## Sawbones 342: Our 2020 Flu Shot Extravaganza

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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'm your cohost, Justin McElroy.

**Sydnee:** And I'm Sydnee McElroy.

**Justin:** Syd, it's that time of year...

**Sydnee:** Oh, that sounds spooky.

**Justin:** All the witches and goblins and ghouls of the night come out and they go to a drug store or a hospital or something...

**Sydnee:** Or your local health department or your primary care physician's office...

**Justin:** It's flu shot season!

**Sydnee:** Yay!

**Justin:** Woohoo! [air horn noises] Hold on, let me see if I still got a vuvuzela button. Go ahead. Keep talking, I'll just, at any point that seems appropriate, I'll just play the vuvuzela button.

**Sydnee:** That's right, it is—

[vuvuzela sound effect]

**Sydnee:** You probably already knew this [laughs] as it is not immediately— like, it is not just now flu shot season. It's already started. We're already in flu shot season.

Justin: Oh yeah.

**Sydnee:** There's just so much to talk about all the time right now. We haven't talked about this yet.

**Justin:** I have a calendar going and every— you know, it's like, "A few month 'til flu shot season," and I get so excited about it.

Sydnee: Do you?

Justin: Yeah.

**Sydnee:** See, we actually—we can't, it's hard for us to talk about, anticipation for flu shot season in this house, because Charlie's so afraid of shots.

**Justin:** Yeah. She is, uh, she insists she's not getting her flu shot this year. She's not gonna get the coronavirus vaccine [laughs] when it comes out. That's what she says.

**Sydnee:** She actually, she calls the flu shot the "ffssh".

**Justin:** The "ffssh", right.

**Sydnee:** Yes. You can't talk about it, you just have to say "ffssh". Anyway, it's okay. We get her through it. We all get vaccinated in this house, whether we like it or not. [laughs]

**Justin:** Yeah. And I like it. Let me be clear, actually. It's my kink.

**Sydnee:** Okay. Um, anyway... [laughs] So, we asked for questions and we're gonna answer some questions, as we usually do on this show this time of year, about concerns, fears, questions about the flu shot, because of all the vaccines, I feel like it's the one that has the most, like, misinformation around it or the most— at least in my anecdotal observations, the most hesitancy.

**Justin:** It's also the only vaccine where people feel like— even people who like vaccines feel like they can get a little bit creative with it. [laughs] Like, there's a little bit of jazz in the flu shot vaccine, "Maybe I will, maybe I won't, I dunno. Not something we do about literally any other vaccine, but the flu shot, I dunno. Let's mix it up."

**Sydnee:** It's really true. I am always shocked by how many people will say, like, "Oh, I always— I'm so for vaccines, I get all my vaccines. Well, not always the flu shot, I've never gotten the flu shot. But anyway—" yeah, that always shocks me, because it's a vaccine and if you're for vaccines get this one too, please.

**Justin:** Getting the flu isn't pleasant.

**Sydnee:** No.

**Justin:** But I think this year is, understandably, colored by stuff. We have a lot of people who are raising, I think, legitimate concerns. Whether or not they, sort of, can be assuaged, that's very much up to you. No one should listen to me about anything.

**Sydnee:** Well, we're gonna cover— there's a lot of questions related to how— what is the interplay between COVID, the flu vaccine, flu season, people who are kind of sheltering in place. Like, how does that all play out. We're gonna talk about— we got a lot of questions about that. But then we got some more kinda general questions about the flu shot. I'm gonna try my best to address almost all of them. At least as many as possible. I've kind of grouped them in terms of their theme.

**Justin:** Do you want me to ask the questions, or—

**Sydnee:** No.

**Justin:** No. Okay, I'll—

**Sydnee:** I have this organized in my brain in a way that you can't—

**Justin:** I'm gonna try to answer them.

**Sydnee:** Oh, you wanna try to answer them?

**Justin:** I'll just try to answer them, then.

**Sydnee:** You can give it a quick shot, sometimes.

**Justin:** Okay. [laughs] Ba dum, tssh.

**Sydnee:** So, first of all, we got—

**Justin:** Hold on, I'm gonna see if I still have a rimshot button.

Sydnee: Oh no.

**Justin:** No, I don't think so. I replaced it with this.

[sting music from Seinfeld plays]

**Justin:** I only have eight buttons, sorry. [laughs]

**Sydnee:** Okay, well I don't know with that one.

**Justin:** It's weird that I only have eight buttons and I still have one

that's labelled this:

[airhorn plays and deep voice says "taint tanning"]

**Justin:** [laughs] There's still a taint tanning button.

**Sydnee:** I don't like that at all.

Justin: [laughs]

**Sydnee:** Okay, so timing is my first category of questions, okay? A lot of you wrote to us to ask about, like, the idea of is there a perfect time to get a flu vaccine? For instance, Kyle wrote, "I got my flu shot in mid-August this year because there were no other customers in the pharmacy area, so it seemed safe. Did I get it too early? Will I need to get a second one?" And there are a lot of other questions similar to this.

**Justin:** Let me take a shot, Syd. It's never too early. Best time to get your flu shot is right now.

**Sydnee:** So, this is true. This is what the CDC says, this is the recommendation. And I should preface with, by the way, we've also gotten this question a lot recently, "Should I trust the CDC anymore?"

Justin: I don't know.

**Sydnee:** Uh, I understand your concerns. I think that I have made my—I am a member of the CDC fandom. [laughs] I think I've made that clear on the show before.

**Justin:** You liked them back when they were good. [laughs]

**Sydnee:** Yeah. I am the first to admit that I have concerns about some of the data that we've gotten from the CDC as it relates to coronavirus. But when it comes to the flu shot and influenza, one, the same stuff has been on the website for a really long time. That's a whole other group of scientists and people and there's not as much, I would say, political necessity to interfere with any of that as perhaps it is possibly being done with coronavirus? I'm not gonna say it is, I don't know. But when it comes to this flu shot stuff, as we're gonna get into, these are, like, worldwide consortiums that come up with these recommendations and ideas. So, I mean, this stuff has been out there for a long time. This is not new. I'm just helping to, kind of, get it out there and quell your fears.

