

## **Sawbones 219: Yet More Medical Questions Answered**

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

[theme music plays]

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

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

**Justin:** Sydnee, welcome to the program.

**Sydnee:** Thank you.

**Justin:** It's been a long time since I've welcomed you to the show, so I wanted to make sure you knew you were still welcome.

**Sydnee:** Oh, well that's nice. I mean, I do feel like I'm welcome, because I kinda—I mean, to be fair, it's kinda my... my show more than yours, really?

**Justin:** Yeah, I reached out to some other doctors just to see if there's just, like, any sort of interest, and just no responses.

**Sydnee:** Oh you have, have you?

**Justin:** Yeah. Other kind of doctors, like Dr. Feelgood. You know that guy? He's probably got some stories. Love to chat with him. Dr. Oz.

**Sydnee:** So maybe I should start reaching out to some other people who know absolutely nothing about medicine and see if they wanna...

**Justin:** Good luck. Good luck finding anyone that knows as little about medicine as I do.

**Sydnee:** [laughs]

**Justin:** You'll never find that.

**Sydnee:** That's fair.

**Justin:** Um, so what are we doing this week, Syd?

**Sydnee:** Well Justin, I thought it was about time for us to do another question and answer episode, because—

**Justin:** Oh, fantastic. I think these are probably—you know what I'd label these? Public service. That's what I'd label these. A service we do.

**Sydnee:** [laughs] Well, I think they're fun.

**Justin:** A service with ads in the middle.

**Sydnee:** And let me say, as always, these are not meant to be medical advice episodes.

**Justin:** My dad already said that.

**Sydnee:** Right. Well, I just like to clarify, because we're saying it's a question and answer episode.

**Justin:** Right.

**Sydnee:** These are more kinda your wacky medical slash science questions just out of interest. Common interest.

**Justin:** Not anything you should act on.

**Sydnee:** No. No, as always, if you are seeking true medical advice because of a problem you're having, please go see your physician.

**Justin:** Yeah. So, here is our first question. Sydnee, are you ready?

**Sydnee:** Yes.

**Justin:** "Does gasoline do anything to inhibit inflammation when applied to a bee sting?" That's from Jessica.

**Sydnee:** This is a great question, because I will see... I have personally, and then I have heard many stories of patients putting gasoline, or kerosene is the other big one, on bee stings, poison ivy, any kind of insect

sting or bite, you know, spider bites or mosquito bites, or anything. I see that a lot. And I'm fascinated by it, because I don't know where these ideas originally came from.

**Justin:** Mm-hmm.

**Sydnee:** I think they're more of a—like, I have tied them to our area, to our region, because I see them a lot in some of the more rural populations in Appalachia, but I don't think that's necessarily true. I think this is widespread.

**Justin:** We don't know where Jessica lives. She could live next door to us. We're fairly insular people.

**Sydnee:** That's true, that's true. But I realize as I've read about this, this is not just a local phenomenon as I assumed. But let me tell you... gasoline will probably not help your bee sting.

**Justin:** Oh man! I mean, that's what I predicted, but it's such a bummer to find out that's true.

**Sydnee:** I started—

**Justin:** What am I gonna do with all this gasoline?

**Sydnee:** [laughs] I started reading to figure out why that thought process is there. And for a lot of people, it hinges on the ethanol that is present in gasoline. The belief that ethanol will somehow reduce the inflammation, and that that's the active ingredient that you're actually getting to benefit from. The problem with that is two-fold.

One, I have now read a lot about ethanol in gasoline in the United States. In every country, it's different, so depending on where you are, there's a different amount of ethanol in your gasoline. And in the United States, it's up to 10%.

So, that is intentionally vague. I have no idea how much ethanol is in the gasoline that you're putting on your bee sting. You don't either. We don't know. The government doesn't want us to know. That being said, ethanol doesn't reduce inflammation. It could kill germs, I guess.

