

## Sawbones 282: Medical Reversals

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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 co-host, Justin McElroy!

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

**Justin:** That was very clean. That felt like a very clean intro from me, and I want to take a minute to interrupt the flow of it to talk about how smooth that was.

**Sydnee:** Good. Well, now you've, um... have you ruined it? Or..

**Justin:** No, I've highlighted it. It's important to highlight your successes, Sydnee.

**Sydnee:** Hmm... is it? Like, your own?

**Justin:** Don't let any—

**Sydnee:** Highlight your own?

**Justin:** Don't let anybody steal your sparkle! That's what I say.

**Sydnee:** Okay. Well... sure.

**Justin:** So what's your sparkle today, Syd? What shine are you bringing?

**Sydnee:** Uh, this feels like the opposite. This feels like the—like a dullness.

**Justin:** Tea, then. Or is it shade?

**Sydnee:** Is it shade? No, it's sort—it sounds like shade. I wanted to address... I know on Sawbones we usually talk about history, ancient stuff, Pliny the Elder, etc etc.

**Justin:** The whole bit.

**Sydnee:** Uh, but there was... a news article caught my eye. A title of a news article caught my eye, and I found several news articles that were titled similarly, and I thought this would be worth addressing on our show, because it kind of speaks to the nature of science, and medical science is not excluded from this, that things change over time.

**Justin:** Mm-hmm.

**Sydnee:** We learn new things, and our ideas and our understanding changes. And if you're not careful with how you talk about that, you might say something like, uh, "Almost 400 medical practices found ineffective."

**Justin:** Mm.

**Sydnee:** "Scientists declare nearly 400 medical practices ineffective. Hundreds of current medical practices may be ineffective." Or, I—I actually liked—I thought this was the least, um, the least scary. "10 findings that contradict medical wisdom, doctors take note."

**Justin:** So you're saying that this is all fake news. Sad!

**Sydnee:** No! No!

**Justin:** [snorts] You are.

**Sydnee:** No.

**Justin:** The me—the f—the media, the anti-medicine media...

**Sydnee:** No. I refuse to—I refuse to use that—

**Justin:** Sad.

**Sydnee:** —term. And I also refuse to ever say "Sad." with a period at the end, as if that is a—as if I have expressed a thought. But, I do think that while these are accurate, in terms of what they're saying they're accurate statements, they sound very alarming.

Because you have to imagine there are only so many medical procedures and practices, and if 400 of them have been found ineffective, you—you're—the question, I think, for the average reader would be, "Has my doctor done one to me?"

**Justin:** Here's the thing, folks. You shouldn't—there are certain reporters at every outlet, and... probably not as many as there used to be... some people have expertise, but generally speaking, reporters don't know anything about the topic—like, it's like, you can't know everything about everything, so they're just trying to go with the most accessible angle. It's—it's why, you know, we... Sydnee tends to rely on like, um, reporting from like, journals, medical journals.

**Sydnee:** Exactly, because the study that they're referencing, which... I mean, this is—they're not—again, I'm not saying they're wrong. This is accurate. This is factually accurate.

There was a recent study that was published on an open access journal called eLife, and it goes through, it details 396... so I guess you could say it's not 400. I guess that's not technically... [laughs] It's almost 400. 396 medical reversals that have occurred in the last 15 years, and they just... they went through, uh, 3 of the top rated, like, most-read medical journals. The Journal of the American Medical Association, or JAMA is what we tend to call it, JAMA, the New England Journal of Medicine, which we don't call... Nejm.

**Justin:** Nejm.

**Sydnee:** 'Cause that...

**Justin:** Nejm.

**Sydnee:** ... that doesn't make sense.

**Justin:** No, that's nothing.

**Sydnee:** That's nothing. Uh, and The Lancet. And they looked through the last, uh, 15 years. They went through about 3,000 randomized control trials and looked for any sort of commonly practiced, accepted, like, "wisdom dictates this is what we do" medical practice from today that had been reversed through study.

And it's important, I think, for us to talk a little bit about... I wanna give you some examples of some things they found, and what this really means, and what they were really indicating, as opposed to the idea that all—like, your doctor may have no idea what they're doing, which I think is what you may glean from that.

**Justin:** Right.

**Sydnee:** So, first of all, medical reversals are always going to happen, because we get better at things. We learn new things. Our technology gets better, our science gets—I mean, we—that's the nature of science.

**Justin:** You could—you could say that our entire show is—is about medical reversals, honestly.

**Sydnee:** Right?

**Justin:** Yeah.

**Sydnee:** We get better at things, and we understand things better. I mean, we know that... well, it's interesting. Like, people always like to talk about bloodletting or leeches as something like, "We used to put leeches on people," and we did, and then we realized that for most things it doesn't work, and then we realized that for some things it actually could work, so there's—there's a big ol' medical flip flop, right?

**Justin:** Yeah.

**Sydnee:** That's science. It's flip flopping.

**Justin:** Sad.

**Sydnee:** [laughs] Uh, but basically a medical reversal is a—if you find a low value medical practice, uh, and that we have found that through further study and randomized control trials—

**Justin:** Now wait, what do you mean by "low value?"

**Sydnee:** Low value meaning that it is not giving the benefit that you would expect of a standard of care.

**Justin:** Okay.

**Sydnee:** So that doesn't mean that it doesn't help anyone, right?

**Justin:** It's—it's help-ish. [laughs]

**Sydnee:** [laughs]

**Justin:** It's helpful-ish.

**Sydnee:** It means that it's probably all... you know, once you do the study and the math and... I mean, 'cause this isn't about one individual person. We're talking about once you do it to or give it to a lot of people, it's probably not really better than some other previous standard or care, or something else that you might do, right? So it's not actually a better treatment or procedure.