Anyway, the recommendation is to get it as soon as it is offered to you. Here's the reason we say that: we got a lot of people to vaccinate. If everybody waited until later in the season, well one, we just couldn't logistically vaccinate everybody. The shorter you make the period of time during which you give vaccines, the more people you gotta vaccinate per day, I mean, right? This is just a numbers game.

The other thing is, for a lot of people what we found is that if you have the opportunity to get the flu vaccine and you pass on it, that might be the chance for you in that flu season and you may not go seek it out again. I'm not saying you, personally. If you're sitting there going, "Well of course I would," that's great. But there are a lot of people who are busy and if they miss that opportunity, they're not gonna get it later. And getting it is always better than not getting it. So, these are the reasons that we say, yeah, as soon as it's out there, get it.

**Justin:** So, it would be bad if, like, everybody showed up in August on the same day to get their flu shot, because we just wouldn't be able to do it?

**Sydnee:** Yeah, or more likely, if everybody waited until November.

**Justin:** Yeah, but if everybody— you're saying that if everybody did show up in like, August on the same week or whatever to get it, it would be really bad, right? So you're— is that what you're— you think that would be bad, too? Just a yes or no, a simple yes or no would [crosstalk]

**Sydnee:** Yes. If everyone showed up at the exact same time to get the flu vaccine, that would be—

Justin: Wow, Sawbones co-host Sydnee McElroy advocates waiting—

**Sydnee:** No, come on. [laughs]

Justin: To get flu shot.

**Sydnee:** I do not.

Justin: Who saw this coming?

**Sydnee:** I do not.

**Justin:** I'm sorry. Sorry.

**Sydnee:** Several people asked, like Denise asked, that they heard that the antibodies only last for six months and is this why we shouldn't get it early. And so, to address that specific question, no, we don't know for sure how long the antibodies last. We don't know that they only last six months in you, as an individual. It varies. It varies from person to person. It varies depending on your age and health status. There is—

**Justin:** Could be 20 years. You could have some cool 80s flu shots in there somewhere, you don't know.

**Sydnee:** [laughs] Probably not. But there is variation, and there is truth to the idea that if flu season strikes way later than usual, you know, in March or April, then would it have been better had you gotten the flu shot in October, November, as opposed to August? But here's the other flipside to that: sometimes flu season starts in October. There are cases of flu happening now.

Now, that does not mean that it's too late. It's never too late to get the flu shot. But there's unpredictability. There's a range of times that the flu tends to hit its peak, so the best thing is, for you, for the safety of the people around you, to protect you, just get it as soon as you have the opportunity to do so.

Go get the flu vaccine. There is no reason to wait to make sure that it's more effective later, and there is no reason to say, "Oh, well it's too late then, it's already October, I missed it." No, please go get it now if you haven't gotten it. The timing is, if you think you need a flu shot, go get a flu shot. That's the timing that you should depend on.

Justin: Alright.

**Sydnee:** Okay. And thank you to everybody else who sent similar questions about timing. I know a lot of people had that concern. Like I said, a lot of people also specifically wanted to know about COVID and the flu and how that might change, you know, this flu season. So, one of the questions that several people asked, and here's an example of this from Britney, "I plan to get my flu shot next month, however, do you have any suggestions for what to say to people that are questioning getting one because if distancing and masks protect against COVID, don't they also protect against the flu?"

**Justin:** I bet Britney doesn't wanna get dragged. She's like, "Let me be straight up front with you, this is not me."

**Sydnee:** [laughs]

**Justin:** "Listen, I'm not gonna come onto Sawbones and be like [high-pitched voice] I dunno, I'm on the fence."

**Sydnee:** Well, I'll be honest that I don't think I got an email from anybody who said they weren't getting their flu shot. [laughs]

Justin: Yeah, that's right. Good kids. Good kids, the Sawbones kids.

**Sydnee:** That's good. We know our audience. We know who you are.

**Justin:** Sawboners: they get the job done.

**Sydnee:** And this is the same— we got a question, again, from a lot of people. Callum said this, "If I'm working from home, ordering groceries in, not eating in restaurants, wearing a mask every time I leave my house, shouldn't I also be safe from the flu and therefore not need a flu shot?"

**Justin:** Okay, let me try to field that one.

**Sydnee:** Similar questions.

**Justin:** The mask that you're wearing when you leave the house, again, is to protect, mainly to protect other people. It's helping you, but it's mainly to protect others, and is not— I feel like this has kinda gotten lost in the shuffle— is not a prevention of coronavirus, like a 100% foolproof

prevention of coronavirus in the same way it's not a 100% foolproof protection against, um, COVID. Or flu, sorry. Flu, yes.

**Sydnee:** Flu. Yes. No, masks and distancing are not 100% protection against any of these. It— well. Against the viruses in question. I guess if we're gonna get real down and dirty, there are certainly some infectious diseases that you cannot get from 6 feet away.

Justin: Nice.

**Sydnee:** But that's another show. [laughs] No, but when it comes to masks and distancing and handwashing, those things certainly, you know, are somewhat protective, and they help reduce the infection rate, whether we're talking about coronavirus or influenza, but they do not eliminate the possibility that you could get these things, number one. Number two, we all are, I think, I think that all of us tend to assume we're being completely safe, and this is not targeting anybody in particular, I include myself in this, where every once in a while you take a little risk that you didn't think about. You know? Maybe—

**Justin:** Just to keep things spicy. Just to spice things up a little bit.

**Sydnee:** [laughs] Maybe your mask was a little loose on the side.

**Justin:** Ooh, so bad.

**Sydnee:** [laughs] You know? When we're talking about things like, you know, we don't think that fomite transmission, meaning inanimate objects transmission has a big role in COVID. We've talked about that a lot. So like, ordering takeout seems to be safe to do, and I have certainly not discouraged anyone from doing so. But at the same time, if, you know, somebody sneezes on your takeout right before you grab it and then you rub your face or something immediately after you grab it, like, flu still passes that way, and other viruses.

