Sawbones 484: Gallstones

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

[theme music plays]

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

Sydnee: And I'm Sydnee McElroy.

Justin: Hey.

Sydnee: Hey.

Justin: It's been kind of, uh, the snow's melted in case you're looking for a snow update. The snow melted.

Sydnee: I'm sure that everybody was waiting to get their weather update from our weekly podcast.

Justin: We were trapped with our rotten children for four out of five days last week, if you can believe.

Sydnee: Aww... I love— I love those days. Someday you will look back on those days fondly.

Justin: Um... Okay, you— Okay. Is this a character you're playing?

Sydnee: No, it's true!

Justin: Because the Sydnee I know by day four was, like, "Um, I'm not doing great." I mean—

Sydnee: Well, the thing is, like, this is the part, they always tell you, other older parents, like, by older, I don't mean older in age. I mean, like, they have older kids. They've already been through this period of parenting.

They will always tell you, like, "Oh, you'll miss these days. Someday they won't wanna be around you. Someday they'll be talking to their..." I don't know, whatever teenagers do. Someday they'll be doing that.

Justin: AI, they talk to Chat GPT instead of you.

Sydnee: Right, they talk to AI all day and they don't— They go hang out with their Cylon friends instead of you.

Justin: [laughs]

Sydnee: And then you feel bad, because then you're, like, oh man, why didn't I appreciate it more? I thought I was appreciating it, but maybe I wasn't appreciating it enough. But what they don't tell you is that your kids, even when they're little, they get sick of you too.

Justin: Mm-hmm.

Sydnee: And they also get sick of being in the same place as you for a while.

Justin: Yes.

Sydnee: So, like, even at our kids' age, after a while, they didn't want to be here.

Justin: Yeah.

Sydnee: And so then I don't know how to be like, "I'm appreciating you!"

Justin: "Hey, I am trying to enjoy your finest days."

Sydnee: "I'm enjoying your youth. Why are you so upset?" And they're like, "We want to leave the house."

Justin: "Stop making your youth so crappy. I'm trying to savor it. Stop ruining your youth." But we're here now and we're ready to talk with you about a new medical mystery, malady, uh...

Sydnee: Well, it's not—

Justin: Medical...

Sydnee: I wouldn't say it's a mystery.

Justin: I know what the—

Sydnee: It is a malady.

Justin: I don't know what the episode's about...

Sydnee: Okay.

Justin: ... so I'm just giving the most general sort of, like, you know, a Sawbones.

Sydnee: We got an email from Annie, thank you, Annie, titled "Fertile, fat, and 40..."

Justin: Okay?

Sydnee: ... was the title of this email, which if you were in the medical world, if you're in a healthcare field, you may, especially as a physician, you may have heard that in school.

Justin: I've never heard. Okay.

Sydnee: Okay, so, like, and I assume outside of the medical world, I don't know why you would have heard that collection of alliterative words. This

immediately caught my attention because I thought, one, oh, we've never done an episode about gallstones.

Justin: Okay.

Sydnee: That's what we're gonna talk about.

Justin: Okay.

Sydnee: And I knew that was the connection. And two, I had this thought, and I'm gonna explain all this, don't worry.

Justin: Okay. This

Sydnee: mnemonic device that this listener had put in the title of the email is one that, and by the way, our listener did not come up with this. This is taught in medical schools...

Justin: Okay.

Sydnee: ... and maybe other healthcare fields, maybe in nursing schools, I don't know. But I was taught this. So this is something that, I don't know who first said it, but it well predates any of us.

I started to wonder, because I think it's important to do so, just because I was told something, especially something kind of, like, that people think is clever and off the cuff and not necessarily, like, here's a fact that you're learning about something, but here's this little, like, useful device to remember things.

I think sometimes it's good to stop and go, "Is that true? Is that right? Do we know that's true?" And so that's what I wanna talk about. I'm gonna talk about gallstones. A lot of people have them. A lot of people end up having their gallbladder removed. I wanna talk about that.

Justin: Like the frog, like the frog. We were wondering about the frog getting boiled, if that was true.

Sydnee: Yes.

Justin: That's not really an mnemonic device, but...

Sydnee: Would you like to share that?

Justin: You know, there's a thing about, like, how if you put a frog into water and then you slowly increase the temperature, you boil the frog, it won't jump out because it doesn't notice. It's sort of a metaphor for, like, I don't know, a slippery slope is maybe the best? Like, you know—

Sydnee: It's often used in talking about people who were brainwashed or fell into sort of, like, a cult accidentally, like...

Justin: Right.

Sydnee: ... that if you pour hot water on somebody, they know that it's hot water, but if you put them in room temperature water and slowly increase it, they won't notice.

Justin: Short version is, if the water gets too hot, the frog will jump out. It is not true.

Sydnee: Yeah, it's not true. The frog will not stay in there and get boiled.