That's what we're talking about. It can be difficult to figure out that. I mean, that seems like an obvious thing, right? Like, how did you not know that it wasn't working or that it wasn't as effective as you wanted? Well, the problem is, early on when we test new procedures or medicines, one, we can only test them in so many people, right?

I mean, you have to do clinical trials. You have to try things before you start deploying them widespread. Uh, so that's part of it, is that you don't know until you release something out to everyone how effective or ineffective ultimately it might be.

**Justin:** Right.

**Sydnee:** Um, two, if you're talking about something that we have no previous treatment for or procedure for, and then you find a way to do something or treat something, it's gonna be adopted a lot faster, you know? 'Cause not all of these are like drugs. Some of these are just ways of... like protocols and things.

**Justin:** Mm-hmm.

**Sydnee:** And if you've got nothing else and this is the first thing, okay. "Well, okay, let's try this, because we had nothing previously." And then over time you realize like, "Uh, well, this might not actually be as effective as one would hope, and we're probably gonna have to find a better way."

So this is just part of the process. This doesn't necessarily mean that doctors don't know what they're doing. Part of the reason that it's hard to find these things sometimes is that you have to do an intensive review of a practice, like a double-blinded or a randomized control trial.

Something has to be done that takes money to study it, and a lot of that has to be done by an independent organization from whoever made the device or the pill or whatever we're talking about, right? 'Cause they already did—they already paid all their money and did all their trials. So to do these reviews, it usually takes a government organization, some sort of grant funded study, something like that.

The other thing is, each review... like if we talk about Cochrane reviews, Cochrane reviews are done to look at the—like, how high quality is a medical practice? And you can usually trust—if there's been a Cochrane review of a procedure or a medicine or something that says it works, it works. If Cochrane review says it doesn't, it doesn't.

So you can trust these reviews, 'cause they're very intensive, but they—they're very focused. Each Cochrane review just looks at one single thing. It would take a long time to do that for everything we do in all of medicine, so we don't have those for everything, right? They just couldn't exist.

So the other thing is, how do we get this information, right? Like, once something has been proven to be not as effective, how do doctors find out about it?

**Justin:** [pauses] I'unno.

**Sydnee:** Well, uh—

**Justin:** Why are you asking me? Did I listen to this episode? That's recursive watching, Sydnee.

**Sydnee:** I mean, it can be hard! It can be hard to find out... everything moves so quickly. Stuff that I learned in medical school has already been proven false, and then proven true again, and then proven false again, since I graduated. Um, which, uh, is getting longer and longer ago, but it's still not that long ago.

So, things move quickly, and you can read the journals and you can try to keep up, but you can't read every journal, certainly.

**Justin:** Yeah, yeah.

**Sydnee:** You can try to stick to the ones in your specialty and maybe some of the more general ones, but you can't keep up with everything. Uh, a lot of... I know my fellow physicians will go to something called UpToDate, which is up to date information that we have access to—

**Justin:** Good name for it.

**Sydnee:** Yeah. Uh, you gotta pay a lot to get access to it. Luckily our institution does.

**Justin:** I prefer ThatOldJunk, and that's a different one I use, where it's just all outdated, whack medicine that I can get for cheap, and my patients are crazy about it, 'cause of the value!

**Sydnee:** Is that—do you find that it works for you and your patients? In your practice?

**Justin:** I mean, either—

**Sydnee:** Where you practice—what do you do? What kind of medicine?

**Justin:** Either they keep comin' back or they don't. That's kind of my philosophy. [wheezes] Either way, either I make a bunch of money, or I get to go home early and play Halo.

**Sydnee:** More of a—more of a caveat emptor kind of—

**Justin:** Sure. Listen, I don't—I don't speak Spanish—

**Sydnee:** [laughs]

**Justin:** —I'm sorry. I know that makes my practice more narrow. I would love to be—welcome more patients, but I'm just building a practice right now.

**Sydnee:** So, before I get more into why... what are the barriers to all doctors knowing these things as soon as they are proven? As soon as the study is done and we—before I get into that, I wanna talk about some of the examples so that you kind of see what a medical reversal really means. Because it's—

**Justin:** Yes. Put 'em on blast, Sydnee.

**Sydnee:** It's not—it's not like, "Well, it turns out that that surgery I just did on you was totally wrong—"

**Justin:** [laughs]

**Sydnee:** "—and I accidentally made you sicker." It's not like that. I mean, it sounds—it can sound very dramatic, but it's often a lot less, uh, exciting than you would probably want it to be.

Certainly I would think as a—I imagine reporters had a rough time finding things as they looked through this list of 396 practices that would be very exciting to write about, would be my thought.

**Justin:** Right.

**Sydnee:** So when they broke it down, they found that the most common thing that there was a change in was something to do with cardiovascular disease, and this makes sense because we're still understanding, as scientists, as doctors, all of the roots of cardiovascular disease. And you know that intuitively, if you think about how often we change dietary recommendations. Right?

