Sawbones 351: COVID Vaccine Questions and Answers

Published 18th December 2021

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

[theme music plays]

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

Sydnee: And I'm Sydnee McElroy. Justin, usually when we do question and answer episodes…

Justin: Q and A, in the parlance of the biz.

Sydnee: Oh, well okay. Excuse me. Q and A? Was that… is it…

Justin: Q and A.

Sydnee: Q-and-A?

Justin: Qanon.

Sydnee: Oh— no.

Justin: No, sorry.

Sydnee: Mm, no. Not here.

Justin: My mistake.

Sydnee: Not here. Usually, when we do those episodes, I request questions ahead of time. Right?

Justin: Right.

Sydnee: We'll, like, tweet that out there and specify that we're looking for your questions. This time, this episode, uh, as we like to say in the artistic world, arose organically from our listeners.

Justin: Mm…

Sydnee: Organically.

Justin: In the biz, we call that rising organically.

Sydnee: Yeah.

Justin: So, you got it.

Sydnee: I hear my mom say that a lot when she's directing community theatre.

Justin: Mm-hmm. Did it arose organically?

Sydnee: Yeah. "Just let it happen organically."

Justin: That means she didn't come up with anything ahead of time. [laughs] I've used that line as a director, too. "Let's just see where this movement organically goes."

Sydnee: [laughs]

Justin: "Let's just watch this dance organically evolve."

Sydnee: Uh, so anyway, this happened because a lot of you have been sending me questions related to the COVID vaccine. I didn't ask for them, but I'm very grateful that you sent them. It was a good idea. For that reason, usually when we read your questions we name all of our question-askers, but since I didn't specifically request your questions, I left out names. Because I don't—

Justin: Because it may not— it may not have been for public consumption.

Sydnee: Exactly. I assume, unless you tell me otherwise, I assume you don't want me to read your name on air, so maybe that's a good thing to note for the future.

Justin: Yeah.

Sydnee: Like, if you're cool with it, mention it— or if we ask for your questions, but otherwise I don't. So anyway, I have collected all the questions that we've been sent, because as you probably know if you've ever listened to a single episode of this show, Justin and I are big fans of vaccines.

Justin: Oh, we're wild about the things. Have you guys tried these vaccines?

Sydnee: We love vaccines. And if you've listened to our recent episodes, you may know that we are both in the AstraZeneca vaccine trial. So that's how much we love vaccines. We are part of science in the making.

Justin: Can you say, by the way? I mean…

Sydnee: Yeah. Yeah, so— well, that gets to one of the questions actually.

Justin: Okay.

Sydnee: There's a whole question about it, that I will use to update you on you how that trial is going. So, I'll give you the updates.

But I wanna launch right in with these questions, because there were a lot and they're the same questions that I'm seeing echoed from family, from friends, from like people on social media just that I know casually, are asking these same things. Patients, too.

So, first of all. "Could you discuss what the possible consequences there might be to a pregnant person, or the developing human in utero, choosing to get the vaccine? Why isn't there data collected for pregnant people? Similarly, school-age children." So, there were a lot of questions about this, actually. I kind of just, I put them all together here. Why wasn't it tested? The one that's out right now is the Pfizer. By the time this airs, Moderna will either be approved or about to be approved, so it will be close to being out there. Why do we not know if they are okay for pregnant people?

I would say this a problem in medical research in general. We tend to not test things in pregnant or breastfeeding patients, just because of, you know, liability, risk, that kinda thing.

Justin: It's tough. We've talked about it for medications, I think, where nobody wants to be the… the guinea pig with their fetus. [laughs] The guinea-fetus, if you will.

Sydnee: Exactly. And, well, you know though, I think what I have learned, especially from watching people get this vaccine, especially a lot of the healthcare workers who are getting the vaccine first, who might happen to be pregnant, it's not really so much reluctance on the part of the patients or the subjects. I think it's reluctance on the part of the researchers to embark on that research, because of the risk or liability.

Justin: Right.

Sydnee: I have observed lots of pregnant people getting vaccinated right now with these vaccines. The official stance is that since we didn't test them in pregnant people or breastfeeding people, or school-age children, for that matter, since we didn't do those tests, we can't say that they're safe. We're not saying they're not safe. We just don't know. We didn't do it.

But unlike some drugs where when we don't know we say it's contraindicated, meaning so don't do it, what they're saying for pregnant and breastfeeding people – not school-age children but pregnant and breastfeeding people – is you should have a conversation with your healthcare professional and make the right decision for you. The reason is that theoretically there's no risk.

Justin: Okay.

Sydnee: It's not a live virus vaccine. The Pfizer is not. The Moderna, which is coming, is not. So, based on that knowledge of what the vaccine is and how it works, it should not be dangerous. Now, we didn't do the studies to prove it, but they're leaving it up to patient to decide if they want to. As far as, like, what risk there could be to the fetus, I don't— there— I don't even have a theoretical risk to give you. You can't get COVID from the vaccines, so that's not a risk. And the mRNA in the vaccine, and I'll get into this a little more in-depth, it doesn't enter the nucleus of your cell. So, that's one big fear, is like, "Well what if it gets all up in my DNA and… " I dunno, "turns me into a virus?" Whatever. [laughs]

Justin: Cheetah— yeah. Cheetah powers.

Sydnee: "What if it's like—" I've seen so many images of Jeff Goldblum from The Fly in this discussion. It doesn't get into the nucleus of your cell, where your DNA is stored. It doesn't do that. So, it can't.

Justin: Okay.

Sydnee: So, it can't do that to you, or a developing fetus.

