

Sawbones 319: Dr. Anthony Fauci and Coronavirus Myths

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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 you 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: I'm Sydnee McElroy.

Justin: Well, Syd, I thought for sure we'd be able to talk about somethin' else by now. If you had asked me in the halcyon days of mid-February I would've said "No way! Would we still be talking about coronavirus in April. Mid-April."

Sydnee: I think—I think that I would've—I thought the same thing.

Justin: Mm-hmm. But here we are.

Sydnee: I don't like to admit when I'm wrong. That's hard for me. That's very hard for me.

Justin: [through laughter] No kidding?

Sydnee: I—I didn't think—

Justin: This is new information I'm learning now, about you, my wife! Of 15 years, nearly! You *don't* like to admit when you're wrong.

Sydnee: You know who may have known better?

Justin: Hold on, I gotta update this chart I keep on you.

Sydnee: Okay. Uh-huh. Uh-huh. You know who may have known better, Justin?

Justin: Who?

Sydnee: Uh, Dr. Anthony Fauci.

Justin: Oh yeah, love that cat.

Sydnee: Yeah. It looks like, uh, this year you may lose "sexiest man alive" again.

Justin: [sighs gustily] Robbery. Highway robbery.

Sydnee: There seems to be a big movement to, uh, get Dr. Fauci that.

Justin: Nominate—second nominated sexiest man alive.

Sydnee: I don't know him personally, but he does not, from my research from him, he does not seem like the type to really care about such distinctions.

Justin: I—you know what I really like about Anthony Fauci is in the press conferences as things have gone on, there has become [through laughter] I feel like—and you see it when anybody asks a—a—a harder question. There's a real, uh, uh—from Trump, there's a real "Ask your mom" energy.

Sydnee: [laughs]

Justin: With—with—it's like, "[sighs] I'd love to let you get out there—lemme—hold on. You gotta ask your mom, though. [through laughter] Let's see what mom says." And then Fauci's like, "[quietly] No. Can't. Can't do any of that."

Sydnee: He's—

Justin: Like, "Well, you heard your mom! I don't know what to tell ya!"

Sydnee: He's trying to ply—he's trying to play the *Parks and Rec* Rob Lowe and the—the whole energy that him and Ben have when they're like—

Justin: Yeah, right! [laughs]

Sydnee: —you know, "Aw, man! That sounds great! I don't know, let me—let me check with Ben."

"No way."

"Ah, can't do it. Can't do it."

Justin: "Uh, I dunno, it's outta my hands. It's outta my hands."

Sydnee: Except way less likable, though.

Justin: Yeah, way less.

Sydnee: That Rob Lowe. [pauses] Anyway. [laughs]

Justin: Yeah. Dr. Anthony Fauci is a—is a hot topic, uh, in the—in the news, that people get very nervous when he's not around... [amused] I would say at any time.

Sydnee: Yes. I wanted to talk—this entire episode isn't just about Dr. Fauci, although I do—I did want to talk about him a little bit, because we had gotten a few requests to—like, who—who is this guy? 'Cause even though in the world of infectious disease and the NIH and, you know, people who follow that scientific community, he's a—he's a giant, outside of that world, you may not be as familiar with who he is, what his role is, and why some of us just watch these press conferences desperately awaiting the moment that he will arrive.

Justin: Yes.

Sydnee: So I thought that was worth covering. A little bit about who he is. And then I wanted to address—we've gotten a lot of emails. I didn't ask for coronavirus questions, but I appreciate getting them because it tells me what people are thinking about and wondering and want to know information about, and there have been a few topics specifically that keep coming up in emails.

Just, "Hey, have you thought about this? Just addressing this one issue."

And so I wanted to get into some of the, like, misinformation that's out there, because as we said last week, this is a time where snake oil would be rampant, and I think I've gotten a lot of supporting [through laughter] documentation of that in the last week.

Justin: And I—and I—just to address something else that, uh, a couple people have emailed or tweeted about and I wanted to address real quick. Um, I know that there is a lot of coronavirus stuff out there, and I'm sure there are people for whom it would be, um—it's less than ideal to continue to have the show be about coronavirus, but I think Syd and I have talked a lot about it, and honestly, when we're in the middle of a public health crisis and misinformation and staying ahead of that misinformation and educating the—the public is such an important thing to do right now, it feels weird to not be talking about this, because there's so much new information every week. Um, not talking about it seems very strange to—to us. Um, it seems like kind of shirking our duties for a little bit, so we—we will get back to the—your regularly scheduled, uh, programming, I think as soon as we can. But right now it just—it feel—it would feel wrong to do so.

Sydnee: On a personal note, it's all I can... it's all that's in my head right now, too, so it's really hard for me to... step outside of it and tell you fun kind of gross, weird stories from the past when this is happening right now, so.

Justin: And there are many of those on offer. Uh, we have over 300 episodes you can go back and enjoy a—as if it's the first time.

Sydnee: [laughs quietly]

Justin: You don't remember the bloodletting episode word for word, do you? Go on back! Start at the beginning.

Uh, okay. Dr. Anthony Fauci.

Sydnee: So, first of all—

Justin: He does not sound like you think he's going to when you just see pictures and video of him. He does—you do not expect that man's accent. The—the—the—the, uh—

Sydnee: Yeah.

Justin: —the—the thick sort of New York accent. You do not expect.

Sydnee: Uh, I—I've really, through my readings about him, grown to appreciate him. Um, I consider him now a—

Justin: A friend.

Sydnee: —a friend of the show. [laughs quietly]

Justin: A close friend.

Sydnee: A clo—he's—he's in the Pliny the Elder realm and Dr. Louis Lasagna. Uh, I think Dr. Anthony Fauci can join. [laughs]

Justin: Can't top the name, though! Can't top the name! Can't beat Louis Lasagna!