**Justin:** Right, sure, yeah.

**Sydnee:** I mean, we—we lived in a no fat world for a while, and then we realized, "Well, that's not really the problem, carbs are the problem. Sugar is the problem."

**Justin:** Mm-hmm.

**Sydnee:** And now we're moving towards plant-based diets are probably the key?



**Justin:** Maybe? That seems good?

**Sydnee:** That's—that's where the evidence seems point—so it's really hard. I mean, things have changed, and we've gone down weird avenues where we thought like, everybody should drink wine for a while, and that olive oil was the key to success.

So if you think about how often we change dietary recommendations in terms of heart health, then it makes sense to you that we've changed our concept of cardiovascular disease a lot over time.

**Justin:** Sure.

**Sydnee:** We just still have a lot to learn as to the whole process. How it happens and why some people are at higher risk than others. Um, a lot of things with public health and preventive medicine change, uh, and again that just has to do with, you've gotta see what's best for a whole population, and you can't know what's best for a whole population until you try something in a whole population.

**Justin:** Right.

**Sydnee:** Right? Uh, you can't—it's hard to figure that out in a lab. You really need it to be in vivo. Um, and then they also found that the most common thing to be reversed was like, a medication, if we're talking about a type, as opposed to a procedure or a supplement or a device or a whole system.

The most common thing that we found over time was that a medicine wasn't as effective as we had hoped it would be. Um, or as somebody had hoped it would be. I guess the... the pharmaceutical company that made it.

**Justin:** Put 'em on blast, Syd!

**Sydnee:** So—no, I'm not putting anybody on blast! This is how science works. This isn't—

**Justin:** Like what? Tell me about all the stuff that my doctor's been doin' that it turns out was nothing.

**Sydnee:** So, to start with some medicines, 'cause I think most people wanna know what medicines don't really work, there were—

**Justin:** Hold on. Lemme go to the cabinet so I can just start throwing this stuff out as you say it.

**Sydnee:** The—the one example that I already started to talk about I wanna explore a little bit more. There was a study that looked into Zopiclone, which is—

**Justin:** Hold on. How do you spell it? I'm throwing it out.

[quiet clattering]

**Justin:** I'm looking through my bottles to see if I have any.

**Sydnee:** All right—oh, okay. Z-O-P-I-C-L-O-N-E.

**Justin:** Okay, I don't have any of that. We're fine.

**Sydnee:** Okay. Which is a type of medicine for insomnia that—it's very similar to Ambien or Zolpidim.

**Justin:** Okay.

**Sydnee:** Um, and actually some of the study even explored Ambien. The one they focused on didn't, but they—I think you could put Ambien in this same—based on the studies, into the same category.

What they found was that, for insomnia, it's actually not very helpful, and that neither Ambien or this, this other drug, Zopiclone, were better than cognitive behavioral therapy.

And this is—this is a big deal to suggest, that these sleeping pills are not very good for sleeping. It's also—that's a—I would say there are a lot of people, and probably some listening, who would say, "Well, that's not true for me." These medications are widely prescribed. A lot of people take them, and I've observed people—

**Justin:** Fall asleep. In front of you.

**Sydnee:** Fall asleep! [laughs] On Ambien! And so this seemed very counter-intuitive, but what they found is at the end of the day, once you give it to enough people and then you start asking them about their overall quality of sleep, and you look over long term, it's probably not that effective. And it's certainly not as effective as cognitive behavioral therapy that focuses on—

**Justin:** The root problems of the insomnia, right.

**Sydnee:** Yes, exactly. Uh, but you can see why these medicines are still being prescribed. One, CBT takes a lot more time. It is also—is it available to you? Is it something that you can easily access, you know? How much money—does your insurance cover it? Almost never.

**Justin:** And then there's—

**Sydnee:** It's just harder to access.

**Justin:** Then there's the weed connection that—I think that freaks people out. CBT, does it get you high? It doesn't, but it's a very mellow high.

**Sydnee:** Not CBD. Not C—no.

**Justin:** CBT, okay.

**Sydnee:** CBT.

**Justin:** Y'all did that on purpose.

**Sydnee:** Uh-huh.

**Justin:** I know you all.

**Sydnee:** We're just tricking you. Uh, another thing that I found very interesting, uh... so I wear a watch that counts my steps, and I have used apps with which to track my calories, and what they found is that sort of wearable or stuff you would carry you technology to track your movements or your calories or whatever has zero impact on weight loss. [laughs]

**Justin:** Oh.

**Sydnee:** Yes.

**Justin:** Well... but maybe fitness?

**Sydnee:** Well, they didn't study that. I don't know.

**Justin:** Okay.

**Sydnee:** I'm not saying that you shouldn't do it, I'm just saying, if you're doing that in pursuit of weight loss, it—like, right now we don't have evidence that it's gonna help. That's what I'm saying. Which again, doesn't mean it—

**Justin:** That's—there's some specious links though, right? Like... I don't know.

**Sydnee:** Doctors recommend this stuff, and so that's the thing, like, should—

**Justin:** But there's not a great link between fitness and weight loss, right?

**Sydnee:** No.

**Justin:** I mean, that's the bigger thing, right? Like, there's—we don't have a good connection—like, weight loss and fitness, health—

**Sydnee:** Exercise, right, yes.

**Justin:** Exercise, like your physical fitness are different things that we, I think, have tied up as one whole.

**Sydnee:** Right, and we know that health—fitness and health is a distinct entity from weight.

**Justin:** Right.

**Sydnee:** And the two should not be tied together, because there is no ideal weight you need to be to be healthy. You can be healthy at many different weights. You know, those are two different concepts.