Justin: What if your fetus is a dum-dum tin foil hatter antivaxxer? You've taken that choice out of their hands.

Sydnee: [laughs] Nah, I got nothing for ya. So, I have seen many pregnant people take the vaccine. I have seen breastfeeding people take the vaccine. I have said this I think on the show, full disclosure, I am still nursing our youngest and I participated in the vaccine trial for the AstraZeneca vaccine, so obviously it was a risk that I felt was safe— I felt like it was worth taking, that it was safe. But it is a personal choice. But it is a problem in medical research in general. We don't check enough stuff in pregnant people.

Um, another question was, "I was thinking about as the news of the vaccine continues to roll in, will I ever be in a situation where I need to decide which one to get, and how would I pick?"

I can't fathom that at least for the foreseeable future that's going to be an issue.

Justin: Mm-hmm.

Sydnee: The way that they're sort of rolling out the vaccines, they're very targeted, like, I know locally the first health system to get it got the Pfizer and some of our docs who go back and forth between different hospitals are actually on the list for next week when the other hospital system gets, like, the VA system gets the Moderna. Assuming that all goes well. So, I don't think, at least for a while, it's gonna be an option. I think you're just gonna be offered one of them. If you were offered one, I really don't know how you would— at this point, I don't have preference.

Justin: There's probably a quiz online you could take. [laughs]

Sydnee: [laughs] A Buzzfeed quiz?

Justin: What are some of your favorite flavors? Are you staying at home in cozy PJs or are you going out clubbing? Maybe you're an AstraZeneca person. You know.

Sydnee: No, I— I'll be honest. I had been following the Moderna from the beginning of this whole thing, just because I thought it was cool. Um…

Justin: Because…

Sydnee: I'm a nerd.

Justin: Okay.

Sydnee: I have no other reason.

Justin: I was gonna let you say why it's cool, but if you wanna dunk on yourself—

Sydnee: Well, it was the mRNA thing. But the Pfizer is too. I just thought it was— I don't know. Any— it doesn't matter. Take whatever one you can get.

Justin: Whatever syringe hooves into your reach first.

Sydnee: I could not think of a reason why you would choose one over the other. Just take whatever you can get.

Someone sent me a big, giant sort of anti-vax missive that they saw on their social media feed and just wanted me to kind of respond to it, because— and I think— I'm responding to pieces of it, not the whole thing. Cause it veered into the, um, political realm.

Justin: Yeah.

Sydnee: And, I mean, I'm not gonna— I'm a scientist. I'm not gonna talk about that—

Justin: We've never talked as—

Sydnee: [laughs]

Justin: Despite what several disgruntled former listeners have emailed us to say, we have never talked about politics on Sawbones, and we never will.

Sydnee: No. Well, it's not that. It's like, some of the arguments against it were like, "The Gates paid for it," and like, I'm not…

Justin: Hey, uh, real quick, actually, can I touch on that for one—

Sydnee: Oh, do you wanna?

Justin: Yeah. Can I actually touch on that really quick? Just want everybody to know, and this would be a great thing, um, if you hear, like, say Tucker Carlson or anybody else on Fox News or other properties like that trying to sow seeds of doubt about the COVID vaccine, please know that Rupert Murdoch got it this morning, in the year of our lord 2020, December 18th, that was reported. Maybe he got it yesterday. But Rupert Murdoch got it, so… okay, moving on.

Sydnee: Yeah. Mike Pence got it.

Justin: Mike Pence got it!

Sydnee: Yeah. So, I mean, whatever—

Justin: Not that these two are role models for you in your day-to-day life, but if somebody tries to step, maybe mention that. Those facts.

Sydnee: Also— if people wanna start throwing at you, like, "Well, Bill Gates paid for it," which, I don't care, I mean, his money spends. Dolly Parton helped pay for the Moderna vaccine.

Justin: Ya creeps.

Sydnee: So… you got a problem with Dolly? I don't think so.

Justin: I don't think you do. Nobody does.

Sydnee: Okay, so—

Justin: Probably somebody does.

Sydnee: I don't wanna go into— I mean, like, those are— I wanna focus on the science problems. Um, so, this person who says they're a doctor starts off by saying that mRNA vaccine technology is completely new and they say we have no idea if it will be effective or safe.

Okay, this is easily debunked. We know it's effective because they did the trials that showed it was effective. [laughs]

Justin: That one is easy.

Sydnee: You can read these papers. They've been published for everyone to read. If you want to read the Pfizer data, if you want to read the Moderna data, if you wanna read the early preliminary AstraZeneca data, it's out there. You can read it. They did the trials. They know it's effective. They know it's safe. They did the studies to prove it. So that's just— I don't— I mean, this is just playing off fear.

A lot of people have asked the question, "Why did they do something with new technology when we have established vaccine technology? Why would you go with mRNA technology?"

Justin: Good question.

Sydnee: And I think this kinda plays into this issue. Why did we? Well, first of all, it's new in the sense that this is the first vaccine that people have gotten using this technology, but our ability to do this is not new. We've known how to make an mRNA vaccine for quite a while. We just hadn't had the opportunity to showcase it. The pandemic is that opportunity, because mRNA vaccines, as we've talked about on the show before, you can make so much faster. You can reliably make mRNA for commercial production really fast. So, it was the perfect vehicle for a vaccine that was necessary in as fast as you could safely do it to save lives.

That's why. We've known how to do it. We've known how to do it for a while. So, we did it.

It just bothers me, it's like, "Well why did why decide to go to the moon? That seems dangerous."

