

Sawbones 229: Hepatitis A

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Audience: [Applause]

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]

[the microphone is being fumbled, and the audience laughs]

Sydnee: [laughs]

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

Audience: [cheers and applauds]

Sydnee: And I'm Sydnee McElroy!

Audience: [Cheers and applauds]

Sydnee: Before we came out, uh, our daughter Charlie insisted that I sit at the pink mic—

Audience: [laughs quietly]

Sydnee: And we were supposed—We were supposed to sit in the middle... So that was what that was all about. So—

Justin: So I had to move the wind screens, that's all.

Sydnee: Yeah, so—

Justin: It's not a big deal.

Sydnee: [laughs]

Justin: It probably seemed weird to y'all, but she asked, so it was like, whatever.

Sydnee: See—Well, she clarified several times before we left, “Daddy, will you please let mommy sit at the pink mic, please?”

Justin: I didn’t have the heart to tell her it was red, for sure.

Audience: [laughs]

Sydnee: It’s—Yeah. It’s—I’m looking at it, it’s red. [laughs] It’s okay. She... [pauses] She’s not out there yet.

Justin: No... Hey, everybody, hi Columbus! How are you?

Audience: [yells enthusiastically]

Justin: It’s good to see you again, OH.

Audience: [all yelling “OH!”]

Justin: Thank you very much. See, I know about sports, it’s kind of my thing.

Sydnee: Wow!

Justin: Learned that from my dad last week, and now I’m doing it, all the time. In lots of places that are here, it does not go...

Audience: [laughs]

Sydnee: [laughs]

Justin: Anywhere, really. It’s kind of a conversational dead-end, especially one-on-one.

Audience: [laughs]

Justin: That’s the thing—You’re at the bank with a loan officer, and they’re like “Is there anything else?” And you’re like “Uh... O-H?”

Audience: [laughs]

Justin: And they’re like “Uh... Mr. McElroy, I—[laughs] Don’t understand.”

Audience: [laughs]

Sydnee: Uh, sorry for the delay, we had a, um... We had to—I had to feed—Well, he didn't help—I had to feed our daughter very quickly. [laughs] Our three month old, so...

Justin: Yeah. So, hey...

Sydnee: Quick boob-ing break, everything's good now. [laughs] Don't worry.

Justin: So—So what are we talking about this week, Syd?

Sydnee: Well... So, I'm sorry, Ohio, but you may have heard that closing in all around you—In West Virginia, in Kentucky, in Indiana, in Michigan—All around... Hepatitis A— [laughs] Is coming.

Justin: But not here... Yet!

Sydnee: Yet. [laughs]

Audience: [laughs]

Justin: [laughing] So, we are your frontline protection against Hepatitis A! This far, no farther!

Audience: [chuckles, one very enthusiastic "Yeah!"]

Sydnee: You all realize that, right? Like, you are surrounded.

Justin: It's—If you do a map—

Sydnee: It's—It's coming—

Justin: With darts... It looks bad, for you, currently.

Audience: [laughs]

Sydnee: Mm-hmm. [agreement]

Justin: Like the—the wall is all around you, and the—the white... Walkers—I guess, I don't know. I need Teylor back out here.

Sydnee: [laughs]

Justin: They're like pounding at the wall, like—The Hepatitis walkers, they're like-[laughs]

Audience: [laughs]

Justin: “Let us in!”

Sydnee: [laughing] So—Of course, everybody’s favorite topic! We’re gonna talk about Hepatitis—[laughs] Today!

Audience: [cheers from the audience, and one very hyped “Woo!”]

Sydnee: “A”, to be specific.

Justin: Some fans...

Sydnee: Um, there have been—There’ve been outbreaks really close, you guys! Really close to us, too.

Justin: Yeah, and—and at Taco Bells—

Sydnee: Like 45 minutes from us!

Justin: And they’re at Taco Bells, which is like “Oh, et tu? Et tu, Taco Bell?”

Sydnee: Yeah!

Audience: [laughs]

Justin: A little close to home.

Sydnee: And the most recent, like—They estimated, like “Well, the employee was probably working here for like, eleven days before we figured it out!” That’s a lot of 4 AM runs to Taco Bell! *Eleven days*.

Justin: And they’ve said in the news, that like they—they don’t think it’s necessary to alert people who ate at that Taco Bell, and it’s like, hey! In case I did eat at that Taco Bell, why don’t you go ahead on and alert me?

Audience: [laughs]

Sydnee: [laughs]

Justin: And I will set my own alertness level... Dependent on my own sort of personal... Uh, panic-attack-readiness, which is always at “red”. [laughs]

Sydnee: [laughs]

Audience: [laughs]

Sydnee: So... Justin, do you know much about Hepatitis?

Justin: Not "A" thing.

Audience: [laughs]

Sydnee: There—There are different kinds of Hepatitis and so that's why I think it's useful. We're just gonna focus on Hepatitis A, which if you care about this kind of thing, is a picornavirus. Most people are like—

Justin: A what?

