Sawbones 353: Dropsy

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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 am your cohost, Justin McElroy.

Sydnee: And I'm Sydnee McElroy.

Justin: Um, Sydnee, we didn't talk about what our introduction to this week's episode would be, so why don't you walk me in, uh, naturally?

Sydnee: Oh, naturally.

Justin: Just a natural explanation of exactly why you chose this topic.

Sydnee: Okay. I think that's fair. Because we have not done— is this our first episode we've recorded in the new year?

Justin: It's our first episode.

Sydnee: No.

Justin: I'm replacing bloodletting.

Sydnee: Our last episode that we put out, we actually recorded right before the— the old year.

Justin: Yes.

Sydnee: As you call it.

Justin: Bleh.

Sydnee: The old year ended.

Justin: Stinky year.

Sydnee: New year began, and then—

Justin: Wired: 2021. Tired: 2020.

Sydnee: Right. Did you just make that up?

Justin: Yeah. I just came up with it.

Sydnee: Mm hmm. That's clever. It rhymes. We did not put out an episode last week. I am sorry. I wanted to say that first. I am sorry about that.

Justin: Yeah, sorry, Sydnee was on hospital service, and you're never gonna believe this, but it is buck wild in the hospital.

Sydnee: Yes. I was just— I'm always busier when I'm on inpatient medicine service, but this was especially busy. And I think probably this is true for a lot of you, a lot of your extra energy was being taken up by, um, concern for the insurrection, so.

Justin: Yeah. The light— the light—[laughs] the light sprinkling of absolute treason and chaos and…

Sydnee: Yes. And…

Justin: It— it just, uh, was dusted lovingly over the entire week.

Sydnee: And you know, like, I really thought we're gonna start the new year out with some good, old-fashioned Sawbones. That was really what I was kind of planning on, and then last week everything sort of fell apart. So, we're back this week, I'm gonna try it again with a good, old-fashioned Sawbones.

I am not gonna make any promises in terms of, uh, we'll always stick to this sort of stuff or that we won't have more to say about coronavirus or politically-relevant, current event relevant topics. Certainly, I'm— I believe we will cover those again. But for now, here is just something that is an outdated term, we don't really use anymore, with a lot of wacky wild treatments through the years—

Justin: Are we still allowed to say it? Cause there's a lot of outdated terms we don't use anymore that would not be welcome on our podcast.

Sydnee: We're allowed to say it, it just doesn't really mean anything anymore.

Justin: Okay.

Sydnee: Um, so I wanna talk about dropsy.

Justin: That feels bad to say it. It feels problematic, Syd.

Sydnee: No, it's not. I mean, it just doesn't— medically speaking, if someone said they had dropsy, it wouldn't be very helpful.

Justin: There she goes again. It just feels like we're gonna get cancelled. Maybe I'm confusing it with Cropsey? [laughs] Remember Cropsey?

Sydnee: Are you gonna quickly google dropsy to make sure I didn't—

Justin: No, I couldn't remember the name of Cropsey. Remember Cropsey?

Sydnee: No, I don't.

Justin: It's that documentary we watched about that urban legend in New York?

Sydnee: Oh, yeah.

Justin: Yeah, it was an old one. Anyway.

Sydnee: No, I am talking about dropsy. And I am not talking about dropsy in fish. When I first started looking up the history of dropsy, I kept coming across fish articles, and right now I know there are like, experts out there on fish who are like, laughing at me for not knowing this. I didn't know that this was— this term is still used for a condition in aquarium fish where they fill up with fluid and, I believe, unfortunately, pass away. And their bellies, like, drop. Like, they float and their bellies drop because they're filled with fluid. Dropsy.

Justin: Oh.

Sydnee: Yes.

Justin: That name's a little on the nose.

Sydnee: It is, it is on the nose. Yes. And so, I am not talking about that condition in aquarium fish. I know nothing about aquarium fish other than now, I know they get dropsy.

Justin: Sydnee knows nothing about any animal that is not human. She has made this extremely clear in our podcast. Look it up.

Sydnee: Well, I mean, I know a little about cats, just because we've had them. But just, like, the right amount for a cat owner. Not a cat expert. [laughs]

Justin: A normal amount. Not a weird amount.

Sydnee: Well no, just not expert-level info.

Justin: Owning animals is—

Sydnee: I can't, like, treat your cat, but I can tell you about owning a cat because I have owned a cat.