Justin: [laughs]

Sydnee: The next point they make is that, um, because it's an mRNA vaccine, it could sneak into our DNA and change us into flies or whatever. As I've said, it's impossible. It doesn't get into our nucleus, it does not incorporate into your DNA, it makes this spike protein which is completely harmless and then the mRNA is degraded by your body.

So, the messenger— the mRNA is packaged in a little circle of lipids, right? These little teeny lipid nanoparticles that make a little sphere. And they circle the piece of mRNA and it gets into your cell. Not into the nucleus. And then the ribosomes, which translate the mRNA into proteins, it makes the spike protein out of the mRNA, and then once it's done with the instructions, it does what you do with instructions when you're done with them.

Justin: Throw them away.

Sydnee: Throws it away. They're gone. And then you've got these harmless spike proteins—

Justin: Well, I mean, unless it's for a power tool. Then I save those, because I need to re-reference.

Sydnee: You save them in a drawer. Well, your body doesn't do that. It throws away the mRNA, it's done with it, and then those proteins teach your body how to fight off COVID. That's it. It's not gonna turn you into a fly. It just doesn't.

Justin: Shame.

Sydnee: Uh, "These new vaccines contain formaldehyde and aluminum and mercury." No, they don't. Read the ingredients. They're available widely online. They just, they just… don't. And even when they have been found in trace amount in vaccines, it's less than what you would get when you, like, eat fish. So, it's still fine. But they don't.

"Since viruses mutate frequently, the chance of the vaccine working for more than a year is unlikely." Nope. As we've said before many times about the coronavirus, not just me but anybody who talks about it, this one doesn't mutate very frequently to the extent that the vaccine wouldn't work. It mutates a little. And the vaccines still work. There's no reason to think the vaccines won't continue to work for a while. We don't know how long yet, right, which is why Justin and I are in this study for two years.

Justin: Right.

Sydnee: But yes. They will continue to work. Um, "No long-term safety studies." Well, ok. The pandemic started in this country in… March?

Justin: Depends how you wanna— who knows?

Sydnee: Late February? I don't know. Anyway—

Justin: We got worked up about it in March.

Sydnee: [laughs] So, of course we can't have longer-term studies on the vaccines than they've existed. Yes, that is fair. But we know from all the vaccines we've ever made that you're most likely, if you're going to have any sort of problem or a reaction to a vaccine, you're most likely to have it in the first usually six weeks, but at least by the first two months.

Justin: Okay.

Sydnee: It is incredibly rare that anyone has any problem that could even possibly be related to a vaccine longer than two months out. That's why those two-month markers were set for the FDA. That's why they said after patients have gotten their second dose and two months have elapsed, we'll look at all the safety data and make a decision. That's why that was set. Because it's just almost impossible that anything will happen past that. I'm not saying nothing has ever happened in the history of mankind. I'm saying, like, that is an accepted rule.

Justin: Okay.

Sydnee: And then, I don't know, and then there was a bunch of lies about how COVID's not a big deal and not that many people are dying and the pandemic is over anyway.

Justin: Okay. All wicked untrue.

Sydnee: Um, "I just got off the phone with a friend and she said she was likely not getting the vaccine because of long-term side effects. Have there been vaccines in the past that have had long-term side effects?" I think we just kinda, we kinda covered that. No, most happen very soon.

"There are a lot of anti-vaxxers saying they're not gonna get vaccinated because it's not going to stop the spread. I've read online that they're not sure if the vaccine will stop the spread or not." Like, it would help you not get that sick, but you could still spread it, basically.

Justin: Right.

Sydnee: So, okay. First of all, I think it's still— I would argue that even if that was the case, it's still worth it to get the vaccine—

Justin: To not die of COVID.

Sydnee: Because then you won't, like, have to be hospitalized or die of COVID.

Justin: Right.

Sydnee: So, I mean, that's still a good reason in my mind. We don't know for sure. They didn't routinely, in the Pfizer and Moderna trials, check for asymptomatic infections. So, there is this thought, could you get vaccinated and still carry the virus, and give it to someone else but not know because you never got sick.

Justin: Right.

Sydnee: We don't— I— we just don't have enough data to know for sure yet. It's gonna take more time before we know that. The AstraZeneca trial actually did check for asymptomatic infections and did show that it was good at reducing the spread. So…

Justin: So, there you go.

Sydnee: There is some data there. And I'm not saying that's not true for Pfizer and Moderna. I'm just saying, again, it's an area where we just don't have the data yet. Similar to pregnant people. We just don't have the data. But, um, the fewer people who are hospitalized with COVID and die of COVID, the better.

Justin: For everybody.

Sydnee: Yes.

Justin: Think about it.

Sydnee: And for our hospitals, that are overwhelmed.

Justin: Yep.

Sydnee: So, the—

Justin: Which they really are, by the way. Can't make that up.

Sydnee: Yes.

Justin: Can't fake that statistic. They just are full. [laughs]

Sydnee: There are people being admitted to tents in parking lots. In the Unites States of America, there are people being admitted to hospitals that are tents in the parking lot of hospitals. Because the hospitals are full.

Justin: [deep breath]

Sydnee: So. That is a true fact. Um, there is a question— and there were many questions about this, because of the concern about severe allergies with the Pfizer vaccine, because there were a few patients who had an allergic response to the vaccine. And then there was follow-up question with that about, like, auto-immune diseases and basically, could you trigger, you know, should people with allergies not get them, or somebody with an auto-immune disease, like celiac disease, should we not get it because it could trigger some sort of auto-immune reaction.

The concern with immunocompromised patients and vaccines is really, the worry is that they won't work.

