And you will get piles upon oodles of bonus content. Days of bonus content.

Sydnee:
Every show, every show, uh, records extra bonus content for every pledge drive. And you have access to all of that. We have one this year where Justin and I go through, uh, Gwyneth Paltrow's lifestyle website, Goop, pretty mercilessly.

Justin:
Mm-hmm.

Sydnee:
Uh, we have a great ASMR one from last year...

Justin:
Oh, god. I forgot about that.

Sydnee:
... you'd enjoy. At ten dollars a month, you get a very cool pin, an exclusive enamel pin that is designed by Megan Lynn Kott, uh, and it goes with whatever show you like on the network. What's your favorite show? You get the pin that goes with it.

Justin:
Yep.

Sydnee:
So, we have a super cool Sawbones one. There's all kinds of neat ones to check out. At $20 a month, you get the keep-in-touch kit, that's, uh, note cards, envelopes, a four-color rocket pen, a rocket stamp, a rocket-shaped candle. It's a super cool kit. And, of course, everything else we've already mentioned.

At $35 a month, you get Max Fun engraved beer mugs...

Justin:
Woo.

Sydnee:
And the keep-in-touch kit, and the pins, and the bonus content. And then there's also 100 and $200 a month levels, if you can do it.

Justin:
If you can do it. And, listen, you don't need to do that. I—if you can, it's totally rad, obviously. But, but you don't have to do that. Five, 10, 20 bucks a month if you can spare it. Um, it helps to keep the network running and it helps to keep people making shows. Like, there have been shows that have not continued on the network because they couldn't make ends meet. And we want new shows on the network that... Shows that you love that speaks

to you. I know there's a lot that, um, people care about. Uh, and, uh, they're all worth supporting, in my opinion.

It's a wonderful network and it's got the most wonderful community. And that community shows that, um, every year, during the drive, where we're just asking you to pitch in and do that again. You've only got a couple of days, as you're hearing this, to, uh, get in on the, uh, the pledge drive. We are, our goal this year is 20,000. We are currently at 17,379. So, we are hurdling towards it. We need your help to get there.

Sydnee:
So, help us get there. And this counts as well if we haven't made it clear for upgrading donors, as well.

Justin:
Sure, yeah.

Sydnee:
So, so, if you're already a donor and you think, uh, maybe you're in a position to up your donation this year, this is a wonderful time to do it, because lots of free gifts as well. And you help us meet our goal.

Justin:
And, um, when you do... I— if you do upgrade, uh, you can, uh, update the shows that you listen to. So, if start listening to new shows this year, um, make sure to do that as you're, as you're finishing up. Um, uh, so, maximumfun.org/donate. That's where you go. And, um, if you could do it right now, just take a couple of minutes to do that, um, it would really mean a lot to us.

So, thank you. Thank you, thank you. Um, we, like I said, just... This only happen one— happens once a year. Um, but if you enjoy our program, don't rely on other people to do it. Please, you hop in there and, uh, let, you know, let your dollars be a vote for Sawbones. Does that make sense?

Sydnee:
Go to maximumfun.org, click on donate and, uh, if you can, pledge. Pledge some money and include, includes Sawbones in there. How about that?

Justin:
@crispytaters has a question, "You know that thing where sometimes you yawn or open your mouth wide and you hear a big crunch in one ear, what's going on there?"

Sydnee:
Now, when I, when I read this question, I think I'm, if I'm interpreting this right, you mean, you mean kind of like popping your ears is what most people would, would, I think, call it. But, I think you could call it a pop, or a crunch, or a crackle, or a... Any of the Rice Krispies sounds.

Justin:
Yeah. All the, all the... What's happening, though?

Sydnee:
What's happening is, so in order for us to hear, uh, waves of sound need to travel through the atmosphere, through your tympanic membrane, your eardrum...

Justin:
Right.

Sydnee:
... from the outer ear to the inner ear, and make it vibrate. Uh, and the— the tympanic membrane is there so that sound waves, but not any kind of liquids or objects or anything, can pass through it, right?

Justin:
Okay. Right.