Sydnee: [laughs] Uh, so he is the head of the National Institute of Allergy and Infectious Disease, which you probably didn't think about a lot... before this.

Justin: [snorts] [through laughter] There's a lot of stuff like that!

Sydnee: Well, unless you're me. Then you may have. Actually, a lot of our listeners maybe did. He's been in that position for *36 years*. I read—so, he was a—he was appointed to that position in '84, and when I read that, my first thought was, "That was the year after I was born."

Justin: Yeah.

Sydnee: Almost my entire life he's been in that role. And I say that to underscore that he's worked with Reagan, Bush, Clinton, Bush, Obama, and now Trump. So he's been there a long time through a lot of... you know, presidential administrations, through a lot of different political philosophies and leanings, because at the core of it, he considers himself a science guy. Which... does not have a political party. Or should not, I guess.

Justin: Should not.

Sydnee: Should not. So, as we've alluded to, he was born in Brooklyn, Christmas Eve, 1940. Uh, he worked—his parents owned a pharmacy and he would make deliveries for the pharmacy on his bike.

Justin: So he basically is George Bailey so far.

Sydnee: [laughs quietly] Well, the pharmacy wasn't George Bailey's parents. They of course owned the Bailey Building and Loan, yes, he did make deliveries for the pharmacy.

Justin: [quietly, simultaneously] I know that, Sydnee. I know that. I know that, Sydnee. I know—

Sydnee: For Mr. Gowers, was the pharmacist.

Justin: —okay, moving on.

Sydnee: I just—I—I—I know a lot about [crosstalk]—

Justin: And—well, he also wasn't born on Christmas Eve. He *died* on Christmas Eve, if you want to get, like, snippy about it, *Sydnee*.

Sydnee: Anyway, when he was younger—and I think this is relevant. Uh, for me, this helps me decide—like, when I'm thinking about a person and, um, how much stock I put into all of their expertise, I like to know that it's not just they know the facts and the science. I like to know about the heart that's underneath there. That helps me, personally, and some other people may be similar.

He actually was really interested in the humanities when he was younger. He leaned toward the humanities. Uh, a lot of his family members were in the humanities. Um, but he also—

Justin: By that you mean... by humanities you mean, like...

Sydnee: Like, uh, the classics, and philosophy, and religious studies, and languages, and those kinds of things.

Justin: Gotcha, yeah.

Sydnee: Um, art. Uh, those—those sorts of pursuits. Not necessarily scientific pursuits. Uh, but he also was interested in science, and he eventually landed on medicine because he felt it melded the two, and I really appreciate that perspective. I think we should think about that more.

But, uh, he studied both the classics and philosophy and—and all the romance languages and all that stuff, as well as the science classes that he needed for med

school, which I think gives him a really unique perspective on stuff. He's still part of, like, the American Philosophical Society.

Justin: Huh.

Sydnee: Which I think is interesting.

Justin: He probably doesn't have a lot of time for that right now, but I'm glad he's keeping up his dues, his membership dues.

Sydnee: I would say he seems like the kind of guy who has—he can make time for all the things he needs to do.

Justin: Mm-hmm.

Sydnee: I think he works, like, 18 hour days.

Justin: He needs to take it easy. I need him to be okay.

Sydnee: [laughs] He's a giant. Uh, he—he immediately went from Cornell into the public health services, and he would—and he basically worked with them through the NIH until today, so he spent his entire career. After he finished residency, he has been doing this. Uh, he liked infectious disease because you could save lives.

Justin: Hm.

Sydnee: People were really sick, and if you did the right things you could make them better and save their life.

Justin: That's noble.

Sydnee: That is a nice thing about infectious disease. He—and when he went in—it's interesting because you see this kind of turning point in the history of medicine, and we've talked about it a little bit on the show. There was a time period where we thought we had conquered infectious diseases. Where—there's actually all these great essays written after the antibiotic era, where you see people saying "Well, I mean, there's still polio, which is a problem. But basically, other than polio... we nailed it."

Justin: "We—we good." [laughs quietly]

Sydnee: Like, "We have antibiotics. Now we have vaccines. We're good, forever! That's fine." You know?

And then by the time he entered, actually, this field, right at the beginning of the 80's, people really thought—he even thought, "Maybe I'm going into an area of research that is done."

Justin: [laughs]

Sydnee: And of course what would happen soon after he, you know, joined the NIH and started working in public health, is the HIV epidemic. So obviously this would be proven wrong.

Um, his—I think it's relevant to note that his early work, he did a lot of, uh, research into the immune system, because at the National Cancer Institute they were using these new chemotherapeutic agents which would help with the cancer, but also as a side effect would just devastate the immune system, right? That's what a lot of them do. They suppress your immune system and leave you open to other infections.

Uh, he saw that as a, "Well, what if we took these drugs and used them for things like vasculitis, which is your immune system attacking you? We could suppress your own immune system intentionally, and instead of a side effect we'll do it to try to treat disease."

And this line of thinking, him and the other researchers involved led to all kinds of new treatments for lupus, for rheumatoid arthritis, for, um, the rejection of organ transplants, all those kinds of things.

Justin: Hm.

Sydnee: So I think that it's relevant to know that his background, in not just infectious diseases but also the human immune system and immunology and the suppression of the immune system, made him just the perfect person when a new disease began to be recognized in the 80's in the United States that was occurring largely among gay men.

Uh, he was the researcher who said, "We should look into this." And a lot of people at the agency were saying, "Why do we—no. This is not where our area of interest or study is. Like, no. No. And this is a marginalized part of society and we're not interested in this."

And he was one of the ones, like, leading the charge. Like, publishing the papers saying "We need to pay attention to this. This is a pro—this is big. This is going to be big."

Um, and, uh, he really—he would create the agency that would dedicate itself to studying HIV and AIDS. Um, helping to prove the link, first of all, between HIV and AIDS, and then come up with ways to manage it. Um, and beyond that, I think it's really interesting to know that when he first started working on, uh, HIV and AIDS research, he was actually *hated* [laughs quietly] by a lot of the activist community.

