

Sawbones Episode 85: Polio

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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 song "Medicines" by The Taxpayers plays]

Justin:

Hello, everybody, and welcome to Sawbones: A Marital Tour of Misguided Medicine. I'm your cohost, Justin McElroy.

Sydnee:

I'm Sydnee McElroy.

Justin:

Syd, I am getting excited. The high today is 70, and it's gonna be in the 80's through the weekend. And you know what that means?

Sydnee:

You're gonna wear those shorts that I love.

Justin:

Oh, yeah.

Sydnee:

And I'm gonna see those cute calves.

Justin:

Can- can you see those get away sticks?

Sydnee:

I love those calves.

Justin:

Oh, and-

Sydnee:

I can't get enough of them.

Justin:

It also means I'm gonna get out to the pool, Syd.

Sydnee:

All right.

Justin:

I'm gonna-

Sydnee:

I like that plan.

Justin:

And get my goggles on. I'm gonna throw change to the bottom of the pool and go get it. I'm gonna work on my base tan. Uh-

Sydnee:

No. You're- I'm not gonna let you do that part. But-

Justin:

No. I'm not gonna do that.

Sydnee:

But- but carry on. That's okay.

Justin:

Yeah.

Sydnee:

We'll- we'll do other things.

Justin:

Everything. Like, all that stuff, Syd. All- um, I'm gonna just swim around.

Sydnee:

Well, you know something else you can do?

Justin:

What's that?

Sydnee:

If you had Polio, you could do some hydrotherapy while you're in there.

Justin:

Okay. Well, I mean, that is definitely not one of the usual things that I think of when pool time fun is on the menu. [laughs] but-

Sydnee:

I'm just trying to think of all the things you can do in the water. You know, just-

Justin:

Well, pee, okay? There. There's mine. There's my thing.

Sydnee:

Do you pee in the pool?

Justin:

You get... I- do you treat your Polio in the pool?

Sydnee:

Well, I don't have Polio.

Justin:

Okay. Well, I don't have pee, so I guess we're even.

Sydnee:

[laughs] You don't have pee?

Justin:

What is Pol-

Sydnee:

That's a much bigger problem.

Justin:

Can I tell you something, Sydnee?

Sydnee:

Hold on. Wait. Do you not pee? 'Cause we need to back up [laughs] and address this.

Justin:

Can I tell you something? I don't know what Polio is.

Sydnee:

Well, that's okay, Justin.

Justin:

All right.

Sydnee:

Because I'm gonna tell you all about it.

Justin:

Okay.

Sydnee:

And then you're gonna know what it is by the end of this episode.

Justin:

That's the way it works, baby.

Sydnee:

Okay. And, by the way, can I just say? Do you know why you don't why-what Polio is?

Justin:

Why?

Sydnee:

Vaccines.

Justin:

What, what!

Sydnee:

But we'll get more to that later. Uh, I wanna thank a few people who recommended this topic.

Justin:

Mm-hmm [affirmative].

Sydnee:

Uh, first of all, Nichole, Megan, Jennifer, and Jessica all recommended this. And Emma. Emma wrote us an email recommending Polio. Uh, Emma is 13, and she read a book about it and she thought it would be interesting for us to talk about. And she also said, Justin, that your goofs have helped her make friends.

Justin:

Good.

Sydnee:

If- if you can believe it. Your goofs-

Justin:

That's so fun- that's so funny that, when I was in middle school, it worked literally the exact,-

Sydnee:

[laughs]

Justin:

... 100% opposite way. So I'm glad that- that- that- to hear that's working out for you. Also, I'm stoked that so many women are listening to the program.

Sydnee:

Yeah, absolutely. And are interested in Polio.

Justin:

Get in those STEM fields, ladies. Get up in there. So, Polio, Syd.

Sydnee:

All right.

Justin:

What is it?

Sydnee:

So, uh, Polio is a disease that's been around a really long time. It dates back to antiquity. And the reason we know that is, because we read descriptions, like from the ancient Egyptians, and see hieroglyphs of people, uh, especially children, who have a withered limb or who are using some sort of, uh, like, assistive device for walking; a cane or a crutch or something. Or a description of some sort of infantile paralysis, is what it was often, kind of, referred to. Um, so we can deduce from that, that Polio has been around a long time, but nobody really knew what it was.

Justin:

Mm-hmm [affirmative].

Sydnee:

You know, it- we just- somebody would- would get really sick and some people may end up paralyzed. And then it didn't happen for a while, so nobody thought about it because it was mainly sporadic cases. Polio is interesting when- in that, when we really think about big outbreaks of Polio, the stuff that makes us scared, well, we- even if you don't know much about Polio, you kinda know it's something to be scared of, is really from the 1900s on. And that's when we start seeing the big epidemics that we- that we kinda talk about.

Justin:

So, relatively new in the popular conscience?

Sydnee:

Exactly. It's thought, as we look back into history-

Justin:

The conscienceness? Popular conscienceness?

Sydnee:

Probably conscienceness.