**Justin:** Yeah.

**Sydnee:** It could disinfect it. Alcohol does that. But I don't know why gasoline would be your chosen vehicle.

**Justin:** Yeah, you could do, like, rubbing alcohol, right?

**Sydnee:** Right, there are lots of ways to get alcohol onto your skin.

**Justin:** Everclear.

**Sydnee:** Yeah. Maybe just vodka, if you have it, or something. Because, I mean, if you're thinking 10% ethanol in gasoline versus 30, 40% alcohol in, like, any liquor you have on your shelf...

**Justin:** And it's all just so flammable. I mean, like, it's just all of it is highly inflammable.

**Sydnee:** [laughs] There's the other thing. You could accidentally catch yourself on fire.

**Justin:** That.

**Sydnee:** So, gasoline won't help your bee sting, and... it may catch you on fire.

**Justin:** Ethanol—does the ethanol work, though?

**Sydnee:** Like I said, ethanol can—I mean, it kills—alcohol is commonly used in hand sanitizer and other things to kill germs, right? To kill bacteria on our hands. And so, ethanol can clean. If you're worried, like, your bee sting is dirty. [laughs] It might help clean germs out. I don't know why you're worried about that. But no, it's not gonna do anything else. It's not gonna reduce inflammation, it's not gonna fix the bee sting.

**Justin:** This next question I have for you, Syd, we kind of already know the answer to, because we dealt with it briefly in last week's episode. But I'm gonna ask anyway. From Deanna, is it possible to get a disease you have been vaccinated for?

**Sydnee:** Well, Deanna, yes, it is. As I mentioned last week...

**Justin:** You proved, scientifically, during your experiment, Sydnee gets the flu.

**Sydnee:** [laughs] I wanted to make sure that I understood this problem fully, so I got the flu vaccine and then I did, in fact, get the flu. Yes. I wanna preface by saying, vaccines are amazing. They are a triumph of the human will, and I will never be on the opposite side. I don't ever want to be accused of slagging off vaccines.

**Justin:** Okay.

**Sydnee:** Okay? But the truth is, no, they're not 100% effective for every person in every disease case. Obviously, they're not. The flu vaccine is a great example.

While the speculation about the 10% effectiveness in the US is not true, it probably is higher than that at the end of the day, it's not 100% effective. And you can still get the flu even if you've been vaccinated for it. The reason for that, and we've kinda talked about this before, is how a vaccine works.

So, generally speaking, a vaccine has a piece of a bacteria or virus in it that your immune system gets exposed to that, and then you start generating antibodies against it, right? So that when you get exposed to the actual virus or bacteria, your body already has the army in place to fight it.

**Justin:** Correct.

**Sydnee:** And you don't get sick.

**Justin:** Understood.

**Sydnee:** That immune response, while we can generalize what it will be for most humans, it's not—everybody's not the same. So, in people with certain disease states or immunodeficiencies or on certain drugs or just certain genetic makeup, they might not respond. In which case, you got the vaccines, but your body never made that army. So, when you get exposed to the disease, you still get it.

**Justin:** But sometimes your body makes, like, a crappy army. Like, a rag-tag band of, like, The Expendables, except, like, bad. A bad army.

**Sydnee:** How does that—what? [laughs]

**Justin:** Well, cause then it's like, it sort of helps, but it doesn't.

**Sydnee:** Yeah. I mean, like, if you're talking about some cross-reactivity, it made an army that really wasn't fit for that invader, but they're gonna do their best anyway.

**Justin:** They hired, like, the Marines, but then the disease came via air, and the Marines were like...

**Sydnee:** "Oops."

**Justin:** "I don't know." I guess I should say that—

**Sydnee:** "We'll do our best from..."

**Justin:** No, they probably all have planes. I don't know anything about the armed services, I'm sorry. But like, if you know about the armed services, you can fill in the blank.