Justin: Hm.

Sydnee: Like, if you look at, uh, you know, ACT UP and the Gay Men's Health Crisis and, like, Larry Kramer specifically, they hated Fauci. A lot of the protests of the time period were not just aimed at the Reagan administration but were aimed at him specifically.

Like, there were lines in songs that referenced Fauci because they hated him so much, mainly because—not of anything that he said or did specifically, but they felt that the process to get new drugs to the market for AIDS patients was so slow and plodding and arduous that it was resulting in too many unnecessary deaths. Which is all—this is all true. This is not—I mean, I say they thought that. Well, this was all true.

Justin: Accurate, yeah.

Sydnee: This was all accurate. And, uh, one of the big problems is that if you had tried an experimental drug before a trial, they wouldn't let you into a trial.

Justin: Hm.

Sydnee: And a lot of AIDS patients were seeking out these medications for themselves, because they were medicines that they knew were working, but they

couldn't get them. And so when they could they would try them, and then they would get excluded from trials for other medications.

Justin: Oh, interesting, okay.

Sydnee: Which was a huge problem. And you really see this kind of change in Fauci where he listens to Larry Kramer, he works with Mark Harrington, who was a key figure in ACT UP, and he starts working with all of these activists and saying "You know what? I get it. If I were them, I would be doing the same thing. Of course they feel this way."

And his—his mindset as this kind of, like, very rigid scientists really shifted to, "There has to be more of a humanistic quality to the way we address things. Um, we can't just say 'Well, this is our process for approving a drug. We have to go through these steps, and yes it's going to take years, but too bad.' We have to find a way to address a crisis."

Justin: Mm-hmm.

Sydnee: And he was really the researcher who led that charge. He owes—and he would say this to today, I've read interviews with him recently—the activists were the ones who made the change. He was smart enough to listen to them.

Justin: Mm-hmm.

Sydnee: And help apply those principles to, you know, the scientific community. And so as a result, he came up with something that they called the parallel track, which was basically instead of—the way that you approve a drug is you have to prove—you come up with a drug, then you have to prove that it's safe, first. Then you have to prove that it's effective, second. Then you start doing trials in large numbers of humans to see about other side effects or adverse events that you didn't necessarily predict earlier on, before it is finally approved. This process takes years.

Justin: Mm-hmm.

Sydnee: What he came up with was the idea that if we know a drug is safe, we can do clinical trials with it, but also get it out to the patients who need it the most, once we know it's safe.

Justin: Hm.

Sydnee: Um, because there were drugs that we—we had a very strong suspicion were effective, and we weren't getting them to the right people. So he was instrumental in creating that and in helping get people medications faster to try to save lives, you know.

And—and he would build on this in later years, everything that he did with HIV to help create PEPFAR, to take these HIV drugs that we eventually would have in the US that would be widely, you know, um, acquirable by United States citizens and say "Hey, what about the developing world, where they don't have any of these medications?"

So he would build on this throughout his career. Um, but it—it's really interesting, because you see a scientist who recognizes the limits of just, like, cold hard data and statistics, um, and still wants those but, like, embraces the patient perspective as well.

Um, and this—this changes medicine forever. It's important to know that this moment in history, not just Fauci but all of the activists who were involved—today, when you have a doctor prescribe you a medication, do they just say "Take this. Don't ask me why, just take it. Trust me, I'm your doctor."

Justin: No.

Sydnee: What would you think if your doctor said that?

Justin: I would be hurt. And I wouldn't take it. And the trust would be bad.

Sydnee: Right. That—this is why. I mean, this is—this, in a large—this philosophical approach that is embodied by this movement is in large part why now you talk to your doctor about medications. You ask questions.

Justin: You're being an advocate for yourself and your own healthcare.

Sydnee: Yes. And about you having the autonomy, which should've already been a principle in our ethics, but to say "Give me all the information and let me make the best choice for me" as opposed to the paternalistic view which is "I'm the doctor. I know. Look, I care about you a lot but you don't know what's best for yourself. Just trust me and do what I say."

Which I can't imagine ever saying to a patient, but that was standard, prior to this.

Justin: You can imagine thinking it, probably.

[pauses]

Sydnee: I have moments—

Justin: [laughs]

Sydnee: [laughs] —where I think "Please listen to me! Please! I know what I'm talking about!" It's usually a vaccine thing. It's usually me begging somebody to get a flu vaccine.

Justin: Yeah.

Sydnee: But I also recognize at the end of the day that you're allowed to make whatever decision is best for you, once you have all the information. Uh, but anyway—so, this would change medicine forever. Uh, this interaction between Fauci and the activists and the—and everything that surrounded HIV and AIDS. And Fauci would continue in his role at the agency to guide us through H5N1 and H1N1 and Zika and Ebola, and through all of these things, it—it's—he's continued to do research and write about the big one. The—the big bad one that we're not prepared for. But to think about all the ways we could be prepared for it, and to try to make the, uh... right recommendations, and get his information to the right people.

Justin: And because we listened to him for all these years, that's why we've been so well prepared.

Sydnee: [laughs quietly]

Justin: Uh, 'cause we took everything he said very seriously and took it to heart, and that's why we basically crushed it. Hooray, America.

Sydnee: [laughs quietly] Unfortunately...

Justin: Oh no.

Sydnee: ... knowing the right answers—or at least having—I would say that he has the right—the right ideas that will lead us to the answers. Uh, and getting people to pay for them and create the kind of, um, infrastructures to enforce them and make them happen are two different things, and now we arrive at COVID-19, today.

So, before I get into—I wanted to—I wanted to present all that about Fauci so you know—I believe he has, I think, beyond the obvious scientific qualifications to do the things he's doing. He has a lifetime of experience.