Justin: Oh, okay.

Sydnee: If your immune system has trouble responding to viruses and bacteria in the wild…

Justin: Then it may have trouble building the response based on the vaccine.

Sydnee: Exactly. And this is for people who are on immunosuppressants or people who have other, you know, compromised immune systems for other reasons. So, that is really the concern, is that it just won't be very helpful in these vaccines. If it was a live virus vaccine, we would have other concerns, but they're not, so that's not relevant to this conversation.

In terms of triggering some sort of autoimmune disease, there's really just no… this has been studied, and so far there's never been any evidence that that happens. You're actually way more likely to trigger an autoimmune reaction by getting a virus than you are by getting the vaccine to the virus.

The best example of this is Guillain-Barré syndrome and the flu. While there was a slightly higher increase of cases of Guillain-Barré syndrome after the 76-77 swine flu vaccine, just in that one year, since then there hasn't been. And now, statistically, you're more likely to get Guillain-Barré syndrome after having the flu then you are after having the flu vaccine.

So, I don't know if that helps. But that is generally the accepted thought right now. I get what you're saying, there's some argument you could make, a theoretical argument for why this might happen after a vaccine, but so far, the evidence is not bearing out that it's a threat

Justin: Okay. That's good enough for me.

Sydnee: And the recommendation here is that if you do have severe allergies, to the extent that you have anaphylaxis and have to carry an epi-pen, you might want to— like, I think it was in the UK it was you may consider not getting the Pfizer vaccine. Here, the CDC recommendation is you have it in a healthcare facility. Like, have it somewhere where there are medical professionals—

Justin: People watching.

Sydnee: Yeah, who can watch you for 30 minutes after the vaccine. And obviously, if you're supposed to carry an epi-pen with you at all times… please carry an epi-pen with you.

Justin: Yeah, have that with you, you know.

Sydnee: Yeah. I've got a few more questions, Justin, but before we do that…

Justin: Wait, but I have all these questions!

Sydnee: I know.

Justin: What am I supposed to do with this huge— got this huge stack of questions.

Sydnee: Save them for after the billing department.

Justin: Let's go.

[ad break]

Justin: [sighs] Okay, okay, I've still got 'em. But I'm— we're running out of time Sydnee, I need you to start addressing these concerns. The questions.

Sydnee: Okay. I'll try to move a little quicker.

Justin: Okay.

Sydnee: That big anti-vax missive, those always just… drive me right up the wall.

Justin: It's a good way to keep Sydnee busy, if you ever need to get some work around the house done or you wanna go Christmas shopping for her or something, just make a cardboard cutout of yourself and ask her about some anti-vax propaganda.

Sydnee: [laughs] Uh—

Justin: Or about Dawson's Creek. They both work.

Sydnee: That's true. That's fair. "Since getting COVID doesn't mean you can't get it again, how does the vaccine work?"

Um, you know, this is a fair question, because I have had a lot of people ask that question. Like, well, but you know, we think maybe the immunity isn't forever.

Justin: That's a lot of stuff though, right? I mean, you have to get boosters of your tetanus shot every ten years or something, right?

Sydnee: So, we— basically, your immune system is induced the same way, whether we're talking about a natural infection, a wild infection, or a vaccine, right? We're still enrolling your— your macrophage is still gonna grab ahold of these spike proteins that are made.

You know, the mRNA is gonna go in there, you're gonna make some spike proteins, macrophage is gonna gab ahold of it and go, "Hey, look at this thing I found," and then your T-cells are gonna come over and be like, "This is bad, this is an intruder," and then your B-cells are gonna be like, "I'll remember that guy for the rest of my frickin' life!" and make antibodies.

Justin: But then they die. [laughs]

Sydnee: [laughs]

Justin: And you gotta get another one.

Sydnee: But sometimes they forget. Sometimes they do forget over time and you gotta get a booster.

Justin: Guys, never forget.

Sydnee: Just like with natural immunity. Sometimes your body forgets over time and you gotta get a booster.

Justin: You drop your guard.

Sydnee: Which is better in the vaccine sense than it is in reinfection sense. This is why, again, these studies are ongoing. Even though there was enough data collected to say "This is a safe, effective vaccine, let's get it out to the people," we will be in these studies for years so that they can say— and they're gonna be checking our antibodies so that at some point they can say, "You know what?" Either, "Great, you're still immune," or, "Ooh, people's immunity might be waning." And then they will set a vaccine schedule.

That's the reason— you know, we have all these vaccine schedules where we know how often you need boosters, like when you're a kid and stuff, and throughout your life, like the tetanus shot over ten years and all that. The reason we have those is because we did really long-term studies and checked people's antibodies for many, many, many, many years. We'll do this. We'll figure this out and we can handle it. We don't know yet, but it's okay. We know this vaccine will work now, and that's the important thing.

There is a social media post - I've seen many people ask this question - that states that the COVID-19 vaccine could inhibit fertility, specifically the Pfizer, but you know, it's introducing this idea for all of the COVID vaccines. So, where did this come from?

It took me a minute to trace where this came from, but there was a former Pfizer executive and it seems like someone who's kind of skeptical of the pandemic to begin with. That is sort of where they come from, and their worldview. Who declared— he's already also said, by the way, that it was effectively over in November. That the pandemic's over. So, that's a relief.

Justin: [laughs] Why are we wasting our time on it?

Sydnee: He said that since the spike protein that the vaccine triggers your body to make is similar to a protein on the placenta, that will train our bodies to attack placentas.

Justin: Oh. Wow, that's scary.

Sydnee: And it will render us infertile. The problem with that is that it's not true.