**Sydnee:** I mean, I think the army now, because—I think the Army would have been a better choice?

**Justin:** Yeah, but see, like—

**Sydnee:** Because now the Air Force is sep—because it used to be the Army Air Corps, but now it's the Air Force, so is there separate...

**Justin:** Don't...

**Sydnee:** I have no— we don't know.

**Justin:** Don't know. Don't know.

**Sydnee:** We don't know. Anyway, the point is, no, vaccines are not 100% effective in everybody. That doesn't mean you shouldn't get them, because they work in most people. And... why not?

**Justin:** Yeah, why not? It's like five minutes at Rite Aid, just go get it and move on with your life.

**Sydnee:** Go get your vaccines. They're still—unless your doctor has told you not to for some reason, they're very important. And if you're worried as to whether or not you got an immune response, and most people don't do this, let me say this, this is not standard practice.

But for myself as a physician, I had to go get antibodies titers drawn. Meaning they took my blood and they looked to see if I had made the response I needed to certain diseases before they let me start practicing medicine. Because if I didn't have that antibody response, they would have given me booster vaccines to try to get my body to respond.

So, there is a way to find out, but that's not, like, a standard thing. I'm not saying go ask your doctor for antibody titers, not everybody needs those. And they're really expensive.

**Justin:** I have a question for you, Sydnee.

**Sydnee:** Yes.

**Justin:** Well, Stanley does, and I'm conveying it to you, because we're in the same room.

**Sydnee:** Okay.

**Justin:** Why does chemo cause hair to fall out?

**Sydnee:** This is a good question, and it's—

**Justin:** Thank you so much.

**Sydnee:** [laughs]

**Justin:** I am actually gonna take credit for it now. If it's a good one, it's mine.

**Sydnee:** Oh are you? No, this is a good question, and this is a common question, actually. So, there are certain—not all chemotherapy will cause your hair to fall out, that's an important thing to know first. But there are many chemotherapeutic agents. Generally, I mean, we're talking about treatments for cancer, that can make your hair fall out. And not just the hair on your head. Your eyebrows, your eyelashes, your hair on other areas of your body can fall out as well.

The reason for this is the way that these drugs work. Chemo drugs – not all of them, but the ones we're talking about – tend to target fast-growing cells. And that is because cancer cells are fast-growing cells. Now, the problem with that is that there are other fast-growing cells in your body

that aren't cancer cells. The cells at your hair roots, those are fast-growing. The cells that line your GI tract are fast-growing.

So that's why, when you're on certain chemo drugs, you can see side-effects like hair loss, because those cells are being damaged. Or nausea, vomiting, diarrhea, because the cells that line your GI tract are being damaged. So, it's an unfortunate kind of collateral damage that is happening as we're trying to target the cancer cells.

That being said, most of the time, these side-effects are transient and your hair will grow back after you complete the chemotherapy.

**Justin:** Okay.

**Sydnee:** So, for most patients, this is something that, while it can be very life-altering while you're dealing with it, is a time-limited thing. And hopefully, if the chemo drugs do what they're supposed to do, will be worth it in the long run.

This is also why cancer researchers are constantly working to come up with new drugs that are more targeted and less toxic, so that there won't be so much of a trade-off for cancer treatment.

**Justin:** So, okay. Well, I understand that now. Wow, man, it's nice to have one that I can actually, like... really get.

**Sydnee:** It was a relief when I learned that in med school, because I found it very, "Okay, I understand that."

**Justin:** Yeah, that makes sense.

**Sydnee:** There are so many things you learn in med school and they say it and you're staring at them going, "I heard all those words, but I don't understand what you just said," and it was one of those things where I went, "Oh, okay."

**Justin:** That's weird. That must be a weird feeling. I've never actually experienced that while recording Sawbones. But I can imagine that would be very disconcerting, to have the feeling that you're hearing a lot of words that you may not completely understand.