Um, and some really creative ideas that, had we done them earlier, could've been very helpful. Things like, uh—um, a platform vaccine? I think this is fascinating. If we could have a platform vaccine that could adapt to a whole different, like, family of viruses, how much more prepared could we be for something like coronavirus, this novel coronavirus, if we had had a platform vaccine based on SARS and MERS and these older coronaviruses that we knew about? That we could just immediately adapt and make a—I saw it called a bespoke vaccine.

Justin: Hmm!

Sydnee: For this—

Justin: Artis—artisanal.

Sydnee: —coronavirus. We could make 'em so much faster if we made—if we put the time and energy into that. Same thing with, like, a—um, a flu vaccine that you could get once every ten years instead of every year. There's so many—he—he has all these ideas. Um, and hopefully maybe now people will listen to him more.

Justin: Yeah, maybe take him a little bit more seriously.

Sydnee: That we're all turning to him, yeah.

Justin: I—I try to listen to Fauci, for sure, but I'm hearing so many other things, Sydnee, out there on the internet about—about COVID. And I don't know what to believe.

Sydnee: Well, Justin, I want to tell you about that. And, um, you should believe me.

Justin: I know, I know.

Sydnee: [simultaneously] I'm gonna bust those myths. But be—

Justin: But I'm on the internet so much, you could—you couldn't possibly.

Sydnee: Okay. Alright. Well—

Justin: You couldn't possibly—there's way too much internet out there to run all of it past you.

Sydnee: [amused] Before I do that, let's go to the billing department.

Justin: Let's go!

[theme music plays]

[ad break]

Justin: Syd, you gotta help me sort through all this internet I've consumed. I can't wait any longer. I've got so many great different ideas about coronavirus that I just—I have to—I have to hear the truth.

Sydnee: So, a lot of—a lot of the emails that we got asking questions about coronavirus led back to misinformation from one person in particular. And I hate to—I really didn't wanna present this episode as, like, [holding back laughter] the good doctor and the bad doctor—

Justin: [laughs]

Sydnee: —because I don't wanna—I don't wanna put these two humans—

Justin: Mainly because they, like, were—we are a little bit behind on *The Good Doctor*—

Sydnee: [laughs]

Justin: —so we didn't wanna dra—you know, I'm sure there's been some real—some real big shakeups. Um, with Freddie Highmore and the whole gang over there, but...

Sydnee: Well, I don't—I don't wanna put these two humans on equal footing, because I believe that Dr. Fauci's, uh, motivations are honest, you know. And I do not feel that about this other figure, and I don't wanna elevate them to the same level.

Justin: Mm-hmm.

Sydnee: Which, by the way, there's a great profile on Dr. Fauci. A lot of this information came from Michael Specter in the *The New Yorker*, so in case you're curious, you can read a lot more about him, 'cause he's fascinating and a very good—good [crosstalk]—

Justin: Stop hesitating talking about this other person, Sydnee.

Sydnee: I wanna talk about Dr. Shiva. Um, who I think has a lot of—he's—he's managed to make some waves with some pretty outrageous claims.

Justin: Mm-hmm.

Sydnee: Um, more—more waves than I would've expected. This has come to me from multiple different avenues, not just emails from our listeners, and I always appreciate that avenue because that, again, tells me what's out there. But I've seen it on my own, like, Facebook feed. I've seen it addressed in some of the groups I'm in by other doctors who are concerned about this information. And I've heard it echoed, not credited to him, but his ideas are gaining a foothold outside of him.

Um, as if they are new ideas from other places. And this makes me nervous, because they seem so outrageous to me, but obviously there's something resonating here.

Justin: Yes.

Sydnee: So Dr. Shiva—that's not—that's not his actual name, but that's the name he likes to go by, so I'm just gonna call him Dr. Shiva—um, he is a—he's a graduate of MIT, which I think that might have something to do with why people listen to him. Because, like, if you look at his academic credentials, if you look at his degrees, they're very impressive.

Um, he's not a medical doctor. He's a PHD in biological engineering, so he is a doctor. He earned the title "doctor," um, even though I think a lot of people would assume that if you're giving medical recommendations, you're a medical doctor.

Justin: Yeah.

Sydnee: He—he is not. He did not go to any medical school. Uh, but he does—he went to an impressive school and he has impressive degrees, and I'm sure knows a lot of things. I would not debate that.

Justin: Okay.

Sydnee: Um, but just having a lot of information does not necessarily mean that you do... you make the best use of it.

Uh, he—he believes—he's a big defender of traditional medicine, but not—but only in, like, concept. Not in the specifics. The practices of traditional medicine he doesn't necessarily endorse, but the idea of the body as a system is—he believes is something that traditional medicine understands. And by traditional medicine I mean, like, um—

Justin: Not alternative medicine.

Sydnee: No. I mean—I mean alternative. I mean, like, medical traditions that are handed down through the centuries as opposed to what we learn, like, scientifically grounded.

Justin: Okay.

Sydnee: I should say traditional as, like, um, folk medicine, that kind of medicine.

Justin: Okay.

Sydnee: He believes that there is a—'cause he studied that. That's what it was called that he studied. And he believes that there is an idea of the body as a system that doctors don't get, but he does.

Justin: Okay.

Sydnee: Because of his work in, like, biological engineering and, like, computer systems and that kinds of thing. Like, he thinks that we should look at the body like a computer or a car.

Justin: Okay.

Sydnee: Um, he—he believes a few other things that I think are relevant to this conversation. He thinks that, like, me—here is what he would say about me, because I am a—I am a doctor. I have an MD. And I—probably DOs too, I assume. Both of us would be in the same boat here. That we are not inherently evil, but... we're dumb.

Justin: Okay.