So, it's not impossible that you can get sick, even if you're being really careful. The flu vaccine is another tool that you can use, along with your mask, along with distancing, along with avoiding crowds and staying home and ordering in instead of going out. All those good things you're doing, the flu vaccine is another tool you have to protect you, because—

**Justin:** Also— oh sorry, go ahead. I didn't let you finish your thought.

**Sydnee:** Well, the thing is, we've worried about overwhelming hospitals this whole time, right? Well, in flu season, hospitals tend to get full of flu patients because people don't get their vaccine, or they get it and they get sick anyway, which we'll talk about can happen. We cannot overwhelm a hospital system that's already strained with coronavirus with influenza too. We are putting all—

**Justin:** Wait, now there's an Influenza 2?

**Sydnee:** No. [laughs] Also. We will put everyone at risk. The healthcare workers, the community, everybody is at risk if our hospital system gets overwhelmed. And by not getting your flu shot and putting yourself at increased risk for influenza, you are adding to that possibility that our hospital systems get overwhelmed.

**Justin:** Also, I heard in the debates that we're gonna have a vaccine in a couple weeks. And if that is the case, once you get the vaccine you're gonna be out there living your life, loving it, and you won't have a flu shot to back it up. So, who knows if you'll be doing all the coronavirus stuff even two weeks from now? [laughs]

**Sydnee:** Well, I don't know about all that.

**Justin:** Three weeks, then! Fine! You're gonna twist my arm. Three weeks. [laughs]

**Sydnee:** I don't wanna be negative. I don't know about that, but there is truth—

**Justin:** I wanna be negative. Are you kidding me? This thing's serious.

**Sydnee:** Well— [laughs]

**Justin:** [laughs]

**Sydnee:** The COVID vaccine is gonna come out at some point, and people are gonna get it, and there are no guarantees that flu season will be over by then either.

**Justin:** That's what I'm saying.

**Sydnee:** This is a legitimate point.

Justin: I was saying that!

**Sydnee:** No, but two to three weeks. But—

Justin: Four weeks.

**Sydnee:** But there— and as I've said, flu season can go all the way 'til

March, April. I mean, who knows?

Justin: Yeah.

**Sydnee:** So, get your flu vaccine.

Justin: Yeah.

**Sydnee:** If you're concerned about COVID, man, I said this months ago. Get your flu vaccine. That's something that you can do that helps keep us all safe. As a healthcare worker, I would especially ask you that, because when our hospital systems get overwhelmed, healthcare workers are put at greater risk. Because there isn't the time or the resources for us to be as diligent about protecting ourselves. And then we put our families at risk, we put our community at risk. Kids are in school right now. I mean, there's a lot of reasons to take every opportunity you can to protect yourself. This is another opportunity that you can take.

Several people did bring up the question, "Is there a place to go that's safer than other places?"

Justin: Mm.

**Sydnee:** Sarah asked, "What's the safest place to go? Some people in my state don't believe in masks," that's... hey, I understand that, Sarah, "and the idea of going into a doctor's office makes me anxious." So, what I would do is look into your community and see if there is— if your local health department is, one option, is doing a drive-through or an outdoor flu shot fair.

I know actually our health department is doing that here, where we can go. We can even print out our flu shot form at home, fill it out, bring it and so all you have to do is get out of your car, you're standing outside in a tent, they will take your form, double check it of course, give you your flu shot and send you on your way. You don't even have to go in a building. Check and see. There's also, one of our local pediatricians are doing that here for kids. So, you can do that.

You can go to a pharmacy, and the thing is a lot of pharmacies are giving it all the time, so maybe just, like, drive up and take a peek in. Does it look busy, does it look crowded? Most places aren't when they first open. Get it at a pharmacy if it's not crowded. You could call your doctor's office, we're offering special flu shot hours at our office in the evenings, and we've been kinda empty in those hours. So, double check. There are a lot— the healthcare community is aware that this is a concern and there are probably more options than you are aware of.

**Justin:** It'd be cool if they got a flu shot gun and people could hunt you, you know what I mean? That's how you get your flu shot, just go about your daily life and then when you least expect it— fwomp! Boom. Got you.

**Sydnee:** That would be cool, honey.

**Justin:** And then you pay to do that. To be one of the flu hunters. You would do that. If it was legal.

**Sydnee:** To be a flu hunter?

Justin: Yeah. Just [snorts] track down people who didn't get it.

**Sydnee:** I would never— [laughs]

Justin: Just blaze 'em.

**Sydnee:** I would never give someone a shot, or do any procedure on them, without their consent. Or administer any medication. I took an oath.

**Justin:** Now, would Charlie agree to that? That statement you just made?

**Sydnee:** okay, well that's as a parent.

**Justin:** [laughs]

**Sydnee:** I'm talking as a doctor. [laughs]

**Justin:** I don't think she's every consented to any shot in her life. [laughs]

**Sydnee:** There was one, one question, this was a little different than some of these others, but in relation to COVID. Paranoid in Pennsylvania, [laughs] which I appreciate that, asked, "I get my flu shot every year, but this year I'm worried about COVID-19. Is there any risk to getting the flu shot, and does it lower your immune system at all?"

**Justin:** Mm, interesting.

**Sydnee:** "If I got the flu shot while I was infected with COVID, would that make symptoms worse?" These questions.

**Justin:** You want me to take a shot at this one?

Sydnee: Sure.