Sydnee:
Now, in order for that to happen, the pressure outside the tympanic membrane, the eardrum, needs to be equal to the pressure inside, okay?

Justin:
Okay.

Sydnee:
So, you have to have a way of equalizing that pressure across that membrane. Well, you have a way on the outside, the opening of your ear, but you gotta have an opening on the inner ear side. Well, you do. It's called your eustachian tube, and it's a little teeny tube that goes from your inner ear to the back of your throat. There's a tiny little opening at the back of your throat. Uh, and the purpose of that is to allow air to pass through it to the back of your throat to equalize that pressure...

Justin:
Okay.

Sydnee:
... in your eardrum. Now, the way that you can do that is using muscles called tensor veli palatini muscles, which are attached to your soft palate and also your eustachian tube, of course, And any time you yawn or open your mouth widely, these muscles, because they're attached to your soft palate up in, up in the roof of your mouth, will open up and also activate that eustachian tube to equalize the air pressure. So, what you're hearing is air move through that eustachian tube every time you do it.

Justin:
Okay.

Sydnee:
The pop and crackle of air as it vibrates through that teeny little tube. Uh, this is essential to do on a plane. So, most of this, people think of this happening on airplanes. And it's because of atmospheric pressure changes as you go up in the airplane.

Justin:
Oh, right.

Sydnee:
So, your tympanic membrane is starting to bulge out. If you were able to look at it, it's starting to push outward. Um, it's the opposite of when you go under water, like scuba diving, it starts to bulge in. And what you have to do is start yawning, or opening your mouth wide, or swallowing. All these actions will allow air to pass through that eustachian tube and equalize the pressure across your eardrum. If you have like an, like a upper respiratory infection, like a cold, and your throat's sore, you might notice that it's really difficult...

Justin:
Mm-hmm.

Sydnee:
... because that eustachian tube is swollen and blocked off.

Justin:
Mm-hmm.

Sydnee:
Um, and that can cause you some pain. It's actually, there's kind of a cool thing you can do where like you turn your head to one side and tip your ear to that shoulder, and hold your nose and cover your mouth and swallow.

Justin:
Okay.

Sydnee:
It'll make your ears, it'll make your ears pop even if you've got a cold.

Justin:
I'll stick with the tried and true gum thing.

Sydnee:
Gum works too.

Justin:
Um...

Sydnee:
Don't try to force it, by the way. Don't try to like hold your nose and blow... You know, you know, when you're like cover your mouth, hold your nose, and try to blow really hard?

Justin:
Oh, I hate that.

Sydnee:
Unless you wanna rupture your eardrum, don't try that.

Justin:
All right, deal. Gina has one. Uh, "Why does coffee make you poop?"

Sydnee:
Justin, why do you think coffee makes you poop?

Justin:
Caffeine.

Sydnee:

You're wrong.

Justin:
Oh, really?

Sydnee:
We thought that...

Justin:
Yesterday, yesterday you said I was right.

Sydnee:
Yeah. And then I read about it and we're, you're wrong.

Justin:
Okay.

Sydnee:
Doctors thought that for a really long time. That was always the answer. Why does coffee make you poop?

Justin:
Really long time meaning until last night when I said...

Sydnee:
Well, I mean, other doctors figured it out before me.

Justin:
Okay.

Sydnee:
Uh, then we thought it was caffeine, and then they did a series of challenges where they give people decaf coffee and they still had to poop. There's something in coffee that stimulates what we call your gastrocolic reflex, which is when food hits your stomach, it makes your colon start what we call peristalting...

Justin:
Okay.

Sydnee:

... squeezing, and it moves stuff out of the way to allow new stuff in. Uh, and it stimulates that reflex, and it also stimulates the release of gastrin, which is a hormone that moves things along in your GI tract. We're not sure why. Um, like I said, we used to think it was caffeine, but it's not. On a side note, you know, we also tend to think of coffee as a diuretic that'll make us pee. Do you know you grow tolerant to that?

Justin:
No.

Sydnee:
Yeah. Chronic coffee drinkers, it really doesn't work so well.

Justin:
Oh.