**Justin:** Right.

**Sydnee:** I agree completely, but I think if I am a... and I have been this doctor who has said to a patient who's asking me, "How should I keep track of what I eat, or how do I know better what to eat and what not to eat?" And I have shown them apps that they could download. I mean, I have talked to them about this stuff, and that's not evidence based.

**Justin:** Sounds like they're more like craps, Syd.

**Sydnee:** [laughs quietly]

**Justin:** To me.

**Sydnee:** As a scientist, I should do things that are evidence based, not just that make me feel good.

**Justin:** Right.

**Sydnee:** Uh, another thing that I thought would be interesting to people. The use of compression stockings, those like, tight hose that they'll put on you in the hospital sometimes? Some people wear 'em outside the hospital, but you see 'em a lot used in—and this is where this was done.

**Justin:** Sexy and therapeutic.

**Sydnee:** [laughs] What they—they put them on you to try to prevent a blood clot from forming in your leg, and what they found is that when used after a stroke, 'cause we use 'em a lot after a stroke 'cause people are bed bound frequently for some period of time, uh, that they do not reduce the risk of a blood clot, but we still use them.

Now, is this harmless? Probably. Like, is this—for most people this is a very benign thing to do, uh, but I think this would fall into that category of, you don't wanna do nothing.

**Justin:** This is a—when you you were mentioning this to me, this was one of the ones you talked to me about, and it's an interesting thing because it's like, "Okay, well they probably don't help." Well, if you don't use them and then the patient gets a blood clot, you are then, like... it looks bad for you, right? Like—

**Sydnee:** Well, it—they could be, and probably are at many institutions, still considered standard of care.

**Justin:** Right.

**Sydnee:** Standard of care can be... I mean, it's—standard of care is really based on what your institution does and what the doctors around you do and what doctors kind of accept as normal, and doctors would accept this as a normal practice right now, so yeah, it would be really hard to defend yourself if you didn't.

There are other ways, by the way, of preventing a blood clot. I know there are probably medical people listening going, "Well, just do something else!"

**Justin:** Take all the blood out.

**Sydnee:** Wh—no. No. There are blood thinners—

**Justin:** Husk 'em.

**Sydnee:** —there are reasons we—[laughs quietly] No!

**Justin:** We've been experimenting with husking at my clinic—[wheezes]

**Sydnee:** Uh... a couple other things—I don't wanna—I don't wanna get into things that are—a lot of these things get really deep into medical practices, and they're just not—like, for most people it'd be like, "Okay?"

**Justin:** And you may think of it, as a Sawbones listener, you may think of someone who is interested in this stuff. You don't know. You don't know how deep some of these go with Syd.

**Sydnee:** The one that shook me was the use of contact precautions in an ICU. They did a—what they found is they did a study where they looked at, if you wear the—if you've ever been in a hospital you'll see people put on these like, paper gowns and gloves before they go into a room, and we call that contact precautions.

Uh, and we do that to try to prevent especially resistant bacteria, things like MRSA, Methicillin-resistant Staphylococcus aureus, MRSA most people call it, or VRE, Vancomycin-resistant Enterococcus. Things like that, we try to prevent those

very, like... I hate to use the term superbugs, but this is what people call them... superbugs, strong bugs, very resistant bacteria, from spreading, and so we wear this stuff. And what they found is that it didn't help.

**Justin:** Oh no!

**Sydnee:** It didn't do anything. And we have these paper gowns all over our hospital, and we have to wear them so much, and they're such a pain in the butt, and everybody hates 'em, but you get in trouble if you don't wear 'em so everybody wears 'em, and then they did a study that said they probably don't help.

**Justin:** Oh no!

**Sydnee:** But again, what if we just stopped? People are still gonna get MRSA.

**Justin:** Right.

**Sydnee:** So right now I don't see that as a practice that's gonna stop.

**Justin:** Yeah. Well, I'm sorry that... [sighs] everything you learned is... I guess we're kind of on an even playing field again, if you think about it.

**Sydnee:** There—and the—

**Justin:** We're kind of like, even, with the amount of stuff we know, 'cause like, the stuff you knew, turned out that was all wrong. I never learned it in the first place. I've almost got a leg up, blank slate. [laughs] Did you think about that?

**Sydnee:** Uh, I didn't think about that.

**Justin:** It's a different perspective on it that I bring.

**Sydnee:** No, that's true. Well—

**Justin:** Well, that's the kind of fresh perspective I bring.

**Sydnee:** Yeah.

**Justin:** An institution like yourself, somebody who's part of the institution—

**Sydnee:** Uh-huh.

**Justin:** —uh, wouldn't be able to see it that way. Fresh—fresh eyes, fresh thinking.

**Sydnee:** I wanna—I wanna talk a little bit more about this and why it takes a while for this information to sort of disseminate through the medical community, and also I wanna reference that this is not the first time a study like this has been done, so this is—while this sounds very dramatic and exciting, this is—this is just the process. But before we do that... let's go to the billing department.