Justin: Every, uh, pet ownership basically just boils down to don't give them chocolate. I think that's just every animal, just don't give them chocolate and you'll be fine.

Sydnee: No… I know a little more than that. Dropsy, the term when we're using it for humans— and we've talked— we've like, used this term a lot on the show, but we've never really taken a deep dive into what it means and where it came from.

Justin: We've used the term dropsy?

Sydnee: Yeah, I've said it before.

Justin: It sounds familiar.

Sydnee: Yeah, because it was a very common diagnosis throughout medical history, to just label, like, "Well, what happened to that person?" "Oh, they died of dropsy." "Ah, that's too bad."

Justin: "Oh, the dropsy."

Sydnee: The dropsy. Um, and so, it's important to know, first of all, that the term 'dropsy' as it's been used through history was really, like, a catch-all. It was anything that could cause swelling, edema, fluid collection. You know. If you found that symptom— a sign, I should say. A symptom is something you tell me about; a sign is something I see. You tell me, like, "My stomach hurts." I couldn't see that on you, you would have to tell me, so it's a symptom.

Justin: What if I was holding it and going, "Ow"?

Sydnee: Well, I would still say, like, "Does your stomach hurt?"

Justin: I would be like, "No… this is a dance."

Sydnee: [laughs] if your stomach was really swollen because it was filled with fluid, I could see that. I could examine you and find that and that would be a sign. So, anyway. Although I guess you could also tell me that.

Justin: Then it's both.

Sydnee: But the point— exactly. So, [laughs] the point being, any time someone had swelling or edema, whether it was of their abdomen, their legs, their whole body, whatever was swollen, you could call it dropsy. And now, over time, that would become less general and more specific until eventually it was no longer useful, because we had names for everything. And there are a bunch of different reasons that you can have swelling.

Justin: Sure.

Sydnee: There's no one reason that you have swelling. So, you can see why the term would eventually become sort of useless. Because…

Justin: You'd just say swelling, right? I mean…

Sydnee: Yeah, or I would tell you why. It's cause of your heart, it's cause of your liver, it's cause of your kidneys. And then I would, you know, use a medical term other than "it's cause of". We don't usually say that. [laughs]

Justin: [laughs] "Cause of… swelling."

Sydnee: [laughs] Well, I mean, to be fair, I usually do end up saying that, "It's cause of your kidneys," but then I also elucidate the medical terminology. Uh, and a bunch of the treatments that we would have used for dropsy, we don't really, as you may imagine, use today.

Justin: No.

Sydnee: The word dropsy comes from the middle English, which comes from the old French 'hydropsy'. Which comes from the Greek 'hydrops', which comes from the Greek 'hydro'. Do you see where this is headed?

Justin: Hydrox.

Sydnee: Water.

Justin: Got it.

Sydnee: Not the cookie.

Justin: Not the cookie Hydrox.

Sydnee: Not the Oreo-like cookie. Or are…

Justin: Oreos are Hydrox-like.

Sydnee: Oreos are hydrox-like. Which came first?

Justin: Hydrox.

Sydnee: Really?

Justin: Mm hmm.

Sydnee: Oh, I didn't know that.

Justin: You don't want know how much I know about this topic.

Sydnee: I really don't.

Justin: Okay.

Sydnee: You can start a podcast about that, if you'd like.

Justin: Mm, no thank you. I already— no, I'm good.

Sydnee: Okay. I don't wanna be on it, I wasn't asking—

Justin: No, I didn't think you were.

Sydnee: [laughs]

Justin: My dear friend Bridget Lancaster of America's Test Kitchen did an episode of their podcast Proof, which is great if you love food, it's a great show, that was all about Hydrox versus Oreo. Hydrox came first.

Sydnee: Well, a lot of us know 'hydro' is related to water. And you get to hydro, hydrops, hydropsy, dropsy. Dropsy. There you go. Related to fluid. And when you talk about mentions of fluid retention, again, as you may imagine, as long as we have had people try to write about medicine, you've had mentions of fluid accumulation, because there are so many different reasons why you might accumulate extra fluid in different parts of your body that it's natural to assume ancient people got it, too.

So, you can find mentions of this in the Ebers Papyrus. The thought process was that maybe the heart becomes sort of weak, or bored, is one translation of it.

Justin: [laughs] Get it.

Sydnee: The heart becomes bored.

Justin: I get it, lub dub, lub dub, day in, day out. Let's mix it up. Maybe a crunk! Lub dub, lub dub, crunk.

