

Sawbones 205: The Moon

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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: [softly howls] That was a spooky wolf.

Sydnee: Good job.

Justin: Hello, welcome to Sawbones: a marital tour of misguided medicine. My name's Justin McElroy.

Sydnee: And I'm Sydnee McElroy. Had you started recording when you did that?

Justin: Yeah. I wanted to make sure I got the foley in there.

Sydnee: Oh, okay.

Justin: Trying to set a spooky mood for this very spooky episode.

Sydnee: I don't know that it's very spooky.

Justin: The spook— the moon is the sun's spooky brother.

Sydnee: Is that— is that your theory?

Justin: Yeah.

Sydnee: Yeah?

Justin: And it's a big rock. But also, it's the sun's spooky brother.

Sydnee: I don't know if the moon is inherently spooky, but I think we can all agree that for some reason, we connect the full moon with strange happenings.

Justin: Lycanthropy, perhaps?

Sydnee: [laughs] Yes, that. That, of course, werewolves. But also just, um, maybe—

Justin: Draculas.

Sydnee: No, well, sure. Yes, of course. But also, just kind of unusual things happening, or a higher like—

Justin: Zombies.

Sydnee: No, like a higher likelihood of—

Justin: Jason.

Sydnee: A higher likelihood of Jason? [laughs]

Justin: [laughs] Up to his old tricks.

Sydnee: [laughs] I mean that we tend to believe that the full moon could indicate that there's gonna be some unusual human behavior, exaggerated behavior.

Justin: Frankensteins.

Sydnee: Something wild might happen.

Justin: Right.

Sydnee: Yes.

Justin: And that's what you wanna talk about this week on Sawbones.

Sydnee: Well, the reason that I'm connecting that to Sawbones is that this myth, this theory is rampant in the medical world.

Justin: Really?

Sydnee: Yes.

Justin: Like, now?

Sydnee: Yes. [laughs]

Justin: Uh oh.

Sydnee: Yes, to this day. There is a commonly held belief in medicine that if you're having a night in the emergency room where it just seems like there's maybe way more patients than average, or the cases that are coming in are just a lot more unusual or unexpected, or kind of a bizarrely large number of accidents or traumas, or anything like that, that you'll look out the window and see that full moon cause it's the full moon that's to blame. And that belief is, like I said, you would be surprised how many scientific-minded people...

Justin: Still cotton to that?

Sydnee: Still absolutely believe that. And I thought we should talk about why. Where does that come from?

Justin: Tell me Sydnee. I'm on the edge of my comfy chair.

Sydnee: Well, thank you to Alma, who recommended this topic.

Justin: Okay.

Sydnee: And why do we believe this? A lot of what we think about the moon and behavior in general, whether you're talking about medical related topics or just what effect the moon has on us, a lot of it comes down to tides.

Justin: The Prince of Tides.

Sydnee: No, like the actual ocean tides.

Justin: Ah, okay.

Sydnee: Because, you know, the moon's kind of in charge of those.

Justin: Yeah, the moon is the boss. The moon is the sun's spooky brother and also is in charge of tides.

Sydnee: The boss of tides.

Justin: The boss of tides. [quietly] The Prince of Tides.

Sydnee: So, connecting to that, because human beings are largely water, there is a belief that the moon has an effect on us, because it is pulling or pushing on—

Justin: Our internal ocean.

Sydnee: On our water. On our body water. And making us do things, act ways, think things, et cetera.

Justin: [laughs] Now Sydnee, that doesn't ring true for me, but I'm assuming maybe it is true.

Sydnee: No, no. I mean, the idea— it's not true, because the idea is that we're talking about the gravitational force that the moon is exerting on a human body being strong enough to create, I guess, internal tides. It's very poetic. Your internal tides are shifting.

Justin: Yeah. It's a lovely thought.

Sydnee: But they're not.

Justin: But they're not.

Sydnee: There's several problems with this theory. First of all, if we're gonna say that the full moon is responsible for strange human behavior because of tides, you would also have to say that the new moon is responsible, because it also exerts force and creates tides.

Justin: Just less.

Sydnee: No.

Justin: Because you can't see— oh. Uh, okay. Alright, it's gonna be one of those tricky episodes.

Sydnee: [laughs] The same.

Justin: You're laying a few traps for the J-man.

Sydnee: But no one talks about the new moon and all of the things that happen on the new moon. Also, to give you kind of a point of reference, a

mother holding a baby exerts 12 million times the force on that baby that the moon does.

Justin: Wow.

Sydnee: Yes.

Justin: That's wild.

Sydnee: So, if you wanna talk about, like, gravitational pull and forces, the idea that the moon could have a strong impact on your individual human brain doesn't make much sense. A mosquito on your arm is exerting more force on you than the moon.

Justin: Okay. Well, I'm starting to feel less scared of the moon by the moment.

Sydnee: And then, finally, the moon only affects open bodies of water. So, like, an ocean.

Justin: Or... lake.

Sydnee: A lake.

Justin: [laughs] I could go on. I know lots of bodies of water.

Sydnee: [laughs] Name all the bodies of water you know, go.

Justin: Rivers, also. And creeks.

Sydnee: Mm hmm.