**Sydnee:** It's hard. I mean... [laughs]



**Justin:** Yeah, I can imagine. It's chilling.

**Sydnee:** You're never experienced this?

**Justin:** Mm.

**Sydnee:** Never?

**Justin:** Mm.

**Sydnee:** Never?

**Justin:** Next question, next question.

**Sydnee:** [laughs]

**Justin:** "Would a person with situs inversus—"

**Sydnee:** Speaking of words you don't understand.

**Justin:** [laughs] Alright. Alright, Smirl. Alright. You can just pipe down, let me do my limited portion of the program.

**Sydnee:** [laughs] Uh-huh. Uh-huh.

**Justin:** "—situs inversus require a donated organ to also come from a situs inversus donor?"

**Sydnee:** And that's from Jen.

**Justin:** Jen. Now, pretend that the audience... I mean, the audience doesn't know what situs inversus is. Obviously I do, but...

**Sydnee:** [laughs]

**Justin:** I would rather you explain it, because I kinda have my own way of understanding it, and I think your perspective would probably be better. And I don't wanna embarrass you if mine is like... really good.

**Sydnee:** This is one of those where the words may sound difficult to comprehend, but when I explain it to you, it's actually pretty easy to understand. Situs inversus, or situs inversus totalis, sometimes it's called, is simply the reversal of several of your internal organs, so that they are positioned mirror image to where they are in most humans. So your

heart, your lungs, your liver and your digestive organs are just flipped to the other side.

**Justin:** Okay.

**Sydnee:** They're just opposite of where they are in most people.

**Justin:** Okay. And that works?

**Sydnee:** Yeah, it still works. Everything works, it's just on the opposite side.

**Justin:** Okay.

**Sydnee:** And when we're talking about—there are other conditions where this can also be associated with them, and there are other issues there, but if we're talking about just purely situs inversus totalis...

**Justin:** [whispers] Why would that happen?

**Sydnee:** It's just random.

**Justin:** That's so weird.

**Sydnee:** They're not even sure if it's hereditary. They've seen some familial, kind of, cases. Like, it seemed to run in families. But not always. So... it just happens.

**Justin:** I mean, like, it's...

**Sydnee:** A change in embryonic development.

**Justin:** Yeah, or like, if you're kind of a higher power person. Maybe God's just like, "Hah, check this out. Nothing but net. No luck. Behind the back."

**Sydnee:** [laughs] I mean, if that's the case, I can only imagine it's just to mess with doctors who are gonna do x-rays of you someday and then go "Whoa, whoa, whoa... ooh."

**Justin:** "It's not there! What's up, I moved it! This one's backwards!"

**Sydnee:** And this is actually—[laughs] In the case of pure just situs inversus, there would be no reason to know, necessarily, that this was

true for you unless you just randomly got an x-ray or a CAT scan or some other kind of image, and the doctor went, "Whoa, hey, everything's flipped."

**Justin:** "Something's wrong with my machine."

**Sydnee:** Yeah. You may not, I mean, there is no reason to believe that this condition necessarily has any kind of pathology related to it.

**Justin:** Okay. What does that, what do you mean by that?

**Sydnee:** It means it doesn't cause you any harm, necessarily, to have this. It just is something that's good to know, because when your doctor starts, like, examining your liver, you can tell then, "Hey. Hey buddy. It's on the other side."

And then they'll look at you and say, "No, no, no, I'm sorry, your liver's on this side." And then you say, "No, no, no, I've got situs inversus," and then your doctor's like, "Whoa! Mind blown."

**Justin:** "Cool! I'm gonna get everybody in here."

**Sydnee:** [laughs] So, here's the thing: most of the time, it's caught incidentally. Now, in this particular question, it's interesting, because the thought would be, if everything's reversed... I mean, the organ is still the same, so it works the same. But all the, to put it in a term I think we could understand, all the hook-ups are in different places.

