

Sawbones 521: Walking Pneumonia

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

[theme music plays]

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

Sydnee: And I'm Sydnee McElroy.

Justin: Happy holidays. [giggles]

Sydnee: That's a weird—

Justin: I hadn't wished you happy holidays.

Sydnee: That's weird energy.

Justin: I realized I hadn't wished you happy holidays yet. Happy holidays, Syd.

Sydnee: Happy holidays, Justin, thank you.

Justin: Honestly, I hadn't come up with an introduction, and then I looked at the name on the document you shared with me, and I don't know what I have.

Sydnee: You don't know what it means?

Justin: I got nothing. [wheezes]

Sydnee: You don't know what it means.

Justin: I got nothing!

Sydnee: That's fair, that's fair.

Justin: I got nothing, I got nothing so I said "happy holidays," and just hoped that you would tie it together, 'cause I got— I don't know what this means.

Sydnee: We're a little— This is timely, it's just a little behind. There's been an— I try to keep up with if there's like a new outbreak, infection, something rising, something whatever that I feel like would, "Oh wait."

Justin: "Oh."

Sydnee: "This is a good opportunity to talk about history and educate on a current thing," and we're a little— this is— So have you heard about the increasing cases of pneumonia in children?

Justin: No, have you?

Sydnee: Well obviously, I'm doing a podcast about it.

Justin: Yes. [chuckles] That is a very fair response, yes.

Sydnee: And also I'm a physician, and also we're parents.

Justin: I'm just trying to keep a conversation going, Sydnee, it's a conversational style, okay? It's called asking questions. No, I don't know what that is. Have you heard of that increase?

Sydnee: I will say, yes. And I will say I do think there's a little bit of benefit—

Justin: How's your dad? It's just another conversation, Sydnee. It's just— I'm just keeping the conversation going.

Sydnee: This may be a lesson that Covid taught me. We tried to jump out I think pretty early on the— when— before Covid was Covid and it was like, "There's a coronavirus in China," and that was all anybody was saying.

Justin: Mm-hmm.

Sydnee: We tried to jump out pretty early on that. And we were not worried, and we were wrong. [chuckles]

Justin: And we were not— And we weren't worried and we were being too optimistic, and we were wrong about it.

Sydnee: And we were wrong. And so maybe waiting a little bit, gathering some more information, is a good idea.

For instance, I am not talking about the new mystery illness in the Democratic Republic of Congo because I don't know what it is, no-one seems to know what it is yet, there's really not much to say about it yet, I don't feel like... me weighing in with guesses would be—

Justin: You just wanted to raise the specter of worrying about it—

Sydnee: No, I—

Justin: — without any sort of context.

Sydnee: Well I imagine many of our listeners are paying attention to that as well—

Justin: But not—

Sydnee: — and right now we don't know anything.

Justin: Yeah, but not—

Sydnee: And so I don't think me like theorizing on that would be helpful.

Justin: Yeah but I've never heard an—

Sydnee: But talking about pneumonia—

Justin: I've never heard anything about it, 'cause— and you know that because I'll—

Sydnee: How have you not heard about it?

Justin: What have I heard about, Sydnee? I don't really hear about things.

Sydnee: Like everybody in my algorithm is talking about it.

Justin: Yeah okay, mine's mainly Arby's. So.

Sydnee: [chuckles]

Justin: [wheezes] Okay? I don't hear about these things, but now I know— I just know there's a mystery illness and my wife's not going to tell me more about it.

Sydnee: So there is a lot of that concern over this mystery illness, and all I'm saying is I think at some point when we know more about it, it would be helpful to talk about that.

Justin: Absolutely.

Sydnee: And so this is the lesson I've learned. I'm learning from my past mistakes and I am growing as a person. I can talk about mycoplasma pneumonia, and how it's on the rise, has been on the rise for the last year, because I think we know more about it, we understand, and I can say something helpful and not just... You know, cultivate fear.

Justin: Okay.

Sydnee: Around an unknown. So if you have been paying attention for any of these reasons, or perhaps if you've been sick or somebody you know has been sick, which is quite possible because it is pretty widespread—

Justin: Would you say it is fair, a fair assumption for me, if I see a healthcare story to not click on it with the assumption that my wife will know what is happening? Do you think that's a fair assumption?

I probably do pay a little less attention to medical stuff than your average person, because I assume that my Syd-gorithm [chuckles] will bring it to my attention if I need to know about it.

Sydnee: Well that's— and I guess that is bearing out right now.

Justin: Yes, that's true.

Sydnee: So Justin, you've probably heard of walking pneumonia.

Justin: And [chuckles] the Boogie Woogie flu. [wheezes]

Sydnee: Most people have heard the term, the colloquial term, walking pneumonia.

Justin: I've heard that colloquialism, yes.

Sydnee: Do you know why? Like what is that?

Justin: I would assume it's because you're like sick but still good enough to walk, like you have pneumonia but you still feel okay enough to go your job.