Sydnee: We don't learn things in medical school that are relevant to most people. We don't know how to keep people healthy or manage disease, uh, because of our allegiance to Big Pharma. Our only interest is in giving you pills. And—but we can't help it, 'cause we're just sheep, and that's all we're taught.

Justin: Sure. Sheeple, yeah.

Sydnee: And, uh, the only good thing that I could do would be, like, surgery, although I don't do surgeries. But a surgeon might have something to offer you. Or, like, in trauma. Like, he says if you fall and hit your head or something, maybe a doctor could help you.

So other than that, basically everything we say and do is crap.

Justin: Okay.

Sydnee: Uh, he thinks that good health is mainly about maintaining homeostasis... of your bodily systems.

Justin: So balancing our humors.

Sydnee: I didn't say that, but I certainly—

Justin: *I* said it, just now.

Sydnee: —I certainly see, uh, echoes of this. Because the idea—his idea is that an external pathogen can't really cause a disease.

Justin: Hm! Bracing! Hoo!

Sydnee: Uh, it's—he says that we cycle through viruses and bacteria constantly, that we're just filled with viruses and bacteria all the time. And, like—and what's—what's hard about people like this is that that—that is not untrue.

Justin: Right.

Sydnee: We do fight off a huge number of viruses and bacteria all the time that you have no idea, your body just takes care of, just disposes of instantly and you didn't know that you were exposed to it.

But, then sometimes we don't, and then we get sick, and that's the germ theory of disease. Uh, what he would argue is that it has nothing to do with the external factors as much as, um, if we have balanced our systems appropriately so that our immune system is healthy.

And he—he constantly refers to both a weak and overactive immune system, which seem... counter—like—

Justin: Yeah.

Sydnee: —that—those are two different things. But anyway, it—all you have to do is individualize to every single person... what they need to do to make their immune system stronger. Um, usually through vitamins and supplements and diet and exercise and those kinds of things. Which does sound a lot like the four humors.

Justin: Mm-hmm.

Sydnee: And he also—he talked about individualized medicine, and I think that's another thing to—to address, because while individualized medicine means I think about you as a person and what exactly you need in your life and I help you achieve that goal, and that seems like all really good, what he means is that if you get, um... strep throat, and *I* get strep throat, we don't necessarily both need an antibiotic for that.

Justin: Okay.

Sydnee: You might need this collection of vitamins, and I might need this collection of vitamins, because it's—what's happening in our bodies is completely different. Whereas I would argue, no, we both have strep throat.

Justin: Yes.

Sydnee: Right. Okay? Does that make more sense?

Justin: Yep.

Sydnee: Yeah. Uh, he argues thirdly that HIV did not cause AIDS, does not cause AIDS.

Justin: [quietly] That's a bad one.

Sydnee: It's part of why he hates Fauci so much he takes a lot of aim at, um, deep state... Fauci.

Justin: Mm.

Sydnee: Mm-hmm. As he refers to him. Uh, because he—he was part of the researchers that—

Justin: The cover up to try to make it seem like HIV caused AIDS.

Sydnee: [laughs quietly] Uh, and so, um—I don't—I don't know how to—HIV causes AIDS.

Justin: There it is, folks. We broke it right here for you.

Sydnee: So—but he believes... it's so weird to say you believe other lies.

Justin: [laughs] I mean—

Sydnee: He doesn't know that. There.

Justin: He doesn't know that.

Sydnee: He doesn't know that.

Justin: That's good. That's good.

Sydnee: Um, fourth, he believes that vaccines harm our immune system and are unnecessary.

Justin: [holding back laughter] Well, this is shocking. This is shocking [crosstalk]—what a twist!

Sydnee: No, I know it's weird to think he'd be an anti-vaxxer, but...

Justin: What a tweest.

Sydnee: Um, so you can imagine where he comes down on a vaccine for COVID. [laughs quietly]

Justin: Yeah, yeah.

Sydnee: Uh, when it comes to COVID-19 specifically, the—and this is why he's—'cause I think he's been pushing a lot of this stuff for a while, would be my guess. But we've all heard of him because of this.

Uh, he says it is not a problem with the virus but with our immune systems, and so if we just did the right things for our immune systems, nobody would get sick and we could fix everybody who already is sick.

Justin: Mm-hmm.

Sydnee: Okay? We don't need meds. Except for sometimes hydroxychloroquine is in his combos? So actually that one's okay.

Justin: Sure.

Sydnee: But other meds, no. We need vitamins.

Justin: Ahh.

Sydnee: D, A, and C are the vitamins we need.

Justin: Yes. Got it.

Sydnee: Uh, and if we—if we would all take them, we wouldn't get sick. Like, you could prevent getting coronavirus if you take enough of these.

Justin: Well, this is huge!

Sydnee: And if we—and he also doesn't believe in social distancing. So what he says is basically if your levels of these vitamins are normal, go. Go out into the world.

Justin: Your fine. Your body will handle it.

Sydnee: Yes. You're fine. You're not gonna get sick. You're cool. If you have deficiencies, you just get 'em replaced and then... go out into the world. You're fine. No problems.

Um, and for people who are already sick, like in the ICU or whatever, they just need high dose infusions of vitamin C.

Justin: Mm. So one Sunny D, they're good. [snorts]

Sydnee: Ventilators make things worse.

Justin: Ah. Weird. Okay.

Sydnee: That is what he believes.

Justin: [simultaneously] Why do we need so many?

Sydnee: [laughs quietly]

Justin: That's my question.

Sydnee: Uh, well, and I mean, it's one of those where he uses the proof that, like, so many people who go on ventilators don't survive, so ventilators must be bad.

Justin: Mmm. Specious reasoning.

Sydnee: Uh-huh. Um, and it's hard again, 'cause, like, there is a reason why you don't want to have someone on a ventilator longer than necessary, 'cause there can be damage done to the lungs from the ventilator. But if they can't breathe without the ventilator...