Sydnee: "Whatever". Just a kind of virus.

Justin: Okay, it's a kind of virus.

Sydnee: A kind of virus. And it is transmitted from human to human, through my favorite... Route.

Justin: Aw, yeah!

Audience: [cheers]

Sydnee: The fecal-oral route! I was waiting for everybody... [laughs]

Audience: [laughs]

Justin: They've made the right choice!

Audience: [laughs]

Sydnee: So in case I need to clarify what that means, is that—[laughs]

Justin: Okay?

Sydnee: If you have Hepatitis A—

Justin: I can, if you need me to!

Sydnee: It comes out... You know, in—in your poop. And then you, you know, clean yourself up, and if you don't wash properly, and then you shake somebody's hand or you make their tacos...

Justin: It's indirectly eating someone's dookie. I mean, do you need me to—

Audience: [laughs]

Sydnee: That's—

Justin: Why are we dancing around this? Let's...

Sydnee: That's how—that's how that goes. [laughs]

Justin: Got it, fecal-oral.

Sydnee: You can also have cases from like contaminated food and water and that kind of thing, but this is what the most recent outbreaks—This is what we've worried about, cause they've been at restaurants, and that's scary. Um, if you get it, the symptoms—You'll get some—some stomach pain, nausea, vomiting, you get diarrhea.

And—And the thing that you would notice probably the most, is that you can get jaundice, which means you turn yellow, because your liver is inflamed, and so... Then you know, like "Hmm, something's not right."

In—It's actually interesting, in younger kids, it's usually asymptomatic. Nothing happens. They get it, they get better, you never knew that they were sick. But the older you get, the more likely you are to have symptoms from it, especially the jaundice, which becomes very prominent, as we get older. And, in rare cases, you may even need to be hospitalized, with this disease. Uh, very rarely is it fatal, which is a good thing It can make you really sick, but most of the time you will get better.

[pauses] That's a good thing—

Justin: Most of the time.

Sydnee: [laughs]

Audience: [laughs]

Sydnee: Um—

Justin: I thought you—Isn't like—With Hep. C, aren't you like stuck with it for good?

Sydnee: [sighs] With Hep. B and Hep C., yes. They are chronic infections that can happen. Hepatitis A is just a short term thing.

Justin: Oh!

Sydnee: You get sick, and for the most part, you get better.

Justin: Not even that big of a deal!

Sydnee: And we won't focus on the... People who don't ... This is a comedy podcast! [laughs]

Audience: [laughs]

Justin: [laughing] Okay, got it! Yeah, good choice! Excellent!

Sydnee: Uh, now—and—and as you mentioned, there are other kinds of viral Hepatitis, and all Hepatitis means is inflammation of the liver. So there are different viruses that can cause inflammation of the liver, and like you said, they can last for different periods of time, and they're transmitted through different routes. There's—There's B and there's C, and there's D and there's E—

Justin: Oh!

Sydnee: Actually.

Justin: You don't hear a lot about D and E!

Sydnee: No, you don't. [laughs] But... You know, they're bad too.

Audience: [laughs]

Justin: Uh—I guess!

Sydnee: [laughs]

Justin: I very rarely heard someone talk about some good Hepatitis they got!

Audience: [laughs]

Justin: "Hey! I got that kind of Hepatitis that helps you jump even higher, and—" [laughs]

Sydnee: [laughing]

Justin: "Dunk even better! It's Hepatitis D for "Dunk"!"

Audience: [laughing]

Sydnee: Now uh, as you may imagine, the—the most obvious symptom of the disease is the jaundice, is you know, turning yellow. Most people would notice that. So if you go back throughout history to try to find, like how did people diagnose and treat Hepatitis A in ancient times, a lot of it is just about jaundice. So there's probably a lot of intermingling, like what were they really—what kind of jaundice were they really talking about? Was it Hepatitis A, was it Hepatitis B? We don't really know, so a lot of these ancient treatments I'm focusing on, were just for the fact "Uh-oh, you turned yellow! Here's some ideas I have!" [laughs]

Audience: [laughs]

Justin: [laughing]

Sydnee: For—for how to address that. Um, jaundice also, in a lot of ancient texts is referred to as "Icterus", which is a reference to a bird that was yellow, from Greek mythology, in case you you're interested in... In that, that's where that comes from. We still use that term today. So—

Justin: Judging from the response, I'm assuming none of you are.

Sydnee: [laughs]

Audience: [laughs]

Sydnee: Um, and even though they didn't know the different reasons that you might turn yellow, Hippocrates did note that if you turned yellow and got diarrhea, you tended to get better... As opposed to not getting diarrhea and that was probably bad. You—

Justin: So when... So it's one of the few times where you're like "Aw, heck yeah diarrhea!"

Sydnee: [laughs] Yeah!