Sydnee: That is— That's kinda— Yes, that is where the term comes from. Now this is obviously not true for everyone who contracts this illness.

Justin: Sure.

Sydnee: There are some people who get quite sick. But yes, a lot of us—

Justin: And there may be people who were not walking before.

Sydnee: [chuckles]

Justin: So you wouldn't assume that that would be—

Sydnee: Right.

Justin: — affected by the pneumonia.

Sydnee: No, not in any way. So the idea is that for a lot of people who contract this, it will either be a bronchitis, an upper respiratory infection, or a pneumonia that isn't as severe as other pneumonias. In the medical world, we often call it atypical pneumonia, and we'll get into the history of that.

Justin: “Atypical” being one word.

Sydnee: Yes.

Justin: Yes.

Sydnee: Atypical.

Justin: Not—

Sydnee: As opposed to typical.

Justin: Right.

Sydnee: Yes.

Justin: Yes.

Sydnee: Okay. There is an increase this year. There is nothing to be alarmed about. This isn’t a new illness, it’s a known illness, and we know how to treat it, and we know how to prevent it, and we know how to manage it.

Justin: Mm-hmm.

Sydnee: And we kind of know why there’s an increase, and we also kind of saw that coming.

Justin: Oh, okay.

Sydnee: So I feel like this is all comforting, right?

Justin: Right.

Sydnee: This is all comforting information when we know things. Okay, so let’s talk about walking pneumonia first. And to understand why it’s a little different than other—

Why do we have a whole other name for this pneumonia, why is it different, why do we care? There’s a couple reasons, and I think that it starts off with the difference between a virus and a bacteria.

Justin: Okay.

Sydnee: Do you know?

Justin: Allow me to...

Sydnee: Mm-hmm, to guess?

Justin: Yes. No, not guess. Can I— Wow, that was so mean. Bacteria is a very small, microscopic living organism.

Sydnee: Okay.

Justin: And a virus is also very small, these two things you can't even believe it. Virus is much smaller than bacteria though.

Sydnee: Yes, generally yes.

Justin: Virus— And virus is not dead and not alive, like Nosferatu, it wanders the earth, hovering between twilight and dawn, not quite alive not quite dead.

Sydnee: This is—

Justin: The virus is a terrifying predator.

Sydnee: This is true, this is— I will give you that. I think that's— that was the thing that drew me to viruses in the beginning, because before I became a family physician, I wanted to study infectious diseases. And then before I wanted to go to medical school, I just wanted to do it in a lab and not have to deal with humans.

Justin: Mm-hmm.

Sydnee: Just microscopes.

Justin: Got it.

Sydnee: And I think what drew me to it is that viruses exist in this sort of living and non-living space, and why is it important for us to know? Well both can cause a pneumonia, we treat them differently.

Justin: Right.

Sydnee: But and exactly like you said, Justin, bacteria are free living organisms, they can live outside of us. Viruses need us, or some host.

Justin: Mm-hmm.

Sydnee: In which to exist. They cannot just exist. If you spill a virus on a surface, which I know is a weird visual 'cause they're very tiny, you wouldn't see it.

But there's a virus on a surface, it's not gonna exist very long. It can last there for a determined period of time before it's gone, it cannot reproduce or... thrive in the way that bacteria can.

Justin: If you got— [mutters] Never mind, I was gonna sound really stupid. [chuckles] [normal] Could you get enough virus together that you could see it?

Sydnee: So you can—

Justin: [chuckles]

Sydnee: Not without some sort of instrument, not with the naked eye.

Justin: Okay, got it.

Sydnee: But they do— they can form—

Justin: But we couldn't get enough viral particles together that we can see 'em?

Sydnee: No, I mean they're so small, honey.

Justin: Yeah, but I mean a lot.

Sydnee: [chuckles]

Justin: [wheezes]

Sydnee: I don't— I mean I did not look up how many viral particles would you have to put together before you could see them with the naked eye, I don't think that's—

Justin: It would be wild though, right?

Sydnee: They can form sort of crystal-like structures.

Justin: Okay.

Sydnee: When you just sorta like stick 'em all together.

Justin: Okay, that's some—

Sydnee: When you get some of them—

Justin: That's kinda what I was looking for.

Sydnee: They're all different, and it's— we're finding new ones all the time, by the way.

Justin: Weird, great.

Sydnee: Because like—

Justin: Excellent.

Sydnee: — for a long time we couldn't tell all this stuff. All this thing that I'm telling you like bacteria's a living thing, it's a single cell organism, and viruses is like— are like these collections of genetic material and inside proteins, and they're kind of alive and kinda not.

We didn't know all that. We needed a better way to visualize them than we initially had, 'cause our initial microscopes are just light microscopes. We're shining light on it, we're magnifying it, we're looking very closely, that's it.

Justin: Mm-hmm.

Sydnee: And you can't see a virus that way. Right?

Justin: Yeah, I can't.