Justin: I heard someone recently say that use— I think it was on the Trust someone used, like, lobster getting boiled and it's, like, well, like a lobster may or may not notice. [laughs]

Sydnee: But a lobster can't jump out.

Justin: Yeah, a lobster's not gonna jump out. So you're just kind of reading into the lobster. I don't know, at that point.

Sydnee: No, and in a lot of those cases, in my experience, I've never done it myself, but I've seen people boil lobster and they put a lid on. Which, that's not fair.

Justin: That's not fair.

Sydnee: They don't even have, even if they can jump, we'll never know.

Justin: Anyway.

Sydnee: Okay, so... Why would this email be titled "Fertile, fat, and 40?" Because when it came to gallstones, and I'm gonna explain what those are if you don't know, if you're not familiar, if you've heard of it, but you're like, "I don't really know what they are."

When it came to learning about gallstones, or cholelithiasis is the term we use, that's the medical terminology. Lithiasis, litho, referencing stones. So you'll hear that in, like, the removal of kidney stones, like lithotripsy.

Justin: Okay.

Sydnee: You hear stone. Otolithiasis is when you have— Or otoliths are the little crystals in your inner ear that help you know your position in space, lith, that— We're referencing stones.

So anyway, stones in your gallbladder. We were taught in medical school that there was a certain type of patient that was at highest risk for developing gallstones.

And so a good way to remember it, and the purpose of this mnemonic is so if a person walks in with stomach pain, with abdominal pain, and they meet these criteria, then you should put gallstones high on your list of differential diagnoses. Okay? That's the purpose of this, purportedly.

Justin: Okay.

Sydnee: But what they taught us is that white cis women in their 40s who have had children and were overweight are at highest risk for developing gallstones.

Justin: Okay.

Sydnee: And so the way that we were supposed to remember that was female, fair, fertile, fat, 40.

Justin: Mm-hmm.

Sydnee: That collection of Fs to help us remember who gets gallstones.

Justin: I think you're forgetting one. Friend. Hm. That makes you think, doesn't it? Guess people aren't just their diagnosis there, Dr. McElroy.

Sydnee: Well, I mean, you're making my point. People aren't their diagnosis. And is this even accurate?

Justin: French! French.

Sydnee: French. Well, you know the other one that I was taught in school?

Justin: What?

Sydnee: Flatulent.

Justin: Oh, okay, well.

Sydnee: Because a symptom could be gassiness. [laughs]

Justin: We can all come up with F words.

Sydnee: So, anyway, I want you to think about that, mnemonic, and sort of, like, when I said those words, if you are the kind of person who can visualize things, if you're not, as we've recently learned, some people cannot visualize, some people cannot see images in their brain.

If you can, then you may have pictured the patient walking in, holding their stomach, who fits all this criteria. who you're going to say, like, "Ah, I learned in medical school you must have gallbladder disease, I know."

Is that true? Is that a helpful mnemonic? What does that do to your diagnostic process? What do you assume about somebody when they walk in

saying I have abdominal pain if you know this mnemonic? And how might that interfere with the care that they're going to receive? I think is a really useful thing to ask. First of all, Justin, do you know anything about the gallbladder?

[silence]

Sydnee: You're really thinking. You're, like, really digging into your... Do you know where it is?

Justin: [sighs] I have absolutely no idea.

Sydnee: Okay.

Justin: Where? Or, honey, this... I'm just realizing this little guy pie has been in my body trucking along for 43 odd years. And I have no idea where it is. I don't know if I have one.

Sydnee: You do.

Justin: And I don't know what it's doing.

Sydnee: Do you know where your liver is? You're just referencing your entire abdomen. Okay, if you divide your abdomen into quadrants, four places, yeah. The right upper. There's your liver.

Justin: Okay!

Sydnee: Your gallbladder is nestled...

Justin: Under it?
Sydnee: ... snugly, right sort of under it, up against it, yep.

Justin: We're just big bags of organs... [crosstalk]

Sydnee: We are just big bags.

Justin: ... just shlump them around.

Sydnee: So that's where, so your gallbladder is a little sack there and it holds bile.

Justin: [laughs]

Sydnee: It's this little guy who's just, like, he's squished right up against the liver. He just hangs out right there with the liver. Um...

Justin: I'm embarrassed. I feel like one of those people when they get up on— They tell them to get up on a map and find Algeria and I'm, like, "O...kay, um..."

Sydnee: Yeah.

Justin: "It's maybe..." I didn't know I didn't know anything about the gallbladder or gallstone— gallbladder.

Sydnee: That's okay. Yeah, a lot of people don't other than that... I think most people know this. Can you live without your gallbladder?

Justin: Yes.

Sydnee: Okay. Yeah, I think that it's one of the organs we know we can live without. I think that's about all most people know about it. So anyway, so it's a tiny organ that holds bile which is a liquid that helps you digest food.

Justin: Okay.