Justin: That's bad too. That's almost worse, one might say.

Sydnee: Right. So, I mean, he's playing on things that have just enough truth in them that you could find other evidence for certain aspects of what he's saying out there in the world from real doctors, and so then it makes you question all of it, right?

Justin: Right.

Sydnee: 'Cause there's just enough in there to make you pause. Um, to address these specifically, this is just—

Justin: This is gonna be a quite a heel turn by the way, if at the end of it you're like, "And so, I get it now. Vitamins? That's the way to do it."

Sydnee: No.

Justin: Oh, okay.

Sydnee: No. Uh—

Justin: So you didn't pause for that long. [laughs quietly]

Sydnee: [laughs quietly] So let's address these—these ideas. The ones we haven't—I mean, I'm not gonna—I'm not gonna give the HIV AIDS thing any—there's no space for that here. It's—he's wrong. We're right. That's it.

Justin: Easy.

Sydnee: Uh, vitamin D. First of all, can you be deficient in vitamin D? Sure. Some people are.

Justin: [holding back laughter] I—I'm kinda feel—I—I feel—I feel—I'm pretty sure I am currently. [laughs]

Sydnee: There's a whole—

Justin: Not gettin' my D.

Sydnee: —there's a whole argument to be made here where he also talks about how warm climates can help defeat the virus. Which is, like, a thought people have had. Like, will it be better in the summer? Everybody's been questioning that. Will we see numbers drop in the summer because everything gets warmer? And we have not seen, like, the highest rates of disease in the, like, tropical region of the world. There have been all these questions about that, and he likes to play right into that.

Um, I would say that if you're gonna make the argument that people deficient in vitamin D and A are more likely to get sick of this, the highest levels of those deficiencies are actually in the developing world, in the tropical parts of the world too. Where the most people aren't getting sick.

Justin: Yeah, so.

Sydnee: Vitamin A deficiency, to start with, is extremely rare outside of the developing world. Um, you do not have a vitamin A deficiency. I do not have a vitamin A deficiency. There's no need to give us vitamin A, and that would be true for the vast majority of Americans, period.

Vitamin D deficiency does occur. Again, it's not common, but it does—it does occur. Um, vitamin D, if you are deficient in it, yes there are a number of reasons why it would be good to take a supplement. Uh, however, both of these—and vitamin C we can throw in there—all of these things—all they do is help to—they have some function in supporting our immune system, but there is zero evidence that normal levels prevent disease or in any way help treat disease.

Justin: Mm-hmm.

Sydnee: We've done this research. We know this, or else we would've been giving you vitamins for a long time. But we're not telling you to take vitamin A. Why do you—because we did the research. It doesn't—it doesn't prevent disease. It doesn't treat disease. Yes we should maintain normal levels for a variety of reasons. That's not one of them. Vitamin D is actually bad in an inflammatory state. There are actually reasons why you wouldn't want to give somebody vitamin D if they are acutely ill.

Justin: Hm.

Sydnee: Um, beyond that, vitamin C—there's—we've done a whole show on vitamin C. There's a ton of misinformation about what vitamin C can and can't do, and there are researchers still studying it. This is not—this is something that he's putting out there and people will think is groundbreaking, but people have been studying vitamin C in sepsis and in ARDS, which is the severe respiratory condition that a lot of these patients seem to deteriorate to.

Uh, people have been studying this for a while, and there have actually been some studies that have thought, like, "Well, maybe a vitamin C infusion alongside usually thiamine and some steroids might be beneficial in some patients. The data was—mm, we weren't sure. There were some problems with some end points, and—"

Anyway, this is already being studied! There's even—there's a protocol out there, the Merritt protocol, which is already something that they try in ICU's. None of this is new. None of it is going to cure COVID. It is an area of research, uh, but it—it—he is not telling you anything that scientists haven't already looking into for a long time, and I think it's very frustrating to see, not only is it bad science but it's... it's—it's stuff we already are thinking about.

Justin: Right.

Sydnee: He's saying that doctors won't tell you. No! Doctors are thinking and—and looking into this stuff and disregarding what doesn't work, and pursuing the things that does. He wouldn't know, though.

Justin: Right.

Sydnee: Because he didn't go to medical school!

Justin: Again.

Sydnee: So he doesn't know what we learned! [laughs]

Justin: Got it.

Sydnee: When he says that we don't know anything about the immune system I would say "Well, you didn't go, so you probably wouldn't know what we know about the immune system."

Justin: There it is. Got it.

Sydnee: Um, and when it comes to things like—it's not, you know—disease isn't—COVID isn't due to coronavirus. AIDS isn't due to HIV. Robert Koch in the late 1800's came up with a series of postulates. So if you want to know how we decide, does something cause disease? We can dig back into history. Uh, 1890, a German physician, Robert Koch, who said: if a bacteria is present, or a virus, in every case of a disease, and you can isolate it from the host and grow it, and then you can give it to a healthy person and they get that disease, and then you can isolate from that person and grow it, it is the causative agent of the disease.

This is a—this is an established scientific truth that we have known for a long time, and there are caveats and exceptions and specific ways. There are some things that are hard to grow, and that kind of thing. But generally speaking, this is how we know that these things are true, because of science, and we don't guess, and it's not politically motivated. It's... fact... based.

Justin: Right, yes.

Sydnee: So unless you have been diagnosed with an immunodeficiency, your immune system works. That is not the problem, and vitamins will not prevent this, and vitamins will not fix this, and if you—especially if you eat—if you live in the developed world and you eat a varied diet, you probably don't need any supplements. And if you do have certain dietary restrictions, you probably already know the supplements you need. Um, it has nothing to do with an imbalance in your homeostasis.

Justin: So why—so why are we seeing all this stuff? Why—why—why isn't anybody telling the *truth* about vitamins?