**Justin:** Right.

**Sydnee:** Right? From where most people's would be. And so, if you're talking about transplant, that provides a lot of extra challenges.

Specifically, I wanna focus on the heart, because this is what I found some cases of, are heart transplants for these patients. And actually, you can have just isolated where the heart is flipped. It's called dextrocardia. The heart is just flipped around, which is a whole other thing.

But anyway, if you have situs inversus and you need a heart transplant, if you had to wait for a situs inversus donor to give you one, unfortunately that's a pretty dire... that's a dire picture we're painting.

**Justin:** Yeah, that's quite a random chance.

**Sydnee:** This occurs in about one in 10,000 people, and so the chances that you're gonna get a donor in that case are pretty slim. So no, you don't have to wait on a situs inversus donor, but it does make the surgery way more complicated, because they have to figure out how to hook up all those veins and arteries when they're all positioned on the opposite side.

**Justin:** It's like me trying to get my Sega CD working. It's like, "Okay this plug... the two power plugs look exactly the same, but I know one of them will fry the Genesis and then the other one goes in the Sega CD, and then I've got this S video cable that I think I need an adaptor for..." Yeah.

**Sydnee:** It's exactly like that, except a human life is hanging in the balance.

**Justin:** Okay, but my human life really wants to play Sewer Shark.

**Sydnee:** [laughs]

**Justin:** Sooo... kind of the same.

**Sydnee:** No, but...

**Justin:** If I don't play Wirehead once a year, I'll die, Sydnee. I'll die.

**Sydnee:** Here's the good news. [laughs] They have been able to do this. It takes—it's a more complicated surgery. And sometimes you have to actually, like, get grafts of veins and, you know, arteries and things from other places in the body to add on to, make some wires longer, some things need to be shorter, that kinda thing.

But at the end of the day, we've done it. Humans have done this. So, you don't have to wait for a situs inversus donor. You do have to wait for a donor, which, we've talked about organ transplantation before, can be a long wait no matter what your condition is. But you don't have to wait for a situs inversus donor. We have the technology. We can rebuild you.

**Justin:** [laughs]

**Sydnee:** With parts from just regular old human anatomy bodies.

**Justin:** We have got a lot more questions to come, but since I'm the one that gets to steer this week, I'm the one who's gonna tell you... why don't you follow me to the billing department?

**Sydnee:** Alright, I guess I will.

**Justin:** That's not what I say.

**Sydnee:** Let's go!

**Justin:** There we go. [laughs]

[theme music plays]

[ad break]

**Justin:** Alright, are you ready for another question, Sydnee? Has your contraction subsided?

**Sydnee:** Yes, I'm ready. [laughs]

**Justin:** "It is true that chewing Excedrin, holding the chewed-up medicine goo in your mouth for five minutes, and then swigging it and swallowing it all with a coke helps the medicine work faster?" And that's from Nora. And I only know about this because I remember Jack Torrance did it in *The Shining*, the book, and the image of that was so buck wild to me that it has, like, stuck with me to this day.

**Sydnee:** And I think, if I remember correctly from the email, Nora blamed her dad for this.

**Justin:** Your grandpa—this isn't chewing it, but your grandpa Dan told me that after, like, when he had a long shift or a long drive, he would do Excedrin and then, chocolate milk. Like, pound it down with chocolate milk.

**Sydnee:** I remember that, yeah. Um, so let me preface with this. Generally speaking, here's my disclaimer... take medicine the way the bottle or the doctor or whoever gave it to you... I mean, assuming that they're a licensed professional and not just, you know, like, Joe on the street... take medicine the way it is instructed to take.