Sydnee: Okay, so, what— The way that it fits, and this is kind of important to know, like, if something goes wrong, why do you have the symptoms you have? So it's a little bag and it's got a little tube called a duct off the end of it and that duct connects into a bigger duct, a bigger pipe.

So it's sort of, like, I mean, this is all plumbing. There's the big pipe that comes out of the liver, which it has its own little divisions, but we won't get into that. There's a big pipe that comes down out of the liver and on its way down into the small intestine, because that's where it connects with the

duodenum. And then on its way down, the gallbladder duct connects into it. It feeds into the big pipe...

Justin: Okay.

Sydnee: ... of the common bile duct.

Justin: Okay, got it.

Sydnee: Okay?

Justin: Yes.

Sydnee: The pancreatic duct is also gonna feed further downstream into this big duct. And the whole thing is gonna feed into the duodenum through the ampulla ovator.

Justin: Okay.

Sydnee: I thought you'd like that.

Justin: Yeah.

Sydnee: That's what it's called.

Justin: The ampulla ovator?

Sydnee: Yeah.

Justin: Okay.

Sydnee: V-A-T-E-R, though. So not Darth.

Justin: No, I know. Okay.

Sydnee: Anyway, that's how the bile from the gallbladder is going to get down into your intestines and help you digest food.

Justin: Okay.

Sydnee: Gotcha? Does that make sense?

Justin: It's just, like, a little extra. Just, like, a little— It just squirts it in.

Sydnee: It squirts it in.

Justin: Okay, got it.

Sydnee: It literally does eject, like it has an ejection fraction just like your heart does, meaning that, like, it squeezes and ejects it, squirts it.

Justin: Okay.

Sydnee: It also just sort of oozes, but, like, it squirts.

Justin: Got you, got you.

Sydnee: Yeah. [makes squishy, squirting noises]

Justin: Yeah.

Sydnee: Okay, gallstones are little masses, little stones, little free floating things that form inside the gallbladder. They can be made up of different things. The most common thing they're made up of is cholesterol.

So, if there is excess cholesterol within this bile fluid that is being created in your liver and that your gallbladder is storing, if there's excess bile in there, then you will precipitate out these stones. Like if you have a lot of solids within a liquid, they start to connect and form solid masses and float up out of it.

Justin: Okay.

Sydnee: And that...

Justin: That's a gallstone.

Sydnee: Yes, and that forms a gallstone. Now, they are not always made of cholesterol. That's the most common. They can be made of, like, if you have some condition that causes you to break down red blood cells in an abnormal fashion, they can be made of, like, the pigments from the broken down blood cells, so you can have biopigments is what we call them, so you can have those in there.

There are calcium ones and these get more specific to, like, you have some other condition that is causing you to have more of these things, right? And then they precipitate out in your gallbladder.

So you have these stones, about 10 to 15% of people have these stones and that varies by age and ethnicity. But generally speaking, 10 to 15% of people have gallstones. Only 15 to 25% of those people who have gallstones are ever going to have symptoms from them.

Justin: Hm.

Sydnee: So just having gallstones doesn't necessarily mean...

Justin: So you may just be rocking around with gallstones, have no clue.

Sydnee: Exactly. And actually, the way that— A really interesting way that you find this out in medical school is sometimes when you're on your surgical rotation, sometimes they have an ultrasound and they show you how we ultrasound the gallbladder to look for stones. Which that's a sneak peek.

How do we figure out if you have stones in your gallbladder? Most commonly we ultrasound you. Like, just like an ultrasound, they take the little wand, they put some jelly on it and if you're pregnant, they rub it around on your belly and look for the baby. They can rub it around on the part of your abdomen where your gallbladder is and look at your gallbladder. And if there are stones in there...

Justin: You say that's called a sneak peek? You're getting a sneak peek at the gallbladder?

Sydnee: Well, I'm giving you a sneak peek as to how we diagnose it.

Justin: Okay.

Sydnee: That was supposed to be later, but I'm gonna go ahead and tell you now.

Justin: It'll be our little secret.

Sydnee: So we do an ultrasound. Sometimes on your surgery rotation, they stick an ultrasound probe on one of the medical students to show you how we do this, and you find out that the medical student had gallstones.

Justin: [laughs]

Sydnee: This was not me, but one of my fellow students was diagnosed with gallstones on their rotation. Now, they had never had symptoms. They had no idea. So it was what we would call an...

Justin: Oh, isn't that irritating?

Sydnee: Right? And now they just know. So it's what we would call an incidental finding. Incidentally.

Justin: Incidentally, just so you know.

Sydnee: Which is useful in the sense that if this person ever develops gall— Like, the types of symptoms that I'm going to tell you that are related to gallstones, then they already know they have gallstones and they may be more likely to go and say, "Hey, medical provider, I already know I have this and now I'm having these symptoms that fits that."

Justin: So save you some time.