Audience: [laughs]

Justin: Aw, cool!

Sydnee: If you have to turn yellow, let's hope you get diarrhea. [laughs]

Justin: [laughs]

Audience: [laughing]

Sydnee: That's all I'm saying! Um... As I've mentioned, outbreaks of Hepatitis A, they—[laughs]

Justin: I do, actually—I will say, I do love an excuse to not be far from my toilet!

Audience: [laughs]

Justin: That is—I will say that, in favor of diarrhea. It's like, "I know I actually can't deny it, I'd love to come to your son's birthday party, but umm... I do have to stay near my toilet." [laughs]

Sydnee: [laughs]

Audience: [laughs]

Sydnee: It's the only excuse people don't ask for more details on.

Justin: Yeah. Oh yeah yeah yeah, yeah yeah yeah yeah.

Sydnee: "I have diarrhea!"

"Okay!"

Justin: "Okay! Alright."

Sydnee: "See you later." Uh, there were epidemics in Babylon, ancient China, ancient Greece, and we knew it was contagious long before we understood why. We knew there were some sort of jaundice, that was contagious, and we know that because there was a letter from the Pope, Pope Zachar—Zacharias, to St. Boniface in 1751 C.E., in which he said um, "Don't serve holy communion to people with jaundice until after everybody else gets it." [laughs] "Please. Put them at the back of the line, cause there's something going on and we're spreading it, so..."

Justin: Nice.

Sydnee: "I would say maybe stay home until you get better—"

Justin: "Thank you."

Sydnee: "Would be my advice." Um—

Justin: Jesus will understand.

Sydnee: Yes.

Audience: [laughs]

Justin: He invented diarrhea.

Audience: [laughs]

Sydnee: [laughs]

Justin: His—Well, his dad did. Fine.

Audience: [laughs]

Justin: He didn't get rid of it, though. Could have.

Sydnee: Um... I don't know where you're going, let's just—Justin, come back!

Justin: Just saying, Jesus's dad invented diarrhea!

Sydnee: Let's go back to...

Justin: Mother's day's coming up, and um...

Audience: [laughing]

Sydnee: So, Hepatitis...

Justin: Yup!

Sydnee: Uh... [laughs] Pliny the Elder, one of our, um—

Audience: [cheers]

Justin: Aw, here it go!

Sydnee: Our family friend... Had a lot of—a lot of ideas—

Justin: "A family friend". [laughs]

Sydnee: [laughs] Roman naturalist and—and jack of all trades, master of none—[laughs]

Justin: Can we tell that story—wait, you said family friend. Can I tell that story about Rileigh really quick? For a long time, Rileigh...

Sydnee: [laughing]

Justin: Thought that Robin Williams was there when she was born...

Audience: [laughs]

Sydnee: I have no idea why!

Justin: No idea why!

Sydnee: She just started telling people that!

Justin: But she would—We would talk about our family friend Robin Williams, who was there when Rileigh was born. I—Hand to god, I don't know, for *years*, and we fought so hard—It was like, Americans level of subterfuge trying to keep this secret from her, that Robin Williams was not in fact present at her birth!

Audience: [laughs]

Justin: [laughing] Family friend, Robin Williams.

Audience: [laughs]

Sydnee: So—

Justin: And then he died the day before Charlie was born...

Sydnee: Why did you have to take it there? Why'd you have to go all the way there?

Justin: Cause I wanted to keep it up for Charlie, but like *that* would've been a stretch!

Audience: [laughs]

Justin: But like a double stretch!

Audience: [laughing]

Sydnee: [laughs] You always say I have to take it to the—to the end!

Justin: Now he's there when everyone's born. Think about it.

Audience: [laughs]

Sydnee: Okay.

Justin: That's kind of lovely, isn't it?

Audience: [laughing]

Sydnee: Let's just... You are—you are... I don't—you have been-

Justin: Nanu nanu, you know? [laughs]

Sydnee: [laughs]

Audience: [laughs]

Justin: I just think it's kind of sweet, actually!

Sydnee: You've been down in a dark room with our three month old for too long!

Justin: [laughing] I have—[laughs] For the past forty-five minutes, I've been in a black room holding a sleeping child! A feel like I'm losing my mind!

Audience: [laughing]

Justin: Nanu nanu...

Sydnee: Pliny had lots of ideas for jaundice! [laughs]

Audience: [laughing]

Justin: I don't care what his ideas are, Syd. You treat the patient, you win, you lose.

Sydnee: Yes you—[laughs]

Audience: [laughs]

Justin: Let me start again. You treat the disease, you win, you lose.

Sydnee: Okay.

Justin: You treat the person, you win every time—Patch Adams.

Audience: [laughing]

Sydnee: Do you—[laughs] Do you wanna know what Pliny did for...

Justin: Yes!

Sydnee: Jaundice?

Justin: Please!

Sydnee: Okay.

Justin: Go for it.