Sydnee:
I thought that was an interesting side effect.

Justin:
That is interesting. Um, I have another question for you, Sydnee.

Sydnee:
Okay.

Justin:
Can someone have more than one spleen?

Sydnee:
Who wants to know?

Justin:
Jimmy Ray. Uh, "When I was a kid, they did..."

Sydnee:
Lynn.

Justin:
Lynn wants to know. Uh, "When I was a kid they did an ultrasound for something. And, in the process, they discovered I had multiple, slash, accessory spleens. Is this really..." Uh, the accessory spleen is the spleen

that drives the getaway car. Um, "Is this really a thing or just something they said to weird out a kid? If it's a real thing, what is the function?"

Sydnee:
This is absolutely a real thing, Lynn. Accessory spleens or, I like, there's multiple names, I like splenules.

Justin:
Splenules.

Sydnee:
Like little splenules. Uh, they're totally a thing. They, they're little segments, little teeny pockets, of splenic tissue that are found outside the main spleen. Uh, they occur in about 10% of people.

Justin:
Yeah, what?

Sydnee:
A lot of people. A lot of people have extra, extra little spleenies. They happen, usually developmentally, because... Man, if you get into em—I won't get started on embryology. It's pretty fascinating. It's also very difficult to take a test on, but it's very fascinating. The spleen develops, initially, right in the middle, in the midline of the fetus.

Justin:
Okay.

Sydnee:
Okay. And then it migrates over to the left upper side of your abdomen, all right? So, it's gotta move over there. Well, on its, on its trek, it can leave spleen cells behind sometimes. Like little teeny...

Justin:
Like a Johnny Appleseed.

Sydnee:
Uh-huh, behind it. And— and so then you get little spleenies. And so, you can find them anywhere around the spleen, the stomach, the intestines, the pancreas. You get, you can have little teeny, teeny pockets of splenic tissue.

Um, also during development, the area where your spleen is forming is really close to where your gonads form. So, you can get a splenogonadal fusion, which will result in, after the two begin to go their separate ways, the gonads can have a little bit of splenic tissue still attached to them. So, as they begin traveling down to where they belong in your pelvis, uh, they might leave a little trail of splenic tissue behind them, as well.

Justin:
[laughs]

Sydnee:
So, you get little pockets of spleen all the way down into your pelvis. It was like a Hansel and Gretel situation.

Justin:
Yeah.

Sydnee:
It's like a trial of breadcrumbs in case it ever wants to visit the spleen again.

Justin:
[laughs]

Sydnee:
There is a way. Uh, you can get this from trauma too, but it's largely an interesting embryonic kind of thing. They really don't matter, for the most part, except for... One way they matter is imaging. If we do a CAT scan or an MRI or something and we see a bunch of extra little dots that we don't recognize, we might...

Justin:
No, I don't like that.

Sydnee:
No. We don't like that. And we might think it's like an enlarged lymph node or something and you might end up with extra procedures or biopsies and really it was just an accessory spleen. So, that is a danger of them, so to speak. Um, and then, if for some reason you have a condition that requires splenectomy, which we talked about. There are a couple of reasons why you might have your spleen removed in the spleen episode. Uh, if you have that condition and we remove your main spleen and we leave accessory spleens, you may still have symptoms of that condition because you still got spleens in there.

Justin:
Ah, all right.

Sydnee:
But, other than that, they're, they're benign.

Justin:
Cute.

Sydnee:
You've just got little baby spleenies. Don't worry, Lynn.

Justin:
Matt has been terrified of tapeworms since he as a little kid, "Is there anything you can tell me to make me less terrified of them? Thanks."

Sydnee:
No.

Justin:
Oh, Sydnee.

Sydnee:
No. Sorry, Matt.

Justin:
Oh, Syd.

Sydnee:
Tapeworms are awful. They suck. No, I'm kidding. They are, I mean, they're... I can understand your fear. They're pretty horrifying. They, they're these big long flatworms that attach to the inside of your gut wall and they suck out all your nutrients. And they get longer and longer.

Justin:
And I need my nutrients.