Sydnee: And it becomes overfull with blood. Which is not exactly what we're talking about.

Justin: I mean, it happened The Grinch, you know? Why couldn't it happen to a human?

Sydnee: Well, I don't think that The Grinch is thought to have developed congestive heart failure. Although— oh, that's a whole other episode.

Justin: The Grinch's heart grew three sizes. He doesn't have the blood to support it. I'm saying he would become instantly anemic and black out. Like, right there. He's holding the sled, he's like "Urk… " blackout, done.

Sydnee: No, what I'm saying is does he have hypertrophic cardiomyopathy? This is a whole other episode. We'll do this another day.

Justin: I didn't know you were—

Sydnee: Another day.

Justin: This Christmas.

Sydnee: [laughs]

Justin: Look forward to How The Grinch Stole His Last Breath. [laughs]

Sydnee: How The Grinch Stole Christmas and Then Developed Hypertrophic Cardiomyopathy, and Then Saved Christmas.

Justin: What is it Cooper called it?

Sydnee: Grinch Hates Christmas.

Justin: Grinch Hates Christmas.

Sydnee: That's what— yes.

Justin: She got really into The Grinch. Anyway.

Sydnee: Anyway, so they thought maybe that was what was happening, and your heart got filled up with blood. The heart was really seen, for a lot of medical history, as sort of just like a storage vessel.

Justin: Mm.

Sydnee: Blood just sorta gets kept there periodically. And not for like, it's pumping ability. It took us a while to figure that part out.

Justin: What did they think was happening in there? They could feel it!

Sydnee: No, I mean, really think about this, though. Because on this show we have a— I would say this is a fault of ours. Of accusing ancient people of not being smart enough to figure this stuff out. But how easy is it to open a person's body up and look at what's happening inside while keeping that person alive?

Justin: Well, and to be fair, I guess, now that I think about it, you can also feel the pulse in the neck and the wrist, etc, so you wouldn't necessarily think just because you felt that pulse in there that that was the source of it.

Sydnee: Yeah. I think that the fact that they got this far is pretty impressive. I'm gonna say that a lot this episode. I think a lot of the conclusions that were drawn were fairly impressive. We just didn't have a great understanding of treatments most of the time. So, even when a really clever connection was made, it takes a while for us to get to a therapeutic option that makes a lot of sense.

Justin: Can I ask you a question?

Sydnee: Mm hmm.

Justin: Do you, as a physician, ever start thinking about these, like, absolutely wild, delicate machines that are keeping everything going in there, just below the surface, and get freaked out about it? Does this ever happen to you?

Sydnee: Yeah, constantly.

Justin: Really?

Sydnee: I don't know if it's true for all physicians, but yes.

Justin: Okay. I thought you'd have some sort of sage wisdom about how to— how you move past that.

Sydnee: No— I mean, just don't think about it?

Justin: If I think too hard about it, it kinda trips me out a little bit.

Sydnee: Don't think about—be grateful for it and then, I don't know, start planning what you're gonna have for dinner or something and move on.

Justin: [laughs]

Sydnee: [laughs]

Justin: Always a good play.

Sydnee: Uh, they also thought that fluid might have—

Justin: Sydnee's not— Sydnee is not a therapist. [laughs] We should put that out. [laughs] She is not licensed to—[laughs]

Sydnee: [laughs] That's fair. That's a very fair point. Fluid, they also thought, might have something to do with the kidneys. Again, this was sort of, just like, theoretical, and it would take us a long time to really assert that, so it's impressive.

Justin: I gotta give it to them that they would bring the kidneys into it, because I still mix them up with the liver. The fact they could keep tabs on the kidneys is pretty impressive.

Sydnee: I mean, I guess both can cause fluid retention. But they did think it could be part of the problem, but their treatment—I thought this was a very interesting treatment. They would take old papyri, like, especially old medical papyris and burn them in oil and then apply the residue topically to whatever was swollen. To the legs, or the belly, or whatever. Which is like, a really specific and kind of wild treatment.

Justin: Yeah. Not helpful, I guess.

Sydnee: No, I can't see how that would have been helpful.

Justin: Still, very specific.

Sydnee: Probably not very harmful. But not helpful.

Justin: Hey. You got that.

Sydnee: So, Hippocrates mentioned three different kinds of swelling that can occur. Hippocrates did a lot of work in describing things. The treatments didn't always pan out, but lots of effort in like, writing the stuff down that he saw in observation.

