Sawbones 494: Lazarus Syndrome

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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: Hey Syd.

Sydnee: Hey honey.

Justin: How's it going? I'm so excited that you took my pro-tip, my sage wisdom.

Sydnee: Well, this—

Justin: Not sage wisdom, my lead. My lead.

Sydnee: You mean you asked me about something and I did an episode on it.

Justin: Yes, that's exactly what I meant, yes.

Sydnee: Yes, okay, right. Yes, Just— Thank you Justin for suggesting this week's episode.

Justin: Justin Tyler McElroy.

Sydnee: Yes, Justin Tyler McElroy. Would— Do you have a handle you'd like me to call you, or just your name? Do you have an internet handle that you use?

Justin: An internet handle?

Sydnee: Internet handle?

Justin: Uh no. No, it's just Justin, thanks.

Sydnee: You don't— Like, "Gamer Boyz?"

Justin: No, I wish I'd done that. And that—

Sydnee: "625789?"

Justin: No. No, no. [wheezes] No. Just Justin, thanks.

Sydnee: "TZ." [chuckles]

Justin: No, I was one of those goofballs that decided to live their actual lives [chuckles] on the internet.

Sydnee: Well, you didn't have any great names that you—? I assumed you—

Justin: There's no reality in which I would tell you high school internet information, not on the pod.

Sydnee: You wouldn't? I'll share mine.

Justin: Not in a million years.

Sydnee: I just used figures from Greek mythology.

Justin: Okay.

Sydnee: As my AOL screen names.

Justin: Oh, okay.

Sydnee: Yeah, which were the only handles I had. I didn't do games.

Justin: Yes, right, I understand.

Sydnee: You don't wanna share any?

Justin: Nah, I don't think I do.

Sydnee: None? Not one?

Justin: No, I'm good, thank you.

Sydnee: Okay.

Justin: No, I'm good, thank you.

Sydnee: Well anyway, thank you Justin Tyler McElroy.

Justin: [chuckles]

Sydnee: With no internet presence.

Justin: Please, call me Hoops. [chuckles] Everybody on the internet calls me Hoops.

Sydnee: For this suggestion. This was— I— This was really timely for me because, as I've mentioned, I've been watching a lot of *ER* latterly.

Justin: Mm-hmm.

Sydnee: You know what they do a lot of on *ER*?

Justin: What?

Sydnee: They do a lot of CPR.

Justin: Mm-hmm.

Sydnee: You know where they also do a lot of CPR?

Justin: In *Madame Web*.

Sydnee: In *Madame Web*.

Justin: Yeah.

Sydnee: Do a ton of that.

Justin: Yeah.

Sydnee: That's a whole movie about CPR.

Justin: Is good.

Sydnee: You wanna know about chest compressions, watch *Madame Web*.

Justin: If you wanna know how to do them right, don't watch *Madame Web*.

Sydnee: Don't watch *Madame Web*. I love you, Adam Scott, but that is not how you do a chest compression.

Justin: Yeah, my man did a one-handed chest compression.

Sydnee: Yeah, that's not how you do it.

Justin: He was stunting.

Sydnee: I love you so much, that's not how you do it.

Justin: [wheezes]

Sydnee: We're not talking about CPR, although, although, as I was putting this episode together, I thought "Well, we've talked about CPR, right?" I don't think we've ever talked about CPR.

Justin: Really?

Sydnee: I don't think we have, so that may have to be next.

Justin: Okay.

Sydnee: We may have to like go back and start, but what I wanna talk about is what you suggested.

Justin: Right.

Sydnee: It's called "Lazarus syndrome."

Justin: Yes.

Sydnee: Yes. Justin, before I get into Lazarus syndrome, or perhaps Lazarus effect, or Lazarus phenomenon, or even the Lazarus heart.

Justin: Yeah.

Sydnee: As I saw it, depending on what article you read, as I saw it called. Would you like to explain to our li— I feel like you have the expertise here. Why would we be referencing Lazarus?

Justin: Okay. Lazarus—

Sydnee: We're not talking about the department store, I think.

Justin: No.

Sydnee: [chuckles]

Justin: The defunct department store, Lazarus, no. Although that was a great name for a store.

Sydnee: Uh-huh.

Justin: Uh no, Lazarus—

Sydnee: [laughs] Was it? Was Lazarus the department store named after the biblical figure?

Justin: No, it was named after a— It was a last name.

Sydnee: Oh.

Justin: Lazarus was a buddy of Jesus who died, and Jesus went to him and said, "Lazarus, I command you to come forth," and he called Lazarus back to life.

Sydnee: Woke him back up.

Justin: Mm.

Sydnee: From the dead.

Justin: Yup. Yes.

Sydnee: Do you know the time that elapsed between these two events? The death and the resurrection?

Justin: No, I was not there for that.

Sydnee: Okay.

Justin: I think it was three days, right? Everybody loves parallelism. [chuckles] But I don't know.

Sydnee: it was three days for Lazarus too?

Justin: I— That would be my guess, yeah.

Sydnee: Okay.

Justin: Three's real big in there.

Sydnee: Yeah. I was just curious.

Justin: That's just a shot in the dark.

Sydnee: Just curious, that's a long time.