Sydnee: We didn't know all that, we have better microscopes now, we can figure that out. But what is cool I think is that if you look at the history of microbiology, and especially when you get into like the study of things that are infectious, things that can make us sick, the pathogens. 'Cause there's lots of stuff out there that's small that doesn't make you sick.

Justin: Yeah.

Sydnee: But when it gets to the things that affect humans, we knew that things existed, and we characterized them, and we called them names before we could ever see them.

Justin: Mmm, like the Roman gods.

Sydnee: [chuckles]

Justin: [wheezes]

Sydnee: Why is that—?

Justin: [giggles]

Sydnee: Wha— Of all analogies!

Justin: I just seemed that— it seems that, you know, we're looking for ways to explain what's happening in the world around us, and you know, it's a similar thing.

It's a human impulse to wanna try to understand things that we don't, right? So we create narratives. This narrative happened to be weirdly close to the truth, I guess, right?

Sydnee: No, okay see, I think these are two very different, but al— I mean I think important and valuable human impulses.

Justin: Yeah.

Sydnee: One to create a narrative.

Justin: Mm-hmm.

Sydnee: To explain a phenomenon.

Justin: Mm-hmm.

Sydnee: And two, to scientifically study.

Justin: Yes.

Sydnee: To experiment and seek a truth.

Justin: Yes.

Sydnee: I think those are both valuable.

Justin: Me too.

Sydnee: And they both have their place.

Justin: Yes.

Sydnee: One of them in medical science, [chuckles] and the other one in... lots of media and... other things we enjoy, right?

Justin: Yes, right.

Sydnee: Sure. So once we kind of understood, 'cause for a long time when we talked about this on the show, we didn't know why disease happened.

Justin: Yeah.

Sydnee: So there were the humoral theories.

Justin: Yeah.

Sydnee: There were miasmas, there was—

Justin: Yeah, it's lots of big clouds of disease. Free-roaming clouds of disease.

Sydnee: Demons, punishment by Roman gods, perhaps.

Justin: The poor. [chuckles]

Sydnee: Yes, being poor.

Justin: Just the poor writ large is—

Sydnee: Uh-huh.

Justin: Just being poor of being near the poor.

Sydnee: [chuckles] Be— Yes.

Justin: Drinking the same water as the poor, actually.

Sydnee: Any of these things, yeah. Being a woman. You know. [chuckles] So, once we knew that germ theory of disease was established—

Justin: I was nodding, thoroughly.

Sydnee: I know.

Justin: I didn't say yes out loud, but I was nodding, folks at home, and drinking from my iced coffee. But I absolutely agree with my wife, Sydnee.

Sydnee: And then we established Koch's postulates, meaning like you can take— The way we know that an agent— First of all, we know that things cause disease, they are contagious things, bacteria, viruses, fungus, parasites, whatever, that cause disease.

Justin: Mm-hmm.

Sydnee: And in order to figure out is the constellation of symptoms, the thing that's wrong with you, is it because of this tiny thing. We have to find it in you, take it out of you, put it in something else, and see the same thing.

Justin: Yeah.

Sydnee: You know, and there's other things. We have to also find it in everybody who has it, and we have to be able to like grow it and see it.

Justin: Yeah.

Sydnee: So there's a— But anyway, we figured this out.

Justin: Yes, you can see it.

Sydnee: Well we— using instruments.

Justin: Yeah.

Sydnee: But the point is—

Justin: But with the naked eye, I've just learned. [wheezes]

Sydnee: We've figured out— We— The way we would do this is like sometimes we would take infectious material from people.

Justin: Mm.

Sydnee: So like infected tissue or spit or something gross, right? And we would pass it through a filter.

Justin: Okay.

Sydnee: Okay? To look to see if the thing that caused the disease is filterable. So right now what we're focused on is size. We don't really understand—

Justin: So we're technically right though, right? Like that is— that's right.

Sydnee: We're trying to figure out—

Justin: Right? It's just the measure's too— Like the— the colander is too big, right?

Sydnee: We—

Justin: We don't have a sieve, we have a colander.

Sydnee: We— So we've got a filter, and we're passing material through the filter, and what we started to figure out is that some things were caused by filterable agents.

Justin: Right.

Sydnee: And some things were caused by unfilterable agents.

Justin: Mm-hmm.

Sydnee: Right? And that was sort of our initial like understanding of viruses and bacteria. Bacteria generally speaking are bigger.

Justin: Mm-hmm.

Sydnee: Now, the study of virology has evolved and we— there are bigger viruses than we initially thought. But the point is, generally speaking, if it passes through the filter it's a virus. If it doesn't, it's a bacteria. Again, this is a massive generalization, but this was our early understanding.

Justin: Okay.

Sydnee: Of what caused different diseases.

Justin: Okay.

Sydnee: Did it pass through the filter or not.

Justin: Okay.

Sydnee: There was— Toxins also passed through the filter, so this would cause problems.

Justin: Mm-hmm.

Sydnee: But by the way, initial filters that we used. The first ones were diatomaceous earth. Do you know what that's made of? 'Cause I didn't know until I researched this.

Justin: What?