**Justin:** I don't know.

**Sydnee:** [laughs]

**Justin:** I don't know why you let me try, obviously I wasn't gonna have any answer for that. I try to be honest about it.

**Sydnee:** So, here's the thing. First of all, there is no— vaccines, flu vaccines, all vaccines, do not lower your immune system. They in no way make you more susceptible to other infections. So, don't worry about that. Getting the flu shot does not mean you are now— your immune system is now more likely to not protect you in any way. That doesn't happen. It simply encourages your immune system to create antibodies to the flu. That's what it does.

**Justin:** It's not so busy doing that that it can't protect you against other stuff.

**Sydnee:** No. Now you're just protected against something else. So, there is no risk in terms of will you get coronavirus if you get the flu shot, like, will you be more likely or more susceptible or get sicker? No. There is no connection to that. And I think that's important to say, because way back in January of this year, which I think was about 37 years ago? 38 years ago? Is that when January occurred? [laughs] Something like that.

**Justin:** Yeah, something like that.

**Sydnee:** It was at least several decades ago. There was some talk that—there was a study that suggested the flu vaccine made you more likely to get other coronaviruses. Not this one, not COVID, but other ones. And that created a lot of concern. This was a flawed study, it was completely dismantled and found to not be true, and there has been no evidence of that since. So, if you hear people quoting that, that has completely been disproven.

There is no risk that you will get something because you got the flu vaccine. It just doesn't work that way. So, I would still recommend— and if you got your flu vaccine while you happened to have COVID, one, if you're sick we usually recommend you wait until you're better to get the flu vaccine.

**Justin:** Wow, the second time you've advocated waiting. Who are you?

**Sydnee:** No. I mean, if you're having fevers and cough and chills and stuff, just wait 'til you're not and then go get your flu vaccine. We recommend that anyway. But two, even if you did for some reason, it wouldn't make your symptoms worse, no. so, there is no danger, there is no interaction there between those things. So, I just, I thought that was—that was a concern a lot, too, that I noticed.

**Justin:** Syd, I've gotta hear more about the flu shot. Please, don't keep me in suspense. There's gotta be more information on this shot.

**Sydnee:** I will. I'm gonna move away from COVID and talk about some general flu shot concerns, but first, let's go to the billing department.

Justin: Let's go!

[ad break]

**Justin:** Alright, so we haven't found a crack in this flu shot yet, but I'm sure somewhere it's gonna trip up. And that's when I'll get it.

**Sydnee:** That's when you'll get the flu?

**Justin:** No, that's what I'll, like, book 'em. You know what I mean?

**Sydnee:** Oh, okay. I Gotcha.

**Justin:** Take him down. I haven't found the chink in its armor yet, but I'm sure it's somewhere.

**Sydnee:** [laughs] So, one question we got which I think is important to cover in, like, general flu vaccine questions. Eli asked, "Is it the kinda vaccine where you can still get a less severe case while vaccinated than you would have gotten without the vaccine, or are flu cases after vaccination always due to a different strain?"

So, this is good to know about the flu vaccine. The way we make it is, and this is a general answer to a lot of questions that we got, the way the flu vaccine is produced, there are— I think it's in 113 different countries all over the world, there are scientists and labs whose job it is to monitor the flu, all year long. When people come in and they might have the flu and they test and they have the flu, they monitor what strains. What strains of flu are circulating all over the planet. Constantly, this information is being collected.

And what they do with this information is start to come up with a plan for what strains seem to be most prominent for the upcoming year. So, they're not talking about the strains that dominated last year. Cause that was another concern, like, "Isn't it always, like, a year behind?" No. Its not a year behind. They're looking at the way the viruses are drifting and shifting to the future—

**Justin:** They're like the A&R reps that are going into the indie music clubs to try the find the artists of tomorrow. The hit artists, before other people find them.

**Sydnee:** They're like Mavens.

**Justin:** Like Paul Rudd in... Knocked Up.

**Sydnee:** Yes. Yes. [laughs] They're looking for tomorrow.

**Justin:** The legends of tomorrow.

**Sydnee:** Yes. So, they start seeing the direction that things are heading, what viruses they are finding, exactly which strains of the viruses—

**Justin:** Trendspotting.

**Sydnee:** Yes, that are trending, and twice a year there are giant consortiums. One is for— in February, they come up with the one for the Northern hemisphere, and in September they come up with the one for the Southern hemisphere, which is different.

**Justin:** There are different ones? I didn't know that.

**Sydnee:** Yeah, it's different. It depends on which strains are cir— when their flu season happens.

Justin: Mm.

**Sydnee:** So, it depends on which strains are gonna circulate for your specific flu season in your hemisphere, and they decide on the viruses that we need to put protection against in the flu vaccine. And then they ship those to the companies that make the vaccines, who are already ready with everything all prepared to go, they just need the right virus to plug in there.

They make what's called a vaccine virus, which is like the killed virus form, right? Like, the one that's not gonna make you sick. And they start producing them either in eggs or in a cell line, depends on which vaccine they're making. And they produce a ton of flu vaccine and send it out there. Now, because of that, the flu vaccine will protect you, whether it's trivalent, meaning three strains, or quadrivalent, meaning four strains, against four— usually four strains of flu.

Justin: Wow.

**Sydnee:** 2 a, 2 b. If you get another strain of flu, it will not protect you completely against that one. You can still get it, right? You can still get sick. But what we've found is that if you get your flu vaccine, even if you do get the flu, you tend to not get as sick as you may have if you had not gotten the vaccine.

**Justin:** You get an *attenuated* form of the flu.

**Sydnee:** There you go. Because the other thing about the flu is while there are other strains, even if you get the flu vaccine, that doesn't 100% of the time mean that you won't get the flu. You could still get one of the strains that the vaccine prevents.