Justin:

Yeah. It makes more sense.

Sydnee:

Probably not our conscience. Um, it is thought that the Roman Emperor Claudius had Polio. There are some descriptions of him walking with a withered leg, and that he probably, uh, survived Polio. And Sir Walter Scott famously also had Polio. Uh, in 1773, he lost the use of one leg, and, uh, this, um, this was a lot of- this inspired a lot of his work in- in his life and was-

Justin:

Hmm.

Sydnee:

... a big turning point for him. Um, it was interesting when Sir Walter Scott got it, it was referred to as the Severe Teething Fever.

Justin:

Hmm.

Sydnee:

Which, if you remember from our teething episode, uh, it harkens to the fact that, at the time, many childhood illnesses were blamed on teething.

Justin:

Right, this is which why we ended up doing weird stuff, like cutting gums to let the teeth come through.

Sydnee:

Exactly, because... And it was really just a timing thing. At the same time kids were cutting teeth, is, uh, the same time they- they happened to be susceptible to these kinds of diseases. And so it was thought that he got Polio because of his teething, and it- again, it was thought many kids who got Polio may have been related to teething.

Justin:

I bet that's not even right.

Sydnee:

No. You do not get Polio from teething.

Justin:

Boom.

Sydnee:

Which is good. Charlie's teething right now.

Justin:

That's good. No Polio there.

Sydnee:

No. And we didn't sleep much last night-

Justin:

No.

Sydnee:

... on the flip side.

Justin:

Because I was so worried about Polio, but now I don't have to worry about that anymore.

Sydnee:

I meant 'cause Charlie's teething, but-

Justin:

Right. Okay, yeah.

Sydnee:

Uh, Tiny Tim probably had Polio.

Justin:

Well...

Sydnee:

[laughs]

Justin:

... I mean... Okay. No. But you know that that's not, like, an autobiography right?

Sydnee:

Uh, probably he did.

Justin:

It's not, like, a-

Sydnee:

I mean, we don't know.

Justin:

It's not... No. I mean, there was autobiography.

Sydnee:

He lived so long ago.

Justin:

Yeah. But... Okay.

Sydnee:

We can't really tell-

Justin:

[laughs]

Sydnee:

... if he had Polio or not.

Justin:

Uh, well, gosh. Gosh. You know-

Sydnee:

But he probably did.

Justin:

He did. Uh, he might've had Scurvy. Like, we have no idea. It doesn't make any sense. There's no- we always know there's- there's not an historical account.

Sydnee:

He didn't have Scurvy though. he probably had Polio.

Justin:

Okay. Fine.

Sydnee:

The description, uh, Di- [laughs] Dickens description of Tiny Tim, uh, probably in today's medical world we would say he had Polio. That was probably what he had survived, why we walked with a crutch, and why he was still-

Justin:

This boy-

Sydnee:

... sick.

Justin:

... has a clinically pure spirit, and heart as big all- as all outdoors. And that's what's causing his problems. It's a scientific diagnosis that he's just too sweet for this world.

Sydnee:

No. I mean, no. He probably had Polio.

Justin:

Okay. Well... Okay. Fine.

Sydnee:

[laughs] So, like I said, we see these, kind of, random descriptions of Polio throughout history. But then, uh, there weren't big epidemics. Not until we get into the 1900s. And this is when we start seeing multiple cases of what becomes known as Polio popping up throughout Europe and the U.S. And clustered. So not just one- one kid who gets sick and- and may end up with paralysis. We see lots of kids in the same area who get sick. So it starts off in the early 1900s with, uh, some clusters of cases in Louisiana. Uh, there are some scares in New York, large- I mean, the big population center.

Justin:

Population dense areas.

Sydnee:

Mm-hmm [affirmative].

Justin:

Yeah.

Sydnee:

Boston. Um, but it isn't until the summer of 1916 that we really- Polio really declares itself as- as such a public health threat. So, up to that point, that was the largest outbreak in the U.S. And especially in New York City.

Justin:

Mm-hmm [affirmative].

Sydnee:

Yeah. There was a huge number of cases and deaths in New York City. There were- overall, there were 27,000 cases that summer. Uh, there were 6,000 deaths, and 2,000 of those alone were in New York. Now, when I say... This doesn't sound like- like giant numbers when we think about the other illnesses we talked about, right? We talked about the plague. We talked about small pox.

Justin:

Right.

Sydnee:

These numbers are- are very small compared to the kind of devastation that those illnesses caused. But you have to consider that it was striking kids.

Justin:

Mm-hmm [affirmative].

Sydnee:

Kids were largely the people who were affected.

Justin:

So that's gonna amp up the- the-the scariness of any disease.

Sydnee:

Exactly. And this was a disease that it knew no, um, class boundaries, it didn't matter how affluent you were, everybody was susceptible. And they didn't know why.

Justin:

Hmm.