Sydnee: Do you know what diatoms are?

Justin: No.

Sydnee: They're kind of like algae.

Justin: Yeah.

Sydnee: A very tiny algae.

Justin: Yeah.

Sydnee: Diatomaceous earth.

Justin: Yeah.

Sydnee: Is [chuckles] the fossilized remains of diatoms.

[pause]

Justin: Which are...

Sydnee: It has accumulated— It's kind of algae.

Justin: Okay.

Sydnee: They have accumulated over millions of years, it's largely—

Justin: Okay.

Sydnee: It's almost like glass, it's largely like silica—

Justin: Okay.

Sydnee: — is what's in this substance, but it is wi— You can look up— If you wanna look up an electron microscope picture of diatomaceous earth, it is a wild thing to see.

Justin: Okay. But di—

Sydnee: I just didn't know this.

Justin: Diatomaceous earth is also— You know the other thing that's very interesting about that.

Sydnee: What?

Justin: What do you think of for diatomaceous earth these days? What are you using your diatomaceous earth for around the house?

Sydnee: I don't use it for anything, but there are some people in the shelter who try to use it to keep bugs away.

Justin: You know what you actually do use it for every day to put your dishes away.

Sydnee: Oh, is that what that is?

Justin: We use a diatomaceous earth drying for— and for— like for dishes, I put our dishes on it, 'cause it's extremely hydrophobic.

Sydnee: It's the fossilized remains of algae.

Justin: That's so cool.

Sydnee: It's cool.

Justin: And now I put my Disney on Ice cups on it and it helps 'em dry. Amazing. Thank you, algae! I just stepped out of you from the shower to the floor and didn't slip slide around. Even millions of years later, you're still doin' me a solid. Thanks algae.

Sydnee: I mean I think it's pretty cool. I didn't know this.

Justin: Me too!

Sydnee: And maybe everybody listening already knew this about diatomaceous earth.

Justin: [sighs] Not me.

Sydnee: But eventually we switched to porcelain filters, porcelain filters worked better.

Justin: Okay.

Sydnee: So in case you're curious, those were the kind of filters, and then we have other ways of separating it out now, but this is—

Justin: N95s and stuff.

Sydnee: — an early understanding. And what was confusing about this bacteria is that it's really tiny.

Justin: Yeah.

Sydnee: It's a very tiny filterable bacteria, and so it was originally thought to be a virus probably. We couldn't see it, we couldn't find it, but it passed through a filter. What is it?

Justin: Mm.

Sydnee: And so it took us a while for us to find out about mycoplasma. It took longer, for instance, than like streptococcus can cause pneumonia, certain kind of strep bacteria can cause pneumonia. We've figured that out earlier.

Justin: Right.

Sydnee: It took us longer to discover mycoplasma because it's just this little— It's like the smallest living free-living thing.

Justin: Okay.

Sydnee: Are in the mycoplasma world of bacteria. And the way that we initially encountered it, there are other kinds of mycoplasma that cause diseases in other creatures, but in humans, in the 1930s in the US, there were these cases of an atypical pneumonia, and the way that they distinguished it at the time, the way that they would call it either typical or atypical, was based on its responsiveness to a certain kind of antibiotic.

Justin: Mm-hmm.

Sydnee: At the time, we didn't have— This is pre-penicillin, so all we have are the sophonomides. Penicillin would come along within the next 10 years or so. But we could treat a lot of pneumonia patients with sophonomides, we couldn't treat this kind of pneumonia with this antibiotic. So we called an atypical pneumonia, it's atypical.

Justin: Ah.

Sydnee: All the other pneumonias respond to this, this one doesn't seem to.

Justin: Right.

Sydnee: It's different. It looked pretty similar—

Justin: Why were we so sure— Like why is it still a pneumonia? You know what I mean? Like why are we so sure that is was the same thing that we— that it wasn't something else.

Sydnee: Infection of the lungs.

Justin: Mm.

Sydnee: Pneumonia just means infection of the lungs.

Justin: It's just the— Right, I gotcha, gotcha, gotcha.

Sydnee: And so you can get a viral pneumonia, bacterial pneumonia, fungal pneumonia.

Justin: That's the disease itself, right.

Sydnee: And you can do— by this point we have X-rays, so you can see that, you got the clinical picture, so you got cough, fever, chills, you're weak, you're tired, you're sore throat, headache, you know, the whole thing.

You look like you have pneumonia, your lungs sound like you have pneumonia, the X-ray looks like pneumonia, but you're not getting better the way we expect you to. So we know there's something else, it's small, we think it's a virus at first in the '30s and '40s because it passes through what was the best filter at the time.

The Setes' filter was the best one to remove bacteria, and it wasn't removing this so we didn't think it was a bacteria at first. And then eventually Eaton was the scientist who was able to take whatever was growing, whatever they were taking out of people with this illness, and put it in cotton rats. And then hamsters. And then chicken embryos.

Justin: Okay.