**Justin:** Let's go!

[theme music plays]

**Justin:** Friends, uh, last weekend we were at the jewel of... Midwestern Ohio.

**Sydnee:** Great Wolf Lodge? [laughs]

**Justin:** Well, King's Island, Great Wolf Lodge. The—the complex, if you will. Uh, King's Island. And you know what I, uh—you know what kept me safe? These beautiful peepers of mine, kept them safe and comfortable the entire time? Well, my Shady Rays, of course.

**Sydnee:** [laughs]

**Justin:** Are these Shady Rays? Who wants to know? You do, listener. Uh, these are sunglasses that don't cost a bajillion dollars. They have a warranty that if you lose 'em or break 'em, no matter what happens, they're gonna fix you up, and with every order, they're going to donate 10 meals to fight hunger in America. Um, you'll really like the look of these sunglasses. It's an independent company. They're not owned by Big Sunglass.

**Sydnee:** [laughs quietly]

**Justin:** Which I know is a concern for all of you who don't want to further fund the sunglass industrial complex. Um, and—I mean, you really—you're gonna love the price. You're gonna love the—the great deal that we have to offer you, and I'm gonna pitch it to you now, and make sure you're sitting down, and make sure



you have other bad sunglasses, because you're gonna wanna lower 'em down your nose and go, [deep voice] "Oh my." When I tell you this deal.

**Sydnee:** And then you're gonna wanna take 'em off and throw 'em out the window.

**Justin:** Take 'em off and throw—keep lowering them til they fall off your nose and into a waiting trash can.

**Sydnee:** And never wear them again.

**Justin:** Go to Shadyrays.com and use the code "sawbones" for 50% off two or more pairs! Buy one, get one free.

**Sydnee:** BOGO!

**Justin:** BOGO, baby! Two pairs for \$45? yeah, you can do that there with this deal. So go to Shadyrays.com, use the code "sawbones" for 50% off two or more pairs. Get the newest, best looks there at Shady Rays.

We take pills to make our bodies safer, but what pills can we give our computers to make them safer? Well, I'd like to consider Dashlane. It's—

**Sydnee:** This is a rough one. [laughs]

**Justin:** It's like medicine for your computer. Are you worried about losing access to accounts, having weak or reused passwords? Worried about somebody monitoring your internet history? Worried about your data getting hacked? You—

**Sydnee:** Well, now I am! [laughs]

**Justin:** [loudly] You should be! 'Cause I'm saying it with increasing volume! You don't need some weird, uh, you know... a weird batch of different software from different disreputable dealers. You just get Dashlane.

All you gotta do is download it, and you don't have to worry about online security issues ever again. Did you hear about that big new tech company hack? Did you hear that Woof [wheezes] got hacked? Well, you don't have to—

**Sydnee:** I didn't hear about that.

**Justin:** Yeah, Woof got hacked, but Dashlane is gonna tell you if your data is ever compromised. You have access to all your passwords on any device. There's a basic free version that you can do, but Dashlane premium has all the above features, and it's cheaper than most VPNs. That stands for... Virtually Private... Net... work. I bet.

**Sydnee:** [laughs quietly]

**Justin:** Or standalone security services. Get peace of mind, knowing that Dashlane is actively protecting you from every angle. That's right, it's the medicine of computers. I'm gonna keep going with it. It makes it—the more that I read about it—

**Sydnee:** It—no, mm-mm.

**Justin:** —vaccines? Is it a vaccine?

**Sydnee:** S—yeah?

**Justin:** Is it a bodyguard? Anything safe and good—whatever safe and good associations you have, now attach them to Dashlane.

**Sydnee:** It's like wearing a helmet when you're riding a bicycle.

**Justin:** Go to—on the internet. Go to [www.dashlane.com/sawbones](http://www.dashlane.com/sawbones) to get a free 30 day trial of Dashlane premium to try these features in action. If you like it, use the coupon code "sawbones" at checkout for a 10% off discount. That's [www.dashlane.com/sawbones](http://www.dashlane.com/sawbones). Put a helmet on! It's the internet.

**Sydnee:** [laughs]

**Justin:** [quietly] Is that something? Is that anything? It feels like it's something.

**Sydnee:** So Justin, I wanna talk about a few more of these, uh, these medical reversals before we discuss this further, 'cause there were just a few more that I thought were interesting.

Um, as I said, this was not the first time a study like this had been done. The same group of researchers who did this, uh, "Comprehensive review of

randomized clinical trials in three medical journals reveals 396 medical reversals." That's a na—that's a cumbersome name for an article title.

**Justin:** Mm-hmm.

**Sydnee:** But, this is science. It's actually much less cumbersome than the majority of them, I would say. They previously, just a few years ago, did another one where they had about 150 or so, I think, in that one. But same idea. So, I mean, this isn't a new—we're constantly reevaluating the things we're doing. Uh, some interesting things that they'd found more recently, or in the recent past... so, you know how sometimes in health class they'll try to teach you about teen pregnancy by giving you a doll? Like a—like one of those dolls that cries and pees and—

**Justin:** Yeah, My Real Baby or something.

**Sydnee:** Something to like, take care of, and it's a way of trying to like, scare you to not have a baby before you're ready. Those don't work.