Sydnee: [laughs quietly] I—there's a lot of—I mean, I don't wanna get into what Dr. Shiva's political motivations are. I think it's pretty clear if you watch any of his videos. I mean, he's running for the Senate... so. [laughs quietly] I think—I think you can guess where he stands on a lot of—well, you don't have to guess. He'll tell you where he stands. He wants us to open everything back up immediately and end social distancing. Um, and I would say that if we immediately open everything back up and end social distancing, that could be catastrophic, and I think Dr. Fauci made that very clear in the press conference we watched last night.

Justin: Mm-hmm.

Sydnee: Um, where we—where the plan to... what, open America up, or whatever?

Justin: Plan to open up America again.

Sydnee: Yes. Where that was laid out for us.

Justin: [through laughter] It was inspiring, too. What an inspiring name. It gets me psyched.

Sydnee: Um, some—some things that specifically he claims that I think have misled some people is that—if you want to know that everything he's saying is true, just look at our response to this compared to H1N1. And we did not do all of these things that we're doing now during the 2009 H1N1 pandemic, because we, uh, did not want to—there were not forces seeking to destroy the presidency of Barack Obama the way that they are seeking to destroy the presidency of Donald Trump.

A couple things: the mortality of H1N1... seems to have been quite a bit lower. We still don't know final mortality of COVID-19, but estimates are between 1 and 2%, whereas the estimates of H1N1 were a lot more similar to the seasonal—the seasonal flu is around 0.1%. H1N1 was certainly—it did not appear to be any worse than that. So that's part of it.

There was some partial immunity to H1N1 among older segments of the population if you remember, from older flu vaccines that they had gotten, older vaccines. Um, which we do not have any immunity to this whatsoever.

This—the R0, how many people you are likely to infect if you're sick, seems to be a little bit higher for this. I think if you looked to past—you can see that this—unfortunately COVID-19 has just the perfect array of... um, qualities. SARS was very deadly, but not nearly as infectious. H1N1 was very infectious, but not as deadly.

Justin: And then this is both, which is bad.

Sydnee: This is both, uh, which is bad. And that does not mean that it's hopeless. We are doing the right things. Staying home, you know, washing your hands, wearing a mask in public, uh, limiting—you know, protecting parts of our society that are specifically at risk. You know, protecting our—our elderly.

These things are working, which is why you're going to see people say it was an overreaction, this was all for nothing.

Justin: [inhales] 'Cause it worked.

Sydnee: 'Cause it worked.

Justin: If it works, it's—then we didn't need—the—you gave a really good example to me yesterday about the—the—

Sydnee: I stole the—I forget who I saw tweet this. I saw this on Twitter, though. I'd like to credit them, but I don't—I just saw it and I don't remember who tweeted it. But essentially it was, at this point, saying that we can stop social distancing is like saying, uh, "I have jumped out of the plane and my parachute opened and I am floating gently to the Earth and I am not plummeting to my death, which is proof that I never needed the parachute to begin with," and cutting the strings.

Justin: Mm-hmm.

Sydnee: Um... I forget. If anybody knows who said that, I'll—[through laughter] I'll mention them on the show next week, but I—I saw that—that comparison, and, uh, it wasn't—I'm not quoting them, but that was the idea.

And I think that that's a good—a good way to think about it. Like, we're doing the right things. Let's continue floating gently to the Earth. I know it's frustrating, I know it's scary, I know there a lot of other reasons to be concerned. I understand

how many people are out of jobs, and I understand, um, you know, all of the repercussions, economic and—and, you know, health insurance, and all the things. Uh, homelessness, everything that stems from that. Um, but the answer is not to just undo it all. Um, because I—I don't think anybody feels morally okay with just—what did Dr. Oz say? Be about a 2 or 3% increase in mortality if we—

Justin: Open the schools back up.

Sydnee: —open the schools, and that was appetizing. I don't... see how that's appetizing?

Justin: Man, we've managed to keep Dr—we've managed to keep Dr. Oz out of the show for, uh, a little bit now, but we may have to circle back around on old—on old Droz—on old Droz.

Sydnee: I—hm. Anyway—

Justin: Love to revisit Droz.

Sydnee: —some other things. Uh, I don't—essential oils certainly don't work for... COVID.

Justin: Dangit! Why am I drinkin' so much of 'em?

Sydnee: [laughs] They—they won't help. If people are trying to sell you those, please don't buy them for COVID to prevent or treat. Um, there are a variety of vitamin cocktails. A lot of 'em include zinc and, like, really high doses of melatonin that I've seen floating throughout the internet. Um, I don't—I'd say that some of this is based on the same things that this Dr. Shiva is saying, but the melatonin thing I wonder if is just to [through laughter] put you to sleep so you don't think about it? I don't know. 'Cause they're really high doses of melatonin.

Uh, I've also seen of course—

Justin: Wait, before you move on. [imitates guitar] [gasps] Sydnee... [imitates guitar] I wanna munch!

Sydnee: Squad!

Justin: [imitates guitar] Welcome to Munch Squad, it's a podcast within a podcast highlighting the latest and greatest of brand eating. I have a special first Munch Squad within a Sawbones I wanted to share with you.

Sydnee: Oh no. I don't know about this.

Justin: Smoothie King is adding an immune builder veggie super food option that I thought you would be so excited to hear about. Given the heightened focus on immune health around the world, Smoothie King is launching a new flavor to its immune builder smoothie lineup. It's the veggie super food smoothie. It's gonna debut—it just debuted April 14th. Um, it—and it—it's got non-GMO fruits and vegetables like organic spinach, kale, carrots, pa—

Sydnee: [quietly, simultaneously] I can't. I just can't with this.

Justin: —bananas and dates. And, uh, it has an immune support enhancer which contains 800% of I guess daily vitamin C, plus zinc, iron, and calcium to support a healthier immune system.

Is that—so, this should knock it out.

Sydnee: No.

Justin: This should knock it out.