Sydnee: [chuckles] And all of those things got sick, and or he grew more of it, but he still hadn't proved it in humans. So for a while actually it was called the Eaton Agent.

Justin: Mm.

Sydnee: Mycoplasma was known as the Eaton Agent because Eaton was the closest to figuring out what this thing was. But the final thing we needed to do in order to prove that mycoplasma was causing these different cases of pneumonia was to put it in some humans and see them get sick.

Justin: Okay.

Sydnee: Ethically dicey, right?

Justin: Little bit.

Sydnee: We're gonna do it anyway.

Justin: Oh, you and me.

Sydnee: Well not us, but humans.

Justin: Okay.

Sydnee: But first we gotta go to the Billing Department.

Justin: Okay, let's go.

[transition theme music plays]

[ad break]

Justin: Well... It sounds like we're in store for another one of humanity's classic cut ups, Syd. I'm so excited, what do we get into this time?

Sydnee: So as I was reading through the history of the discovery of mycoplasma, and at first Justin, I gotta be honest, I'm researching this because I feel like it's an important thing for us to talk about, and I'm not finding something fascinating to latch onto.

Justin: Right.

Sydnee: Or like something weird.

Justin: Right.

Sydnee: And then I started reading about when we finally— And we have done this, there is an ethical way to go about actually taking something that we believe causes disease and intentionally inoculating, making people sick with it.

Justin: Yes.

Sydnee: There is an ethical way to go about that, we have established that in society. Obviously we have also done it in many unethical ways.

Justin: Super-duper.

Sydnee: But there is a path for that, and so this is not unprecedented. But that's what I was looking for were what I kept finding referenced in different articles as "the Pinehurst trials."

Justin: Hmm.

Sydnee: What were the Pinehurst trials? I wanted to know because this was the moment where we actually got volunteer subjects to put this Eaton Agent in and see if they got sick. And prove definitively that this was the cause of this atypical pneumonia. So back during 1944 and 1945, which there may be some other major world events that you might remember.

Justin: Ooo.

Sydnee: Or not remember personally.

Justin: No.

Sydnee: But probably have learned about.

Justin: World War II.

Sydnee: Exactly. During World War II, specifically atypical pneumonia was actually causing quite a problem.

Justin: Mm.

Sydnee: For the US army and probably a lot of other people, but specifically for the US army. A lot of people were gettin' sick, and again even though for most people who get walking pneumonia, they're not going to die.

Justin: Mm-hmm.

Sydnee: You're sick for a while. I had it back in college and it was like two miserable weeks.

Justin: Eugh.

Sydnee: I was still able to go to class and do the stuff I had to do, but I felt awful.

Justin: Yeah.

Sydnee: And if you're in the military, I imagine that's a much bigger deal that you feel that bad. So they were try— They wanted to do a study through the military to figure out what is causing this pneumonia definitively and can we do something about it.

So they created the Commission on Acute Respiratory Disease as a way to study this, and then during the summers of '44 and '45, they got four groups of 40 men to come to the Holly Inn. This is in the— This is near Fort Brag in North Carolina.

Justin: Okay.

Sydnee: To do this study. Now how did they find— This is where I finally pieced together where did they get these guys. Justin, they were conscientious objectors.

Justin: What?

Sydnee: These were people who were conscientious objectors to the war.

Justin: Mm.

Sydnee: And had been jailed because you can't do that.

Justin: Right. There's dra— There's a draft.

Sydnee: Yes. And so instead of going to jail, they were sent to be... subjects in this experiment.

Justin: Ooph.

Sydnee: Now they volunteered, I am not suggesting that they were coerced, in— except in the sense that—

Justin: They definitely were.

Sydnee: [chuckles] Well I mean—

Justin: Like is that your—

Sydnee: I don't mean— I— Well no, I mean they were coerced.

Justin: I mean, right?

Sydnee: But I mean I'm not saying like they did agree to it.

Justin: Yeah.

Sydnee: [chuckles]

Justin: [wheezes] I mean yeah, I understand. I think we all understand the distinction that you're making.

Sydnee: Well I just— I wanna paint the right picture, I don't wanna paint a picture of people being forced, you know. I mean 'cause you're going to give somebody a bacteria.

Justin: Right.

Sydnee: You're going to put an infectious agent in somebody's body. I don't— I think I just wanna paint the right picture of this.

Justin: Gotchu.

Sydnee: Right? So anyway.

Justin: This is one of many bad outcomes that was available to them, but there were other bad outcomes that they could also have experienced, had they not chosen this bad outcome.

Sydnee: They were— And the reason they were called the Pinehurst Trials is 'cause they were all in the Pinehurst area around Fort Bragg, 'cause there were so many people there, because you know World War II was happening.

Justin: Yes.

Sydnee: So anyway. [chuckles]

Justin: Yeah.

Sydnee: So basically they... they took these guys to this hotel and put them there, and then they would take material, infectious material from patients who had this pneumonia.

Justin: Mm-hmm.

Sydnee: So take washings of their...

Justin: Mm-hmm.