So, there was hydrops, which was swelling of the abdomen due to fluid. So, if you knew there was fluid in there and the belly was swollen, you got hydrops. Anasarca is the word for swelling of the body tissues. Still use that now. If somebody's swollen all over, head to toe, they've got anasarca. And, uh, then there was one called tympanites, which you really don't hear used. Occasionally you'll hear somebody, like, really old-

school use this word. We really don't use it anymore. But it means gas in the belly. We're really just talking about having gas.

Justin: Got it.

Sydnee: Think about tympany, like the sound a drum might make, like the high-pitched— it's the same kind of thing. When you see me tapping— the girls love for me to percuss their bellies, which is when I tap— I hold my finger over their abdomen and then tap my finger and then listen to the sound. And you're listening for, like, dullness where there's fluid versus, like, a tympanic sound where there's air.

Justin: Every parent has different ways of bonding with their kids. This is Sydnee's.

Sydnee: This is what I— They love it. And then I tell them that it's okay, you've just got farts in there.

Justin: [laughs]

Sydnee: They love that.

Justin: Wait, can you not tell if there's farts in there?

Sydnee: I mean, I can tell if there's air. But there's also places where I'm supposed to hear air, so it's— like, it's normal.

Justin: Oh, I thought you were looking for f— okay.

Sydnee: You really thought I was looking for farts?

Justin: I don't wanna talk about it. [laughs]

Sydnee: Okay.

Justin: Can we move on, please?

Sydnee: Don't ever tell them the truth.

Justin: I will— I mean, well, don't ever tell me the truth!

Sydnee: [laughs] Generally, Hippocrates understood edema as a symptom. A lot of Hippocratic medicine is sort of unique to the patient, right? It's not like, this condition could occur in multiple people, it's like,

"Oh, for you it's because you don't eat this, or you don't sleep right, or you need to drink more of this," or whatever it is, and that was a lot of Hippocratic medicine.

So, there wasn't an idea that you could find one root etiology for them all. In one patient, it might be an overabundance of phlegm. We're dealing with four humors kind of medicine. And so, you got too much phlegm in your belly. There was also a thought that maybe one of your organs liquified, specifically your spleen. That sometimes your spleen could just liquify spontaneously.

Justin: It can happen.

Sydnee: And then your belly would be filled with liquified spleen. Um, or perhaps your liver was just making a lot of fluid for some reason, because livers were weird and they did lots of stuff we didn't understand.

Dysentery was thought to sometimes cause fluid. Like, you're having a lot of diarrhea and fluids coming out and maybe some of that fluid is backing up and accumulating in your belly for some reason.

There were some associations that Hippocrates would make to, like, sort of dictate prognosis. Like, "Well, you've got hydrops of your legs, and you have a cough. That's bad." Which may have been true, because you maybe had congestive heart failure and now you were developing fluid in your lungs. So, that was probably a good guess. If you had a swollen belly and you stopped peeing, then the thought was, "Ooh, that's bad." And that was, again, probably true, because it probably meant kidney failure.

Justin: Mm.

Sydnee: So, there were some things that, you know…

Justin: That's about as far as it— that's about as far as it went though. Like, "Ooh, that's bad. Um… here's some goat hair."

Sydnee: Well, our tools—[laughs] Our tools to treat it were not— we didn't have a lot, right?

Justin: Yeah.

Sydnee: Most of the things that at that point in history you would have recommend for people to do are just take this medicine that might make you puke or poop or pee. And medicine that would make you pee might actually be helpful, a diuretic, but a lot of the times, especially if we thought your spleen has liquified, you would get a laxative. With the thought being that if we give you enough laxative, then you'll just… poop out all that spleen.

Justin: Get it all out.

Sydnee: There was also a mixture of, uh, veratrum in vinegar that was used for puking. This plant, by the way, is called false hellebore. This is a very poisonous plant, which will cause nausea and vomiting, which would have been useful for nausea, but it also could cause heart failure. So.

Justin: Eurgh.

Sydnee: I know, I looked that up, I thought that was a weird choice. He also mentioned that you could make a hole near the belly button and just drain the fluid out.

Justin: There's already a hole there.

Sydnee: Well, no, not really.

Justin: Don't the belly button count?

Sydnee: Well, there's not an actual hole.