Sydnee:
Right. You need your nutrients. And they get longer and longer unless you kill them with medicine. And then if you do kill them with medicine, that's

great, because then they're gonna leave. But, they're gonna leave through your butt. And you're probably gonna see that.

Justin:
... happen.

Sydnee:
And that's awful too. Let me say this, though. First of all, I don't know where you're writing from, Matt, but if you live in the US, you're probably okay. They're pretty uncommon in the US. Um...

Justin:
Not unheard of.

Sydnee:
They're not unheard of. I'm not saying they don't happen, I'm just saying they're, they're pretty uncommon. They were once used as a weight loss aid.

Justin:
So, you got that.

Sydnee:
It was fashionable for—for very fancy ladies to swallow tapeworm eggs in an attempt to lose weight.

Justin:
Mm-hmm.

Sydnee:
I would highly not recommend that.

Justin:
No kidding.

Sydnee:
Uh, also, they're really easy to treat with, usually like one dose of medication.

Justin:
Okay.

Sydnee:
One dose of medicine and they're gone. It, they're easy to avoid, wash your hands, uh, wash your hands before you cook. For sure wash your hands after the bathroom. Avoid raw fish and meat. Freeze stored meat because that kills the eggs. Um, don't...

Justin:
Don't eat worms.

Sydnee:
Don't eat worms. And if you're going to places where it's more prevalent, places in the developing world, uh, I would avoid raw fruits and vegetables. It's better just to cook them.

Justin:
Okay.

Sydnee:
Um, worse comes to worst, that is a great story.

Justin:
To have one and then...

Sydnee:
Talk about that time a big worm came out of your butt?

Justin:
Overcome it. Yeah, that's true.

Sydnee:
The, in the circles I run, it's a cool story.

Justin:
Yeah. Yeah. We all get to be scathed and then unscathed in our ways, Matt. You'll be fine.

Sydnee:
Don't worry, Matt. You're gonna be okay.

Justin:

Don't worry. Juliana, uh, "My question is this, why does your stomach growl? Is it actually your stomach making the noises? Why do we say we must be hungry if we hear the noise?" I have no idea.

Sydnee:
Okay, first of all, the word for this is one of my favorite words in medicine. The word for your, when your stomach growls, when it grumbles and makes noises, is borborygmi.

Justin:
Borborygmi?

Sydnee:
Borborygmi.

Justin:
Borborygmi… [singing]

Sydnee:
I love, I love the name borborygmi. Hey, if we have another kid...

Justin:
Then we'll teach them about borborygmi. Moving on.

Sydnee:
Okay. So, borborygmi, or those noises when your stomach growls, are... It— it's largely air, gas, moving around inside your intestines. Uh, not really so much your stomach, so to speak, it's your intestines. Um, there's also like food and fluid and stuff in there that move around. Plus, they do that thing I already mentioned, called peristalsis, which is when they squeeze. They kind of do the wave to move stuff along.

Justin:
Mm-hmm.

Sydnee:
All those things and the air inside make those kind of groaning, growling noises. I— it doesn't have to mean you're hungry. If you eat something that's really gassy, you might find that you have some of those noises too.

Justin:
Okay.

Sydnee:
Um, or if you gotta go to the bathroom really bad and you're not for some reason.

Justin:
It does seem to happen when you're hungry though.

Sydnee:
Well, and that's probably because there's more air moving around in that empty space because you got no food in there.

Justin:
And more air translates to more sound waves being able to reverberate around.

Sydnee:
Well, if...

Justin:
If it's all liquid, then you wouldn't hear, uh, the sound as well. So, you also hear them more because there's air in there and that allows sound to, uh, uh, allows sounds to travel better.

Sydnee:
Well, that's true, I guess.

Justin:
In addition.

Sydnee:
In addition to, it's the air itself moving that's making the noise.

Justin:
Yeah, but like having more air in there...

Sydnee:
Uh-huh.

Justin:
... means that the sound waves can travel better and that makes it more prominent to hear.

Sydnee:
Okay.

Justin:
That makes sense?

Sydnee:
I can hear what you're saying. Okay.

Justin:
Yeah. It makes sense towards me.