Sydnee:

They knew it came in the summer. Uh, we started figure that out. We had more outbreaks in the summer. Uh, but why? What- what- you know, what

was the cause in the summer? There was some thought that it was related to water, um, which was not a bad- bad thought. But, as a result, pools were closed, amusement parks were closed down.

Justin:

Not- oh, no, not pools.

Sydnee:

[laughs]

Justin:

The answer- [laughs] the answer to cure your Polio is right in front of your face, Syd said. You just stay in the pool-

Sydnee:

Well- eh.

Justin:

... and keep swimming.

Sydnee:

Well, no. Okay. No. Hold on. [laughs]

Justin:

The one treat-

Sydnee:

It doesn't cure Polio.

Justin:

The one effective treatment for Polio.

Sydnee:

No. Wait. No.

Justin:

And you closed it.

Sydnee:

Okay.

Justin:

You maniacs.

Sydnee:

No. See, you don't know... No. Don't say this. [laughs] But, no, at the time, pools probably were a way of spreading... Oh, no, they certainly were. I shouldn't say probably. They definitely were a way of spreading Polio. Um, we'll talk a little bit about the Polio virus, and I'll explain why. But, uh, pools were closed, amusement parks were closed, beaches were closed. Uh, everybody stayed away from public water fountains, with he thought that, "If it had something to do with water, let's just stay away from water." Uh, people scattered from New York City, that- especially that summer of 1916. They just-

Justin:

Oh, yeah.

Sydnee:

... fled to all the mountains and the, you know, surrounding areas, um, to- just to try to get away, to go hide in their, you know, I don't know, their log cabins, wherever people go hide from disease.

Justin:

Yeah.

Sydnee:

This has happened a couple times on our show, where there were a bunch of people in New York City, and then they all flee to other places.

Justin:

Uh, yeah. It's- it's an odd, um, it's an odd phenomenon. You know, that's actually the only reason that people live in New Jersey. That's true.

Sydnee:

They're- they're-

Justin:

New Jersey was founded-

Sydnee:

[laughs]

Justin:

... by people running from Polio out of New York.

Sydnee:

Running- running from diseases in New York?

Justin:

They crossed the state line, and they're like, "Thank goodness."

Sydnee:

[laughs]

Justin:

"No Polio here."

Sydnee:

You are making so many people in New Jersey mad right now.

Justin:

Let's set up... It's a fine... There- there are much more ignoble ways for your state to start-

Sydnee:

[laughs]

Justin:

... than people were trying to get away from Polio. Like, absolute- there's no- no argument there.

Sydnee:

I mean, I think all things being equal, our state probably had better origin. Just saying.

Justin:

Yeah. Like-

Sydnee:

West Virginia.

Justin:

... we hated slavery so much-

Sydnee:

Yeah.

Justin:

... that we, like, broke free.

Sydnee:

So we joined the north, and were like-

Justin:

Yeah. It was pretty sweet.

Sydnee:

... "Forget you, Virginia."

Justin:

But, like, that Polio-

Sydnee:

"Beat this, old Dominion."

Justin:

... that Polio thing is cool, too.

Sydnee:

Yeah, that... I mean, okay. I mean-

Justin:

Not- Polio is not.

Sydnee:

... that's not-

Justin:

You know what I mean.

Sydnee:

No. Yeah. That's not real, but it- it is a fun... We'll go with that.

Justin:

It's a fun little story.

Sydnee:

It's Justin's alternative history.

Justin:

Yeah.

Sydnee:

Yeah. Okay. If you, uh, had someone in your home that had Polio, uh, your name and address was gonna be published in the paper.

Justin:

Oh. No.

Sydnee:

Yes. So that you would know who had Polio and where they lived and stay away from them.

Justin:

Oh no.

Sydnee:

Um, the people were quarantined in their homes with the- the- you know, whoever had Polio within their family. And there were signs that were put on the wind- in the windows, like, a little sign that you had to put up, that- a cardboard placard that said someone in this home has Polio.

Justin:

So, kinda like Publishers Clearing House, but rather than bringing you an oversized check, they're bringing you wood [laughs] to board up your home.

Sydnee:

Ex-

Justin:

So you're stuck there.

Sydnee:

[laughs] Exactly. And they- and if you- if you took the sign down, or tried to evade the authorities, they would- I think they would just find you, I don't think they would throw you in jail. But they took it very seriously. Nobody

understood, you know, how to avoid Polio, so they just kinda locked away anybody who had it. Um, and this was the norm for decades of summers. In the- I mean, and this is something I don't think we appreciate now, that for- it was just accepted that, "Summer's coming, it's- our kids are gonna want to swim in the pool, but there's this thing that sometimes kids get. And- and they might get paralyzed and they might die, so we don't know how to stop it. We don't know what it's linked to."

Justin:

Boy, that's gotta put a damper on the end of the school year excitement, right?

"Hey, Ricky, are you excited about school ending?"

"Yeah, I'm pretty pumped. I just hope I don't get Polio."