Justin: To stay dead?

Sydnee: Yeah.

Justin: Yeah, for sure.

Sydnee: Okay.

Justin: But I think he— If I was Jesus, I'd wanna establish like, "This is how it works," you know what I mean? Like when you set it up.

Sydnee: Three days. Ohhhh.

Justin: So like he knew exactly—

Sydnee: Oh, foreshadowing.

Justin: It'll actually be exactly— Like in *Avatar* when— Well I don't wanna spoil *Avatar*, but.

Sydnee: Right. That's— You don't have to—

Justin: It's— They do the exact same thing in *Avatar*.

Sydnee: Hey, listen.

Justin: *Avatar* is exactly like the Bible.

Sydnee: You don't have to— [chuckles]

Justin: End of statement.

Sydnee: You don't have to talk about *Avatar* ever on this podcast if you don't want to.

Justin: Okay. That's fine.

Sydnee: Or if I don't want you to.

Justin: Message received. Aye aye, captain. I got that loud and clear.

Sydnee: So, the— Lazarus syndrome, obviously it references Lazarus who came back from the dead, and so you can probably guess what this is. The scientific term for this is, "Autoresuscitation after failed cardio-pulmonary resuscitation." Which means, [chuckles] "You brought yourself back after CPR didn't work."

Justin: Okay.

Sydnee: Right? So here are— In order to— There is like a definition for this. If we are going to say that autoresuscitation after failed cardio-pulmonary resuscitation, or Lazarus syndrome, has occurred.

Justin: Okay.

Sydnee: These are the criteria that need to be met, and this is important because there haven't been a lot of cases of this. First of all, a person has a cardiac arrest. Do you know what a cardiac arrest is? Bet you can guess.

Justin: Heart stops.

Sydnee: Your heart basically stops pumping blood. This could be because it literally like stops, or also this applies to situations where maybe the heart is beating so fast or erratically that it is no longer pumping, you know?

Justin: It's just sort of…

Sydnee: It's just sort of moving on its own.

Justin: Wigging out.

Sydnee: Blood isn't moving, and so what will happen at that point, you'll feel for a pulse, and you can't find one, right?

Justin: Mm, right.

Sydnee: And that's because even if the heart is moving, it's not doing the thing it needs to do, which is move blood throughout the body.

Justin: Correct.

Sydnee: Okay, so a person has to have that first, right? Then a healthcare provider, somebody, someone, has to start performing cardio-pulmonary resuscitation.

Justin: Okay.

Sydnee: So what you— CPR, and just again, like we'll probably do a whole history on where this came from and how it has evolved and how it's changed over the years, but generally speaking, where it's efforts to restart the person's heart or get it back to pumping blood.

And this primarily consists of chest compressions, which you've probably seen. I think most people have seen someone lock their hands together.

Justin: Sure.

Sydnee: Put them on a person's chest and—

Justin: Yeah.

Sydnee: — push really hard, to the rhythm of "Stayin' Alive."

Justin: [sings] "Ah, ah, ah, ah."

Sydnee: Mm-hmm.

Justin: [sings] "Stayin' alive. Stayin' alive."

Sydnee: Exactly. And you've seen— If you've seen more advanced CPR efforts, like—

Justin: I thought you were gonna say more advanced Bee Gees songs.

Sydnee: [chuckles]

Justin: It's like I don't know, that sounds pretty tough. There's a lot goin' on there, musically.

Sydnee: No, if you've seen more advanced CPR efforts in like on a— if you've either been in an emergency room setting or if you've seen it on a TV show like *ER*, then you may have seen that they might do some sort of breathing efforts as well, maybe intubate the person, maybe also give them medications to try to restart their heart, like epinephrine.

Justin: Put a pen in their trachea, like a ballpoint pen in their trachea.

Sydnee: That has happened at least twice on *ER* so far, and I've just restarted the series, so that—

Justin: [laughs]

Sydnee: [chuckles] While that does not happen in real life, it does happen in the world of *ER* quite a bit. But the medications are involved in this, and then maybe shocks to restart the person's heart, right? You've seen us use the paddles.

Justin: Paddles.

Sydnee: Yell "clear."

Justin: Mm-hmm.

Sydnee: Shock 'em. "Turn it up! 300 joules! Clear!" You've seen all this.

Justin: Yeah, a little bit.

Sydnee: Okay. This is CPR. And then at some point—

Justin: That's CPR too?

Sydnee: It's all cardio-pulmonary resuscitation.

Justin: Okay, got it.

Sydnee: And then at some point—

Justin: I tend to think of CPR as the chest compressions.

Sydnee: There's—

Justin: That— Like when I think CPR I think chest— Actually I think chest compressions and the mouth.

Sydnee: Breathing?

Justin & Sydnee: [simultaneously] Rescue breathing.

Sydnee: There's basic live saving, which is like the stuff you're talking about, the stuff you do out in the field.

Justin: Mm-hmm.

Sydnee: And then there's advanced cardiac lifesaving, which like you get certified in, like myself, if you are in certain healthcare fields.

Justin: [sarcastically] Lah-dee-dah. [wheezes]

Sydnee: Where you learn like not just the compressions and the breathing stuff, but you also learn how to do the right— Like what medications do we give, what order do we give them in, how far apart, what are the doses, and then when do you deliver the shocks.