Justin: That's the only problem, though.

Sydnee: Yeah. The two proteins are not alike, there is no possibility that by teaching us to attack the coronavirus when it comes into our bodies we will be teaching our bodies to attack the placenta. This is a lie, lie, lie, lie.

Justin: But other than that, what's the problem with it?

Sydnee: Well, it's a lie.

Justin: But other than that?

Sydnee: So, it's not true. There is no— and they have seen absolute— and they also did also these trials and they have seen no evidence that it affects fertility in any way. So, please tell people it is not true. Please. This is totally untrue.

Another vacc— another allergy question. Someone who has lots of food allergies, has anaphylaxis to some things, um, and also is immunosuppressed is concerned about getting the vaccine. First of all, they also asked will the other vaccines pose a threat.

There's no reason to assume that just because someone had an allergic reaction to the Pfizer, that they would to a different vaccine. There's no reason to assume that. They've actually said that they're not necessarily seeing that as an increased risk factor. You just accept some people are gonna be allergic to some things. That's just gonna happen.

Justin: Yeah. That's life.

Sydnee: Again, if you carry an epi-pen with you and you decide to get these vaccines please carry your epi-pen with you there too.

Justin: Mm hmm. Although, make them do it, right? Don't use your epi-pen, it's expensive. They pack 'em at the hospital.

Sydnee: I would still have it with me.

Justin: Well, yeah, but don't tell them about it. Wear cargo pant—

Sydnee: If I tell a patient to always carry an epi-pen, I don't mean like, except not sometimes. I mean like, just carry it.

Justin: Except like, but get big cargo pants—

Sydnee: [laughs]

Justin: So you can hide your epi-pen, and try a little bit, just be like, "Oh no! It's in one of these pants! You guys have gotta have one."

Sydnee: [pauses] I mean, everybody's gotta make the decision that's best for them, but… if it— well. Make the decision that's best for you.

Justin: Yeah.

Sydnee: But again, I don't—

Justin: That was a joke. I was just kidding. Don't tweet at me, please. I know. It was a joke. I'm just kidding.

Sydnee: Right.

Justin: Bring your epi-pens.

Sydnee: Please bring your epi-pen. If someone has told you to carry an epi-pen with you at all times, carry an epi-pen with you at all times.

Justin: All times means all times, folks.

Sydnee: Good advice. Yes. Exactly. So, there is someone else who says that they were in a study— and this is what I wanted to get to. They were in the Janssen study.

Justin: Okay.

Sydnee: And the question is—

Justin: That— can I say?

Sydnee: What?

Justin: I think all vaccines are great. That sounds a little… generic brand. That sounds like… a little generic to me.

Sydnee: The Janssen study?

Justin: Jan— Janssen.

Sydnee: Or Johnson?

Justin: Yeah, it just feels like kinda… Jan— is it— Janssen vaccine?

Sydnee: Mm hmm.

Justin: It just feels like, great value, you know what I mean?

Sydnee: Hey, we need all vaccines.

Justin: Yeah, but this one just feels a little bit like…

Sydnee: Mm hmm…

Justin: You know when you have to tell the other kids that the BK on your shoes doesn't stand for British Knights, it stands for Burger King? [laughs] Like, that just feels— Janssen, that one I'm not crazy about.

Sydnee: See—

Justin: I think— I don't— I think if I was given the option of not getting the vaccine or getting the Janssen, I'd have to have a good think about it.

Sydnee: As a scientist who had, like, a huge crush on this mRNA technology, I felt that way a little bit, not getting either of the mRNA vaccines.

Justin: Okay. So, you see where I'm coming from. You maniac. [laughs]

Sydnee: Just because it's cool. It's not better, it's just cool. It's just cool. Anyway. So, what this person is asking is—

Justin: I'm kidding also! God. Your vaccine is great. Thank you for being a vaccine, Janssen, I'm sure it's great. I love their class rings.

Sydnee: I hope that we have established that we love vaccines and we're all for vaccines and you're joking.

Justin: I just really like the idea of— one of the things I predicted when everybody was rushing in was that people would start— I think I saw Jordan Morris talking about it on Facebook, like, I really wanted people to be like, "Oh, that's cool that you got Pfizer, but like, I kinda held out for Moderna, it's just got like a smoother finish and it's really, I hear it's a little bit more ethically sourced and that's kinda my— but like, any of them are great, but I just really, I really love my personal vaccine that I got."

Sydnee: I will not lie, I had a moment, because I have been, for whatever reason, I had an affinity for the Moderna, I had kinda wanted it. But you know what? I'm happy to be vaccinated. So I don't care.

Which is the answer to this question, by the way. I'm giving that away already. So, this person was saying "What do I do when the real vaccine becomes available?" You know, from another maker. And asking me specifically, what are you gonna do.

So, a lot of the vaccine manufacturers have already come and said that this is their plan, so if you are in a trial, I would contact your investigator to ask the question. But basically, I was in— Justin and I were both on the AstraZeneca trial, I received something, and then I got an email from my job last week that said, "Do you want the vaccine, the Pfizer vaccine, when we get it? We're gonna get it next week and we need everybody's name on a list, we need your phone number, and when we call you to come get the vaccine you gotta get your butt down here and get the vaccine, cause somebody else is gonna get it if you don't get it, and we only got so many." So, and I— my thought was one, well I don't wanna take a Pfizer vaccine if I've already gotten the AstraZeneca vaccine.

Justin: Speak for yourself. If they're both 70% effective, you're 140% against COVID, baby!