**Justin:** What's the point!

**Sydnee:** Because you won't get as sick, and maybe you don't get as sick, so one, I mean, you don't have to feel as bad, which would be the number one benefit to you, right? I don't feel as bad. And two, you don't end up in the hospital, and again we go back to overwhelming a hospital system that is already pretty strained.

So, it's still worthwhile to get the flu vaccine, even if you start hearing— I always love those whispers that usually is around December, people start going, "Well I heard that it's not very good this year. Well I heard, well I heard it's only this percent effective, well I heard..." Well, it's still worth getting. Still worth getting.

**Justin:** More than zero percent, which is what it would be if you don't get it.

**Sydnee:** I liked this question. Courtney asked, you know there a nasal spray flu vaccine that you can get?

Justin: Oh, really?

**Sydnee:** Mm-hmm.

**Justin:** Charlie would be excited.

**Sydnee:** And if somebody were to sneeze immediately after taking it, would they need to get it again?

**Justin:** [laughs] Yes, but the person giving it to them would be protected, double protected, against the flu.

**Sydnee:** No, it is— it's, you don't. You absorb enough of it and it goes down the back of your throat and everything immediately— we actually, sneezing after you get it is not uncommon. It happ— it's just, you know, we're squirting something up your nose. So, that's okay. You don't need to get another one. You will have absorbed enough of it. So, no problems there. Yeah, there is a nasal spray flu shot. It is available— you have to be 2 and up, I believe, to 50 to get the nasal spray.

It is not for everybody, there are some reasons, depending on if you have other, like, chronic illnesses and things, that maybe it isn't the best choice for you. But you can always talk to them about— talk to the person giving it to you about which one is right for you. But that is something that is available to some people between the ages of 2 and 50.

A lot of questions about reactions. Steven asked, "I get my flu shot every year. This year, however, I had a bad reaction. I got fever, chills, dizziness..." and he wants to know if he should tell people. Here's the thing: there is a vaccine adverse event reporting system, but it's really usually for things that are not expected. All these things that you've listed can happen after a flu vaccine. Most of the time they don't, but you can get a fever, you can get chills, you can get body aches, you can feel dizzy. These things can happen. Most commonly, most people will just get some redness or soreness at the injection site. That is by far the most common side-effect, if you will, of the flu vaccine.

**Justin:** At this point I'd welcome the variety, honestly.

**Sydnee:** [laughs] And that— I know it's uncomfortable, I know it's unpleasant, and certainly I would never encourage anyone— if someone feels like they need to tell their doctor about something, please go, do. You know, please go talk to them about it if you have concerns. Always do, I'm never gonna discourage you from doing so. But I would say that just because you had this reaction, one, it doesn't mean that— I know there was concern about your mom getting the flu shot. There's no reason to assume that your mom would have the same reaction, or two, that you will next year. It just happens sometimes after the flu shot.

Let's see, there's a question, "Can you get the flu shot and the varicella vaccine in the same week?" Yes.

**Justin:** What's varicella?

**Sydnee:** Chicken pox.

**Justin:** Oh, okay.

**Sydnee:** Yeah. That's fine to do.

**Justin:** Time-saving.

**Sydnee:** What else? We've covered some of these...

**Justin:** I wonder if it'll be a— people, if they have those flu shot reactions... I worry that it could be mista— like, if that could be a false sign of COVID. Like, you'd worry that you got COVID. Or the inverse, you know, like you would get COVID and just chalk it up to flu shot reaction.

**Sydnee:** This is a really good point that you bring up.

Justin: Boom!

**Sydnee:** And probably even a good reason, as I said, if you're ever concerned about something and think you might wanna discuss it with your doctor, go do it. And this— you know, I'll go ahead and address this issue, I know that these were some questions about, "Can you get the flu from the flu vaccine?" Do you know the answer to that, Justin?

**Justin:** No, you cannot.

**Sydnee:** That's right.

Justin: It's a killed virus.

**Sydnee:** No, you cannot get the flu from the flu vaccine. Period. No, you cannot. You can get those symptoms that you just mentioned. They are usually fairly short-lived, you know, a day or two at the most. And people are not hospitalized with them. You do not get the flu from them. So, they are far preferable to the flu itself. But a lot of people will then say, "Well, it seems like I get sick whenever I get the flu vaccine." Well, what it probably is, is either one, you got exposed to something right around the same time you got the flu vaccine.

**Justin:** Yeah, it's the season for it.

**Sydnee:** Or two, you got exposed to something in the two weeks after you got the flu vaccine, while your body is still creating all those antibodies. It's not like when you get the vaccine you instantly are chock full of antibodies. They don't just like, poof! Appear. Your body's gotta make them. And so, what we usually say is from the time you get the flu vaccine until two weeks later, you're still susceptible cause your body's reacting. It's producing the antibodies. So, in that two-week period you can easily get exposed to something. It's the season when we get everything, so there's the flu but there's also millions of other viruses that you could get that are flu-like. All that being said—

Justin: Flipside of that, I haven't been sick in six months. It's been wild.

**Sydnee:** Me neither. [laughs] But in this time of COVID, if you have symptoms, I wouldn't assume it was the flu vaccine. If you are reassured that it is the flu vaccine, that is fair. You know, I wouldn't pause like,

"Well, but are you sure? Can the flu vaccine give me a fever?" Yeah, I mean, occasionally, rarely, it does. But if you're concerned, please go get checked out.

Justin: Yeah.

**Sydnee:** Because yeah, you could get COVID. That is a good point.

Another side effect question that we got a lot of was syncope. Passing out after a flu vaccine. Hannah asks, "Do you have any advice about fainting during an injection or relieving needle or fainting-related anxiousness, that kinda thing?" Similarly, Laurie said that they were worried, they didn't wanna get it while they were away at college where they didn't have somebody with them because they so frequently pass out. If you are somebody who tends to pass out when you get injections, which—

**Justin:** Then I will come help you.

**Sydnee:** [laughs] That is not, again, I don't wanna say that's a common reaction, but that is something that can happen. And it has nothing to do with the flu vaccine, traditionally. It's just needles. It's just vaccines. If that is the case for you, first of all, tell the person giving you the shot first.