Sydnee:

[laughs] You know, this- [laughs] this would be a really- this would be a really good thing. I like to encourage people talk- to talk to their grandparents 'cause I don't think people appreciate, in our- in our culture, the elderly enough.

Justin:

It must've been- yeah, it must've been terrifying.

Sydnee:

Talk to you grandparents about this. I bet that there are some wild things that I don't even know about because they're not in books and they're not easily accessible, that they could tell you about living in this time period and what it was like to grow up-

Justin:

Send us your-

Sydnee:

... with this fear.

Justin:

Send us your Polio stories.

Sydnee:

Yeah.

Justin:

Sawbones@maximumfun.org.

Sydnee:

[laughs] Let us know, because I bet your- I bet your grandma and grandpa have some great stories-

Justin:

And don't get secondhand-

Sydnee:

... or your great grandma and grandpa.

Justin:

... from somebody else's grandma and grandpa. I want that straight from the source-ish.

Sydnee:

No. Go visit them.

Justin:

Go to your grandma and grandpas house. They're- they're happy to hear from you.

Sydnee:

They'll probably get your favorite food or soda.

Justin:

Ooh.

Sydnee:

Or whatever breakfast treat, and get it for you and give it to you.

Justin:

Nice.

Sydnee:

And then they'll tell you stories about Polio. And it will be fascinating.

Justin:

"Why, Nonnie, is this diet cheer wine? How thoughtful."

Sydnee:

[laughs]

Justin:

"Did you have some stories about Polio you'd like to share?"

Sydnee:

So, let's talk about what Polio is, because we haven't covered that yet.

Justin:

Yeah. I'm- I'm still kinda wondering.

Sydnee:

Okay. So I wanted to build the fear of it before I tell you what it is.

Justin:

Okay.

Sydnee:

Because it-

Justin:

I'm terrified. [laughs]

Sydnee:

Okay, good.

Justin:

Help.

Sydnee:

Because- [laughs] because that's the- that's the world all these poor people were living in. They didn't know any of this- this answer yet. So Polio is a virus. It's an enterovirus. And the reason that I said swimming pools- avoiding swimming pools was probably a good idea, is that it spread through what we call the fecal-oral route.

Justin:

Okay.

Sydnee:

Which, yes, that's as gross as it sounds.

Justin:

Nice.

Sydnee:

So it sh-

Justin:

Cool.

Sydnee:

It shed through the GI track, meaning that it- it can come out your butt. It is something that you can spread from your throat, although, that normally wasn't the way that-

Justin:

I'm suddenly-

Sydnee:

... that it spread.

Justin:

... very stoked that the only public pool in Huntington has now been paved over. [laughs]

Sydnee:

[laughs] Uh, yes, because public pools were definitely a place where it could spread. And it took a while to incubate, so up to 20 days. So you didn't necessarily know where you got it or how you got it or who gave it to you-

Justin:

Mm-hmm [affirmative].

Sydnee:

... uh, when you- when you started having symptoms. Now, the thing most people know about Polio, if you know anything, is- is you know something about paralysis and you know something about an iron lung. But what you don't know is that, in 95% of cases, you probably don't know you have it.

Justin:

Hmm. Really?

Sydnee:

No. Most of the time, Polio is not as dangerous as- as what we, you know, in popular culture, have come to accept. Most of the time, your body will fight it off on its own. You can give it to other people, though.

Justin:

Is it one of those where it continues to lie dormant inside you? Or are you just- are you- are you-?

Sydnee:

You just clear it. You're just okay.

Justin:

Huh.

Sydnee:

Yeah. You just- you got it, its over. That whole time, you were infectious, though. That's one scary thing-

Justin:

Hmm.

Sydnee:

... is that you can- even- even if you didn't have symptoms, you could give it to other people.

Justin:

Hmm.

Sydnee:

Um, in about 4% of cases, you do get some symptoms from Polio, but it's mainly just what we would call an upper respiratory symptoms, you know, cough, runny nose, sore throat, that kinda thing. You may get some, uh, stomach symptoms, nausea, vomiting, diarrhea, which, of course, was worse for spreading it. Um, and you may even get some flu-like symptoms and get kinda lousy. But then it will go away, usually.

Justin:

Mm-hmm [affirmative].

Sydnee:

So we're really getting down to about 1% of cases when the virus will invade the central nervous system, and that's- that's what we think about when we think about Polio. People who actually had the virus invade their central nervous system and then they can get paralysis of one limb, several limbs, or, in the worst case scenario, is complete paralysis, which often times then would lead to death.

Justin:

Hmm.

Sydnee:

And, as I said, it's highly, highly infectious. Uh, if one person in your family had Polio, it was likely that everyone in that household was going to get Polio.

Justin:

But it- I imagine that this started to get better as, like, we made sanitation better, right?

Sydnee:

This is a weird case where, as sanitation improved... This is actually probably why we see the big outbreaks and why, as time goes on, from the- from that first outbreak in 1916, to the worst of them in the 1950s, as we move forward-

Justin:

Mm-hmm [affirmative].