Sydnee: Yeah. There— Like I said, it's extremely prevalent and there are a lot of people over— 6.3 million females and 14.2 million males in the United States between the ages of 20 and 74 have gallstones.

Justin: Okay.

Sydnee: Prevalence increases with age, by the way. So, like, if you get to over 60, a quarter of women have...

Justin: Oh, man.

Sydnee: ... gallstones, yeah. So, and like I said, they can be made of different things. And so they're specific and you may have some underlying, you know, condition aside from gallstones that makes you, like I said, break down red blood cells differently. And actually, that will also change the color of the gallstones, not that it would matter to you. If you have gallstones, I don't think you really care what color they are.

Justin: No.

Sydnee: But like they'd be darker and black if they're made of more biopigment. But anyway, so you may know because of another condition that you're seeing a doctor for that you're at higher risk for gallstones of these other types. High cholesterol is a risk factor for the majority of us because that's a more common condition, right?

Justin: Right.

Sydnee: So like I said, it is critical that you remember that most gallstones are not symptomatic.

Justin: Yes.

Sydnee: Most people who have them don't even know they have them because they've never had a problem from them. However, sometimes those stones, because they're rolling around in this sack, can work their way down into the duct, the opening, the little tube.

Justin: Oh, oh. Oh, we hate that. That already sounds uncomfortable.

Sydnee: Right, and they can block that flow. That's when you start to have symptoms.

Justin: 'Cause you're not getting—

Sydnee: Well, one, the bile isn't getting through, but also as it squeezes, it's squeezing a stone.

Justin: Okay, I guess I'm confused. Can you help me, I'm sure you've explained it, but I'm trying to— Why do you need the bile?

Sydnee: It helps you break down food.

Justin: Got it, okay, good. So you're basically, if I had to guess, and I don't know, do you, like you're not digesting as well, right?

Sydnee: Well, that is part of it, but the more acute problem...

Justin: The backup of the bile?

Sydnee: The bigger— Is the backup of the bile.

Justin: Right, right.

Sydnee: It— That— And this like squeezing action and backup of bile is going to lead to inflammation within the gallbladder over time.

Justin: Yeah.

Sydnee: And the other thing is that it just hurts when you have those stones blocking the duct and it's trying to squeeze it out and it can't around the stone. So you start to get, like, what we call biliary colic is the term we use for it because it's colicky meaning it comes and goes.

It's like this achy, crampy pain right in that area, the right upper quadrant of your abdomen. It's usually after you eat because that's when there's food in there, it's triggering the release of these digestive enzymes and everything,

so it's triggering the release of bile. That's when your gallbladder's trying to do its thing.

So that's when you get the symptoms. You eat something, "Oh, I'm getting this weird, crampy pain in this area." And you might feel, like, gassy and bloated and all of that along with it. Some nausea is very common, maybe even some vomiting. And the pain is usually what people— The pain is what I hear first. The pain and then they name all these other symptoms, but the pain is what brings people in.

Justin: Can I, um, would you allow me a brief diversion?

Sydnee: Mm-hmm.

Justin: I think the human body is so wild. Do you think about the fact that, like, whatever forces you think got us to this point, it doesn't really matter to me, but those forces, they were like, "Well, we shouldn't have any of this stuff in the body. It feels bad and it's gross and bile's just yucky. Do we all agree that we don't want that? Like, yeah, let's get it out."

And then somebody's like, "Well, some of it would be good sometimes to help break down food, but we don't need a lot of it." And they're like, "Well, I know, but it's kind of embarrassing that we need it." I'm like, "Well, what if we hid it? We'll hide it under the liver.

So that way nobody will notice and you'll just have this little bit in you, just this reserved valve of yuckiness that will hide from you under the liver so you don't really have to worry about it." That's wild. It's wild that it worked out that way.

Sydnee: Well, it's really important, like when it comes to a lot of the visceral organs, it's really important that the stuff that's in them is only in them or flows through the appropriate outflow tract because there are things within various organs in your body would be very damaging or harmful were they to just like build up in uncontrolled amounts or spread to other places, right? Like, I mean, we have acid in our stomach.

Justin: Yeah. I love—

Sydnee: Like, you know what I mean? So, like, it's the compartmentalization of these different materials is crucial to our design.

Justin: Yeah. I mean, I love seeing myself as just a big science fair volcano. If you shook me the right way, I would just pop. That's great. I love that.

Sydnee: Yeah.

Justin: That's a great image for me.

Sydnee: Let me tell you real quick. So I told you what symptoms you might have. And especially—

Justin: The pain is the main one. The pain is the first one.

Sydnee: The pain, pain, pain, and then, like, nausea, vomiting, gassy, bloaty. And then, and it can be worse if you eat a meal that's really high in, like, fat or something that can...

Justin: Bile.

Sydnee: ... trigger more of that release. And so like, yeah, if you eat a bunch of bile. And then the pain, I think this is interesting. It can actually— So ,it's in that right upper area of your stomach. It can also be sort of central in the upper stomach. but it can go up to like your right shoulder blade.