Justin: It's tied up, but…

Sydnee: Yeah. But the idea was you could drain the fluid out, and this isn't wrong. We do this today. We drain fluid from your abdomen sometimes, for various reasons. So. Again, a lot more high risk, I would say, back then.

Justin: Mm hmm.

Sydnee: Galen, as with most things, sort of built on Hippocrates' stuff. He really didn't contradict a lot, he just kind of took his ideas and went a little further.

Justin: Right.

Sydnee: He did notice that if you had an irregular pulse, like your heartbeat didn't seem to be regular, but was kind all over the place, which probably meant you had an irregular heartbeat, maybe atrial fibrillation, which can be associated with heart failure, that plus swelling tended to be bad. He actually got it backwards. He actually thought that because you had so much fluid, your heart couldn't beat right, and that's why it was beating so strangely, as opposed to the other way around. Um—

Justin: Which— meaning?

Sydnee: When your heart's not pumping rhythmically, effectively, then you can get fluid back up inside there.

Justin: Oh, I see what you're saying. He had the cause and the…

Sydnee: So, like, in arrythmias. Yeah.

Justin: Effect mixed up.

Sydnee: The chicken and the egg were backwards.

Justin: Right.

Sydnee: He also advocated things like laxatives. Things to make you puke, things to make you pee. Bloodletting. Which, I mean, probably helped a little in some cases— I mean, that's not a treatment we use today, but I can see where removing a little bit of a the blood volume might have been—

Justin: I can't believe it, a full-throated endorsement of bloodletting here on Sawbones.

Sydnee: No, I'm not saying that, but I could see where you do that and see, maybe, a slight improvement temporarily and think you had done something good. And then some pastes made of like, lard and corn flour and manna and things like that.

And a lot of these ideas were still based on, like the humors. This was all humoral theory of medicine, based on the idea that like, your fluids just kind of wandered around your body aimlessly and accumulated different places, and you needed to just sort of empty some out and add more to

them and balance them out. And they were the problem. They weren't the result of a problem. They were the problem.

And I think that's really one of the core differences in how we see edema now versus then, is the idea that the fluid itself is the issue, as opposed to it is the symptom, it is the sign of an underlying issue.

Justin: Yeah.

Sydnee: It wouldn't be a new year Sawbones without getting Pliny up in the mix.

Justin: Oh, yeah.

Sydnee: And I wanna tell you what Pliny the Elder had to say about it.

Justin: Perfect, I'm ready.

Sydnee: But before we get to that…

Justin: Oh no.

Sydnee: I know. Let's head to the billing department.

Justin: Let's go!

[ad break]

[Maximum Fun ad plays]

Justin: Okay, you gave me the classic Pliny tease and I'm ready for plenty of Pliny.

Sydnee: So, Pliny the Elder, of course had some ideas on how to treat dropsy. And if this is your first Sawbones that you've listened to—

Justin: Welcome.

Sydnee: Um, thank you. Pliny the Elder wrote profusely [laughs] about everything.

Justin: Yep. Whether he understood it or not.

Sydnee: All of the natural world. And had treatments for everything. Some of his ideas were, uh, usually something to do with animal excrement. That was very common among Pliny's ideas.

Justin: Classic.

Sydnee: He advised drinking boar's urine. Or you could take cow dung, or bull dung— he said any herd animal, really, will work. Burn it and then take the ashes of that, put that in some honeyed wine and drink that.

Justin: Mm…

Sydnee: And that would be useful for dropsy. Now, it's important if you're gonna do this, whatever herd animal you choose, make sure you use a boy animal for a boy and a girl animal for a girl. [laughs]

Justin: Oh, cause otherwise you're wasting your time.

Sydnee: Yes, exactly. That was very important. You could also apply the dung right to the parts of you that were swollen. So, just rub some poop on your legs or belly or whatever.

Justin: Right there.

Sydnee: Your face, if everything's swollen. Just rub it on there. And if all of that excrement stuff is too gross for you, there's always goat's blood.

Justin: Sure. Yeah. Of course.

Sydnee: Is that less gross? I have no…

Justin: I don't have a good metric on that, honestly.

Sydnee: Really?

Justin: Yeah, I don't have a good read on that.

Sydnee: I've taken that from you.

Justin: Yeah. I don't actually know what's gross vis a vis blood and poop anymore.

Sydnee: [laughs] As I mentioned, there was this kind of theoretical tie to the kidneys for a long time. Avicenna was the first one to write that

there was a connection, for sure, between the kidneys and swelling. Because until then, everything was sort of blamed on the liver and the spleen.