Justin: Yeah.

**Sydnee:** And this would be a good reason—

**Justin:** "I should not be standing right now. Why are we doing this while I'm standing?"

Sydnee: Right.

**Justin:** "I'm going to sit down."

**Sydnee:** Yeah, and like, in a chair as opposed to maybe, like, perched up on the doctor table, you know? Like, your examining table.

**Justin:** Maybe lay down.

**Sydnee:** Let them know. That means after you get the vaccine, they can like, give you a little bit of time before they, you know, say "Okay, you're done! Take off." If you're prepared for it, if you can do it in your doctor's

office as opposed to, like, I have advocated for a tent outside the health department, if you can that's probably an easier environment, right? It's calming. You know the people. You might know your doc who's giving it to you, or the nurse or whoever. And you know, I could see where that might be easier.

Make sure you're hydrated ahead of time, make sure you've eaten beforehand, you know, all those good things to, like— if you have other techniques of dealing with anxiety, those would be helpful. If you have breathing techniques or ways to, like, Justin, you have those sorts of—

**Justin:** Yeah, but weirdly, mine is acupuncture. So, I'm not sure that would be...

**Sydnee:** [laughs]

Justin: The best.

**Sydnee:** And ultimately, I would not want to delay a flu shot all the way until November just to have somebody there with you. I would say it's still better to get it sooner rather than later. Maybe you take a friend, or just let them know. Let them know before they give you the shot, "Hey, this happens. Can you help me?" Because our job as healthcare providers is to provide you healthcare, and that means if you're anxious or if you know you're gonna pass out, you fear or you know you're gonna pass out, we should be able to help you through that occurrence. So, I would not wait if at all possible. I wouldn't wait.

There was, Maddie asked, "Can you get the flu shot if you're pregnant?" Not only can you, but you should. Please do. The flu tends to be worse in pregnant people and the flu is very bad for newborns. So, you protect yourself if you're a pregnant person getting your flu shot protects you from getting very sick from the flu, and if you're towards the, you know, the time to deliver the baby and you get the flu and then pass it on to the baby, that's very bad for the newborn. So, please, yes. The recommendation is very strongly that pregnant people should get their flu vaccines.

Justin: Got it.

**Sydnee:** There was some concern, Vexed on Vaccines in Buffalo wanted to know if you got the flu shot that had a live virus in it, they're talking

about the nasal spray, and you have somebody immunocompromised in your house, could that be a problem? No. It's not a problem.

Justin: Easy.

**Sydnee:** Get whatever flu vaccine works for you. Whatever is appropriate for your age and health conditions and is available immediately in front of you, get it. It's fine. That is all fine. I liked this question, Adrian asked to get— because there are a lot of pharmacies that offer you gift cards if you get your flu shot, what would happen if you went back over and over again to get—[laughs]

**Justin:** Just keep getting flu shots?

**Sydnee:** Well, your insurance would stop you, first of all. It's sad that it's about money, but they don't wanna pay—

Justin: in this one specific case, I think it's okay. Your flu shot grift.

**Sydnee:** It's a tough question. I don't— my initial inclination is if you got two flu shots nothing would bad would happen. I mean, there's no reason to think anything bad would happen other than, like, you've used up a flu shot that you didn't need. Your arm is gonna hurt again. [laughs]

**Justin:** That's it? What if you get 17?

**Sydnee:** I don't know the ans— I don't know if anybody's done that study.

**Justin:** Why would you? [laughs]

**Sydnee:** My thought is it wouldn't matter. I mean, my thought is, like, it's not gonna matter if you do. It's just not— like, just don't.

Justin: Just don't.

**Sydnee:** Like, let's not try it. How about that?

Justin: Yeah. Just don't do it.

**Sydnee:** Kim wanted to know about egg white allergies. Her daughter tested highly allergic for egg whites; can she still get a flu shot? Yes. If you are allergic to eggs, you can still get the flu shot. Here are the recommendations. If you have a mild—

Justin: Jason Mantzoukas, we're talking to you.

**Sydnee:** [laughs] If you— okay. If you can eat eggs if they're slightly cooked, then there's nothing to worry about. You're fine. I saw that breakdown. People who can't eat some eggs but can eat slightly cooked— I dunno, you can't eat raw eggs? Anyway. You're fine. If you have a mild allergy to eggs, meaning you get, like, hives, you're fine.

If you have a severe allergy to eggs, like you've required an EpiPen, you have anaphylaxis, that kinda thing, you can still get the flu shot. Whatever flu shot. You can still get it. We just recommend that if that's you, you get it somewhere where there is, like, a physician who can take care of you. So, as opposed to the tent outside the health department or the pharmacy, get it at your doctor's office. That's the only change.

**Justin:** And not, also, at an egg store. Because that is taking a risk that you do not need to do.

**Sydnee:** There are vaccines that are made in cell lines, mammalian cell lines, as opposed to eggs. And so therefore they are egg-free vaccines. And if you have that readily available to you, sure. But if you don't, still get the other vaccine. Just do it in a doctor's office. That is the recommendation.

**Justin:** Why? Why the precaution? You can be honest.

**Sydnee:** In case you have an allergic reaction.

**Justin:** Okay.

**Sydnee:** They are exceedingly rare, and they are not a contra-indication to getting the flu vaccine, but just in case, why not be somewhere where they can then manage that allergic reaction as opposed to, you know, the pharmacy.

**Justin:** Got it.

**Sydnee:** Where they may not— I'm not saying they couldn't, but they won't be prepared for it the way we are in, like, a medical facility. The benefits still outweigh the risks is the point.