Justin: Whoa.

Sydnee: So I think that's kind of interesting that that's where it radiates to. When we do an exam to, like, try to diagnose that this is a gallbladder issue, we look for something called Murphy's sign.

Justin: What's Murphy's sign?

Sydnee: Murphy's sign is we push kind of hard. This is what we would call deep palpation and we're gonna push firmly on your right upper quadrant,

right under your rib cage. And, um, you're going to inhale and then you're gonna say, "Ow!"

Justin: "Ow! Crumbs!"

Sydnee: If you say, "Ow," that's a positive.

Justin: "Zunes, that hurts."

Sydnee: Some people don't say, "Ow," so you have to ask, like, "Did it hurt and you were just being tough?" And you'll usually see that deep inspiration. [gasps] That's the other part of it.

Justin: Is that what it's called, deep inspiration?

Sydnee: [gasps]

Justin: [gasps] "I got it!"

Sydnee: No, no, like, no, I mean like—

Justin: [gasps] "I figured it out! Inspiring to know that my gallbladder is messed up!"

Sydnee: And then, like— [laughs] Not inspira— Like, breathing in. [gasps]

Justin: Yeah, like we're inspired. Like...

Sydnee: No.

Justin: Yeah, like, "Eureka!"

Sydnee: Not inspiration like that. Inspiration, like the opposite of expiration.

Justin: Yeah, I mean...

Sydnee: Like, breathing in. [gasps]

Justin: But honey...

Sydnee: It's like a gasp.

Justin: This is just you and me here.

Sydnee: If somebody gasps in pain when you push there, then they their gallbladder's messed up. That's what I'm trying to say.

Justin: It's just you and me here. You know, no one says that outside of your...

Sydnee: Well, these are— I know.

Justin: ... people, like—

Sydnee: I try to use the medical term and then explain it. That's why I'm trying to— I understand.

Justin: You can't have inspiration. Us creative types have already claimed it.

Sydnee: Oh.

Justin: Look at the world of, like, the world of imagination.

Sydnee: We don't get any?

Justin: Like, think of figment. That's inspiration.

Sydnee: But we came up—

Justin: You can't have it for breathing in. Just say breathing in.

Sydnee: But we came up with all these mnemonics. That's pretty creative. That takes a lot of inspiration.

Justin: Oh yeah, I love how you refer to people as fat, fancy, and free, and they have gallbladders. Thank you. As a fat person, we're loving it over here.

Sydnee: I'm going to criticize this. I'm just trying to get there.

Justin: [laughs] You're taking a long time to criticize it. I would have gotten the criticism in early.

Sydnee: Okay, when I asked you—

Justin: [laughing] It's 23 minutes in.

Sydnee: When I asked you if you knew what the gallbladder was and you said, "No..."

Justin: [laughing] So you had to take a brief educational detour.

Sydnee: Well, I felt like that it was key to understanding the entire episode that you knew about the gallbladder and gallstones and how it all hooked up together. And if you didn't know, then maybe a lot of other listeners didn't know either. And so...

Justin: Yeah, that is my function here.

Sydnee: Because, I mean, it's also kind of complicated because, like I said, it's a whole system of pipes so when you just block the pipe to the gallbladder with a stone you get some symptoms if that stone manages to get through that pipe into the big pipe, the common bile duct and but if it blocks off that, then you get jaundice.

Justin: Mm-hmm.

Sydnee: You get a backup of bile and you turn yellow and then you get— And then, it— You can get much sicker.

Justin: Mm-hmm.

Sydnee: So, like, these can be big deals.

Justin: Gotcha.

Sydnee: Right?

Justin: Okay.

Sydnee: Okay. What do we do about it and how did we figure that out? I'm gonna tell you, but first I'm gonna take you to the billing department.

Justin: Let's go.

[theme music plays]

[ad break]

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[ad break ends]

Justin: Okay, I got the gallstones. I'm fun, funky, freaky. You know I got gallstones. I'm flighty. I'm flirtatious. I'm... free?

Sydnee: Yes, okay. I'm gonna tell you what to do about them then.

Justin: Fur-lined?

Sydnee: Do you know, by the way, the first gallstones we found were in, like, a mummy from Egypt from, like, 1500 BCE. So we've known, like, we've had gallstones for a really long time.

Justin: I would just assume it's regular stones at that point, it's so old.

Sydnee: They're gallstones. The first time we started writing about them in the medical literature, there was a woman who passed away who had abdominal pain and a pathologist, a Florentine pathologist, Antonio Benivieni, in 1420 wrote an account of finding these stones and saying, like, "Hey, maybe this had something to do with this."

Justin: "This person has rocks in this weird thing I found under the liver."

Sydnee: "This seems bad." And so you see, like, more descriptions of this and people starting to connect, like, what biliary colic is throughout, especially, like, throughout the 1600s. They're not really doing anything about it necessarily.