Again, the liver got a lot of blame for different things. Some of which were true, because, you know, you can have liver conditions that cause swelling, but then others just because the liver was a mystery. But the treatments were very similar, a lot of herbal preparations, everything from caraway to wormwood to radish. Just all kinds of different kinds of herbal things.

It really was in the 17th century that we started to evolve an idea of the causes of dropsy as opposed to dropsy as a distinct problem in and of itself.

Justin: Right, right, right.

Sydnee: Right? And the reason we figured that out was that we started to figure out the circulatory system. The idea that our fluids moved through a system of tubes and not just sorta like, gooshed around in there.

Justin: [laughs]

Sydnee: I mean, that really, that was a revelation. And as I said, you can see why that would be hard to figure out if you weren't— you know, we take for granted now that we know this stuff. How hard would it be to just look inside a cadaver and know what everything was doing when that body was alive?

Justin: Guys, it's all tubes.

Sydnee: Yeah, it's just a bunch of— I mean, there were tubes, but like, there was also just a bunch of gooshy fluid. I won't get into that. Things change. Let's just put it that way.

Justin: [laughs] I can't believe you just self-censored. It's a first. A Sawbones first!

Sydnee: [laughs]

Justin: Everybody, bring your kids!

Sydnee: You can't get a complete view of the human body from dissection.

Justin: Right.

Sydnee: You can get an understanding of what it looks like, but not what all of it does, maybe. And so, it took us a while to figure that out. So, once we started to get the idea that fluids move in a certain fashion through certain, you know, systems, then we started to understand that this accumulation of fluids was not the problem. It was where was something going wrong that resulted in an accumulation of fluids that was the problem.

In the 18th century, one thing that really helped, and we've done a whole episode on this so I don't wanna belabor it too long, but we've talked about the drug digitalis, digoxin, foxglove, you know, we've done an episode about that before. The reason that we kind of figured out more about what could cause dropsy is because William Withering began to use foxglove, and then he isolated the active ingredient from it, digitalis, on patients with dropsy and found success.

And this is because of the effect that this has on the pumping ability of the heart. It strengthens the pumping ability and can combat congestive heart failure. So, he started to understand, based on the fact that "My patient had dropsy, I gave them this heart medicine, they got better," the heart had something to do with dropsy. Does that make sense?

Justin: Mm hmm.

Sydnee: And around the same time, we began to understand that some people who died of dropsy, on autopsy we would find, like, irregular heart valves. At that point we knew what a normal heart looked like. So, we would start to see the valves of the heart looked very different in these patients, which again led you to believe that maybe this had something to do with the accumulation of fluid, which had something to do with why the patient passed away. So, we kind of figured it out backwards, right?

Justin: Huh.

Sydnee: The development of the stethoscope was a big part of this, because then we learned how to hear, uh—

Justin: The gooshing.

Sydnee: [laughs] The gooshing. Well, I mean, crackles of fluid, or rails of fluid, all the different sounds we can hear in the lungs because of fluid, irregular heartbeats, the different ways that the heart beats that could lead to fluid. We could hear all that with the stethoscope. We also, in that time period, developed percussion, which I've already talked about some, but that's— I mean, it's tapping on your body.

Justin: Yeah.

Sydnee: If you've ever had a doctor tap on your lungs or tap on your belly, that's what we're doing. We're listening for gas, for fluid. In a very sort of rudimentary way. But it was actually a really useful physical exam technique that was developed to check for, like fluid before it got obvious. So, we could hear that there was fluid there before it got to a point that you came in and said, "Something is wrong."

Dr. John Blackall would begin to really understand kidney disease as a cause of dropsy, and that would help, you know, at this point, to start to divide out those patients from the heart patients. You know, that was sort of the first thing. There were heart patients, there were kidney patients, eventually liver patients. We would start to sort of sort out dropsy into these categories.

And he described, like, not only do you get the edema, the swelling, but you also notice that they don't produce much urine, just as Hippocrates did. Um, but also that they could have seizures with this, there was a specific odor to their breath, which can happen in kidney failure.

Justin: Yeah. Happens in ketosis too.

Sydnee: Yeah. And he tried everything for it, he didn't have a treatment yet, but he tried opium, turpentine, copper, tobacco, there's a plant called squills which has been used since ancient times.

Justin: Squills?