Sydnee: Alright, first of all... There's so many of these. First of all, you could try ear wax... Okay? Or—[laughs] "The filth that adheres to the udders of a sheep." [laughs]

Audience: [groans of disgust]

Sydnee: [laughing] I don't... I don't—

Justin: The filth—God, it's so gro-dy! [laughs] He could've said "dirt"!

Sydnee: Now if it makes it more palatable, you're gonna mix that with some myrrh and some wine.

Justin: Nice. It smells good.

Sydnee: Um, the...

Audience: [still laughing]

Sydnee: Hmm... And I'm sorry for this one. I didn't write it, Pliny did. The ashes of a dog's head... Mixed with honeyed wine. Or, a millipede—You also want to mix that with wine. These are all in wine. [laughs]

Audience: [laughs]

Sydnee: There's some earthworms... In honey-wine, again. Wine, in which a hen's feet have been washed, after being first cleansed with water. Also, the hen must have yellow feet.

Justin: Ah! Alright.

Sydnee: That's very important. The brains of a partridge... Or an eagle, whatever is easier for you to obtain! [laughs]

Audience: [laughs]

Sydnee: Uh, the ashes of a ringed dove's feather, or the intestines... Again, either way... And then you wanna mix that with three spoons full of wine. Again—

Justin: Yup.

Sydnee: Ashes of sparrows, burnt upon twigs, in honeyed wine. There's another—[laughs] There's another bird, the one I mentioned earlier known as the Icterus, which if you look at it... It—You will be cured of your jaundice.

Audience: [laughs]

Justin: [laughs] That's the one—Okay, listen!

Sydnee: But—

Justin: Can I do that one?

Sydnee: But... But the bird will die... So...

Audience: [collective "Oh..." in disappointment]

Justin: Lots of birds die every day—

Sydnee: [laughs]

Audience: [laughs]

Justin: [laughs] I don't want to eat dog-head ashes.

Sydnee: Well it's—What's great about all these—[laughs] All these cures, is that the one that stuck, was the one where you look at a bird and it dies... That—that you see repeated over and over again, and it—the thought is that they were—They were mainly just birds that were yellow, and that you could look at a yellow bird, and you would transfer... The jaundice to the bird, and the bird would die.

Plutarch wrote "The bird appears to attract the disease to itself, and averts it's head and closes it's eyes, not as something—Because it is jealous of the remedy sought... But because it feels wounded, as if from a blow."

Justin: [laughs]

Sydnee: Then it's got your jaundice.

Justin: [laughs] Take that!

Sydnee: So... [laughs]

Audience: [laughs]

Sydnee: Uh, in—in medieval times, there were lots of great recipes, there always are. Not at the restaurant... They—I mean, they probably have lots of great... Recipes—

Justin: Medieval times probably has great recipes for jaundice-bird!

Audience: [laughs]

Sydnee: [laughs] They have like giant turkey legs, probably.

Justin: Flagons of meat and what have you.

Sydnee: Uh, no. I mean in—in the actual medieval period, you would find—you know, treat your jaundice with things like lion's gall. So just get that from a lion.

Justin: No problem.

Sydnee: Good luck with that.

Justin: Well, I'm already—I have Hepatitis, so I really feel like fighting a lion, right now.

Audience: [laughs]

Sydnee: [laughs]

Justin: And taking it's gall! [laughs]

[theme music plays]

[ads play]

Sydnee: Or you could—You could swallow nine lice—Nine...

Justin: [laughing]

Sydnee: Count out the lice... Nine, mixed with ale each morning, for a week. [laughs]

Audience: [laughs]

Sydnee: I think the ale was just like “You’re swallowing lice... Just—”

Justin: “You wanna wash it down with something!”

Sydnee: “Throw it in some ale!” And uh, at the time, a lot of people believed in the doctrine of signatures. We’ve talked about this before, that’s the idea that like-cures-like.

Justin: [simultaneously] Like-cures-like.

Sydnee: Hey!

Justin: Yo!

Sydnee: Look at that!

Justin: What’s up!

Sydnee: So you’ve turned yellow, you need to eat something yellow... All will be well. So—

Justin: This is also mixes for homeopathy, right?

Sydnee: Yeah.

Justin: Yeah.

Sydnee: And so you see a lot of—a lot of treatments with things like dandelions, and fennel, and different things that had yellow flowers, and just... Eat that, and you’ll get better. That—the same idea as the yellow birds. Uh...

Hildegard of Bingen, who was an abbess, that I learned about while researching this topic and was very excited about her, she studied all kinds of different stuff. Medicine, and music, and she write the Physica, which was a collection of nine books that talked about, um, the medicinal properties of different plants?