Sydnee: [laughs] No, I didn't wanna do that, one because I didn't— I mean like, we don't really know what that would do.

Justin: [laughs] Well, that one is not advised. [laughs] That one has not been studied.

Sydnee: My science mind says it's probably fine, but like, probably fine is not how science works either. So, I don't know what it would do. And secondly, I don't wanna take another vaccine— there is a shortage. I'm not gonna take two!

Justin: That's bad.

Sydnee: [laughs]

Justin: [laughs] Even Rupert Murdoch didn't take two!

Sydnee: So, the instructions are if you are imminently to receive a vaccine— and not just cause you wanna know. Like, Justin didn't do this, because we don't know when Justin would be offered a vaccine otherwise.

Justin: I don't leave the house anyway at this point.

Sydnee: Because he's not—[laughs] he's not a priority.

Justin: [laughs]

Sydnee: For whatever reason.

Justin: And you do love reminding me of that! [laughs]

Sydnee: He's not a priority. Uh, so because I am a priority, I contacted my investigator, they unblinded me so that I could make a decision.

Justin: With science.

Sydnee: Yes. [laughs] And I did receive, as I suspected, the real vaccine. Just because I did have some, very minor and tolerable, but symptoms that made me think it was the real deal.

Justin: And as far as we know, you're now, it's like effective now, after two weeks. She's still gotta go back and get your second shot.

Sydnee: Yeah, I gotta get my booster the day after Christmas, and two weeks after that is when officially, officially, it will be working in my body. The data suggests that probably, with the AstraZeneca, after the first you

do have some pretty decent immunity after two weeks. But we don't take chances with COVID.

So, two weeks after Christmas I will officially be immune, from the AstraZeneca vaccine. So, that's very— I'm very grateful and I'm very excited and I'm very happy that I participated in the trial. And if you are in a trial and you are offered a vaccine outside the trial, I would contact your site investigator. Because I know that a lot of the manufacturers are offering this same thing. For ethical reasons.

Justin: And also, if— so, that's also a good tip to you listeners. If you start to hear Sydnee get a little bit more lax about COVID protocols in the next few months, sorta like, "I don't know, do what you want, you don't wanna miss your sister's graduation," etc, etc, you'll know it's because she's one of the privile— as I reminded her, many, many times, among the privileged few currently enjoying some level of immunity from Novel Coronavirus.

Sydnee: I know how privileged I am, and that actually leads me to a question—

Justin: As a white man, I'm just glad to have someone around me that has privilege that I don't for once! You know? Can I just enjoy being able to check someone—

Sydnee: You may have gotten the… you just don't know.

Justin: Okay, well that's still your… privilege. [laughs]

Sydnee: Okay. Well, that leads to me to a question, somebody said, you know, this vaccine rollout is gonna be a slow process, what would be the protocol in terms of, like, masks, social distancing, etc.? Nothing changes. Nothing has changed for me. And nothing should change for anybody who gets the vaccine. You're still wearing masks, because of this issue that we don't know if they're good at preventing transmission of the virus yet or not—

Justin: And also, there's bad actors who would lie about it.

Sydnee: Yes.

Justin: I mean, there's the other fact.

Sydnee: You're still distancing, you're still making decisions to like, don't gather in groups, all the things that you're doing should stay the same for now. You really can't change that. I know that sucks, I know that's hard to hear, but, um, I'm not changing any— I haven't, even though I've gotten this information, two weeks after Christmas I'm not hitting a bar, I'm not going out. I'm not doing anything differently. It's just nice to know. When I go work in the hospital next time, it's nice to know—

Justin: You may go back and start volunteering at the homeless— at Harmony House again, right?

Sydnee: Yeah. That actually is one thing. Still wearing masks, still doing my best to protect myself, but I do feel like I'll be able to serve my community a little better now, knowing that I have this. But do not change your behavior at this time.

Justin: I guess that's why you're a priority. I gotta do something in the community.

Sydnee: [laughs] Somebody asked, and this was funny, I've seen this question asked from a lot of the doctors that I work with, we've talked so much about how cold you need to keep the Pfizer vaccine and the Moderna, but the Pfizer especially, how cold you have to keep it to transport it and stuff, and they asked, "Could it freeze my muscle at the injection site?" [laughs]

Justin: [laughs]

Sydnee: You thaw it and bring it up to room temperature before you administer it.

Justin: I heard they might use Dippin' Dots freezers.

Sydnee: I know.

Justin: Did you see that?

Sydnee: Yes.

Justin: Rileigh showed me.

Sydnee: Rileigh was bragging about it because she likes Dippin' Dots and I cannot stand them. And then Dippin' Dots responded to her and I felt embarrassed.

Justin: [laughs] Cause you have been dunking on their product? You know how we feel about brands in this household, Sydnee.

Sydnee: Anyway, no, they bring it up to room— which is also why, like, if you're gonna get it go get it and like, sign up and go for it. Because when they thaw it, they have a window in which they have to administer it, and you can't re-freeze it.

Justin: They'll just jab it in whoever walks past.

Sydnee: [laughs] There's probably somebody waiting for it. Somebody also asked given our experience, would we include our children in the next round of vaccine trials if they were for kids?

Justin: In a heartbeat. [laughs]

Sydnee: Yes, I would. I believe in this technology, whether it's the Pfizer, the Moderna, the AstraZeneca, the Janssen. I believe in the technology—

Justin: Well, the Janssen though… I mean…

Sydnee: Justin.

Justin: [laughs]

Sydnee: I believe in all of it. I've read the studies, the preliminary data, the data that's come out for the ones that have been released. I trust it. I have faith in it. Yes. Yes! Because then also, as soon as—[sighs] when my daughter is vaccinated, she can go back to school and see other kids. Oh my gosh.