Sydnee: Squills. Potassium, foxgloves, scarification, like cutting of the area of the kidneys, all different kinds of things. Dr. Richard Bright would then build on this work, and he's really credited with like, our understanding kidney disease as a cause of dropsy. His work really built on that.

But initially, even as we began to understand this moving into the mid-1800s, we still didn't have a lot of great treatments. We've talked about on this show that the idea of a natural diuretic, we've understood that for quite some time. We knew there were some things that made us pee. But we didn't have what we would think of today as, a lot of patients call, fluid pills.

Justin: I've never heard of that.

Sydnee: Really?

Justin: Mm hmm.

Sydnee: That's what I have found, in my experience, most patients just call them "my fluid pill". And it means the pill that's supposed to remove their fluid.

Justin: It's like a diuretic?

Sydnee: Yeah. We didn't have a ton of those that were, you know, synthesized compounds from sort of herbal preparation or something. We didn't have that. And so, one of the treatments that was used, in the nid-1800s was developed and then all the way up to the 1960s, and that's gonna sound wild when you hear what this is, were these tubes that were called Southey's tubes because they were developed by Reginald Southey, Dr. Reginald Southey. Basically, they were these thin silver tubes that you would insert into legs…

Justin: Oh…

Sydnee: Yeah. To try to drain the fluid.

Justin: Oh, that's rough.

Sydnee: Yes. And you know what's…

Justin: Ugh.

Sydnee: Here— and again, we talk about this a ton on Sawbones, and if you are someone who has experienced, either yourself or as a medical professional, experienced swelling in the legs, you're probably thinking, "That wouldn't work very well."

Justin: Man…

Sydnee: And it wouldn't!

Justin: And it didn't work.

Sydnee: Maybe you woulda gotten some— I'm sure something came out.

Justin: Something's gotta come out.

Sydnee: Yes. But—

Justin: Nobody gets away scot-free, jamming tubes in their body.

Sydnee: [laughs] I always— cause I will say that this a question that I have heard from, um, patients many times in my career, which is, "If I've got swelling somewhere, why can't you just stick a needle and pull it all off?"

Justin: It feels like that should work.

Sydnee: Right?

Justin: Like, physically, it feels like, all that I really need to do here, just lance this and…

Sydnee: And we do that sometimes, when there's swelling in the abdominal cavity, in the lungs, we do procedures that do pull off fluid. So, sometimes we do. But the problem is we're talking about the difference between fluid accumulating in a body cavity, in an opening, and fluid sort of soaking through tissues like a sponge.

Justin: It's like the idea of can you use a syringe to pull liquid out of, I dunno, a fishbowl versus paper towels.

Sydnee: Yes. Yes, that's a good way to think about it. Exactly. Exactly. I usually say think about, like, a big piece of sponge. If you have a big giant piece of sponge and you stick a tiny little needle into one end of it, can you suck all the fluid out of that sponge? No. But if you did have a fishbowl, exactly. And that is very similar. So, it's weird, the Southey tubes really lasted a long time for something that I can't imagine was extremely effective.

Justin: Yeah.

Sydnee: There were also mercury compounds. We've talked about calomel. We've talked about mercury a lot on the show. It was a really good laxative and it did work as a diuretic. This is not me, by the way, plugging mercury.

Justin: [laughs]

Sydnee: Please don't use mercury. [laughs]

Justin: Not a fan over here.

Sydnee: We have laxatives and diuretics today that are not toxic as well, so use those. But before we knew that, it was used as a diuretic and a laxative. It was a better laxative, but you could still use it as a diuretic. And again, foxglove was still used, squills were still used. It was really in the 1940s when Henry Schroder started to talk about, you know, salt has something to do with fluid retention.

Justin: Oh yeah.

Sydnee: You know, where there is salt, there is fluid. So, a low-salt diet will help you keep fluid off. Also had an effect on blood pressure, that is also around the same time we figured that stuff out. And then soon after that we sort of accidentally discovered that the new, sulfanilamide, the new antibiotic compounds that were sulfa drugs that were coming out had some diuretic effect that would make you pee.

Justin: Oh.

Sydnee: The ones at the time. I'm not saying the ones now do, but the original. And so, based on the way they worked, we developed a drug called acetazolamide, or Diamox, you may have heard of. It's not a very popular diuretic now, but that was the first one that came out in the 50s that could intentionally take this and it'll make you pee.

Justin: Swelling— yeah.