Sydnee:
Fair enough. It's, and I... That makes sense.

Justin:
It's like how, you know how we don't fill movie theaters with water...

Sydnee:
Yeah.

Justin:
Because then you couldn't hear the movie as well.

Sydnee:
I mean, also the breathing.

Justin:
That, yeah. Also the breathing.

Sydnee:
Um, there is some thought that maybe it is your body's way, one way your body tells you to eat, because like your blood sugar's dropping, "Ah, listen to that air move around. Come one, stupid, eat something. How much longer do I have to borborygmi for you?"

Justin:
Please. Uh, we just got a couple more here. Donny said, "I'm a young person with multiple chronic conditions. Every time I go to a new doctor, I spend what feels like an eternity going over my entire medical history. Do

you, Dr. McElroy, have any advice for me about making the process easier for me and the practitioner?"

Sydnee:
Donny, you actually, this was, this was actually a longer email, and you mentioned... I'll give you credit for it because you mentioned it, exactly what I would recommend. If you are somebody who has a lot of chronic conditions, it doesn't hurt to carry with you, kind of like a, like, you called it a resume. And I think that's not a bad approximation for it.

If you have your own list... Because we always tell patients to carry a list of their medications. That's a pretty, that's a pretty standard piece of advice. It helps to have... I have lots of patients who will laminate it and put it in their wallet. Now the little list of all their medicines and their doses, and even better is what you take it for. That's even, you know, a step further.

Well, if you have kind of a complicated medical history, having already typed out like a condensed list of just what you're diagnoses are, um, maybe if you've had major procedures done, what they, what they were and when. Like, the year. You know, you don't have to have like a whole in depth. Just, I mean, literally what—like a list.

Justin:
Mm-hmm.

Sydnee:
Um, your medications. That might save you a lot of time because obviously the reason that your doctor is asking you these questions is because they need to know your medical history. That's how we make, you know, help make decisions with your care. But the other very practical thing is, we gotta put all that into your chart.

Justin:
Yeah.

Sydnee:
We gotta enter it all into your medical record. And nowadays with an electronic medical record, there's very specific ways that that information gets put in. And I need it all to be there, not just because I'm supposed to, I need it to be there for the future, for when I look at your chart in the future so I don't have to ask you over and over again, it's already in front of me. And if you see another doctor, it's already entered into your chart as well. So, it's important.

And if you hand me a list, I can save a lot of time with the, the typing and the business in asking you exactly year was that and what leg was that, and all that stuff. I can focus on the big picture.

Justin:
Mm-hmm.

Sydnee:
How are you now? What problems are you concerned about right now? I can address any acute issues. I can get the gist of your medical history. I have a condensed list of what we need to talk about immediately. What meds you might need refilled or whatever. And then, at some point, I'm gonna ask you for your whole chart and everything anyway. That's always part of a first new visit is, where is your last doctor, could I get your records from there, could I get your most recent labs, whatever.

So, that list is really something I can use to refer to later to fle—flesh out your chart and focus more on you, the patient in the visit. Which is what, that's always my preference. And I think most physicians feel the same way. I would much rather be talking to you, making eye contact, and us connecting on your care than asking you to give me, "And what dose was that? And how many times a day?" And, you know.

Justin:
Sure.

Sydnee:
That stuff I can get from a piece of paper. I wanna know you from you.

Justin:
Syd, we got a couple of more quickies here. Do you wanna just tear through them?

Sydnee:
Yeah. Let me do these real quick. Brigit wanted to know, "I'm on the depo shot and don't get a period. Is that harmful in some way?" No, it's fine. The depo shot thins out the lining of your uterus and you won't have periods. It is okay. As a general answer for, several people have asked me this question, it is okay if you are on some sort of medicine or contraceptive that stops you from having periods. Don't worry. Unless you think you're pregnant, of course, please go get that evaluated. Please find out if you're pregnant. But, in general, it's okay. It's okay. You don't need to have

periods. If you're worried about it, talk to your doctor. But, in general, it's totally okay. I get that question all the time. And so, I think it's helpful to give that information.