**Justin:** Okay.

**Sydnee:** I mean, that is a general rule of thumb.

**Justin:** That's what you *would* say.

**Sydnee:** Of course. [laughs]

**Justin:** What are you hiding?

**Sydnee:** There's a reason that it says to swallow certain pills and chew certain pills and...

**Justin:** Oh this—okay, this one's gonna work, isn't it?

**Sydnee:** [laughs]

**Justin:** This is a thing, and this is why you're coughing it so much, because this one is a thing.

**Sydnee:** I'm just saying.

**Justin:** Okay.

**Sydnee:** There are lots of reasons why a pill might specify the way that you should take it. For instance, there are lots of pills that say things like... sustained release, long acting, controlled dosing, extended release. All those things, if they're on a medicine, you should not mess with how you take them.

If it says swallow, swallow. Generally those are swallow pills, you swallow them. The reason is that they are made, physically made, to release slowly, and if you chew them or crush them, you have messed with that. And so, you might get a big load of a dose all at once that you were supposed to get over 24 hours. Does that make sense?

**Justin:** Yes, but—

**Sydnee:** So don't mess with those.

**Justin:** But...

**Sydnee:** Also, some pills say "enteric coated." And what that means is that they are made to survive the stomach, because they're coated a certain way, and dissolve in the small intestine, because that's where you're gonna absorb them.

So, if you chew them up, either they won't work at all, or you might absorb them wrong, so they're not gonna work. So, in general... also, they taste really bad, that's another reason. If you chew pills that are supposed to be swallowed, they tend to taste kinda bad. In general, please do not chew pills that say swallow.

**Justin:** But...

**Sydnee:** In the case of Excedrin... [laughs] if we are talking about the combination of aspirin, acetaminophen, which we tend to call Tylenol a lot, and caffeine, that is kind of a standard—there are different Excedrins, but that's a standard formulation of Excedrin.

I can't tell you that there is an intrinsic danger in chewing it. Plain old Tylenol, acetaminophen, we could crush. And we know this because there are patients who can't swallow pills, and so we've learned what we can crush and what we can't, and a pharmacist can always be very helpful in telling you this, by the way. If you're at Walmart or Target or Kroger or CVS or Rite Aid, or wherever you are...

**Justin:** Come on, you gotta know some other pharmacies. [laughs]

**Sydnee:** [laughs] Go to the pharmacist and say, "Can I chew this? Can I crush this?" They will know, they can help you. But aspirin specifically has been studied to see if it will work faster if you chew it than if you swallow it.

Why? Because it's what we tell people to do in a heart attack, the thought being that if you chew an aspirin and can get it into your system faster that way, it can maybe help prevent clotting and help stop a heart attack faster than if you just swallowed them.

Which is why we will commonly tell you, if you think you're having a heart attack, call an ambulance, but also, chew some aspirin while you're waiting for them. You've probably heard that before.

**Justin:** Yep.

**Sydnee:** So, studies do show that aspirin works faster if you chew it than if you swallow it. So, theoretically, since aspirin is one of the active ingredients in Excedrin, perhaps it does work faster if you chew it than if you swallow it.

The addition of Coke is probably just more caffeine, and generally speaking, if you're already taking a medicine that has caffeine in it, we tell you not to drink more caffeine with it. Now, depending on how much caffeine you drink in an average day, that might not matter for you.

**Justin:** It's probably fine. Cause caffeine's a... vasoconstrictor.

**Sydnee:** [laughs]

**Justin:** Right? And that helps with headaches?

**Sydnee:** Hey, there you go. For some people. Not for all migraine sufferers, but for some migraine sufferers, caffeine can be very helpful. You need to be careful. Caffeine is a stimulant, it is a drug. You can't just willy-nilly take as much caffeine as you want and then throw it back with Coke. But, that being said, Excedrin may work faster if you chew it.

I will still tell you, please do not chew a medicine we tell you not to chew. Just—

**Justin:** Alright, Dad.

**Sydnee:** Just take it the way it says on the bottle—

**Justin:** Alright Dad, we get it. We get it.

**Sydnee:** And if it's not working, go talk to your doctor. Because I can help you with migraines, too. There's a lot of stuff!