Justin: Okay.

Sydnee: Which like the reason it's more advanced is that in order to know if we should shock somebody, we have to look at their heart rhythm. Not everybody should get shocks. And I'm— I won't get into the—

Justin: Well I mean obviously.

Sydnee: — nitty gritty, but like… [chuckles]

Justin: [chuckles]

Sydnee: Well not everyone who goes into cardiac arrest needs shocked. Does that make sense?

Justin: Well yeah, right.

Sydnee: Okay.

Justin: There's different rhythms.

Sydnee: Yes.

Justin: There's— Some of the many different rhythms include tachycardic, bradycardic.

Sydnee: Those are rhythms.

Justin: Arhythmic.

Sydnee: That's— It's broad, but yes.

Justin: There you go.

Sydnee: A broad category of, yes, arrhythmic— arrhythmias.

Justin: And many— And many others that it would delight you to hear about, I'm sure, but I haven't the time.

Sydnee: [chuckles]

Justin: Unfortunately.

Sydnee: So anyway, at some point, and usually this is after 20, 25, depending on the circumstances, 30 minutes.

Justin: Yup.

Sydnee: Of CPR, someone says, "Listen, this is not working. The per— This person is gone. They— We are not going to be able to save them, and so this is done." And so you stop CPR.

A medical professional, authorized to do so, declares the person dead. So they make a declaration, and in TV that means they say, "Time of death," and then they name a time.

And then no other medical interventions are done, so they stop. So no more medications are given, no more chest compressions are given.

Justin: Mm-hmm.

Sydnee: No more shocks are given. They're done. And then at some point, and this can be usually minutes, sometimes hours later, somebody notices that they're alive in some way. And this could be because they start breathing, they start moving, sometimes it's they're still hooked up to the heart monitor and it starts blip blip blipping again.

Justin: Just like back. Just back.

Sydnee: Something happens, and more than just a few seconds. I don't mean like one little jerk, one little gasp, something that might just be a sort of leftover sort of neurologic kind of reflex. I mean it persists.

And then somebody shows up, like a [chuckles] healthcare provider comes in, checks 'em out and say, "Whoa! They're alive. That was wrong," and declares them alive, which I've never gotten to do. That must be a wonderful thing to get to do.

Justin: Oh, what a— I can't imagine.

Sydnee: I have had to pronounce death.

Justin: Time of rebirth, oh.

Sydnee: I've never— I mean, I've never— I guess I've delivered babies, is that the same as pronouncing life? It's similar.

Justin: Uh yeah, I guess that, maybe.

Sydnee: And then—

Justin: If you wanna get all like [wheezes] egomaniacal about it, I guess you do wield—

Sydnee: I've pronounced life.

Justin: — both evens of the scimitar, yeah for sure.

Sydnee: I have— "I am holding new life in my hands!"

Justin: [laughs]

Sydnee: That's usually what I would yell.

Justin: Yeah, every time.

Sydnee: Every time. Now usually the time between these two events, the death— the pronouncement of death and the pronouncement of life, is just a minute or two minutes or a handful of minutes, right? It's usually fairly short, although there have been cases where longer intervals have been documented, we'll get into those.

The first case of this was reported— The first cases actually, several, in the Lansit in 1982. Now this doesn't mean this was the first time it happened, I should stress this. We have been doing CPR for a very long time in different iterations. Modern CPR, like what we think of today as CPR, dates back to the 1950s.

Justin: Mm-hmm.

Sydnee: So it is almost certain that this happened before 1982, but people started documenting it. And probably the numbers I'm going to give you as to how often this happens are lower than the reality, because you can imagine there's a little bit of embarrassment in this. If you are the doctor.

Justin: Sure, I mean—

Sydnee: Who has declared that someone has died, and maybe already told family members.

Justin: Okay.

Sydnee: And then you were wrong. I mean that—

Justin: Right.

Sydnee: That feels like—

Justin: It's a real rollercoaster of emotions, yeah.

Sydnee: Right! It is, and it also— I think it would undermine people's, you know, confidence in you.

Justin: A little bit.

Sydnee: Like if you don't know if someone is alive or dead, how do we trust your opinion on a lot of other things?

Justin: Yes, 100% fair.

Sydnee: Okay. So you can see why even if this maybe if more frequent, we're not necessarily writing cases about it in the Lansit. So anyway, there were— there was an article published in 1982 which outlined three different cases—

Justin: Do you think that after this happens to you once, you get a lot more skeptical? [wheezes] In a way that this—

Sydnee: I would imagine.

Justin: Ma— In a way that's maybe distracting or even upsetting to your coworkers? Like, "Ehhh, I don't know. I'll belie— Let's give it five minutes, and then we'll see."

Sydnee: "He's only mostly dead."

Justin: Exactly! [laughs] "He clearly said 'to blave'."

Sydnee: [laughs]

Justin: [giggles]

Sydnee: That's exactly what all of this reminds me of.

Justin: [snorts] [giggles]

Sydnee: So. [chuckles] We'll leave— I— And by the way, we should leave Wesley from *The Princess Bride* out of this, because he totally throws off all of the numbers I'm gonna give you.