Um, and she seemed really cool and ahead of her time... Uh, she actually... To cover—this is just a side note—To cover that she had all these really

clever ideas and that she was a woman in a time when women weren't supposed to have clever ideas, she just said that all of them were visions she was having from god. And people were willing to accept that, but they were not willing to accept the idea that she was a woman who had good ideas—

Justin: [laughs]

Sydnee: So that was just what she said about everything. "Well, it was a vision from god." And everybody went "We're on it!" Now, this—[laughs]

Audience: [laughs]

Justin: [laughs]

Sydnee: [laughing] This was not one of her best ideas though! So, if you have jaundice... You stun a bat... Don't kill it. [laughs]

Audience: [laughs]

Sydnee: Stun it. [laughing]

Justin: Okay?

Sydnee: By striking it, gently... Then you tie it over your loins...

Audience: [bewildered, scattered laughter]

Sydnee: [laughs] Make sure that the—like, the bat's back is facing your bat... [laughs] We're not doing anything naughty, just tie the bat in front of your loins! Uh, wait a little while and then tie it over your stomach—I don't know what "A little while" is, as long as you can handle that bat on your loins!

Justin: [laughs]

Sydnee: And then you... And then you leave it there until it dies. And then you're gonna be fine!

Audience: [shocked laughter]

Sydnee: To this bat that you've stunned, I am worried about when it wakes up.

Justin: It is so...

Sydnee: [laughs]

Justin: [sounding absolutely haunted] It's so wild to me, that people in certain parts of history... Had afternoons... Where they would stare at the bat on their crotch...

Sydnee: [laughing]

Audience: [laughing]

Justin: And wonder if it was dead.

Audience: [laughs]

Justin: Like, they would flick the bat on their crotch and be like "Ey, you dead yet? Cause I would love to take you off."

Sydnee: [laughs]

Audience: [laughs]

Sydnee: Uh, this idea—And you see—

Justin: But there was no T.V!

Sydnee: [laughs]

Audience: [laughs]

Justin: What do you want' em to do? They were probably 'gized, to have like an activity of some sort!

Sydnee: [laughs] This idea of transferring illnesses to animals—this is not uncommon, throughout history. The idea that like, there's something wrong with you, and if you just like rub an animal on you or look at it or something, you could give it to the animal. We do this—We humans like to do that a lot! And so, in—in 1611, there's a great, um, treatment for jaundice that Earnest Bergrave recommended. He wrote a medical treatise on jaundice, and among his treatments was... Take some blood from the right arm of a patient with jaundice, and seal it in 2-3 chicken eggs... With fish glue? I don't know how you're gonna do that!

Justin: [yelling] What?

Audience: [laughing]

Justin: [still yelling] What is fish glue?

Sydnee: I don't know what fish glue is, and I don't know how you were gonna open up an egg, and put blood in it and reseal it, I mean—

Justin: Now I've seen—

Sydnee: Now that's a delicate operation!

Justin: I've seen people put confetti in eggs...

Audience: [laughs]

Justin: They drain the... The goo that—

Sydnee: Oh, you gotta blow in them!

Justin: Yeah, yeah yeah yeah yeah.

Sydnee: I saw that on *Trading Spaces*!

Justin: Yes.

Sydnee: They decorated a room with them!

Justin: And then you put...

Sydnee: [laughs]

Justin: what is it?

Sydnee: [laughs] The blood from the patient with Hepatitis.

Justin: Okay, perfect. And then you seal it with?

Sydnee: Fish glue. Mm-hmm. [affirmative]

Justin: Fish glue, okay.

Audience: [laughs]

Sydnee: Then you got to put them under a hen...

Justin: Natch'.

Sydnee: Like find—Trick a hen... [laughs]

Justin: [laughs]

Sydnee: You gotta trick the hen, and get the hen to sit on those eggs for two to three weeks—

Justin: [yells] What?

Sydnee: Yeah.

Justin: I have jaundice now!

Sydnee: Mmm.

Audience: [laughs]

Sydnee: Two to three weeks, and then you crack them open... And you—I mean, you know what’s inside. Like, it’s congealed blood. And you’re gonna—You’re gonna feed that to either a pig or a dog, you choice—

Justin: Come on....

Sydnee: And they—he actually recommends, you can actually mix it in with their food, if you have to. [laughs] If you have to. And then once the animal gets sick, you get better. Which is like a really roundabout way to cure your jaundice, and—

Justin: I mean like, by then you’re either dead, or better, right?

Sydnee: I mean, it’s probably gone, by then! Like, if you have Hep A, you’re probably better!

Justin: “You did it! The dog did it!” He didn’t, though! He didn’t do anything! [laughs]

Sydnee: [laughs]

Justin: He ate your nasty blood-egg...

Audience: [laughs]

Sydnee: [laughs] It’s—It’s really interesting, you see that people began to realize that there was some kind of jaundice that was different than other kinds, because they started calling it things like epidemic jaundice. Because, I mean... We usually don’t—there were other reasons, that you might turn yellow, other reasons for liver failure that didn’t—weren’t contagious. But Hepatitis A was, and this became closely tied to military operations.