Sydnee:

... the outbreaks get more, um, deadly, because improved sanitation meant that the age that people were getting Polio started getting older. Now, this is interesting about Polio. Most cases initially were among infants.

Justin:

Mm-hmm [affirmative].

Sydnee:

And they actually had a lower incidence of causing paralysis in infants. You- babies were more likely to get it, get sick, and then get better. Uh, as you get older, if you get Polio as you're older, if you're, you know, 5 years old, 9

years old, 15 years old or greater, you're more likely to get the paralysis, or die from Polio.

Justin:

Huh.

Sydnee:

So, as we had improved sanitation, babies were exposed to less illnesses. You know, they just weren't- they weren't as germy. And so they were cleaner, so they didn't get Polio. You didn't get Polio until you were out in the world, exposed to things. So we see the age of incidents increasing from, like, six months to four years old was- was normal.

Justin:

Hmm.

Sydnee:

To five to nine years. And then we see a lot of cases over the age of 15, and this is where we really start seeing how deadly Polio can be, um, because it's these older people who are getting it that- that have all of the really devastating consequences.

Justin:

So, Syd, I'm terrified. How do we fix it? Fix it. Fix Polio.

Sydnee:

Well, I'm g- I'm gonna fix Polio for you, but before I do that, I'm gonna need you to head with me to the billing department.

Justin:

Well, let's go.

[theme music plays]

[ad plays]

Sydnee:

All right. So we're- it's- it's 1952, and we're in the worst outbreak so far in the U.S. There are over 57,000 cases, over 3,000 deaths, over 21,000 people are left paralyzed, as a result of this.

Justin:

Yikes.

Sydnee:

Um, and, you know, in general, nobody knew what to do. Uh, and as I said, as the age of incident starts increasing, the population becomes less immune, because people aren't getting it as early.

Justin:

Mm-hmm [affirmative].

Sydnee:

So, then it becomes more devastating. So, basically, this was a situation where we didn't know what to do, so we tried everything, right? One popular treatment for a while was to apply electricity to the legs.

Justin:

Kinda- kinda a little wake up. Like, a little- a little electric pinch.

Sydnee:

[laughs] I like to call that the Doctor Frankenstein treatment. [laughs]

Justin:

[laughs] "Come on, legs."

Sydnee:

"Just wake up."

Justin:

"Wake up." [laughs]

Sydnee:

[laughs]

Justin:

"Dumb old legs."

Sydnee:

That- that's not exactly how nerves work.

Justin:

Nope.

Sydnee:

I like the effort.

Justin:

No, I like-

Sydnee:

I like the thought.

Justin:

I like the ingenuity, I like the vim- the vem- the vigor. I'm into it. But it just doesn't work like that.

Sydnee:

Um, there were almond meal baths. Just take a bath in almond meal.

Justin:

Mm.

Sydnee:

Sounds, I don't know, fragrant, pleasant.

Justin:

Yeah. Relaxing.

Sydnee:

Yeah. I- but that doesn't- it doesn't help the Polio.

Justin:

No.

Sydnee:

Um, there was a- there was a, uh, poultice recipe that was very popular. It included, among other things, it had many, many ingredients, but some of the best Roman Chamomiles, Slippery elm, and mustard.

Justin:

Hmm. Less- less fragrant.

Sydnee:

Less- [laughs] less fragrant, less- well, even less helpful, I would say.

Justin:

So, it's like more of an olfactory challenge-

Sydnee:

[laughs]

Justin:

... I would say.

Sydnee:

Uh, but I do- I always appreciate a good poultice.

Justin:

Sure. Love poultice.

Sydnee:

Why not?

Justin:

Love a poultice.

Sydnee:

Um, there were several things that we attempted to do as, like, an oral medication to give somebody by mouth. So, uh, take quinine, we'd figured out that it worked for Malaria, so why not?

Justin:

Sure. Sure. It seems to be good.

Sydnee:

[laughs] Not- no, don't do that. Um, caffeine was given. I don't know if that was on the basis that, "Hey-"

Justin:

"Wake up, legs."

Sydnee:

Yeah.

Justin:

"The electricity didn't work."

Sydnee:

"Part of your body doesn't work, so-"

Justin:

"Have a little java."

Sydnee:

"Yeah, this'll wake them up." Uh, radium water. We've talked about this before. Radiation, like, the- the idea of- of some sort of irradiated compound giving you-

Justin:

Mm-hmm [affirmative].

Sydnee:

.... medical therapy. Like, that that was really popular. So you would drink this water that usually had, like, the tiniest... We're talking, like, like, homeopathic doses of- of radium in it.

Justin:

Mm-hmm [affirmative].

Sydnee:

Or was in a radiated pod or something.

Justin:

Okay. So, like-

Sydnee:

This did- this did nothing. Um, gold was thought to be a treatment.

Justin:

Mm-hmm [affirmative].

Sydnee:

Which, I mean, if you're just guessing, that seems like a really expensive thing to guess.

Justin:

Yeah. I would start with, like, pyrite and see how that goes.