Uh, Howard had, not a weird question, but something that Howard has been wondering, "How bad is it when kids are on antibiotics, to miss a dose one day and make it up later?" Of course, missing one day and then still finishing out your course, that's not the end of the world. Preferably, you'd take them all in order. But, that's... You know, if you're gonna finish them out, that's even better. The one reason that I wanted to address this is, finishing the course of antibiotics is key. That is the critical thing.

The reason we have that, those number of days of antibiotics, is because we have good evidence that says that we'll actually rid you of whatever bacteria we're treating with the antibiotic. And if you don't finish out your course of antibiotics because you're feeling better, so you just stop taking them... And, oh, please don't save them so that you can take them randomly when you think you're sick again in the future. But if you, if you save them, you have now selected for the biggest, baddest bugs who are able to resist all those early doses of antibiotic, but are still hanging around. You gotta kill all the bugs.

So, please finish out your course of antibiotics. Even, as Howard says, even if you miss a day, go ahead and extend your course one day. It's really important that you do that. Um, because this is, this is part of why we have so many resistant bacteria that are difficult to treat with antibiotics. Not, not the only reason. There are many, many reasons. But, *please* finish your antibiotic courses.

Justin:
All right. Uh, folks, that's gonna do it for us this week. Um, we hope you have enjoyed yourself, uh, and learned something. Because I— I've learnt something. Many things, actually. Things I'm gonna take back out in the world and be a better person.

Sydnee:
You're gonna go straight to the internet and look up pictures of marathon runners pooping themselves, aren't you?

Justin:
Not in a million bajillion years. Uh, if you've enjoyed this show or every enjoyed this show, uh, we encourage you right now to stop what you're doing and go to maximumfun.org/donate and pledge to our show. Um, we're

really proud of the network of shows that we've built up here at Maximum Fun. I say we... We're not involved with all of them, obviously. But, you know, it feels like an extended podcasting family.

And, uh, we would love it if you could find some time and some cash to support that family of podcasts. Um, there's so many that, uh, uh, uh, need your help. No, that makes it sound like death threat... Like a Sarah McLachlan.

Sydnee:
[laughs]

Justin:
Um, no, but there's a lot of great shows.

Sydnee:
Ju— just keep talking, Justin.

Justin:
Yeah. There's a lot...

Sydnee:
[singing Sarah McLachlan]

Justin:
All right, Sydnee. There's a lot of great shows and they deserve your support if— if you can, uh, spare it. Um, so, go to maximumfun.org/donate. If you pledge us $5 a month, you're gonna get all that cool bonus content. Days upon days. No exaggeration. There's like Sawbones on there, ten My Brother, My Brother and Mes. There's a ton of stuff. Um, and y—for $10 a month you're gonna get one of those enamel pins, whatever show you pick. [whispers] Pick Sawbones.

Sydnee:
It's a cool pin.

Justin:
It's a cool pin. Um, and the bonus content. $20 a month there's the keep-in-touch kit with the candle and stationery and all that groovy stuff. $35 you're gonna get the, uh, beer mugs and all the stuff before it. But, those are just ways of saying thank you. Um, the real thing that you're pledging your

money towards is making more stuff you like in the universe. And I think that's a really worthwhile way to spend your cash.

Um, and for Sawbones, I'm... This is probably overstating the point, but it's also education. You know, it's trying to help people learn a thing or two. Um, amidst all the pooping marathon runners.

Sydnee:
I was gonna say, we don't always talk about poop.

Justin:
Yeah.

Sydnee:
Well, we do.

Justin:
We usually, frequently, talk about poop. Um...

Sydnee:
You, hey, you guys asked the questions. You just love to talk about poop.

Justin:
Yeah.

Sydnee:
That's not me.

Justin:
It's on you, weirdos.

Sydnee:
[laughs]

Justin:
Uh, but that is gonna do it for us this week, folks. Maximumfun.org/donate. Do it now. This is our last chance. It's your last chance. Please help us get to 20,000. Support Sawbones. Please go to maximumfun.org/donate and, uh, we appreciate it very much. But until next week, 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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