It was actually known as “Campaign Jaundice”, for a while. Because people were in close quarters, sanitation kind of went out the window in war time, and things like Hepatitis A would spread very easily. And so you see lots of cases in the Napoleonic wars, in the Civil war, and both of the world wars... Which is actually where we started to learn a lot about it.

Um, by the 1900’s, we knew that there were some kind of infectious cause. By the 1920s, we knew there was probably a virus responsible, but we didn’t know a lot more.

World War 2 is really where we started to figure this out, and it was because it became such a huge problem. Um... 200,000 U.S soldiers were suffering from Hepatitis A, in World War 2.

Justin: [exhales in shock]

Sydnee: So, that’s a lot of sick people. And even though the vast majority are gonna get better... I mean, you can’t—You can’t fight when you’re sick, so you’re taking people out of—out of the war for a long time, so because of the pressing need to figure it out, that’s when we started to make some more breakthroughs.

One thing they did notice that was really interesting, is that officers were actually more susceptible to Hepatitis A, than everybody else.

Justin: Why is that?

Sydnee: Because, they thought it was things like the uh, insulated communities, like the officer’s club. Or like, I guess they had like swimming pools, that were just for the officers? And things like that. And so they were like—they were more likely to group closely together for long periods of time, and so the officers were getting sick more often. I just thought that was very interesting.

Justin: Yeah.

Sydnee: I wouldn’t have thought that. So... In order to figure out what was causing all this, they had to st—they had to, you know, start isolating the—the, whatever the agent was from patient’s blood. You know, take it out of their serum, and then they had to figure out how to grow it in petri dishes. And this is all very hard, with viruses, especially at the time. And usually at that point, you wanna try to like “Well, I think this is what’s causing it, so I

need to infect something else and see if they get sick.” That’s kind of how we figure out “Are we right, are we on the right track?”

Well, at the time, we weren’t very good at doing any of this with viruses, so the only thing we knew how to do... Was transfer it from person to person... And the only way we knew how to do that, was to take stuff from a human, that we thought probably could make another human sick... And put it in them. So a series of voluntary human experiments start, at this point—

Justin: Uh-oh.

Sydnee: Yeah.

Audience: [laughs]

Sydnee: These are pretty gross, I’m just gonna warn you. So if I think that this patient with diarrhea... Has some sort of virus, and I wanna find out what’s in there, and—[laughs] What will make another person sick, an easy way to do that might be to take some of that diarrhea and put it in another human... Which is exactly what people started doing.

In 1942, there was a study where volunteers... Were fed... “Duodenal fluid”, so that’s fluid from the small intestine, uh, from patients with Hepatitis... And then some got sick! And they went, “Hey, we’re on to something!” [laughs]

Audience: [laughs]

Justin: [sounding utterly horrified] Volunteers?

Audience: [laughs]

Sydnee: I don’t know how much—

Justin: Hey, everybody in that study? Uh, it’s me, Justin McElroy from 2018, where we got this all figured out? You’re nasty!

Audience: [laughs]

Sydnee: Now...

Justin: How’s that? How’s that? [laughs] You’re nasty!

Sydnee: What they—

Justin: That’s the only excuse I can think—Come up with—

Sydnee: What they were trying to—

Justin: Is that you're nasty!

Sydnee: What they were trying to isolate was, is it through blood, is it through—What—how is this happening? Like there are different—We think there are different kinds, so is it the blood, is it—is it the feces, what is it? So they started a study in 1944, where they injected serum, from infected patients, into other people. And then they also sprayed feces from patients with Hepatitis, into the nose of volunteers.

Audience: [collective "Eww!"]

Sydnee: To see like, different kinds. Like, "You seem to have one kind of jaundice, you get the feces spray. [laughs] You have a different kind, we'll do the serum—And we'll see who gets sick!" And it was to—it was how they started to figure out the difference between Hepatitis A, which is as I said, spread through the fecal-oral route, and Hepatitis B and C, which is spread through like blood-to-blood contact.

Justin: See, now I'm sad they're not making another Jackass movie, because—

Sydnee: [laughs]

Audience: [laughs]

Justin: That would be perfect! They could also do some good, which is nice!

Sydnee: Uh, in—in 45, they continued these studies. They fed volunteers with feces and serum...

Justin: [laughs]

Sydnee: And then, injected serum into the patients-

Justin: Boy, serum is becoming a pretty upsetting euphemism, eh?

Audience: [laughs]

Sydnee: [laughs]

Justin: "Hmmm... It's a serum, wink!"

Sydnee: No no, it's just like, blood.

Justin: Uh-huh. [sarcastic]

Sydnee: Mm-hmm. [affirmative] [laughs]

Justin: So it's blood... Okay.

Sydnee: You know, it's like, from blood.

Justin: Okay, can you read this sentence again, but substitute uh, blood, in there?

Sydnee: "Fed volunteers with feces and blood." Okay, that's not much better.