Sydnee: Yeah. Kinda drug. What would follow that are advances in the specific sorts of treatments. In the 50s we got thiazide diuretics, chlorthalidone, hydrochlorothiazide, still in use today. Um, blood pressure and diuretic effect. And then after that, in 1964, we got furosemide. Also

known as Lasix. Which is sort of the prototypical, it's called a loop diuretic, it's a fluid pill. A lot of people take it to keep fluid off for a variety of reasons.

And again, I know this seems like we've circled back around, so we fig—we called dropsy one thing because we didn't know the difference, we spent centuries parsing out heart patients from liver patients from kidney patients for all the different reasons that you could get dropsy. And then we come back around to giving everybody a diuretic. [laughs]

Justin: It was right there in front of us!

Sydnee: Which is not entirely true. After that we would develop more diuretics, we would figure things out like for kidney patients, dialysis, which can help keep fluid off, and then maybe a kidney transplant, depending on the kidney disease.

In the cardiac field, we started to develop and understand of why do patients get heart failure. Is it because of maybe an irregular heartbeat, like we alluded to? Or it because of ischemic heart disease, meaning coronary artery disease, blockages and heart attacks and that kind of thing. And how can we modify all those risk factors so that we prevent it instead of just waiting for it to happen and then trying to get the fluid back off? And we got better drugs for treating the heart after that developed.

And then we teased out liver disease, cirrhosis and all the causes of cirrhosis and how to treat that and how to manage the fluid accumulation that can come with that. And other things like thyroid disease, and then, now I think we know when it's just gas.

Justin: We got it.

Sydnee: The term dropsy, because of that, is not really used for humans, as I said, anymore. There's so many different ways that fluid could accumulate, that when we see swelling our question is why, not necessarily immediately what to do about it. Within reason. If you have a lot of fluid in your chest and you can't breathe, of course we're gonna wanna do something about it first.

Justin: So you wanna treat the cause… but not the symptom.

Sydnee: Have you been waiting the whole show for that?

Justin: Yeah, actually, I have. Looking for the exact moment to do it.

Sydnee: I will say a small disclaimer. Swelling, I know I've named a lot of scary things that can cause swelling—

Justin: You should start with a disclaimer. I got silver needles all through my legs.

Sydnee: [laughs] Please don't try to drain your own fluids, please.

Justin: Here's the thing that sucks, Syd. I didn't realize. It's not swollen, it's just beautiful muscle. Are you kidding me with these things? Look at these gams!

Sydnee: There are times in pregnancy you can get swelling. Sometimes it's just caused by circulation issues, like what we call venous stasis, meaning it just, it's taking a while for the blood to make its journey back to the heart after it's made it out to the extremities. There are lots of different reason you could have swelling. They're certainly not all life threatening as— I've mentioned a lot of scary stuff, so I wanna throw that out there.

But it is, again, because dropsy is not one thing, there are myriad causes, if you have swelling it's worth a trip to your doctor to, uh, ask them what your dropsy could mean.

Justin: And call it dropsy, because your doctor will probably flip their lid. [laughs]

Sydnee: Ah, I think—

Justin: "You're what?"

Sydnee: I think they'll get a kick out it. I would say today most people associate dropsy with heart failure. That's where you get most— but it's important to know dropsy really could have been used— it was an all-purpose word for fluid accumulation for much of history. And it's just weird, and nowadays it's nothing.

Justin: Folks, thank you so much for listening to our podcast—

Sydnee: Unless you're a fish.

Justin: [laughs] We wanna remind you that we have a new version of our book. It's a book about medical history, it's just like Sawbones. So, if you like Sawbones, you'll like this. It's called The Sawbones Book. It's now in paperback. We got new content about quarantines and anti-mask parades and new illustrations by Sydnee's sibling Teylor Smirl. And you can get it at bit.ly/SawbonesBook.

Also wanted to say if you've ever thought about starting a podcast, head on over to bit.ly/McElroyPodcastBook and get a copy of Everybody Has A podcast (Except You). It's a preorder. It is available in just about a week or so. So, please go preorder that now, if you would be so kind.

Thank you to The Taxpayers for the use of their song "Medicines" as the intro and outro of our program. And thanks to you.

Sydnee: And keep wearing your masks.

Justin: Yup.

Sydnee: Keep staying safe. Get your vaccines when you are eligible, when it's your turn.

Justin: Yup. And that is gonna do it for us, so 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]