Justin: Oh, okay.

Sydnee: In terms of how long can this last. [chuckles] So this article outlined three different cases where basically, just like I described, cardiac arrest happens, CPR was started and then stopped, death was declared, and then the patients came back.

But they also revealed the truth about a lot of these scenarios, which is that two of these three patients in this one case series, two of them, while they briefly did regain circulation, they did come back to life so to speak, they then died again very soon after.

Justin: Boy, that's an even rougher journey for the family. Like the doctor barges in there like, "You're not gonna believe it, but guess what. Anyway, let me go see if they're ready for visitors."

Sydnee: And—

Justin: And then you come back out five minutes later like, "Okay, listen. You thought you were mad at me before, well uh-oh."

Sydnee: The— Now in the third case they did stay alive and were discharged from the hospital. And I will say what this reflects in our modern medical understanding is that no one is dying and coming back to life. They just—
No—

Justin: Except for that third person that did.

Sydnee: They weren't dead. Yet.

Justin: [laughs] You and I are talkin' different languages, I feel like.

Sydnee: [chuckles] I— Well—

Justin: Because.

Sydnee: This is a very different concept, the idea that everything has ceased to function and then it starts again, and the idea that we thought it had ceased to function and it just hadn't yet.

Justin: Okay.

Sydnee: Those are di— Do you see what I'm saying?

Justin: You are getting—

Sydnee: One—

Justin: You are getting—

Sydnee: — supposes that—

Justin: — into like some— You're getting into like philosophical level semantics though, right?

Sydnee: I am saying that—

Justin: Like if the doctors—

Sydnee: — from a medical perspective, these people are not coming back to life, they just were prematurely declared dead.

Justin: Do you know, I'm sure all the other doctors are like, "You tell 'em," but like Sydnee, this is a weird hill to die on, y'all. You said they were dead and then they came back to life. [wheezes] I'm sorry.

Sydnee: The—

Justin: I'm sorry that makes y'all uncomfortable.

Sydnee: The implications… are— I mean, this can be very—

Justin: Then don't mess it up!

Sydnee: [chuckles]

Justin: Don't do it. [wheezes] I don't know what to tell you!

Sydnee: So, since 1982, there have been 65 documented cases in medical literature. Actually from 1982 to 2018. I don't know how many we've had since 2018. Probably more.

Justin: Probably a worrying 30% increase that no-one can explain. [chuckles]

Sydnee: And again—

Justin: If history has proven any indicator.

Sydnee: There probably are more. It is probably under-reported, for reasons that I've already outlined. Of those 65 documented cases, 18 people made a complete recovery, which I mean just reflects what I've already said, like it… it is not— Contrary to what TV leads you to believe.

Justin: Mm-hmm.

Sydnee: CPR is not often successful.

Justin: Yes, you have done the opposite of extolling its virtues to me many times.

Sydnee: Yes, it— Well it can be, certainly. Most of the time, even if we are able to return circulation, it is not ultimately successful in saving that person's life.

Justin: Gotchu, yes.

Sydnee: Unfortunately, I wish it were. And there's— And you showed me a really interesting article. About new like high-tech interventions that are being explored to make what we think of CPR as better.

Justin: Mm.

Sydnee: Save more lives, perhaps.

Justin: Sounds like I'm reading a lot of erudite publications.

Sydnee: [chuckles]

Justin: What a catch.

Sydnee: The TIMES magazine?

Justin: What?

Sydnee: [chuckles]

Justin: Yeah, well.

Sydnee: So anyway.

Justin: Well then you didn't have to name it, could— They could've thought it was something really brainy, like *Smart Dudes Monthly* or somethin'.

Sydnee: [chuckles] So anyway, the other thing about this, and the reason that it's probably under-reported is that it opens people up to some possible legal challenges.

Justin: Oh, interesting.

Sydnee: There was, and I'm gonna go through a few of these cases, but in one of them… the hospital and I think the doctor themselves were sued because this happened.

Justin: Mm.

Sydnee: And they won that case, well it was probably settled, but there was money. Money was exchanged hands because someone was prematurely declared dead.

Justin: Mm.

Sydnee: And it was a situation like this. So there are legal— there's legal issues with this. Plus like it starts to make you worry, if we— We live in a society where we ask people and people's families to participate in organ donation.

Justin: Oh yeah, that's—

Sydnee: You can see where this would—

Justin: Sure.

Sydnee: — start to, you know.

Justin: Erode.

Sydnee: Decrease someone's likelihood.

Justin: Yeah.

Sydnee: If it— If this sort of like uncertainty is floating around death all the time.

Justin: Yeah.

Sydnee: Anyway, so I wanna walk you through a few of the cases where this has happened.

Justin: Mm-hmm.

Sydnee: And I wanna tell you why we think it might— what might be. I don't have the answer for you.

Justin: [surprised] Oh!

Sydnee: But I'm gonna tell you the best theory we have as to why this might happen.

Justin: Okay.

Sydnee: But I gotta take you to the Billing Department first.

Justin: Let's go.

[transition theme music plays]

[ad break]

Justin: So Sydnee, you were gonna give me some of the stories behind…

Sydnee: Yes.