**Justin:** Oh no!

**Sydnee:** They are no—they are not effective—

**Justin:** 'Cause you have so much fun taking care of the baby doll—

**Sydnee:** —in lowering the rate of teen pregnancy.

**Justin:** —and then they just think, "I can handle it."

**Sydnee:** Well, I'm not saying they increase the rate of teen pregnancy—

**Justin:** They do. They're very romantic. [laughs]

**Sydnee:** —but they do not decrease, which, you know... which you think like, well, what's the harm? Well, I mean, that's money, and goodness knows our public schools don't have enough money, and we're gonna spend money on a bunch of dolls for them to take and it didn't do any good, so like... you know, we could talk about sex more, in a frank, open way.

**Justin:** Yeah.

**Sydnee:** That might be a better—

**Justin:** That's a good option, too.

**Sydnee:** —better route to go, um, and less expensive. [laughs]

**Justin:** Mm-hmm.

**Sydnee:** Uh, but some other things that... I think it's interesting, 'cause when you hear about some of these other things that are even just a few years older, this is stuff... even if you don't know this, even if as I'm saying it, if you are outside of the medical field, you might hear these things and go, "I don't—is that—what are doctors doing? I don't know."

I, as a physician, read some of these and thought, "Oh, well I know this. This is—well, of course that was a reversal. We do this—the new thing now."

**Justin:** Right, right.

**Sydnee:** For instance, it was just a few years ago that they kind of reevaluated their position—our position as physicians on how, uh, intensively we should control glucose for a diabetic patient.

**Justin:** Okay.

**Sydnee:** There was a push for a while to like, get those numbers as close to normal as possible, and what we found after doing a lot of research, is that if you are too intense with your attempts to control glucose, you actually do more harm than good.

**Justin:** Hm! That's interesting.

**Sydnee:** You're not improving their outcomes, and you are increasing the risk that they'll have a low glucose episode, hypoglycemic episode, which can be much more dangerous, acutely. So, uh, so there was a lot of information given to doctors to like, maybe just ease up just a little. That doesn't mean like, "Eat more cakes."

**Justin:** Right.

**Sydnee:** [laughs]

**Justin:** It means, "Doctors, chill out a bit."

**Sydnee:** "Chill out a bit." Um, maybe our goals don't need to be quite so regimented, because we're not actually helping people with these goals. Um, there—something like a prostate exam...

**Justin:** Mm-hmm? [pauses] Is good.

**Sydnee:** You're familiar with the concept of a prostate exam.

**Justin:** Oh, yeah. That's where they... go check the... no no zone... with their hand, or tools, and look for a prostate, to see if you—

**Sydnee:** There were so many different things wrong with that, on different levels. I'm just gonna let you—I'm gonna stop you before you do more harm. [laughs] I took an oath.

**Justin:** To first, do no harm?

**Sydnee:** [laughs] And I'm gonna stop you at this moment.

**Justin:** That counts enabling me to do harm, I think. Is part of that.

**Sydnee:** Mm-hmm, yes. I just—I shouldn't have asked. So, we can examine a prostate, for those of you have one, for prostate-having folks, we can examine them in different ways. Uh, there is the digital rectal exam, where you insert a finger into the rectum and feel the prostate.

**Justin:** Mm-hmm.

**Sydnee:** Or, you can—

**Justin:** The subject of all—of so many great stand up comedy routines. [snorts]

**Sydnee:** It really is. Uh, or you can do a blood test. A PSA is what it's called, Prostate-Specific Antigen. You can do that, too, and they're both used sometimes.

But what we found is that just routinely doing these tests on everybody probably doesn't help at all.

**Justin:** Hm!

**Sydnee:** So, the idea that—

**Justin:** Wh—how could that be? How does—how does it not help at all?

**Sydnee:** Well, so this is an interesting thing we've learned. The more we learn about certain types of cancer, the better we are at managing them, because specifically when it comes to prostate cancer, it... and this is not across the board, this is a generalization. This is, again, statistically, in many, many patients, it's so slow growing that you're actually more likely to die with prostate cancer than of prostate cancer.

**Justin:** Hm! Wow, okay.

**Sydnee:** Uh, because of the age that it affects most people who get it, and how slow it can move, in many cases we're better off not being very aggressive. Um, that's one thing that changed our monitoring. Two, the digital rectal exam is difficult to perform well every time.

**Justin:** Hm.

**Sydnee:** You're just kinda blindly feeling around, and unless you feel, like, a distinct hard mass on the prostate, you're kinda guessing. Like, is it bigger—I mean, and they just found, doctors in general are not very good at it. Certainly there are probably some who are better than others, but generally, doctors just aren't very consistent with their findings.

**Justin:** You know, when—when somebody is putting their finger in your b-hole, the thought that I think I would have is, "I bet they're good at this." [wheezes] "I bet—I know this is, um, unpleasant for me, but I bet this is a talent of theirs that they are skilled at, and this is very necessary and important."

**Sydnee:** Th—and—and please let me underline—

**Justin:** [loudly] "Certainly they wouldn't—"

**Sydnee:** [laughs]

**Justin:** [loudly] "Certainly they wouldn't insist on me taking down my pants and putting the fingers in my butthole if it wasn't very important and w—and thoroughly tested."