Sydnee: No. I mean, if you want to drink that 'cause you enjoy it... you can. But do—but I—that's the thing! If you—[laughs] if you want—I mean, eating a healthy diet, getting plenty of exercise, drinking plenty of water, getting a good amount of sleep, engaging in activities that make you feel calm and at peace and fulfilled with the world, these are all important things, and I—there is no doctor on Earth that would tell you not to do them.

So when he says, "Doctors want to push pills on you instead of these things," that's such a false dichotomy. No! I want everybody to be able to do all those things. And I know right now it's hard. We take for granted because we live in a rural area. We can go outside in our backyard. There's nobody out there. It's just us, you know?

You can't do that if you live in a city right now, and that's very—that's not good for our health.

Justin: Right, but—

Sydnee: But... [laughs quietly]

Justin: —I—I am—I still want to ask you about the immune builder veggie super food and mixed berry smoothies. I feel like you haven't covered them exactly, 'cause I do wanna hit you with this quote from, uh, the Smoothie King CMO, Rebecca Miller.

"Supplementing your diet with healthy, vitamin-rich foods is more important than ever, and the veggie super food smoothie is purposefully crafted to fulfill that need."

So do you feel that's accurate? Do you think that this is gonna knock it out, basically?

Sydnee: No!

Justin: This is gonna handle—now, let me ask you this. Side question: if you go to Smoothie King via carryout and get a super food smoothie, are you in fact... [laughs] creating more hazard for yourself by the nature of going to pick up this smoothie from another human being?

Sydnee: I would not say that this is an essential trip.

Justin: [wheeze-laughs] I certainly wouldn't say that either, Sydnee.

Sydnee: I—I—I just—I—that frustrates me when... and that's part of why I wanted to contrast Fauci with these ideas, is that as a—as a doctor, I want—ideally nobody would need my services, right? [laughs] in a perfect world, ever. I don't believe that that will ever be the world. We will always have things, you know, diseases and illnesses and things. And so my goal is to make people need me as little as possible, and be able to take care of things for themselves as much as possible. And as much as diet and exercise and sleep and sunshine can do that, that's fantastic, but it would be completely naive of reality to say that that's all that all of us need. No! Some of us need medicine, every day. And sometimes we need a new vaccine to prevent a deadly illness for all of us, which is—which is the—that's going to be the ultimate thing for COVID-19, I believe.

Justin: [quietly] Well, there's—you could also shut off all the 5G, though.

Sydnee: I don't even know how to debunk—

Justin: [quietly] But if we sh—if we shut off all the 5G...

Sydnee: I would refer you to Koch's postulates when it comes to, uh—COVID-19 is caused by coronavirus, which is a virus? 5G is not a viru—Justin, could you explain better what 5G is? 'Cause I'm a doctor, and—[laughs]

Justin: It's—it's basically phone food that flies in the air.

Sydnee: [laughs]

Justin: To give your phone the food it needs of data. And I will say this: we—if you need a good sort of, uh, rejoinder I believe is the word to that, we, um, don't have 5G in West Virginia, and we do have coronavirus.

Sydnee: Oh, hey!

Justin: So that's a pretty good...

Sydnee: That—

Justin: We're still on the LTE tip, so...

Sydnee: That's a good way to, uh—there you go. I mean, anecdotal, but—

Justin: Finally, I fixed one. [wheezes] Anecdotal, but for a state [through laughter] of—of human beings.

Sydnee: Yes, and we do—even though—even though it took us a while to find it, we do unfortunately have coronavirus here. Uh, I would just encourage everybody to remember all these things that people like this—this character are saying, they sound very simple, and that's attractive. Especially right now, 'cause everything's scary and overwhelming and frustrating, 'cause we want to go about our lives. I get it. I do too! We've been in this house a long time.

Justin: Mm-hmm.

Sydnee: Uh—[laughs] a long time.

Justin: Hmm. True.

Sydnee: Uh, my children would say the same thing.

Justin: I was—yes.

Sydnee: Yes.

Justin: Yes.

Sydnee: And I understand the attraction of those ideas. I would—I would counter with the attraction of complexity. Complexity is—that's what science is, and that's what public health and disease management and crisis management—that's what all this is. It's complex. And that is challenging.

But if we work together and we find our way through that, that's so much more rewarding. Uh, that is what is—it is just that complex. Every time an expert says "We don't know yet," it's not because they're keeping a secret from you or because... it's been solved since ancient times and Dr. Shiva's gonna tell you about it. It's because we don't know yet, 'cause that's the way science works. It's slow and it's hard, and a lot of your preconceived notions are incomplete or—or incorrect, and you've just gotta work through them, and watching that play out in real time is very hard, I think. Because there is so many opportunities for people to take advantage of that process and make it seem like it doesn't work and that it's broken and that people don't know what they're doing. But it just is that complex. You just have to trust in people like Dr. Fauci and give it time, and know that we're gonna be okay. We need to maintain social distancing. There is no reason to think that any of that should end right now. That is just—it—it's wild to me to think about that. Um, I would not—if they ended it in this state right now, we would not be leaving our home.

Justin: No way.

Sydnee: And continue to do the things you're doing. Wear a mask, and—and wash your hands and, uh, stay safe, stay home, stay healthy. Do whatever you gotta do to—I know that it's hard, but—

Justin: And [mumbling] shut off the 5G. I mean, you might as well shut it off.

Sydnee: No! Don't shut off the 5G!

Justin: Thank you so much for lear—[laughs] listening to our program, Sawbones. We hope you're hangin' in there, doin' okay. Uh, we—we appreciate you very much.

Thanks to The Taxpayers for the use of their song "Medicines" as the intro and outro of our program, and thank you to you so much for listening. We appreciate you.

Um, this is gonna do it for us for this week, but be sure to join us again next time for Sawbones.

[theme music begins in the background]

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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