Justin: Okay.

**Sydnee:** Other questions. Logan was concerned about the swine flu vaccine of 1976 had a higher rate of Guillain-Barré Syndrome. You've heard of Guillain-Barré, we've talked about that before. So, how do you handle hesitancy that results from that? First of all, we have not seen that echoed since that specific swine flu vaccine of 1976. We have not seen that, um, that strong connection between the swine flu and this particular bad complication from it— or vaccine and this complication. So, what I would tell people is unless you have had Guillain-Barre syndrome within six weeks of receiving a flu vaccine, you don't need to worry about it. You can get it.

Justin: Okay.

**Sydnee:** Again, benefits far outweigh the risks.

Justin: Got it.

**Sydnee:** "If someone had an allergic reaction to last year's flu shot, should they get this year's?" Ash, you have asked the one reason why you shouldn't get a flu shot. [laughs]

**Justin:** I knew we'd find it. Got him.

**Sydnee:** If you are allergic to the flu shot, don't get a flu shot.

**Justin:** [laughs]

**Sydnee:** That is the one reason—

**Justin:** One more time. If you're allergic to the flu shot, you should not get a flu shot.

**Sydnee:** Also, if you're less than six months old. We also do not give them under six months old.

**Justin:** Thank you so much for listening, though.

**Sydnee:** [laughs]

**Justin:** We so appreciate you.

**Sydnee:** Less than six months or you are allergic to the flu shot, do not get a flu shot. Which is, like, people conflate that, I think, with the egg

allergy. You can be allergic to eggs and still get a flu shot, but if you're allergic to the flu shot, do not get the flu shot.

I thought this was an interesting question. Rachel asked, "Why do we inject the vaccine into your arm muscle instead of an IV?"

**Justin:** Because IV you gotta find a vein, and that's a pain?

**Sydnee:** The biggest, I would say— and I had to look into the history of this, how did we get into this. The biggest reason is simply logistics. It's really easy to give an Intramuscular, an IM injection. It's a lot harder to, like, find the— you have to find how to find them, it's not hard, but you have to know how to do it, right? So, ease of administration if we're doing a ton of them, it's way easier to put it in a muscle.

The history of this is interesting. We used to give vaccines, the early vaccines we'd give were through the skin, right? We'd, kinda like scarification, cut the skin to insert it into the skin. When we started adding adjuvants, which are things that aren't the virus or bacteria that you put in a vaccine to make it get your immune system to work—

**Justin:** The microchips and stuff.

**Sydnee:** There are no microchips in vaccines. When we started adding these adjuvants, which are harmless things that help you build up a strong immune response, those actually are very uncomfortable to insert into the skin the way that we used to do it. So, they started putting it in the muscle for tolerance, so that you could tolerate the vaccine better. But yeah, that's why we don't put it in the IV. Ease of administration is the number one thing.

If you are really interested in this, read about the whole depo effect. There was an idea that you could, like, put it there and it would slowly release over time. The depo idea. That probably is not true. Almost certainly is not true. But that's okay, it doesn't need to do that. But that was part of the thought process behind it.

Let's see, "I'm 24, I've never gotten a flu vaccine," Kay wanted to know, "Is it going to be worse? What are the side effects and is it going to be worse since I've never gotten one?"

**Justin:** Probably not?

**Sydnee:** No, no. There's no reason to think that if you've never gotten one the side effects— or that there's any problem with waiting later in life, like... if you haven't gotten one as a kid would it be harder as an adult? No. There's no concerns about that. The side effects, as I've said, most commonly are some soreness, pain, redness at the injection site. You can get some mild fevers, chills, body aches, that kind of thing. Rare cases, people pass out or feel dizzy. That's it.

Justin: Yeah.

**Sydnee:** Those are the common side effects from the flu vaccine.

**Justin:** Kay, go get your flu vaccine this year. Send a picture.

**Sydnee:** [laughs] Somebody had a specific question about there was a paper published about the H1N1 vaccine... here it is, Matt asked it, possibly playing a role in miscarriages. I thought this was useful to represent an idea in science that I think the flu vaccine illustrates very well.

So, there was this study that came out that suggested that perhaps people who got the H1N1 vaccine had a slightly higher rate of miscarriages than patients who didn't. What happens when something like that— when we get a piece of data like that, like here's a study that shows this thing, one of the first things that we have to do as scientists, other than look and see that the study was done well and all those kinds of things, is replicate it. Okay, well let's look at more people. Let's expand it further. Let's check out even more, before we say that this is 100% true. Because this would be major thing. If we thought that vaccines did this, we know how devastating the flu can be for a pregnant person, to get the flu, so all of a sudden to reverse that recommendation, we could cause a lot of harm if we're wrong.

**Justin:** Right.

**Sydnee:** So, they expanded that research and found that this connection is not there. For whatever reason, sometimes in a study what we find is chance. We try to control for that, but then if we replicate it 30 times and the other 30 studies say no, then that one was wrong. And that happens in science. So, I think it's really important to know, first of all there is no evidence that getting the flu vaccine, H1N1 or otherwise, causes a higher rate of miscarriage. And pregnant people absolutely need to get the flu

vaccine. They are at higher risk for severe complications from the flu, and so are the newborns that will eventually arrive. So, please, please, if you are pregnant or are with a pregnant person who's wavering... and then everyone around them should get the flu vaccine too.

**Justin:** Yeah. Everyone should get the flu vaccine, I guess is what we're saying, unless they're allergic to the flu vaccine, as we've covered.

**Sydnee:** Yes. Well, and that was another question we had. "If I'm a healthy person and I get the flu vaccine am I taking that vaccine from someone else who needs it?"