Sydnee: Airways, of their throat, swabs from back of their throat. Take material and then put it in these— It ended up being 12 subjects, and wait and see if they got pneumonia.

And they would hang out in this hotel waiting to see if they got pneumonia, and then to monitor the course of their disease. And of course they were provided with medical services and support, but they weren't just observed.

But they were very intentionally given pneumonia. They did, by the way, did not receive any pay for this. And they did have to sign a waiver that said, "And if anything goes wrong..."

Justin: "We're not—" Yeah.

Sydnee: Yeah, the US army is not responsible for any of this. So I— There's a fascinating story to this is found.

Justin: [chuckles] Can—

Sydnee: Yeah, go ahead.

Justin: Sorry. I would like to hear your fascinating story, and if a question will be... answered later, let me know. I know that for testing that we do now, there is a board that has to— Right, like appro— There's like standards that people have to adhere to.

Sydnee: Right.

Justin: And there's like approvals and like a process that you have to go through, right? This is— Do I have this correct?

Sydnee: Yes.

Justin: I don't have the name of the—

Sydnee: The Institutional Review Board.

Justin: Right, okay.

Sydnee: Mm-hmm.

Justin: And I— Do you know the extent to which that sort of process exists within... the military? Like is the military adhere to those standards? Are they super military, or are they— You know, we have things like the Geneva Convention, right, that ostensibly people adhere to because there are tenets that we uphold. Is there a similar thing for— obviously for research?

Sydnee: This is a good, in terms of timing, this is a good question. Well first of all, the Institutional Review Board, the IRB guidelines around any kind of human research apply to everybody now. Now, in this time period, so military or otherwise, you can't do this without IRB approval, period.

Justin: In 2024.

Sydnee: In 2024.

Justin: Okay.

Sydnee: That was not established until 1974.

Justin: Okay.

Sydnee: So at this time we're at 1944 and 1945. The precursor, by the way, to 19— to the IRB, and I don't mean direct precursor, I mean the set of guidelines that we were supposed to follow prior to the IRB in 1974 were actually established in 1945.

Justin: Mm.

Sydnee: It's the Nuremberg Code, and it was in response to a lot of unethical—

Justin: Of course, right.

Sydnee: You know, I don't even wanna use the word "research" that was being done.

Justin: Right.

Sydnee: At— During World War II. And it was certainly not in response to this Pinehurst Trial.

Justin: Mm.

Sydnee: But I think you could point to this as... another example of while— It's hard— I— Definitely they were coerced in the sense they had two bad options, and they were choosing the lesser of two evils. They did... They— It was very brave that they signed up to become infected with something.

Justin: Sure, yeah.

Sydnee: And contribute to— So I don't wanna say— I mean I don't wanna undermine the significance of their contribution.

Justin: I mean that's why we're trying to—

Sydnee: As— I mean they're people, and they— their stories deserve to be told, and they did this and they got sick, and they did get better.

Justin: I mean I also don't think Syd that it's— You know, I think that sometimes something that I have been guilty of, I think that it's okay for us to just say what happened.

Sydnee: Mm-hmm.

Justin: You know? Like we don't need to— I think I feel an instinct to try to like, a lot of times on *Sawbones*, try to like pass judgment on something that's pretty complicated and that I don't fully understand.

So— But I think it's okay to not... say. [chuckles] You know what I mean? Like I don't know.

Sydnee: Right, well.

Justin: There's a lot, it's a very complicated thing, and it's hard to just do kind of a drive by judgment on everybody involved in the situation.

Sydnee: I know, and I think that this is beyond the scope of our show to discuss all of the different kind of ethics people were fo— personal ethics people were following throughout this whole story.

Justin: Right.

Sydnee: I mean, 'cause we are talking about World War II.

Justin: Yes.

Sydnee: And so I think a conscientious objector in the setting of World War II is a—

Justin: It's hugely complex.

Sydnee: That's a huge—

Justin: I mean it's—

Sydnee: Right?

Justin: Yeah.

Sydnee: Like—

Justin: It's hugely complex.

Sydnee: — I'm not gonna sit here and tell you definitively this is where history has weighed in on any of this.

Justin: Yeah.

Sydnee: I mean certainly not me, I—

Justin: It's— That—

Sydnee: I don't have that moral authority.

Justin: But that is what happened. It did happen.

Sydnee: It did happen.

Justin: So.

Sydnee: No, but I read— It was really hard to find a good history of this exact event. The Pinehurst Trials are mentioned multiple times in different articles about the history of mycoplasma, so it's not hard to find that they existed.

But to get into like who were these men and how were they chosen as subjects? Well they— This is how. And how did this come to be? That was actually kinda hard to find.

Justin: Mm.

Sydnee: I finally found this article that was in the... it was in the news and record in Greensborough, and it was called "Lonely Valor – Some Objectors Served as Medical Pigs."

Justin: Hmm. This is—

Sydnee: And this is from 1995.

Justin: Guinea pigs, I assume you mean.

Sydnee: Guinea pigs, guinea pigs is what they mean.