Justin: Medicine's biggest— [chuckles] biggest mess ups.

Sydnee: So there's a lot of the— Well, there's 65 of these, so you can read them all, I'm not gonna to through all 65. But just to give you some examples of kind of what happens. There as a case of like a 27 year old who had overdosed.

Justin: Mm-hmm.

Sydnee: On narcotics. They received Nar-Can. And this happens, this is also a good lesson on the medic— how Nar-Can works, naloxone. They had gotten naloxone out in the field and woke up, and were able to actually walk to the ambulance, but then it wore off. And this happens.

Justin: Mm.

Sydnee: This is why we always advise monitoring someone, even if you have given them naloxone and they're breathing again, and they seem to be okay.

Justin: Right.

Sydnee: After about 30 minutes, that can— all those rec— it— It stops blocking all those receptors, the opioids reattach and they can overdose all over again. So it's really important to keep an eye on 'em. But anyway, they collapsed. They got 25 minutes of CPR, they were declared dead, and then a couple minutes later—

Justin: [mutters] Wonder why no-one else had naloxone. They just had the one dose.

Sydnee: I don't know— You know, I don't know the situation.

Justin: Everybody should be carrying it— Well, anyway.

Sydnee: Yes.

Justin: Sorry.

Sydnee: That— Thank you for saying that, Justin.

Justin: Yeah.

Sydnee: Everyone should carry naloxone. It's very easy to administer. Nar-Can is probably what you know it by. If you squirt it up someone's nose, you can save their lives, and—

Justin: You can get trained on it in five minutes. I'm sure— Maybe your health department.

Sydnee: Your local health department most likely, or if you have a pharma induction program in your area, it's a wonderful thing to know how to do. It's now available over the counter. You can buy it from pharmacies, you can order it off Amazon.

Justin: And they just changed the guidance on it, so you can keep it in your car.

Sydnee: Mm-hmm.

Justin: Which they used to say don't do that 'cause it can temperature explode.

Sydnee: Yeah. And you can save someone's life, and for the most part it is— even if someone has not overdosed, trying it as a first, you know, effort to revive them is safe. It is harmless to give someone Nar-Can who hasn't overdosed.

Justin: Right.

Sydnee: It won't do anything to 'em. Anyway, this patient woke back up, even after they'd been— Several minutes have elapsed, they've been declared dead, they wake back up and they made it. They survived, they survived this encounter, they were fine.

But there was a case in Japan of a 65-year-old man who, 20 minutes after CPR had been stopped, he had been moved to the mortuary in the hospital and they found him moving.

Justin: Whoa.

Sydnee: Yes. In another case, the patient had received CPR, it had been stopped. 45 minutes had elapsed at this point.

Justin: Right.

Sydnee: Where the patient's family was called to come see them, so they could say goodbye, even though they had already expired. The family

showed up and looked at the monitor, and there was a heartbeat on the monitor. This is 45 minutes after CPR had been ended.

Justin: Wow.

Sydnee: Mm-hmm, I know, that's what I said. Usually it's just a few minutes, but there have been cases longer. There have been a couple patients who have been found alive in funeral homes, and then sent back to the hospital.

Justin: Wow!

Sydnee: There's one—

Justin: That probably made someone's day rea— Probably at least two people had a really bad day. And extremely rough day.

Sydnee: [chuckles]

Justin: That is rough. To wake up in that scenario, oh I hate that. I hate even thinkin' about it. But to be the person who's like, "Well, time to get your makeup on. Agh!" [wheezes] Like that's rou— I'm not going into work the next day, I'm taking a personal after that kinda thing.

Sydnee: The— Yeah. I cannot even imagine. And I will say, there's one of these in these cases that I kind of… I don't know, I couldn't find— So some of these I could find the original article where it was published in a journal.

Justin: Mm-hmm.

Sydnee: Some of these are just in newspaper articles, and a lot of the newspaper articles are just like family and friend accounts.

Justin: Mm. Yeah.

Sydnee: And so—

Justin: Yeah, that's a little… Mm, yeah.

Sydnee: Take that for what it's worth, right?

Justin: Right.

Sydnee: Like we're getting a little bit of, I don't know. I will also say, and I'll get to one of these in a minute, one that I really wanna talk about. Several of these I found published in religious… like journalistic efforts.

Justin: Okay.

Sydnee: Like on religious websites or religious newspaper publications.

Justin: Yup.

Sydnee: That I think were using them of example— as examples of like divine intervention.

Justin: Ah yes.

Sydnee: And so I don't— I mean since you have a very— And this doesn't mean they're not true, but I think that it's always important to consider the source, and if you have a very specific goal with the material that you're presenting to your audience.

Justin: For sure.

Sydnee: You know what I mean?

Justin: Yeah.

Sydnee: Anyway, there was one that said that the family actually noticed the patient moving in the coffin. So like— Which my problem with that is like no-one mentions in this specific scenario if like any embalming. Do you know what I'm saying?

Justin: Yeah, they're saying the—

Sydnee: Like we're getting to a point where this doesn't—

Justin: That's—

Sydnee: This starts to break down logically.