**Justin:** Okay, I have another question for you here, Sydnee. It is from Morgan and Laura, and it goes a little something like this: "Why does the pins and needles feeling happen when your feet/hands/other appendages fall asleep? I know, I think, it's from lack of blood flow, but why does it feel like that?" And that's from Morgan and Laura.

**Sydnee:** So, it's an interesting question. First of all, you're kind of on the right track with lack of blood flow, but it's not completely that. When we get that sensation that one of our limbs has "fallen asleep," or that pins and needles feeling, whatever you wanna call it, it's really an interruption in the signals between our nerves and our brain.



So, the nerves in whatever body part we're talking about, in our fingers or toes or whatever, and our brain. And this can be caused, first and foremost, by pressure on those nerves directly.

So like, there's a classic thing we call... [laughs] "Saturday night palsy" in medical terms, where if you, I mean, the idea is that you got drunk and you fell asleep over the back of a chair with, like, your arm slung over the chair. And so, you wake up the next day and you can't move your arm in certain ways. And it's because you compressed your nerves over the back of the chair all night.

And a lot of it is, you've been sitting in one position or laying in one position, you've been asleep, whatever, and the way that you chose to position your body just compressed those nerves, interrupted those signals long enough that your brain and your hand, or foot, or whatever, aren't communicating.

**Justin:** Okay.

**Sydnee:** Now, the way that blood flow feeds into that is that you're also compressing the blood vessels that feed those nerves. Cause nerves need oxygen, too. And they get it from blood, from blood vessels. So, yes, blood flow is part of it, because you've been compressing that blood flow, so those nerves haven't been getting oxygen either. Part of why they're asleep.

**Justin:** Okay.

**Sydnee:** Now, all that being said, why do you get the pins and needles sensation? That's kind of everything waking back up. Now, we call it pins and needles because that's what it feels like to us. Like, little prickly sensations.

Those sensations are just the way it feels as your nerves start to wake back up and send signals to your brain that are incomplete and don't make much sense just yet, and so you don't know how to process them, and this just tends to be the way our body experiences that.

**Justin:** Okay.

**Sydnee:** Now, the good news is, for the vast majority of people, unless maybe you did fall asleep over the back of a chair all night long, it could

take a little bit longer. But for most of us, if something falls asleep, you just kinda, you know, move it around, shake it out, stand up.

**Justin:** It's unpleasant, though.

**Sydnee:** It is unpleasant. But for most of us, it goes away after a few minutes. But those are just those nerves waking back up.

**Justin:** That's it?

**Sydnee:** That's all it is.

**Justin:** Oh. Okay.

**Sydnee:** [laughs] You were hoping it was something much more dramatic?

**Justin:** I—okay, this is gonna sound stupid, but I always thought it was blood, and so, like, when it would start to come back, I always thought I could feel the blood, like, going back into the hand.

**Sydnee:** There is—I mean, blood flow is part of it, because when you compress the nerves you probably were compressing blood flow, too. But the bigger issue is just the nerves themselves, not so much the blood. Because if you're—let me say this, if you deprived your limb of all blood flow for a significant period of time, it wouldn't just go to sleep. I mean, it would, but like, forever.

**Justin:** Got it.

**Sydnee:** [laughs]

**Justin:** Gross.

**Sydnee:** Can we, before we do the closer one, which is my favorite, can we skip ahead to this one that you didn't know, real quick?

**Justin:** Okay, you just wanna take a moment to drag me? That's cool.

**Sydnee:** Just real quick.

**Justin:** Simon asked, "Why do hospitals say not to eat before surgeries?" You have 30 seconds to drag me. Go.

**Sydnee:** I'm not dragging you. I just, I thought, I guess this is one of those areas where I thought, like, "Well I think most people know that, I don't know if that'll be as interesting." Justin didn't know.