Sydnee:

[laughs]

Justin:

And maybe go up to bronze, or perhaps silver.

Sydnee:

That's the- that's the generic that you can buy, like, the brand name is gold, but then you get pyrite, when it goes generic. [laughs]

Justin:

[laughs]

Sydnee:

Uh, that's not true. Most generic drugs are pretty much the same thing as the brand name.

Justin:

Just buy generic, folks.

Sydnee:

Just- just... Yeah. Just don't- don't freak out about that. Um, over the next 40 years, as we- you know, through- from 1916 to the 1950s when we finally get to, like, an actual way to stop Polio, um, the- one of the most employed treatments was hydrotherapy, that I alluded to in the beginning. Uh, we've talked a little bit about hydrotherapy before. The idea that water intrinsically heals you is basically what hydrotherapy is thought to be, you know, that if you just get in water, or drink water, or do a water enema, or in some way, interact with water, it will fix whatever is wrong with you. Well, that's not true, right?

Justin:

Right.

Sydnee:

Like, we know that. But this was at a time where the best that we did for Polio patients was to essentially cast them. Cast them, as in put them in casts.

Justin:

Mm-hmm [affirmative].

Sydnee:

Or brace them until they couldn't move.

Justin:

To what end?

Sydnee:

The thought was that, because your limbs would become withered, that if you could hold the limb in the right position, that this- you wouldn't develop like a... There are things... Contractures is like a limb kind of, it flexes or bends on its own, you know. And the thought was that, if we just strapped you to a board or casted you so you couldn't move, these things wouldn't happen.

Justin:

Mm-hmm [affirmative]. Yeah.

Sydnee:

And the nerves would fix themselves. So we- this was in a time period where the- the common treatment for a Polio patient was to strap them to a board essentially, for months at a time. So you would just be stuck in your house for eight months, strapped to something, or casted in your full body, in an attempt to fix things.

Um, and all that was happening this entire time, is that your muscles were atrophying, but the muscles that were affected by the Polio, and then all the other muscles that maybe weren't, were affected, you know, by the casting itself. And then you- then you lost any strength you may have had.

So, with that in mind, hydrotherapy was actually a pretty decent idea. Um, it was mainly popularized by FDR.

Justin:

Oh. Sure, yeah. He had Polio.

Sydnee:

Probably. There's actually some thought now that maybe he didn't, that maybe he had Guillain-Barre syndrome.

Justin:

What?

Sydnee:

Yes. But I think that... Let's go ahead and go with the idea that maybe he did have Polio because of all he did for Polio patients-

Justin:

Isn't it more- isn't it, like-

Sydnee:

... Polio victims.

Justin:

Isn't he a greater hero if he didn't have Polio? Then he's just a nut who hated Polio so much.

Sydnee:

[laughs] Well, no. No, he really did have-

Justin:

"I'm gonna get you, Polio, if it's the last thing I do."

Sydnee:

... a condition. [laughs] He really did have a condition.

Justin:

"I'm not gonna get my Guillain-Barre slow me down from getting you, Polio."

Sydnee:

[laughs] FDR, whatever the cause was, really did become paralyzed from the waist down for a period of time. The thing is, he got- he got better. And the way in which he got better, we started to wonder was did he really have Polio, or did he have something that was probably gonna get better anyway? We don't know. It doesn't really matter. What he did for Polio patients, and for the cause of people with disabilities in this country, I think it's-

Justin:

Yeah, for sure. Absolutely.

Sydnee:

... I- whatever he had, uh, he popularized hydrotherapy. He went to Warm Springs, Georgia, because somebody told him, "Hey, the- there are these springs there. There are these warm springs. And they're- they're really great, and they'll bring your strength back, so check them out." So he went down, he swam in these waters, and he thought it was- had something to do

with the minerals and stuff that fixed his muscles. Um, in reality, getting in the water and moving around was probably a great thing to do.

Justin:

Hmm.

Sydnee:

Just to keep exercising your muscles, and do something that you didn't have any resistance, so no matter how much strength you'd lost, you can still participate in. So he opened a Polio rehab facility there, at Warm Springs, and, uh, and it was the eminent, you know, the preeminent place to go if you had Polio. And then there were a lot of other places that mimicked that. And this probably was really helpful.

It doesn't cure Polio, it's not the only treatment, but it, you know, it certainly is helpful for people. Um, and it was good if you consider that the other options at the time were things like surgeries to lengthen your limbs, or electrotherapy, where we shock you, or vitamin C, which we know doesn't help.

Justin:

No.

Sydnee:

Uh, one mention-

Justin:

Unless, like Tiny Tim, you actually have Scurvy, in which case, that is going to fix you right up.

Sydnee:

No. Tiny Tim had Polio.

Justin:

Okay.

Sydnee:

Now, one thing I should mention is the iron lung, because I think a lot of people hear about it and wonder what it is.

Justin:

Mm-hmm [affirmative].