Justin: That strains credulity I think because the family wouldn't be seeing them before they've been embalmed and the whole thing.

Sydnee: Exactly. So like the— So that story for instance I had problems with. But the ones where like a patient was transferred to a funeral home, and then immediately they called and said, "Whoa whoa whoa, this person's still alive," I mean that's conceivable, you know? That's possible.

In most cases, like I said, although it might seem like this miraculous recovery, in most of these it was very temporary. Maybe a few hours, a day or so, only rarely do they actually leave the hospital. Why does this happen? What is happening here?

Justin: Don't know.

Sydnee: Because there are, as I've said, there are many people who use this as evidence of— I mean specifically I saw many people saying the reason this happened is because when we heard our loved one had died, we all began praying for a miracle.

Justin: And God w—

Sydnee: And they came back to life.

Justin: This is what kills me about stuff like this. That kills me, because like, "Oh, so you want him to live. Well that's a horse of a different color."

Sydnee: [chuckles]

Justin: Like it doesn't— I just think it's irritating to be like, "Yeah, we—" It's not that— It's not the faith in the thing, it's the called shot of "Oh yeah, that was us. We definitely— We pulled in a favor from the big guy." It's so— The hubris of the this— Sorry.

Sydnee: It is— It is a level of hubris that is concerning because I will tell you— And now, this is me speaking for my own self, as a medical professional, I certainly would believe that there are medical professionals who would say otherwise. I do not feel… personally responsible for, you know, if someone pulls through a particularly critical medical situation, I do not—

And even if I was the doctor in charge of that case, I do not feel personally responsible for that. I do not feel like I have that kind of power. I feel like I do the best I can, and that there's a lot of things happening that are out of sight— outside of my control at all times.

Justin: Mm-hmm.

Sydnee: So, if I don't take credit for that in that case, I don't think that we can take credit for a person— I don't know. It's also that's a really dangerous rhetoric to use, because it presupposes that there are families who prayed really hard and wanted really—

Justin: Just didn't—

Sydnee: — really badly for a person to live.

Justin: Just wanted—

Sydnee: And God… didn't buy it?

Justin: Yeah.

Sydnee: Or didn't believe it, or didn't— I don't know.

Justin: Yeah. And where—

Sydnee: It's a really—

Justin: And where does this leave all of us who pray for the death of your enemies.

Sydnee: [chuckles]

Justin: I mean where does that— Should we be praying harder? What's happening?

Sydnee: We don't do that. Why does this happen, Justin?

Justin: Okay.

Sydnee: Do you have any theories?

Justin: Yeah.

Sydnee: Do you have any ideas as to—?

Justin: Alright, just right off the dome.

Sydnee: 'Cause there's definitely something happening here.

Justin: My number one would be equipment malfunction, that would be one possibility that I could see. If our monitoring equipment is having some sort of issue, that's a possibility. You're smirking in a way that is cute, but dismissive.

Sydnee: I—

Justin: Moving on.

Sydnee: Can I just say?

Justin: [chuckles] Yes.

Sydnee: I mean I'm not gonna say that's never happened, all kinds of weird things have happened. Everything that ever could have happened has happened, I think. But… [sighs] typically, and maybe this will help inform this a little bit.

Typically, and I have had to do this, when someone is pronounced dead, when we go through— And this isn't just like a— On TV they really make it look like they just sort of look at the monitor, and then look at a clock and say, "Time of death, blah blah blah blah."

Justin: Right.

Sydnee: You don't just do that. To pronounce someone dead, you actually have to go through a series of steps to like, I mean, check for a pulse, listen for their heartbeat, look for signs of breathing.

Justin: Mm-hmm.

Sydnee: Check certain reflexes, like a corneal reflex, like brush something on their eye to see if they blink. Like there are things we do.

Justin: Okay.

Sydnee: There are things we do to ensure that this is true. We don't just like look at them, and if they're still for a while say, "Well, they're probably dead." So it would be hard for it to just be equipment.

Justin: Could it be temperature? Like they were so cold that they were in a sort of like stasis, and so when they warmed up, their heart stared again?

Sydnee: This has been floated. Now I will say that the easiest way to debunk this is that in most of these cases they had normal body temperatures, but that is something to consider. Because as— There's a saying in medicine, "You're not dead til you're warm and dead." We know that—

Justin: You guys have all the best sayings.

Sydnee: We do have [chuckles] the best sayings. We know that like hypothermia can preserve brain function and even like even if cardiac activity has slowed to a point where it stopped.

Justin: Right.

Sydnee: If we restart it, we may be able to bring someone back. So like that's a fair question.

Justin: Is it— Could the heartbeat be so faint that it's like undetectable?

Sydnee: Well, we're supposed to listen centrally. Like we're— In order to declare death, we should be putting a stethoscope on your chest and listening.

Justin: Alright, well that's three guesses from me. What do you got?

Sydnee: So there are a couple things that people have guessed. One study looked at potassium, the idea being that [chuckles] if the potassium was really high and then we lower it as someone is starting to die, then

maybe their heart will restart because really high or really low potassium can make your heart stop.

Justin: Ah.

Sydnee: It can make your heart beat abnormally and then possibly stop. Anyway, labs have not— They found a couple where this might've been the case, but like generally speaking that was not— That's something we can look for, and that has not shown to be true.