**Justin:** 20 seconds.

**Sydnee:** So, in general, the reason we tell you not to eat before surgery is not because we're mean. Although, some of us are mean. But that's not why. Because, if we were going to put you under any kinda general anesthetic... which we don't always, but sometimes things happen and we might need to.

You are at risk, if you are completely asleep, or paralyzed, or we've had to put you on a machine to help you breathe during a surgery, that kinda thing, you're at risk for contents from your stomach coming up through your esophagus and then going back down into your lungs through your trachea.

That's called aspiration. You are at lower risk for aspiration if your tummy's empty. That's it. Anesthesiologists really appreciate an empty tummy when they're going to do a surgery so that they know the risk of aspiration is lower. If it's an emergency, obviously all bets are off, we do what we gotta do, but if we've got the time, we'd much rather you have an empty tummy.

**Justin:** Got it. Thank you for enlightening me and not shaming me, probably, too bad.

Here's one that I'm real curious about, Syd. And this is gonna be our last question, from Billy. So, here's a quick one, what's the adjective form of the word "pus"?

Hold on. Pause, for the listener to answer that question in their own head. Okay, and now go.

**Sydnee:** Billy...

**Justin:** Billy...

**Sydnee:** Billy...

**Justin:** Billy...

**Sydnee:** Come on, Billy...

**Justin:** A person after my own heart.

**Sydnee:** I think you're looking for something that's gonna be kind of outrageous, but here's the boring medical fact. If I'm talking about a wound that is full of what you're referring to as pus... which, I mean, we say pus. I'm not gonna pretend like doctors don't say pus, of course we do.

And when we say pus, let me say, we're talking about thick, white drainage, coming usually from, like, a wound or something. And it's white because of all the white blood cells that are in it. All those little heroic army cells that have come to challenge an infectious invader and have given their lives in the pursuit.

**Justin:** Inspirationally.

**Sydnee:** And now they are leaking out of your body in the form of this white fluid that we would call... purulent drainage.

**Justin:** Aw, boo. Hiss.

**Sydnee:** So, if a wound is full of pus, it is purulent.

**Justin:** [laughs]

**Sydnee:** Sorry. There you go.

**Justin:** That is not the answer I was hoping for, but...

**Sydnee:** But that is the truth.

**Justin:** Yeah, I guess. That's fine. That's fine. That is gonna do it for us, folks. That is an entire episode of Sawbones, the medical history show that we make.

**Sydnee:** [laughs] That's true, and this will be my last, um, pregnant episode? Pregnepisode?

**Justin:** Pregnepisode? [laughs]

**Sydnee:** My last—

**Justin:** I like that bit of neologism.

**Sydnee:** Pregnepisode. We will be taking next week off.

**Justin:** Yeah. Hopefully not the week after that, but like, listen y'all.

**Sydnee:** [sighs]

**Justin:** It gets ride or die in there. It can get hairy. So, I dunno.

**Sydnee:** Hopefully everything goes as planned this coming week, and—

**Justin:** If you listen to Sawbones, you know that it didn't shake out so great last time. But—

**Sydnee:** Hey, well, okay, in the end it did, because we have an amazing daughter who is happy and healthy and we're very lucky to have.

**Justin:** Indeed.

**Sydnee:** That being said, we won't be here next week because... we'll be having a baby!

**Justin:** Yup.

**Sydnee:** And then hopefully we'll be back the week after, and we'll tell you about how great it went.

**Justin:** Yeah.

**Sydnee:** That's the plan.

**Justin:** God willing and the creek don't rise, we'll be there the week after. But that's gonna do it for right now.

Thanks to the Max Fun network for having us as part of their extended podcasting family. You can go to [MaximumFun.org](http://MaximumFun.org) to find a lot more great shows. Thank you to The Taxpayers for letting us use their song "Medicines" as the intro and outro of our program. You can go buy their music wherever fine music is sold, which is the internet.

And that is going to do it for us. So, until next time, 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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