Justin: And not, sort of, be in our… house.

Sydnee: No! She misses children. She misses other kids.

Justin: I miss The Mandalorian. I need my child to be out of the house.

Sydnee: They're becoming feral just being around us all the time. They need other children.

Justin: It's miserable. For everybody.

Sydnee: So, yes, I trust it. I would. Yes, I would.

Justin: Her teachers are doing a great job, by the way.

Sydnee: Yes.

Justin: Her virtual teachers are Miss Atkins and Miss Smith.

Sydnee: They're heroes.

Justin: I don't think I've— [laughs] I don't think I've been—

Sydnee: I don't know how they're doing it.

Justin: You have the most anonymous last names, Charlie's teachers, so I don't think I'm outing you, but you're doing a great job.

Sydnee: Yeah. I don't know if they listen to our show, but if they do—

Justin: They better listen.

Sydnee: We— I have been so impressed with being able to, like, corral— there's like twenty kids on a Zoom call—

Justin: On a Zoom call. I can't get my—

Sydnee: Kindergartners.

Justin: I can't get my brothers to behave, yet these teachers are— yeah.

Sydnee: [laughs] It's amazing.

Justin: It's amazing. Teachers were already superheroes, but now you're— I don't know. Next level.

Sydnee: But I know that, um, that Charlie would very much like to hug her teacher. And so, I am hoping that— yes. I would enroll them in a vaccine trial in a heartbeat.

Justin: Oh, yeah.

Sydnee: Just a couple more questions. Uh—

Justin: And that kid hates shots. So, it would be a whole thing.

Sydnee: Uh, no. She's turned on this one. That's how much you know she wants to get out of this house.

Justin: Oh, yeah?

Sydnee: She told me that she's ready for it. She wants it.

Justin: Somebody wants to get to Great Wolf Lodge. [laughs]

Sydnee: Yes. She knows it's a needle and she's okay with that because she so wants to leave the house.

Uh, someone said, "I'm not anti-vaccine, I'm just confused. They're saying the vaccines have 90ish percent effectiveness. How are they coming up with this? Are they giving people the vaccine and then giving them the virus? How do you figure this out?"

Justin: Can I try?

Sydnee: Yeah.

Justin: Because I think I know this. It's the— this is why there are placebos, right?

Sydnee: Yes.

Justin: Because it gives you a control for people who, uh, are living their lives in their normal fashion, taking whatever precautions they would and you compare those two groups and see who got COVID in that time period. And that's your— that's a big reason for the placebos.

Sydnee: Exactly. You need a standardized control group that has been, you know, randomized to sort of mirror the study arm, to make sure that the vaccine is working by comparing those two groups. You couldn't just compare them to, like, the country as a whole or the state or whatever, you really need a set group to compare numbers to.

Justin: Right. And also, a group that you are monitoring and you know their daily habits and you know how likely they are to get COVID in the first place, right?

Sydnee: Exactly, exactly, yeah.

Justin: You couldn't just pick random people.

Sydnee: Well, you want them to be similar. You want the two groups to be similar.

Justin: Right.

Sydnee: I mean, it's gonna be hard. The same kind of people— I think they've talked about this. The same kind of people who are enrolling in vaccine trials right now, you would start to ask this question— and again, this is conjecture, I don't have evidence to say this, but like, I mean, enough people have asked it that I think it's fair to ask, are you talking about the same people who would be taking precautions? Who would like, they believe in science enough to enter a trial, so they also believe in science enough to be masking and social distancing and all that kinda stuff. So are both groups less likely to get COVID than other people?

But still, they see the difference. And that's why you have the control group, is because then you can compare those two set groups of people and say we still saw a significantly higher number of infections in the placebo group than we did in the study arm. So. And that's what they did. They discussed challenge trials.

Justin: Which are… ?

Sydnee: You give— you vaccinate somebody and then give them the virus and see what happens. It's ethically very dicey.

Justin: Challenging.

Sydnee: There's an argument to be made that you could do them, but since there's still so little— there's still so much for us to learn about the long-term effects of this virus. That's the problem, right?

Because you could pick a bunch of healthy, college-age students or something. I know that maybe a college student I know was contacted about possibly enrolling in one. She did not. But, um, as far as I know they didn't happen. But that is a discussion, could we do challenge trials.

And then the big argument I'm seeing is that the COVID vaccine has been rushed and hasn't gone through rigorous testing. Um…

Justin: Rushed is true, right? I mean, technically speaking.

Sydnee: Well, in what sense do you mean rushed?

Justin: Faster than they would normally do a vaccine.

Sydnee: Not in the sense that we cut corners and skipped protocols in order to—

Justin: No, we rushed, rushed in the sense of rush delivery.

Sydnee: [laughs]

Justin: [laughs] They tried really hard to bring it in the same consistent, safe way they always have, but there was a rush. The maximum rush.

Sydnee: Actually, that's a good way of looking at it. This is actually a really good analogy.

Justin: Oh, I've stumbled into relevance.

Sydnee: I think you have. No, I think you've found a really good analogy. When you need a package, like, overnighted to you and so you, like, pay extra to get the thing overnighted to you, your expectation is not that the item that you have just ordered will be, like…

Justin: Launched out of a t-shirt cannon as they drive past your house.

Sydnee: Exactly, like thrown from the shelf into someone's hands who then, like, quickly stuffs it into a box and throws it onto the back of a truck that then drives at 100 miles per hour to, like, you know, get put in the back of an airplane from an unlicensed pilot who really shouldn't be doing this and is flying under the cover of darkness so that nobody finds out about it.