Justin: Okay yeah, it's like worse, right?

Sydnee: Yeah.

Justin: It's like wicked-worse! [laughs]

Sydnee: Uh... They continued um—they fed, at one point, pooled feces, from several patients—[laughing] With active Hepatitis. I don't know what that was all about. I kept looking at that, going "But why do you need so many?" [laughs]

Audience: [laughs and disgusted groans]

Sydnee: "But why?" [laughs] "What are you proving now?" Um, but the one that they used looked like—it—they were thinking—This was what they started to call "Serum Hepatitis", which is what we eventually knew to be Hepatitis B and C—So they fed this stuff to other patients and they didn't get sick, and they were like "Hmm, this one is not spread through poop. Sorry about the poop you ate." [laughs]

Audience: [laughs]

Sydnee: "But good news... [laughs] You don't have Hepatitis!" Um... And then they started to uh—there was actually, in 1945, an outbreak of infectious Hepatitis at a summer camp in the Poconos. This worried me, cause we went there, that one time.

Justin: Indeed.

Sydnee: Yeah. And uh, they—

Justin: I'm sure it's fine now.

Sydnee: [laughs] From that, there was this outbreak, and so they started taking like, serum and feces, and like, the washings of people's—

Justin: You keep saying serum, Smirl! And we know what it—

Sydnee: Blood! [laughs]

Justin: Thank you!

Audience: [laughs]

Sydnee: Feces and like, some stuff from inside their nose, like washings from inside their nose—

Justin: Boogs! Like, what is up with the—

Audience: [laughs]

Sydnee: Boogers. And urine, and they—they started like, trying to infect a bunch of the um... People, at the camp with it, to try to protect them against it? It was like early, like... You know, to try to give you passive immunity, to try to give you antibodies.

Justin: Did it work?

Sydnee: That's when they started to have a breakthrough! They figured out that once you got infectious Hepatitis, you had something in your blood that we could give to other people and would keep them from getting Hepatitis, which was a major breakthrough. They just had to do it in a really gross way.

Justin: The grossest, one might argue.

Sydnee: [laughs]

Justin: "Uh, I'm trying to go to camp, can we—[laughs] All just relax?"

Audience: [laughs]

Sydnee: They also figured out where the other kind of Hepatitis—Not Hepatitis A, What they, at the time referred to as "Serum Hepatitis", which we now know as like B and C. Um, they figured out where that was coming from, it was actually—At the time, soldiers had to get the yellow fever

vaccine, and the way that it was prepared was using blood from other patients... And they—We obviously didn't know how to screen for Hepatitis, we didn't know it was a thing! And so we were giving soldiers Hepatitis with their yellow fever vaccine. And so they figured that out.

Justin: So vaccines really are bad?

Sydnee: Nooo!

Audience: [laughs]

Sydnee: No. [laughs]

Justin: So we finally got to the root of it, ey?

Sydnee: No, we don't do that anymore. We also—They also were re-using needles—

Justin: That's what she says—

Sydnee: Which we don't do anymore, so... Anyway, they figured all this out—Because of World War 2, they did all these studies, and they finally said "You know what? There's something called Hepatitis A, and this is something that we can spread through poop—"

Justin: Was this the first Hepatitis? That they came up with?

Sydnee: I mean—[laughs] What do you mean, "they came up with"?

Audience: [laughs]

Justin: I'm just saying, if it's the first Hepatitis they found, calling it Hepatitis A is kind of a negative thinking.

Audience: [laughs]

Sydnee: [laughs]

Justin: "We found this one... We're pretty sure there's others!"

Sydnee: No, they already—They already knew there was--They already knew there was some kind of epidemic one, and they knew there was some kind of serum-one.

Justin: Okay.

Sydnee: And that's... And then eventually from that, they figured out B and C and D, and E and all that. But those are—Those will be other, future podcasts.

Justin: Okay.

Sydnee: We won't get into that, yet. Um—

Justin: I'm on the edge of my seat. [laughs]

Sydnee: So—[laughs]

Audience: [laughs]

Sydnee: So from all that ingestion of poop and blood and—and nasal-pharyngeal washing's—Those are boogers—They figured all this out! From all those volunteers.

Justin: Thanks, volunteers!

Sydnee: Although, like these—

Justin: I'm sorry I said you were nasty!

Audience: [laughs]

Sydnee: [laughs] And in 1992, we introduced the Hepatitis A vaccine.

Audience: [cheers and "Woo!"s]

Justin: Woo!

Sydnee: So, that's where all this is leading to, is there is hope, because there is a vaccine against Hepatitis, and since we've introduced that, rates of infection in places where we have it, have dropped precipitously. Specifically in the U.S, we have a Hepatitis A vaccine. Now, if you are around our age, you probably have never had it.

Justin: How's you Saturday?