**Sydnee:** [laughs quietly] Here's the problem. I'm not—I—

**Justin:** [loudly] Oh, I know the problem, Sydnee!

**Sydnee:** And I'm—and this is why I'm being very careful about how I'm saying this. I am not saying that no one needs a prostate exam. They can be very beneficial, in the right patient in the right situation, performed by the right physician—

**Justin:** With the right delicate fingers.

**Sydnee:** I'm j—I'm just saying—

**Justin:** Knowing, probing fingers.

**Sydnee:** —that just every doc across the board doing routine prostate exams as part of their well, you know, preventive health checkups, I should say, like a well visit, you know, a preventive visit, has not been proven to improve outcomes when it comes to prostate cancer.

Uh, that is what I'm saying, so there are certainly doctors who do a lot more prostate exams, and they're probably better at it, 'cause they do so many more, the experience helps. Uh, so again, this is not me saying "Never get a prostate exam." If your doctor suggests you might need one, then you probably need one!

**Justin:** Go for it, yeah.

**Sydnee:** And I would talk to them about it, and... but if your doctor isn't doing one on you, uh... I mean, certainly ask. Always ask. If you have questions, always ask, but it doesn't necessarily mean they're neglecting an essential part of your health. You just might not be in a group that statistically would benefit from those exams. Um, without symptoms.

Uh, and there are many—I could keep going. There's a huge list of all these different things that they discovered. Um, and like I said, these are things that I know. These things I'm listing right now... we've already made these changes. So yes, these were reversals, but they have drifted throughout the medical community, and people know.

Um, the big cholesterol drug Zetia was on the list. You probably saw the commercials for Zetia.

**Justin:** Is it the one where the people look like eggs?

**Sydnee:** Yeah, you could've gotten it from—you—maybe you have high cholesterol from eggs, or maybe you have it from uncle Egbert, or something.

**Justin:** [laughs]

**Sydnee:** They're trying to tell you that like, cholesterol comes from both food and genetics, is the point, I think.

**Justin:** Right.

**Sydnee:** But the—their big point is, "Buy our—buy Zetia." Uh, it really was not very effective. And the thing is, this was one of those cases where the randomized control trials proved it, but I gotta tell you, if this brings you any comfort, many of us physicians already knew that, and weren't using it widely. Um, one, 'cause it was expensive and brand name, and two, 'cause it wasn't effective.

**Justin:** Yeah.

**Sydnee:** So it—and I'm not saying... again, this doesn't mean that in every single patient it's utterly ineffective, but it means broadly prescribing it to everybody is not gonna help people. I mean, that's not a good idea.

**Justin:** Well, why is—why is this bad? I mean, what is it—how is it hurting us?

**Sydnee:** So, part of the way that this is hurting us, because many of these things that I've said are benign—not all, but many—is the cost. So, there was a study in 2014 of 26 different low value services that were provided through



Medicare. The reason they did that is 'cause it's a lot easier to... Medicare collects a lot of data. It's a lot easier to analyze if you go through something like Medicare.

But the estimated spending on low value services, meaning services like the ones that I've mentioned that could well be reversals, was between 1.9 and 8.5 billion dollars in 2008 to 2009 alone.

**Justin:** Mm-hmm.

**Sydnee:** That's... a lot.

**Justin:** Yeah.

**Sydnee:** A lot of money.

**Justin:** That's a lot a lot.

**Sydnee:** So one, we spend ridiculous amounts of money on healthcare in this country, especially when you consider the outcomes that we get for that. You know, how many people still don't get proper care. Uh, and this is money that we shouldn't be spending, really.

So cost is a huge problem, and then you get into the—I would say the more immediate concern, for me and you, which is some of these things could do harm, so—putting compression stockings on somebody whether or not they need them, or wearing a paper gown when I go into a patient's room to protect them and me from spreading bacteria, those aren't harmful things, inherently. They will be benign. Maybe a waste, but not... right? I mean, like, it's not dangerous. But when you do talk about some of the medications, they do have side effects.

**Justin:** Sure, right. Uh, or they're contraindicated, is one thing I like to—I know what that means, so.

**Sydnee:** That is. And I would say, there aren't a lot of these reversals where they found medicines that were, "We gave you something to try to fix it and it actually made it worse."

**Justin:** Right, right.

**Sydnee:** I mean, that's not really what we're talking—we would've figure that out.

**Justin:** We're mainly talking about inefficient...

**Sydnee:** Yes. That maybe it works in so few people that you would have to treat so many people to see any statistical benefit. 'Cause again, I'm not saying that... you know, Ambien works for somebody, probably.

**Justin:** Sure.

**Sydnee:** It just doesn't work for as many people as we hoped. Um, why does it take this long, though? Why does stuff... I mean, 'cause you know we do all these clinical trials and the FDA has to approve meds and devices and blah blah blah, so like—

**Justin:** I mean, I guess—I have a guess. Is it money?

**Sydnee:** Money's a big—a big part of it. If you look at like, who funds the trials where they found reversals, who funds the research that checks the research—

**Justin:** A competitor? [snorts]

**Sydnee:** Non-industry sources.

**Justin:** Yeah.

**Sydnee:** The vast majority are non-industry.

**Justin:** Like what? Like the government?

**Sydnee:** Like the government.

**Justin:** Yeah.

**Sydnee:** So what you need is you need somebody who doesn't have a vested interest in making money off of something to tell you whether or not it works. I know. Surprise, surprise. And I'm—again, I'm not saying that pharmaceutical companies are all lying. I'm just saying that if you really want a non-biased view of whether or not a drug works, you probably need somebody outside the pharmaceutical company to do that study.