There were also some theories that, as I said, part of CPR isn't just chest compressions. It can be giving medicine. Well, most medicines don't work instantly.

Justin: Right.

Sydnee: Some do, most don't. so there has also been the thought that maybe it just took a few minutes for the medicine to start working?

Justin: Mm, okay.

Sydnee: Maybe we gave them medicine in an IV and because their heart wasn't pumping effectively…

Justin: It wasn't circulating the medicine, okay.

Sydnee: It wasn't circulating.

Justin: Okay.

Sydnee: And so it took a little bit, and then the medicine did reach somewhere where it could do something.

Justin: Hm.

Sydnee: And poof, the heart starts.

Justin: Okay, there you go.

Sydnee: So that has been a theory. There is also, and this is a known— this is known to be true. When we defibrillate someone, meaning we shock them, we stop the heart for a second.

Justin: Mm-hmm.

Sydnee: Every time you do that to someone, you do— you create what's called "asystole," meaning the heart stops for just a second. This is known, which is why you're supposed to wait another minute. So like if you've been doing shocks and you're not— like it's not successful and you think you're at the point where you're about to have to call it.

After your last shock, you should wait at least a full minute before you do it because there's going to be a time where there's no heartbeat on the monitor. So we'd have to assume that in every one of these cases, the doctor in charge literally shocked the person, said, "Didn't work. Time of death this" and walked out—

Justin: Right.

Sydnee: — and everyone exited the room immediately before a minute had elapsed.

Justin: Okay.

Sydnee: And that seems unlikely, right?

Justin: Yeah.

Sydnee: So the most likely reason, and again we don't know for sure, is that when we are administering CPR, doing the chest compressions and then breathing for people.

Whether it's through mouth to mouth or we've put a bag mask, you've seen an Ambu-Bag, little mask connected to the big bag that they squeeze, or they've actually intubated somebody and they're, you know, ventilating them that way.

Put a tube down their throat and they're squeezing the bag or whatever they're doing to put air down them that way. We are hyperinflating the chest when we do that.

Justin: Okay.

Sydnee: Okay? This leads to extra pressure inside the chest, something that we call "PEEP," endo-expiratory pressure, anywhere. Anyway, the point is there's more pressure in the chest. This pressure can decrease the amount of blood that's able to flow back into the heart. There's pressure in there compressing everything, so blood can't get back in.

Justin: Okay.

Sydnee: There's been a thought that when we stop doing all the stuff we do, and that pressure starts to decrease… [chuckles]

Justin: Okay.

Sydnee: That there's been a thought that when we stop doing all that stuff and the pressure in the chest starts to decrease, it allows for that blood to flow back into the heart. And then circulation can restart.

Justin: Ohhh, like the swelling reduces and then the blood can get back in

Sydnee: Well, well it's not swelling, it's pressure from all the air we've pumped in.

Justin: Oh okay, gotcha.

Sydnee: So the air starts to come out.

Justin: Ohhh.

Sydnee: The pressure is relieved, the blood flows back in, and the heart is pumping.

Justin: Okay.

Sydnee: That is— And then the only other explanation that's been thrown out there that ma— that also is probably a little less likely but maybe has some sense is the idea of a stunned heart, a stunned myocardium.

Justin: Mm-hmm.

Sydnee: Meaning that like part of the heart during like— whether it was a heart attack or whatever, part of the heart muscle might be dead, but there are other parts that aren't. And as it's sort of sorting all that out [chuckles] and the electrical impulses.

Justin: Mm-hmm.

Sydnee: It takes the heart a minute to restart. But these are our best guesses.

Justin: Okay.

Sydnee: We don't know for sure. How can we prevent it? Because we don't wanna—

Justin: I don't think we should, you maniac. I think we should let 'em come back.

Sydnee: How can we prevent—

Justin: [chuckles]

Sydnee: — prematurely declaring someone dead.

Justin: Oh okay, yeah. [wheezes]

Sydnee: You should always perform CPR for at least 20 minutes. Sometimes it's longer, but at least 20. You can take steps to avoid that hyperinflation of— that I talked about, pushing too much air in.

So like there are guidelines that suggest maybe we only give 12 breaths per minute, so you time how often you squeeze that bag. That's why you shouldn't ever us one of those bag masks unless you've been trained how.

Justin: Mm-hmm.

Sydnee: Those things are not to play with, you can really mess things up if you don't know what you're doing. You shouldn't stop CPR immediately

after you've shocked someone, like I've said, 'cause there's gonna be a moment where they flatline, and then it's gonna come back hopefully, so you need to watch longer.

And then you should monitor a person non-stop for 10 minutes after CPR before you say, "Time of death whatever whatever."

Justin: Right.

Sydnee: Okay? And these are all ways that we can one, decrease the pain and suffering for the family, 'cause that's a terrible thing to put people through. And two, it's a— it's pretty embarrassing for a doctor.

Justin: Yeah.

Sydnee: Do you wanna know the longest case on record?

Justin: Of course I do.

Sydnee: In medical history.

Justin: Yes.

Sydnee: In all the world. Justin, do you know where it occurred?

Justin: Where, Sydnee?