Sydnee:

Um, initially, an iron lung... So, it was a way to... People with Polio, as they became par- became paralyzed, lost the ability to- to breathe. They lost the muscles that helped them breathe.

Justin:

Mm-hmm [affirmative].

Sydnee:

And so they wouldn't- weren't able to breathe. An iron lung was the way to force your chest in and out to make you breathe.

Justin:

So, like a ventilator?

Sydnee:

Except it was external. A vent- you know, a ventilator now is like a tube that goes down your throat and breathes for you.

Justin:

So it's more like it treats you like a big squeeze-y toy?

Sydnee:

Yes. Yes.

Justin:

Okay.

Sydnee:

Exactly.

Justin:

I'm with you.

Sydnee:

It was, initially, an electric motor hooked up to two vacuum cleaners.

Justin:

[laughs] cool- cool invention.

Sydnee:

And if you- you can Google pictures of this. You're laying in a giant metal... It looks like a coffin.

Justin:

Yeah.

Sydnee:

With your head sticking out. Um, there were actually walls of them where they would put several people in the same one. It almost looks like, um, like where you put bodies, like the... You know what I mean? The drawers where they put cadavers.

Justin:

I think they're just drawers.

Sydnee:

[laughs] Anyway. With heads sticking out. And they would put several children in one of them. And you would apply positive pressure to make you breathe out, and negative pressure would make you breathe in. And it definitely saved lives for the moment. But, overall, the mortality rate was high, 'cause you can't live in one of those.

Justin:

Right.

Sydnee:

But people did for a while.

Justin:

Yeah.

Sydnee:

People lived in iron lungs for quite a while. Um, and, obviously, this was later replaced by ventilators, which is a much better way of- of taking care of this.

Justin:

Right.

Sydnee:

Um, or, in one outbreak in 1952, in Copenhagen, it was just a bunch of medical students with Ambu bags.

Justin:

Right.

Sydnee:

The bags that you squeeze the air...

Justin:

Oh, gosh.

Sydnee:

... into people's mouths, instead of iron lungs. I know. If you can imagine that.

Justin:

That sounds exhausting.

Sydnee:

There was one, uh, treatment for Polio that- that we should mention. It's called the Kenny Regimen. So, like I mentioned at the time, the- the status quo for Polio patients was to strap them to boards and cast them until they couldn't move. Well, there was an Australian nurse, uh, Sister Elizabeth Kenny.

Justin:

Is she a nun?

Sydnee:

No. She was not a nun. Uh, Sister is apparently, or at least was, the British title for a chief nurse. Uh, and she was the chief nurse in World War I.

Justin:

Oh. Okay.

Sydnee:

So I don't know if that's still the title they use. But Sister Elizabeth Kenny, instead of casting patients, she thought that was dumb, uh, she thought it was better to start moving them as early as possible. So she introduced a regimen of applying heat packs to their atrophied muscles, and getting them up and moving them with physical therapy and exercise, passive movement, just moving them around and everything. And that's still the standard of care today.

Justin:

I love it.

Sydnee:

The Kenny Regimen. It challenged all the- the probably mostly male doctors at the time, who were saying, "No, no, no. Don't do this," and she said, "No. I know better. I can figure this out."

Justin:

Now, Sydnee, we've had a lot of fun here today, but we still have Polio kicking around. And I know it's not around right now, here in America, at least. Is it- is it around worldwide? It's still... We'll get to that, I'm sure. I'm rushing you. How did we make our first, like, big dent into Polio?

Sydnee:

So, first, we had to figure out what was causing it. And John Andrews was able to do that by growing the virus in a culture.

Justin:

Yeah.

Sydnee:

In the early 1900s. Or- or in 1948-ish, -9. Something like that. And that was the big- that was a big breakthrough, because that led us to be able to create a vaccine. You have to have the virus if you can create a- to create a vaccine against it. Um, so, the first Polio vaccine, Jonas Salk created it. Um, it- it's the injection, so it's the vaccine you and I probably both received.

Justin:

Mm-hmm [affirmative].

Sydnee:

Not the one that you take by mouth, the one that you get a shot. Um, and then later, Albert Sabin created the- the oral Polio vaccine, which I've heard some of. I think that's probably what our parents got, which is-

Justin:

Mm-hmm [affirmative].

Sydnee:

... they put- would put it on a sugar cube.

Justin:

Hmm. Okay.

Sydnee:

And it was an oral vaccine. Um, as a result of these vaccines, we see them introduced in, like, 1953, '54. And then later, the Sabin vaccine. The cases of Polio just drastically started declining.

Justin:

Hmm.

Sydnee:

We see Polio disappearing virtually, as- as we start vaccinating the population. Um, what's fascinating about the Salk vaccine is, one, he tested it on himself, he tested it on his own family. And then he- they basically put it out. It's like a public health triumph. They put it out to all the parents in the U.S, and said, "Who wants to volunteer their kid [laughs] to get this experimental vaccine?"

Justin:

Holy crap.