Justin: [wheezes]

Sydnee: They mean guinea pigs. [chuckles] But the— But it's an article.

Justin: Column inches were hard to come by in those days. [chuckles]

Sydnee: Right. It is an article about the history of the conscientious objectors who were coerced into participating in this experiment, and the sacrifice that they made in terms of allowing themselves to be sick with something that we didn't have all the tools to know how to treat at the time, we didn't know how to cure it.

And there's a whole history of that, they wrote poems while they were stuck there, looking out the window at people outside enjoying the summer weather.

Justin: Ugh.

Sydnee: And they're in isolation for two months, waiting to see if they get pneumonia. Anyway, it was a definitive moment in proving that this was the causative agent.

Justin: The poems also... Nothing rhymes with "pneumonia," so you can imagine—

Sydnee: So that's tough.

Justin: — that's like it's a tough...

Sydnee: [chuckles] After we figured that out in the '40s, by the '50s we started to be able to figure out how to grow this thing, it took a while, it was the '50s and '60s before we were able to grow it.

Some things are harder to grow than others, and that's why we can test—we were able to test for some things a lot earlier than we were able to test for others. And it was another like 20 years before we finally said like, "Yup, the Eaton Agent is mycoplasma, it is a bacteria, it is this small."

And it led to this whole, in the '70s there— this whole like field of mycoplasmaology arose from this, because this was kind of a whole little subset of bacteria that nobody had really understood yet. Because they were so small, they had all been mis-kind of- identified as viruses. And so it led to the International Organization of Mycoplasmaology, and the first... International Congress of Mycoplasmaology in the '70s.

Justin: Wow.

Sydnee: There's some great pictures from this of a lot of— They're all guys, I think, in like fancy robes and hats at their first mycoplasmaology conference.

Justin: [chuckles]

Sydnee: Which— And by the way, [chuckles] it still exists today, I think the next one is in Poland in 2026 will be the next Congress of Mycoplasmaology, because it is a very unique subset of living organisms.

Justin: Yeah. It's gonna be a killer one this year. I heard Chappell Roan's closing it out.

Sydnee: Yeah, you think?

Justin: It's gonna be two days of just like madness, yeah.

Sydnee: They call them— They used to call everything in this group "mycoplasma," now they've expanded it to other names, other genres, and so.

Justin: You get a better hotel rate if you expand the conference a lot more.

Sydnee: [chuckles] But they're all called "molecutes."

Justin: That is more cute.

Sydnee: I like it, they're molecutes, they're molecutes. Anyway. So... what do you need to know about walking pneumonia? After all this strange and challenging history that we have covered.

So for most of us, you are going to get a— what we would call like a trancio— trachea bronchitis, meaning an infection in your airways but not necessarily in the lung tissue itself.

Justin: Mm-hmm.

Sydnee: Once it gets to lung tissue, that's when you have a pneumonia, and some people will develop a pneumonia. So some people get like a bad bronchitis, that's mycoplasma.

Other people get sick enough, it continues on, and they actually have pneumonia. Cough, fevers, chills, body aches, sore throat, headache, the usual stuff. There are some severe complications that are more rare that can happen to some people, but for the most part, this is what we're talking about.

And again, for most of us, you can quote "walk around with it," so it is walking pneumonia. What has been interesting— Oh, and treatment. The treatment is something you may be very familiar with. For most of us, we will receive azithromycin, or what you may call...

Justin: A Z pack.

Sydnee: A Z pack, yes. A Z pack is dosed to treat walking pneumonia, or atypical pneumonia, or mycoplasma pneumonia, whatever you prefer to call it. There are some backups if you're allergic to that, or for some reason you can't take it, you can take a fluoroquinolone, like Levaquin, you can take doxycycline, my favorite antibiotic, depending on... age and... pregnancy and all other factors that we— All the things we consider with antibiotics.

So it is something we know how to treat now. That explains why initially it didn't respond to— it doesn't have a cell wall, so it didn't respond to the old antibiotics, or not old an— the older, as in they came along first, antibiotics that we used to use for pneumonia wouldn't work on this. So that's why we had to wait til we had macrolides, which that's what azithromycin, that's what class it is in.

So what's different this year is one, we're seeing more cases than last year. And two, we're seeing it in younger children than usual. Anybody can get it, but the peak is usually school age, adolescent, moving kinda up into young adult. It's all those years where you're crammed in schools together, right? I got mine when I was living in a college dorm.

Justin: Mm-hmm.

Sydnee: Makes total sense. But this year we're seeing it in kids younger than five, to pre-school.

Justin: Mm-hmm.

Sydnee: Not preschool, you know what I mean, prior to school age children. And that is a little more unique. Now why would that be happening? Well there's several reasons, and I actually, as I was researching why is there a rise now, I found an article from last year sort of predicting that this was going to happen.

Justin: Why?

Sydnee: For one, we saw a suppression in rates of all respiratory viruses during Covid.

Justin: Right.

Sydnee: Why?