It's just like, "Oh yeah, you got those rocks. I hope you don't die." [laughs] There was a gallstone surgery that accidentally happened in 1687. There was a surgeon, Stalpert Von Derwiel, who was operating on a patient who had peritonitis, meaning, like, all this pus collecting within the abdominal cavity, basically.

Justin: Okay.

Sydnee: Had an infection in there. And they were accidentally found to have gallstones that were kind of removed in the process. That was not the goal, but you figured out, like, hey, we could maybe take these gallstones out. We still don't know exactly how to do it.

Justin: But probably don't need them.

Sydnee: No, we don't need the gallstones. We knew we didn't need the gallstones. The problem is that, like, it wouldn't occur to you that you don't need an organ yet.

Justin: Right. That's true.

Sydnee: There's a big leap here that we have to take at some point, which is...

Justin: "Hey guys, you're gonna think I'm wild. I don't think we need this." [laughs]

Sydnee: "I don't think we need this thing."

Justin: [laughing] "I don't think we need this thing."

Sydnee: I mean think about that like somebody had to make that call. "I don't think we need this thing. Let's take it out and see what happens." It's really little.

Justin: Honey, it's— That would surprise me if it happened, like, today, like, a hundred fifty, hundred years ago, everybody's getting buck wild. Like, everybody's doing wild stuff like that.

Sydnee: So Jean-Louis—

Justin: Jean-Louis.

Sydnee: Jean-Louis Petite was the first one to do, like, a type of surgery aimed at alleviating this gallbladder issue back in 1733. We were not yet removing the gallbladder. That wouldn't come for a little bit. But the idea was maybe we can just drain it and take out the stones.

Justin: Okay.

Sydnee: So the way that you would do that, um, and by the way, he came up with this idea in, like, 1733, it took him, like, 10 years to get it right.

Justin: [snorts]

Sydnee: But basically, you would try to adhere the gallbladder to the abdominal wall. And you could do this by, like, making a little stitch, like reaching down through the wall of the abdomen into the gallbladder and then, like, attaching it to the wall.

Justin: These days we have Velcro, so it would be a lot easier, presumably.

Sydnee: [laughs] You wanted something to stick the wall of the gallbladder up against the stomach wall, the abdominal wall, okay? And then what starts to happen naturally when things rub against each other like that, you can get what you call adhesions.

These are actually complications after a surgery, because after a surgery everything's inflamed and touching each other in ways it doesn't normally. You can develop these, like, abnormal little bands of tissue between two things. And sometimes they can even cause pain.

In this case, you want those to form because if it's sort of, like, suctioned up against the wall, you can cut a hole in the wall and right into the gallbladder and you don't have to worry about stuff oozing out into the abdominal cavity. Does that make sense? You're creating a fistula. Do you remember the fistula?

Justin: Sure, sure, sure.

Sydnee: Okay, you're creating that.

Justin: Creating your own little access point.

Sydnee: And this was, and actually, the way he figured this out is that he accidentally did this the first time. He thought somebody had an abscess, like, a collection of pus in the wall of their abdomen. And so he cut into it, but he was cutting into a gallbladder.

Justin: Ooh, okay, yikes.

Sydnee: Anyway, so that was what they did at the time. They would try to get the gallbladder to stick to the abdominal wall and then cut into the wall, drain out all the fluid and pick out all the gallstones.

Justin: Okay.

Sydnee: And then that was the way that we treat it. This is a cholecystostomy, meaning we're making a hole in the gallbladder. When you're doing any sort of ostomy, you're making a hole somewhere.

Justin: Okay.

Sydnee: Okay? So that's what he started doing. You sew the gallbladder to the wall. It's like a two-stage thing. You wait until you're sure some adhesions have formed, and then you pluck everything out of there. And you see descriptions of surgeries after that, where patients or where doctors were starting to perform this cholecystostomy.

And this was becoming sort of like the standard of care because people were living through this. I mean, and we're still, like, at this point, we are moving from, like, the late 1700s into the 1800s.

And it would really be, like, 1867 when a Dr. John Bobbs in Indianapolis would, like, do this and the patient would live and he could write it up and everything went well. I mean, it took a long time because we're still like pre-anesthesia, right?

Justin: Right.

Sydnee: So... And pre-sterile technique.

Justin: Pre, a lot of stuff.

Sydnee: Yeah.

Justin: It was pretty good.

Sydnee: So, as we're developing this way of managing gallbladder disease, like, very clearly, this is how we manage it. We cut a hole, we drain everything out of there, we're good.

Justin: Easy.

Sydnee: There were other people who were interested in the idea of like, well, maybe there's a better way. And they were looking at research that had actually been done back in the 1600s by two Italian surgeons who removed gallbladders from animals in order to see, could these animals live without their gallbladders.