Sydnee:

"We think it will save them from Polio, but we're not sure. We think it'll work. What do you think?" Do you know that over a million parents were willing to sign up?

Justin:

That's insane.

Sydnee:

Can you imagine that today?

Justin:

I- you know what? If- if- I say no, but, like, we haven't had a public health threat like this. You know, like- like-

Sydnee:

Mm-hmm [affirmative].

Justin:

I mean, we've had some that are more insidious. Like, you can make the argument that obesity is, like, is- is worse in a sense, but it's not that, like, panic inducing.

Sydnee:

Mm-hmm [affirmative].

Justin:

Like, I can see, definitely, like, people, like you and I for example, if- if we were faced with a similar situation, I think we have enough sort of faith in science that we would, you- you know-

Sydnee:

That's what it is, right?

Justin:

... pitch in.

Sydnee:

It's having faith in science.

Justin:

Yeah.

Sydnee:

And, I don't know, head-to-head, did people have more faith in science then, or no?

Justin:

I don't know.

Sydnee:

I don't know.

Justin:

Let's- let's-

Sydnee:

You're listening, so.

Justin:

.... let's hope- let's hope we don't have to find out.

Sydnee:

[laughs]

Justin:

[laughs] Right?

Sydnee:

I know your answer.

Justin:

Yeah. Right.

Sydnee:

Uh, so they did. They did these huge trials. Um, it was a- it was a huge success. Um, the Salk vaccine worked well because it didn't- it was a killed vaccine, so it couldn't cause Polio. That was a side effect, rarely, of the Salk vaccine, the oral vaccine, it was a live vaccine.

Justin:

Mm-hmm [affirmative].

Sydnee:

But the oral vaccine was so much to distribute, that it was really instrumental in eliminating Polio out of a- out of a lot of developing countries.

Justin:

Excellent.

Sydnee:

Um, you know they didn't patent them?

Justin:

[laughs] That's great.

Sydnee:

Yeah. Uh, actually, Jonas Salk's response, when asked if he would patent it was, "You can't patent the sun."

Justin:

[laughs] Oh, my God. I'm gonna cry.

Sydnee:

I know. [laughs]

Justin:

Oh, my God. I'm gonna cry.

Sydnee:

So-

Justin:

I am gonna cry.

Sydnee:

... a lot of the vaccine effort to get- to get it out and vaccine- vaccinate all the kids, was funded by the March of Dimes, which we're- we're familiar with. FDR was instrumental in this effort, um, in- in creating public awareness of the, you know, of Polio, the importance of the vaccine, the cost, um, both in, like, physical loss of ability, and money in treating people with Polio, and long-term rehabbing people with Polio. And he changed the way that we look at public health, and people with disabilities, forever, you know.

Justin:

Uh, so-

Sydnee:

[laughs] Justin's gotta stop crying. [laughs]

Justin:

I gotta stop crying for a second.

Sydnee:

And, also, uh, get your kids vaccinated. [laughs]

Justin:

Get your kids vaccinated.

Sydnee:

Polio only exists in a few places on earth now. We're still working on eradicating it worldwide. We can. We can do that. Um, but you can do your party by just keep getting vaccinated.

Justin:

Yep.

Sydnee:

[laughs]

Justin:

Um-

Sydnee:

And- and thank your lucky stars, and talk to your grandparents.

Justin:

Yeah. [laughs] Talk to your grandparents.

Sydnee:

[laughs]

Justin:

Let's get those Polio stories coming in. Uh, uh, thank you so much to the Maximum Fun network for having us as a part of their podcast family. There's a ton of great shows you can go listen to. Uh, *Jordan, Jesse, Go!* Uh, *Lady to Lady*, uh, uh, *One Bad Mother*, *Stop Podcasting Yourself*, uh, there are many for you to enjoy.

Sydnee:

My Brother, My Brother and Me.

Justin:

Thank you- thank you, dear. Um, you can listen to *The Adventure Zone*, it's a- a D&D podcast I do with my brothers and my dad. My wife doesn't listen, but maybe you could. Maybe you'd like it more than she might. I don't know.

Sydnee:

He's pl- I mean, it's D&... I don't... Okay. You listen to it and let me know if you like it.

Justin:

[laughs] And, uh, we're on Twitter, @Sawbones. And we each have our own addresses, I'm @JustinMcElroy.

Sydnee:

And I'm @SydneeMcElroy.

Justin:

S-Y-D-N-E-E. And, uh, thanks to the Taxpayers for letting us use their song "Medicines". Uh, they're @TheTaxpayers on Twitter, if you wanna go thank them and then buy their music. And I'm sure they would appreciate that. They're a DIY Punk band, so I'm sure they'd- they'd appreciate a little, uh, extra- extra cash in their pocket. And, uh, that's gonna do it for us, uh, next time we have a, uh, a medical issue for you. Until next Wednesday. I'm Justin McElroy.

Sydnee:

I'm Sydnee McElroy.

Justin:

As always, don't drill a hole in your head.

[Theme music plays out]

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