**Justin:** No. They're like Doritos. Take all you want, they'll make more.

**Sydnee:** Most places produce more than what they say is uptake, their uptake rate, meaning how many people actually get them. Most countries have way more. Last year we had extras. I know because I got to take advantage of those extras and use them at the day shelter that I volunteer at. So, like, give them to people. So, a lot of years we have extra. So no, you are not taking it from a healthy person or from an unhealthy person that needs it more. Last thing, dosing. Did you know there are different doses of flu vaccine?

Justin: No.

**Sydnee:** Yes.

**Justin:** That doesn't make any sense.

**Sydnee:** Meg asked, "I've heard there is a bigger dose of flu vaccine for heavier folks," and that is not— there is a higher dose, but it is not a weight-based issue. It is an age-based dose.

Justin: Mm.

**Sydnee:** So-

**Justin:** A man like myself in the prime of his life, a man like me, I need a big dose to keep me safe. Cause I'm an old, experienced, grizzled man.

**Sydnee:** No. As Lara pointed out, the pharmacist said they only had the high doses for people 65 and older, and that is correct. The higher dose vaccines, of which there not many, I think there's only one in the US, is—

**Justin:** Hurry up, old people! Get there quick! Oh my God, it's the Hunger Games for the old people! There's only one flu vaccine, guys!

**Sydnee:** It is only for 65 and over—

Justin: Dad!

**Sydnee:** [laughs]

**Justin:** Dad! Dad's upstairs, I gotta call him!

**Sydnee:** [laughs] And the idea behind it is that there have been some studies that have suggested that as we get older, we are not able to create the robust immune response to a vaccine like we are when we are younger. That those anti— we don't create, maybe, as many antibodies, and they don't last as long.

So, the thought was a higher dose vaccine could create a more robust immune response and protect you more and longer, right? What we found is that there is some truth to this. Some studies looking at these high-dose vaccines versus the standard-dose vaccines did see some benefits in terms of lower rates of hospitalization from the flu, and lower rates of getting the flu. So, these may, either the high-dose, or that's actually one that contains an adjuvant, as we talked about, that can stimulate a stronger immune response.

They're only for 65 and older, so Zoe asked if their fiancé who has severe asthma could get it. Only if they're 65 or older. Nobody else is— you just can't. It's not, um, we have to test it in age groups before we can say we can give it to them. This has only been targeted to 65 and older. But the important thing to remember, if you are 65 and older, or if you have someone around you who's 65 and older, don't hold out for the high-dose vaccine. There are only so many of these and they're only certain places. If the place you're getting your vaccine doesn't have that one, get the standard one.

No one is recommending— there is no organization that currently recommends that seniors, people over 65, hold out on the vaccine just to get that one. If it's there, if it's available, yeah. Go for it. We have some evidence that it might be better. Worst case scenario, it's just as good. But please do not hold out for that and delay your opportunity to get the flu vaccine. Because the flu is worse in older people and—

**Justin:** Okay, first it was worse in babies, now it's worse in older people.

Can you get your story straight?

**Sydnee:** It's both.

**Justin:** Whoa. 39 looking pretty good right now. Dead center.

**Sydnee:** Did I cut— was there anything you didn't talk about?

**Justin:** It seems impossible. But if there is, if you want more information, you have answers that you are still in need of, we would humbly point you towards Immunize.org. It's the website for the Immunization Action Coalition. If you wanna support their— there's tons of information on their website. If you wanna support their fine work, you can donate directly to them there, or you can go to McElroyMerch.com and we've got a Pro Vax enamel pin and our vaccine t-shirt, both of which all the profits for that go to the Immunization Action Coalition. So—

**Sydnee:** Did you thank Dr. Deborah?

Justin: Thank you Dr. Deborah!

Sydnee: Dr. Deborah Wexler, who asked us, she is our good friend who

works with us-

**Justin:** She forces us to do a flu shot episode every year.

**Sydnee:** She doesn't force us to. She very politely reminds us how

important this topic is.

Justin: Dr. Deborah reminds up and then we remind you. [laughs] That's

how it works. And then you remind your mom and dad.

**Sydnee:** Yeah. She's wonderful. She works with the Immunization Action Coalition and she asked that we do another episode addressing the flu shot and I think she is right. We cannot say it too much, especially this year.

Justin: Yeah.

**Sydnee:** Please. It's always important, it's important every year to get your flu vaccine, but especially this year, protect yourself every way you can. Protect your community. Protect your hospital systems that are

made up of healthcare workers who are already strained, already working probably without the resources that they need. And if we can prevent overtaxing that system, it's not just good for all of them, this is not selfish, it's good for you, it's good for your neighbors, it's good for your family. It's good for the kids who go to school, for the people who are in nursing homes in your area. All those people benefit.

**Justin:** Okay, Syd, we get it. The flu shot is great and everybody should get it.

**Sydnee:** I think our listeners probably wear masks like they're supposed to, and I think that's because they're people who got really early that this isn't just about them, it's about everybody around them. And so, they're happy to wear a mask to protect everyone around them. The flu vaccine is just like that. It's just like that. But not just for you. It is for you. But it's also for everybody around you. And I believe that our listeners are the kinda good people who do that.

**Justin:** So, go for it. People sometimes tweet pics at us after they get their shot. That's great. If you're gonna do that we're @Sawbones on Twitter, you can follow us there. Thank you so much to The Taxpayers for the use of their song "Medicines" as the intro and outro of our program. Thanks to the Maximum Fun network for having us as part of their extended podcasting family. And thanks to you for listening. We really appreciate it. Go get your flu shot right now. And uh, help do some good. You know?

Sydnee: Yeah.

**Justin:** Could use a little bit of that. And be sure—

**Sydnee:** Wear your mask, of course.

**Justin:** Wear your mask, of course. And be sure to join us again next week for Sawbones. But until then, my name is Justin McElroy.

**Sydnee:** I'm Sydnee McElroy.

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

[theme music plays]

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