And so, all the way back in the 1600s we kind of knew that, like, it looks like, in animal models you can survive without a gallbladder, so instead of, like, this whole big thing where we create this big hole in your abdominal wall and it takes a while and we have to form adhesions and all this, could we maybe just get rid of the gallbladder?

Justin: Mm.

Sydnee: The first person to do that was a different surgeon, Dr. Carl Johan August Langenbuch, who was the first one to, after studying all of this and practicing on cadavers, removed a gallbladder from a 43 year old man who had gallbladder disease. And the patient, after six weeks in the hospital, was discharged.

Justin: Hey!

Sydnee: So he lived.

Justin: Hey, not bad.

Sydnee: He reported on it in 1882, so that's where we are in history. But a lot of people were still nervous about it. Like we, by this point, we had really established a protocol for a cholecystostomy. We knew how to do it. You're gonna take a whole organ out. So what they started doing is auditing.

Okay, well, we've got a surgeon over here doing cholecystectomies, meaning we're ectomy, we're taking it out. We've got people doing cholecystostomies, meaning we punched...

Justin: A hole in?

Sydnee: ... a hole in there. Let's compare who's doing better. And right at this point, we're comparing mortality. So like nowadays, when we compare like which procedure's better, certainly mortality is part of that.

But, like, we don't expect that a bunch of people are dying from the procedure. We expect, like, how fast was their recovery? Did their symptoms return? How, you know, were there complications? Like, we're looking at, it's more nuanced. Back then it was, like, how many people lived? And the cholecystectomy was the superior procedure.

It was the one that was, um, that was definitely being shown to be more effective and you were more likely to live through, even back then. So. At that point, that became really the standard of care.

And of course, as with any procedure in surgical history, if you have a patient or if you have a surgery that seems pretty good before we have sterile technique and great anesthesia, once we have the invention of sterile technique and great anesthesia, the procedure becomes much, much better. So obviously the procedure was refined over time...

Justin: Yes.

Sydnee: ... as all surgeries were and became something that was pretty commonplace to do. The only real change that has happened since then, was in 1987. At this point in surgical history, we have the rise of laparoscopic surgery.

Justin: Okay.

Sydnee: Meaning we make tinier incisions and we use a camera to look inside the abdomen while we're doing the procedure with instruments called trocars, instead of just making a big hole and putting our hands in there.

Justin: Got it.

Sydnee: Okay? So we're already using that a lot in gynecological surgeries like hysterectomies and things like that. And in this specific example, there's a French doctor who's doing a laparoscopic procedure on— a gynecologic laparoscopic procedure on a patient.

And while he's in there, he notices that she has gallstones. He notices that the gallbladder looks inflamed, I should say. So as long as he's in there, he goes ahead and uses his laparoscopic equipment to take her gallbladder out.

Justin: Honey, this is wild. This, it shouldn't be like this.

Sydnee: No.

Justin: There's something—

Sydnee: This is 1987, by the way.

Justin: Yeah, there's just no way, like, it's wild. Do you think this cat's, like, looking around like, "I don't think anybody noticed, I'm just gonna, as long as I'm in here, let me just pop that out real quick." Is that how medical history goes? You just pop it out real quick while you're in there?

Sydnee: She had had— I mean, and by all accounts, it was, like, she was fine with it because she had symptoms from them. Like, she was having issues from her gallbladder, and he fixed it while he was in there. I mean, honestly, in my experience, a lot of people will say, "Hey, as long as I'm here, can you do A, B, C, or D?"

Justin: As long as I'm out, can you pierce my kids' ears, as long as they're out getting their tonsils removed, that kind of thing?

Sydnee: Well, I mean, healthcare is so... It's such a bad system that's so difficult to navigate. It takes a long time. Sorry, I know that we have a capitalist medical system. It does take a long time to get care. There it is.

Justin: Yeah.

Sydnee: It does. I know that the myth is that you can get it so fast because we're all— It's for profit! No, it takes a long time. And once you get in— And you're gonna pay a bunch. And once you meet your deductible, because that's how insurance works here, you'll wanna get all that you can because it's so crazy expensive.

Justin: Yeah.

Sydnee: So yeah, I mean, it kind of makes sense. And there was a huge demand, by the way. Patients were, like, "I want it that way! I want the laparoscopic one. I want it."

Justin: [singing] I want it that way.

Sydnee: The incisions are so much smaller, the recovery is quicker, it's easy. I mean, there's so many things about it that are easier. And so—

Justin: Honey, you sold me, I'll get it.

Sydnee: Well, but it was like it started to happen even before it became the standard of care, because it wouldn't become the standard until 1992, but you already—

Justin: What does that mean?

Sydnee: Meaning, like, we have standards that tell, like, they're basically used to tell other people, are we doing the best, like, the best medical knowledge has to offer for this right now. And so in my practice, I follow standards of care.

If you come in with, you know, diabetes and you need me to manage you, I am going to prescribe the medicines and do the things for you that medical standards say are the best care I can provide at this moment.