Sydnee: [laughs]

Audience: [laughs]

Sydnee: It is now part of the standard vaccines we give kids, although they don't have to. In a lot of states, it's not necessary. You don't have to get the

Hep A vaccine, but it's rolled in with a lot of childhood immunizations, so most kids get protected. Like our—Our daughter has had her Hep A vaccines. Uh, Raleigh got hers. [laughs] She's fine!

But the only reason I've had mine is cause I've left the country. So if you've left the country, somebody may have recommended to you, to get one, and you may have had your series of two vaccines. Otherwise, you probably haven't. So, you need to check that out... You haven't—

Justin: Oh, also there's a huge rush on it, so you probably won't be able to get it, cause everybody's trying to get it now.

Sydnee: Well don't be negative! [laughs]

Justin: I'm just saying, Sydnee said they're out at her office, cause I was like "Uh—[laughing] Let me get up on that Hep A!"

Sydnee: [laughing]

Audience: [laughs]

Justin: Cause I wanna eat my Taco Bell with like a clean conscious!

Audience: [laughing]

Justin: I know I'm killing myself with it, but I don't wanna do it *that* fast? So it's like...

Audience: [laughing]

Sydnee: So seriously though, it's—we—It is closing in on you, Ohio—

Justin: I'm being—And completely, this is as serious as I get!

Sydnee: [laughs]

Audience: [laughs]

Sydnee: The Hepatitis A vaccine is usually available at the local health department, and at your doctor's office, and it's not something you would have standardly been given. Um, and even though, like I said, it—it's really rare! The fact that we are having this many cases in the U.S is really rare. Globally, it is not rare at all. There are about 1.4 million symptomatic cases each year, cases we actually know about, which means there are probably

114 million cases of infection each year. So, it's all over the globe and now coming to a—[laughs] Theatre near you!

Audience: [laughs]

Justin: So this is actually where we can actually help, right? Because I bet, because none of the headlines are about Taco Bells in Ohio... That y'all, maybe could be ahead of the curve. So like, just tomorrow, or probably Monday, just call down, be like "Um, no reason? But I would—[laughs]"

Audience: [laughs]

Justin: "I'm just having kind of a silly afternoon, and I'd just love to get the—[laughing hard] Hepatitis A vaccine!"

Audience: [laughing]

Justin: "If y'all have like fifteen minutes where you could just scooch me in, I'd just love to get that vaccine, really quick! No reason, though! No no no no, no reason." It's not Ohio, so nobody should like, freak out. Cause you guys probably have it! In fact, I may like, on the way out of town tomorrow, be like—

Sydnee: The vaccine— [laughs]

Justin: [laughing] "Um, we got a little time? I'm gonna get the Hep A vaccine real quick!"

Sydnee: [laughing] That's actually not a bad idea.

Justin: It's not a bad idea.

Sydnee: Yeah.

Justin: I—It's—Good luck finding that on Sunday, but...

Sydnee: But that's it, that was my last point. Just get—Get vaccinated— [laughs] Before—

Justin: Get vaccinated against everything!

Sydnee: Before we bring our West Virginia Hepatitis! [laughing]

Audience: [laughs]

Justin: [laughs] What we're here to say is, we're very sorry about our West Virginia Hepatitis! [laughing]

Audience: [laughing]

Sydnee: [laughing]

Justin: That we created... Um... Uh, thank you so much—We—Thank you so much for—For coming out and thank you to the Columbus Podcast Festival—

Sydnee: Yeah!

Justin: For having us, as part of their—

Sydnee: Thank you for having us again!

Justin: This wonderful event.

Audience: [applause and cheers]

Justin: Um... Thank you to *Court Appointed*, and *Still Buffering*. Two great podcasts, that you should all be listening to, of course. Obviously.

Audience: [applause and cheers]

Justin: Thanks to Max Fun for having us as part of their extended podcasting family—

Audience: [loud "Woo!"s and applause]

Justin: You can find...

Sydnee: [laughs]

Justin: So many great shows at maximumfun.org. Oh! We got a book coming out.

Audience: [cheers and applause]

Justin: If you go to bit.ly/sawbonesbook, words by me, and her, and pictures by Teylor Smirl, who you saw earlier, she drew the pictures and... That's it. It's just the three of us—[laughs]

Sydnee: [laughs]

Justin: Making a whole book!

Audience: [laughs]

Justin: It's so many pages to fill, but it'll be out in October and you can preorder it now, and that would be wonderful if you could do so. Sydnee? Do you have anything else?

Sydnee: No, that's it. Thank you.

Justin: Alright. Thanks to—To The Taxpayers, for the use of their song "Medicines", as the intro and outro of our program! Thank you, to you, for coming, and thank you to you for listening, in the—in the future. Uh...

Audience: [laughs]

Justin: [laughs] We'll be back with you next week, but until then, my name is Justin McElroy!

Sydnee: I'm Sydnee McElroy!

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

Sydnee: [laughs]

Audience: [cheers and applause]

[theme music plays]

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