Sydnee: In all the world!

Justin: Where?

Sydnee: In Nitro, West Virginia.

Justin: Heck yeah, right there in Adventure Alley.

Sydnee: Did you know this?

Justin: I didn't. I did not know this.

Sydnee: Yes, the— For reference, Justin, how far is Nitro, West Virginia from us?

Justin: I mean, maybe 40. Maybe 40 minutes.

Sydnee: Yes.

Justin: Nitro is— There— It's part of Adventure Alley, which is what I— Which is what we call part of the 64 that has both Nitro and Hurricane on it.

Sydnee: Right.

Justin: 'Cause it's spelled like, "hurricane," so it's a very thrilling stretch of road to drive through. But yeah, Nitro's like probably 40 minutes from us.

Sydnee: You gotta go a lot further if you wanna get to Pinch.

Justin: [emphasizing the West Virginia accent] "Pyinch."

Sydnee: [chuckles]

Justin: "Pi-yinch."

Sydnee: So the record for the longest that someone has been dead, and then brought back is held by Velma Thomas.

Justin: Of course, of course that's her name.

Sydnee: God, I love our state.

Justin: It's great.

Sydnee: I love West Virginia. A 59-year-old woman, she went into cardiac arrest at her home in Nitro, West Virginia. Paramedics got there, they restart her heart after eight minutes of CPR, but then two more times, between the ambulance and the ER, her heart would stop and have to be restarted.

She was intubated, they put a tube in to help her breathe, and they even did something which I don't know— And let me— Can I tell you, I tried to

re— I tried to find every newspaper article I could about this. There is no journal article about this.

Justin: Okay.

Sydnee: There are tons of news articles.

Justin: Okay.

Sydnee: No doctor wrote this up. [chuckles]

Justin: Okay.

Sydnee: And I cannot find the original… jour— like from the— It was the— It wasn't the Gazette, it was the Charleston Daily…

Justin: Mail?

Sydnee: Mail.

Justin: Yeah. Okay.

Sydnee: Which I don't know if that's— I don't know if that's defunct. I cannot find the original article.

Justin: Okay.

Sydnee: But I found multiple articles that referenced the Charleston Daily Mail article. These are local to us, to this is why this was so exciting. [chuckles]

Justin: Right.

Sydnee: So her heart stopped two more times, they induced hypothermia. I don't know if it was UCAMC, or U Thomas Memorial, I don't know what hospital did this! [chuckles]

Justin: [chuckles]

Sydnee: If it— I cannot imagine it was us, but one of you hospitals in Charleston, it had to have been Charleston, did this. Induced

hypothermia, they made her so cold as a last-ditch effort to try to preserve brain function, like you said. Slow everything down, cool everything off, let everything chill.

Justin: Mm-hmm.

Sydnee: And then the thought would be you could warm her back up and bring her back to life.

Justin: Yup.

Sydnee: Okay? So they did this.

Justin: And it worked, in a sense.

Sydnee: 17 hours, Justin! 17 hours. Okay? But then they checked for brain activity, and they found none.

Justin: Okay.

Sydnee: So they declared her clinically dead.

Justin: Okay.

Sydnee: Okay? The family was called in to say goodbye, they were prepping her for organ donation, they turned off the machines. And then 10 minutes later… she started moving. [chuckles] And she wakes up and starts talking to everyone, and after an, eh, a bit of a stay in the hospital, she is discharged home.

Justin: Yaaaaay.

Sydnee: Alive and well.

Justin: Yaaaay.

Sydnee: And Velma makes it. So there you go, the longest story ever recorded, right here in Nitro, West Virginia.

Justin: Wow.

Sydnee: Close to home.

Justin: Close to home.

Sydnee: So. Anyway, the important thing to know here is that—

Justin: We don't know anything. Hm.

Sydnee: Everything is not in our control.

Justin: [chuckles] Yeah, right. [laughs]

Sydnee: Have the serenity to accept the things.

Justin: Right.

Sydnee: You cannot change. CPR is the really useful thing to know. You can usually learn it from your local Red Cross or EMS station or fire department or health department. There are usually a plethora of places in your community. If you've ever had to— If you've ever had any job lifeguarding or watching children, you may have been required to learn this. It's a really useful skill.

We'll do a whole episode on it 'cause it's a really fascinating history. And if it's not working, you should wait a while before you decide [chuckles] that someone is gone.

Justin: Yeah. Or leave a string tied to a bell hanging down into the grave.

Sydnee: The—

Justin: Like they used to in the 1700s.

Sydnee: This is— I mean, I think that's why we take this so seriously. I— We laugh, but like there was a time where doctors were so not trusted that we assumed that they could never tell is someone was dead. And they did, right? Hung bells over their graves to ensure that—

Justin: Yeah.

Sydnee: — we didn't bury people alive. So anyway, there you go. There's Lazarus syndrome.

Justin: Fascinating.

Sydnee: I've answered your question, Justin.

Justin: Folks, thank you so much for listening to our podcast here, 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. And thanks to you for listening. We appreciate you. That's gonna do it for us. Until next week, my name is Justin McElroy.

Sydnee: I'm Sydnee McElroy.

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

[theme music plays]

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