Justin: Correct.

Sydnee: And those change as medical knowledge evolves, right? As new drugs or procedures come out.

Justin: You're saying people were doing that before everybody agreed that it was the best thing to do.

Sydnee: Before 1992 when everybody says, "Yes, we should do this." So if you have gallstones at this time, one, statistically, you probably don't know. And if you're not having symptoms, there's really no evidence that we should do anything about them. So if you do just randomly get an ultrasound that sees them and you're fine, we should probably just leave them alone.

Justin: Okay.

Sydnee: That is what— That is, generally speaking, the best care at the moment. If you're having symptoms from them, we, multiple episodes of this, then taking your gallbladder out, not cutting a hole in it, but taking it out, is generally speaking, the best thing we can do.

And then there are people who kind of fall in between who for some reason may be a higher risk for surgery or they've only had an episode, they're not sure if they want surgery. And there is a medication, Ursodiol, that you can take that's supposed to help dissolve those stones for you.

Justin: Mm-hmm.

Sydnee: It's, like, 30% to 50% effective. So it may help some. And if for some reason surgery is a really big, you know, is not an easy thing for that patient, it may be a kind of a stopgap measure or another option.

Justin: Okay.

Sydnee: The five F's.

Justin: Yes, that's what got us here.

Sydnee: There was a study in the British Medical Journal in 1950 that said this mnemonic is not very helpful.

Justin: Wow.

Sydnee: This is how long we've known that this mnemonic is not very helpful.

Justin: And you've still been learning it the whole time.

Sydnee: While younger people with gallbladder disease are more likely to be female, as we get older, men are more likely to have gallbladder disease. White people do not have the highest rate of gallbladder disease. So that whole fair, that it's usually a white person, that is not, that's just not true.

Justin: Okay.

Sydnee: I mean, anybody can have gallbladder disease.

Justin: Yes.

Sydnee: After the age of 50, whether or not you had kids has nothing to do with it. During pregnancy, there's some things that can happen with your digestion and slowing of your bile release that could predispose you to developing gallstones. So there is a connection to pregnancy and gallbladder disease.

But this idea that, like, people who never had kids are much less likely to develop gallbladder disease, that is not true. After the age of 50, it doesn't matter if you've had kids or not, you might get gallbladder disease, you might not.

The idea that weight is tied to that, this is based on the assumption that, because most stones are precipitated from cholesterol, that if you are overweight, you eat more cholesterol.

Justin: Mm.

Sydnee: That is where that comes from.

Justin: That's very outdated.

Sydnee: Yes, it is based on an outdated and stigmatizing assumption about the eating patterns of someone who is overweight or obese. That is where that comes from.

Justin: Huh.

Sydnee: If any correlation is made, it is with weight going up and down rapidly. So this is actually true for somebody who has lost a lot of weight very rapidly. That can lead to complications that result in gallstones.

Justin: Fluctuating.

Sydnee: So yes, your weight fluctuating rapidly could...

Justin: No, that's an F.

Sydnee: Oh, there you go, fluctuating. Yeah, hey! Yes. But it is not, there is no causative relationship between being overweight or obese and developing gallstones. So it's not true. And a stronger predictor is family history and that's nowhere in the mnemonic.

Justin: And it's an F!

Sydnee: It could be. It's an F, but we didn't say that.

Justin: Fluctuating, family history...

Sydnee: So the mnemonic is not helpful. And I think the bigger thing is that it also, it locked me into, I know this idea of picturing the type of patient who developed gallbladder disease based on some outright falsehoods, some misconceptions, and then just some, like, misunderstanding.

Justin: Stigma, yeah.

Sydnee: And stigma, and definitely stigma. And I think, generally speaking, we know that people who are overweight or obese are neglected often by the medical community. Their complaints are tied to weight, whether or not they have anything to do with that.

They're often used as that, that weight is used as a scapegoat, so to speak, for whatever complaints they have. They do not get the same care as people who are not overweight or obese, we also know that female patients' complaints, especially of pain, are generally under-treated, under-managed, under-listened to, disregarded by the medical community.

Not everybody, not always, but generally speaking, these are truths. And so now we have further stigmatized and limited the way we're going to think about this group of patients because we've been taught an unhelpful, untrue mnemonic that will make me assume something about you before I take the time to sit down and do my due diligence and make sure that if you do, if it is gallbladder, fine, but maybe it's something else and I'm gonna ignore it because of the five Fs.

Justin: All right, thank you, Sydnee, for clearing that up for me.

Sydnee: You're welcome. Thank you to our listener, Annie, for the email because I had never taken the time to dig into it and I'm really glad that I did and that we could dispel those myths and talk about gallbladders.

Justin: That is going to do it for us for this week. 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 sure appreciate it. Again, that is going to do it for us. Until next time, my name is Justin McElroy.

Sydnee: I'm Sydnee McElroy.

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

[theme music plays]

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