Justin: [laughs] Launchpad McQuack, like, yeah.

Sydnee: [laughs] I mean, like, no. What you expect is that the channels that can move it faster are being used so that it gets to you faster. That is what has happened here. No corners were cut. It was not done in any way that was, you know, like… neglecting scientific rigor.

These vaccines were made the same way all vaccines are made. They just had the money and the resources and the lack of barriers that allowed them to move at this speed. This is— and some could look at the, like—

science could move this speed all the time. We have the technology. We could move this fast all the time, if you have the money and the political will and the resources and the backing and the belief of all the people involved to do it. We could. We could do great things like this constantly.

Justin: I mean, we got to the moon. You know? We got to the moon. Probably.

Sydnee: It really makes you stop and question whether capitalism has any business in medicine and scientific research when you see this. But that's a whole other… conversation.

Justin: Yeah, maybe next time.

Sydnee: Sorry. I'm just saying, we could always move this fast.

Justin: So, that hopefully answers your questions, quells some fears about, uh, the vaccines. You know, if you're getting them, good for you. Congratulations. I would love to know that I, you know, had that level of safety that my wife is enjoying.

Sydnee: Your arm got swollen.

Justin: There was a little bit of swelling, but I'm always working out!

Sydnee: There was a knot there, a palpable knot.

Justin: It could have been my muscle buff.

Sydnee: No, it was not.

Justin: Just, making it look better and more swole.

Sydnee: No, there was a palpable knot.

Justin: Thanks so much— I do confess it. Thanks so much to The Taxpayers for the use of our theme songs… It's a Departure? That's not actually accurate. That's My Brother, My Brother and Me. Thanks to The Taxpayers for the use of their song "Medicines" as the intro and outro of our program. That is the actual title track.

Sydnee: I just think we should reiterate. I can't tell you how much I believe in these vaccines and the scientists who have made them. Enough that we both are in a trial, again, like, our family members are in a trial.

We would enroll our children in a trial. I would advocate strongly that when you are able to, when it is your turn and your name is called…

Justin: Get there.

Sydnee: Get the vaccine. The way that we protect all the people, like all the kids who have not been, you know, included in the studies, and all the pregnant and breastfeeding people who have not been included in the studies and may be a little wary at this point for that reason, and all the people who don't have access to it…

Because that's the other thing. Like, we are so privileged to be talking about this vacc— whether or not we want to get this vaccine in the next few months. There are parts of this country and then, even more so, corners of this world where they don't have that option. People will not have the option to get any of these vaccines for the entirety of 2021.

Justin: Yeah.

Sydnee: And every person that gets vaccinated is helping to protect all the people who aren't yet.

Justin: Yeah. Some parts of the world can't even get them and Sydnee's over here thinking about taking two? That makes you pause.

Sydnee: No! That's why I called the investigator! [laughs]

Justin: Um, we— okay, so, uh… if you're listening to this on Friday, tomorrow is December the 19th and we are doing our annual Candlenights spectacular, but this one's extra duper special because you can participate no matter where you are on this beautiful globe of ours.

The Candlenights 2020 special is a taped event that will begin at 8pm Eastern tomorrow, December 19th. But it is a video on demand thing, so you can watch it until January 4th. We'll be doing a sort of tweet-along, uh, at 8.05pm on Saturday using #Candlenights.

Sydnee: I'm so excited.

Justin: I know. It's great. It's like over 2 hours. It's so jam-packed full of songs and skits and goofs and celebrities and dances and…

Sydnee: The A Medicine Called Christmas trilogy will be complete. I say that, but we'll probably do a fourth one next year.

Justin: Well, if the fans demand it.

Sydnee: [laughs]

Justin: It's gonna be great. Tickets are 6.25 and proceeds from that are going to Harmony House, which is, as we were talking about earlier, a shelter for people experiencing homelessness in our region.

Sydnee: More than that, it's a whole organization and it helps people get housed and get jobs and all kinds of services, access all kinds of services within our community. It's a wonderful organization that I'm very excited to take my vaccinated body back to, to provide medical care next year.

Justin: Bit.ly/Candlenights2020. If you can't watch live, don't sweat it, you can still get your tickets and watch it whenever you please. So, please do that. It's a great cause and I really am so proud of the show. Wait til you see it. You won't believe how absolutely buck wild it is. That is gonna do it for us for this week. Thank you so much and be sure to join us again next time for Sawbones. Until then, 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]

Justin: Wait! Come back listener. Wait. I stopped the music. Also, Sawbones paperback. Did wanna mention that.

Sydnee: Oh, yeah, yeah, yeah.

Justin: Yeah, don't wanna forget.

Sydnee: I forgot!

Justin: Uh, this is a special, the last one of these before Christmas, so I do wanna say, um, since we probably won't have an episode next week because of Christmas, I would imagine, bit.ly/SawbonesPaperback comes out December 29th. So, this is the last episode before then. If you wanna pre-order it, please, please, please pre-order it and get it. That really

helps us out. First week sales are a big deal for a book. It's got new content.

Sydnee: Exactly. It's got some new stuff. Chapters that are relevant to the pandemic and everything that's happening now. It's not about that, but like, relevant to those things, about quarantine and such. And new art, from my sibling Teylor, that you will greatly enjoy. So, extra stuff.

Justin: So okay, bit.ly/SawbonesPaperback. Please go pre-order that now. We really, really appreciate it. December 29th. Thank you so much. Okay, back to the music.

[theme music plays]