**Justin:** Yeah!

**Sydnee:** Um... but most of the time, most of the time if they say it works, it works, but there you go. Uh, the other thing is dissemination of information. We're getting better at stuff. Things are changing, I mean, daily. It's very quick, that something that was effective isn't, or now we have something better, or, "Oh, turns out we shouldn't do that anymore."

**Justin:** You all are busy! I mean, you got patients to see, and you got, uh—you got all the—all kinds of stuff to keep track of. It's tough to just, you know, look at the latest trends in pills.

**Sydnee:** Well, I mean, that's part of it. When we're taking care of people, we can't be reading journals.

**Justin:** Right.

**Sydnee:** And I think if you're the patient, you want me focused on you and not a journal, at that moment. So there's a lot of journals to read. There's tons of articles to read. Research is changing every day. You know, the data changes every day. We're constantly trying to keep up, and then it's, who is—where is the information being published? You get into a lot of politics where like, journals are publishing—what articles are they publishing, and how big were the studies, and who is behind it? It's just sometimes hard to disseminate that information quickly.

**Justin:** I got a solution to this.

**Sydnee:** What?

**Justin:** So, you—what you do is when a patient shows up for their appointment, you hand them one new journal article—

**Sydnee:** [laughs]

**Justin:** —and have them read it for comprehension, get it to a point where they understand it really well, and then as they're making small talk with the doctor, they just drop the facts in about their one journal article that they read. So like, while you're treating the patient you are also learning from the patient who just read this one journal article.

**Sydnee:** Do you think, as a patient, that you would enjoy that?

**Justin:** Yes.

**Sydnee:** Really?

**Justin:** Yeah. To—being able to help, you know, shape the... the future of medicine? That's—that's heady stuff.

**Sydnee:** Well, hey! I mean, I don't mind this plan. I—I'm behind it, 'cause it really—that's part of it is just trying to keep up with the constant influx of information.

**Justin:** Maybe they can print it on a shirt that the patient is wearing. So as you're doing the checkup—

**Sydnee:** Okay, now I think we're getting carried away.

**Justin:** [laughs]

**Sydnee:** That—see, now I think things are getting out of hand. Uh, and you know the other thing that makes it hard is if we're talking about something where we have found a treatment and we have nothing else, even if it's not—even if we know it's not the most effective thing, if it does anything, that feels better than doing nothing in the face of disease. And I think that's a very human impulse, and I think, honestly—which is why we all need to be more open and talk about these things. Not doctors, patients, too.

Like, we need to tell patients this. "I don't know that this is gonna help you, but it's all I have, and if you wanna try it, let's work together. Let's give it a shot. I have some evidence that says maybe it would help a few people, but I got a lotta evidence that says it's not as effective as we wish it would be, but this is what we have."

I mean, I think the more transparency and the more open you are about these conversations, then you don't get hit with a news article, a news story like these, that can be very disturbing, that tell you that your doctor is doing 400 things to you that don't work and you don't know about it.

Um, 'cause it's ne—if you take one thing from this episode, that's what I wanna get across, is that it is not that doctors are doing a bunch of stuff and have no clue, you know, that it didn't work. It's just that science is constantly changing and we're reevaluating. And if you challenge your physician with many of these

things, they probably already know that, and they're not doing them, and they probably don't apply to you anyway. [laughs] They're 400.

**Justin:** That's reassuring. Uh, folks, thank you so much for listening to our program this week. We hope you've enjoyed yourself. Um, we, uh... we sure have enjoyed having you. Here. On the show. I mean, well, you're not on the show with—you know what I mean.

**Sydnee:** Yeah!

**Justin:** Appreciate you.

**Sydnee:** Yes,

**Justin:** Appreciate you joining us.

**Sydnee:** And this is one of those episodes that I hope inspires you to ask your doctor questions. You know, I mean, always ask questions. I never mind being asked questions. It doesn't hurt to say, "Hey, tell me about this pill I'm taking, or tell me about this pill you want me to take. Let's talk about it." Ask your questions.

**Justin:** July 16<sup>th</sup>, 17<sup>th</sup>, and the 19<sup>th</sup>, I'm gonna be on the road on tour with my lil brother Griffin, talkin' about The Adventure Zone graphic novel as part of our lil book tour. Um, I'm leaving my family, so please don't let my sacrifice be in vain. Come out and see me. Go to [bit.ly/becomethemonster](https://bit.ly/becomethemonster), or [mcelroy.family](https://mcelroy.family) and click on "tours" and you can find those and a lot of other shows that are, uh, coming up in the near future!

So, we have a book called The Sawbones Book that you can buy.

**Sydnee:** That is accurate.

**Justin:** It is accurate. Uh, it is a very good book that we wrote, and Sydnee's sister Teylor illustrated, and it's good! Lots of pages in this one. Thank you to The Taxpayers for the use of our song Medicines as the intro and outro of our program, and thank you to you for listening! That is going to do it for us for this week. So, until next week, my name is Justin McElroy.

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

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

[theme music plays]

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