Justin: Masking, social distancing, et cetera.

Sydnee: All the mitigation.

Justin: Yeah. We mitigated.

Sydnee: Techniques we used, yes.

Justin: The mitigation mitigated.

Sydnee: The mitigation mitigated everything.

Justin: Right.

Sydnee: And so we saw lower rates of a lot of other respiratory illnesses, and we saw them—

Justin: That's why in many countries, they take those precautions and keep people from getting sick. [wheezes]

Sydnee: Yes.

Justin: Like that's— Yeah.

Sydnee: And so it was natural that we saw that, and mycoplasma was among the respiratory illnesses that we saw decreased numbers of. It was one of the last to come back. It was one of the, in terms of as we saw the rise of all these other viruses. I think you remember RSV, we were having the same conversation about.

Justin: Yeah, yeah.

Sydnee: Last year. So this was one of the last ones to sort of rebound, but that's kinda art of it. We kinda figured that it would rebound as everybody finally, you know, stopped engaging in those mitigation techniques. Not that everybody has, there are still some people doing that.

Justin: Of course, yeah.

Sydnee: But I think in a massive sense—

Justin: Not in the scale that—

Sydnee: Not in the scale needed to mitigate.

Justin: Right.

Sydnee: Public health wise, not personally. And the other thing is that there is a three-to-five-year cycle naturally with mycoplasma, where we see bigger surges and then years where there's less.

And so we have fewer people exposed for a few years, and then now all of a sudden more people get it, and we've got younger people who had not been exposed previously and are now getting exposed.

Justin: Mm-hmm.

Sydnee: It all kind of makes sense—

Justin: Yeah.

Sydnee: — as to why this is happening. There's also some testing differences that are interesting, mycoplasma used to be a lot harder to test for. Now I know at all the facilities I work at, it's on the standard respiratory virus panel. So it's not a virus, but it is on a respiratory virus panel, which I always think is interesting.

Justin: Yeah. [snorts]

Sydnee: [chuckles] When you— And initially a lot of us were wondering—

Justin: Now I mean seriously.

Sydnee: It is interesting.

Justin: Yeah.

Sydnee: Initially when Covid started, we were all ordering a Covid test, and then Covid got added to our respiratory viral panel. So instead of ordering a Covid test, if someone suspected Covid, they would just order the panel.

And we can all debate whether economically that's a good idea or not, but the point is it's happening. I wonder if that's also why we're picking up on mycoplasma.

Justin: We're getting more 'cause we're catching it more, 'cause we're testing.

Sydnee: So we're testing more, that could be it too. But all of these things contribute to the fact that we are seeing an increase in cases, we kind of knew this would happen, so I don't think it's something to worry about in that sense.

What I would do is engage in the same sort of strategies that help us prevent illness of any kind of respiratory droplet illness. So it is transmitted that way, respiratory droplets, coughing, sneezing, not washing your hands, getting that infectious material on other people.

So, washing your hands, covering your mouth, staying home when you're sick, not sharing, you know, beverages with people who are ill. Wearing a mask if you're going out in public, if you're sick or if you are somebody

who's particularly concerned about getting a respiratory illness. Keeping your kids home when they're sick, staying home from work when you're sick.

I mean staying home when you're sick is a really big part of all of this. And then it is a time of year where especially if you're somebody who is especially vulnerable to these kinds of illnesses, to avoiding crowds whenever you possibly can. Obviously that is something we can only do to whatever extent we can.

Justin: Yeah.

Sydnee: But that is what's going on. If you do contract, and I'm not suggesting that if you get a cough and a fever, you should immediately run to the doctor every time. Certainly not everybody always needs to do that.

You know your own health history better, maybe you do, but you know, not everybody always needs to. But if you are sicker than, you know, you'd expect with a common cold, right? Than you'd expect with a runny nose—

Justin: Mm-hmm.

Sydnee: — cough kind of thing, certainly go get checked out. If your young child is ill, certainly go get checked out. If you again have some sort of other co-existing condition that makes you more vulnerable, go get it checked out.

If something is lasting longer than you expect it to, we usually expect a virus to last like seven to 10 days and then you're pretty much better. If you're still sick, I always tell people, if it's gone on a week and you're just as sick as you were in the beginning, you need to get checked out, or certainly if you're getting worse.

Justin: Yeah.

Sydnee: And you might see that your doctor is a little quicker to prescribe something like a Z pack because we know there are increased rates of this right now. So if you're concerned, go get checked out, there is a test for it, and also a lot of it is clinical picture.

Justin: Yeah.

Sydnee: We can just tell, you know, based on your exam and your history.

Justin: Yeah. Thank you so much for listening to our podcast, we hope you have enjoyed yourself. Thanks to the Taxpayers for the use of their song "Medicines" as the intro and outro of our program. Thanks to you for listening.

[theme music fades in]

Justin: That's gonna do it for us. Until next time, my name's Justin McElroy.

Sydnee: I'm Sydnee McElroy.

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

[outro theme music plays]

[ukulele chord]

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