Justin: And inlets.

Sydnee: mm hmm.

Justin: And... cays. No, not cays.

Sydnee: [laughs] No, I think those are land.

Justin: Uh, gulfs.

Sydnee: Good. You keep thinking about bodies of water, I'll tell you this: the body of water that is your body— which is a body of water.

Justin: Yeah, that's true. That's technically true.

Sydnee: It's a closed system. The water's, like, in you, so the moon doesn't— it couldn't. Okay, so the theory doesn't make sense, but that's where all of this comes from. That's kinda the central idea. And our belief that the moon can then, using tides. Or, of course, throughout history, various, maybe, magical thinking as well. But whatever your belief is, scientific or otherwise, this dates back to ancient times.

There was a long-held belief that one of the most common effects the moon could have on your behavior was that it could cause mental illness or exacerbate underlying psychiatric disease. So, if somebody had already been diagnosed with something, or maybe this would be the first time you would notice it, that you would see evidence of that illness because the full moon would trigger it in some way.

Justin: Okay. Alright.

Sydnee: And this is why, if you look at the word, um, if you look at the word for moon, luna, like lunar, if you're talking about the root of that word you'll notice that it is closely related to the word lunatic or lunacy.

Justin: Oh, okay.

Sydnee: Not words that we use anymore, but that's where that comes from. The idea that the moon is influencing people's behavior.

Justin: Yeah.

Sydnee: But that's all it is. I mean, we're talking about a time when people didn't understand that psychiatric illness really existed, so for all we knew it was the moon influencing people to act differently.

Justin: Sure, why not. That's a good a guess as anything.

Sydnee: Yeah. Hippocrates wrote about this.

Justin: It must have been kind of a relief for people then, to be like, "Well, that one is actually the moon. So there's actually— this one we cannot help with"

Sydnee: [laughs]

Justin: “We’re gonna go and chalk that just up to the moon, so.”

Sydnee: “As opposed to all the things we’re so good at helping with.”

Justin: “We’re really good at doing other things, but for this one it’s like, that one’s the moon, so what do you want us to do?”

Sydnee: “That one’s the moon. But that other thing you have going on, what is it? I don’t know. It’s a humor thing. Here’s the point: take this. It’s gonna make you poop a lot, and when you’re done, come back, I’ll cut you open and then we’ll bleed you a bit.”

Justin: “Just count yourself lucky it’s not moon-centric.”

Sydnee: “But the moon thing, we have no... ” maybe that’s the safest thing really, because then they’re not gonna try to treat you. [laughs]

Justin: Yeah, they’re not gonna make it worse.

Sydnee: Hippocrates wrote about it, that the one who is seized with terror, fright and madness during the night is being visited by the goddess of the moon. So, I guess nightmares, insomnia...

Justin: Again, more poetry. Another poetic way of—

Sydnee: Exactly, but same idea. That somehow, the moon is influencing your ability to function at night. Of course, Pliny the Elder had to weigh in. And you know, you could take a step back and be impressed by the fact that Pliny, following in the footsteps of Aristotle, understood the idea of tides and the moon’s influence. That’s impressive. It’s very sciencey.

Justin: Yeah, that does sound sciencey.

Sydnee: It’s very solid. Although what he also— the way he connected this to human behavior is that the brain in his opinion was the moistest... the moistest. [laughs]

Justin: You think that’s true?

Sydnee: Of... the moistest of our organs?

Justin: Mm hmm. Rank the organs in order of moistness, Syd.

Sydnee: I will never do that.

Justin: Okay. You really hate that word, don't you? That word really bothers you.

Sydnee: [laughs] Yes.

Justin: You got really upset when I said it yesterday and I didn't understand what was happening.

Sydnee: I think it's an upsetting word for a lot of people.

Justin: It is, yeah, it's a definite trigger for some folks.

Sydnee: It definitely— we should add that to— I'm sorry, I will say that. I will say that word in the show. Justin will say it too.

Justin: Yeah, we should mention it up front.

Sydnee: Uh, but because he thought that the brain was, that it would be the most susceptible to the moon's influence on tides. Because you've got the most, I guess, the most water in your brain, so... I mean, there's CSF fluid up there, and there's ventricles filled with it—

Justin: Cerebrospinal fluid, you mean, Sydnee?

Sydnee: Very good.

Justin: Yeah.

Sydnee: Very good. But again, we've already completely debunked that, so that doesn't make sense.

Justin: Okay.

Sydnee: But that was the basis for that theory. In the middle ages, this began to be known as— and actually, you'll still find this term today, the Transylvania Effect.

Justin: No.

Sydnee: No?

Justin: No, I haven't heard— I'm not familiar.

Sydnee: Okay. Well, believe me.

Justin: I'll take your word for it.

Sydnee: I thought you were just refusing to believe me. "Nope. Not around."

Justin: No, no, no. Totally take your word for it.

Sydnee: "Nope, lie." [laughs]

Justin: Yeah.

Sydnee: The Transylvania Effect meaning, basically, that the full moon is gonna have some sort of spooky effect on you. And that's where you get, like, the tie-in to a lot of vampire mythology and werewolf mythology and that kind of thing. And, you know, if you already have this sort of belief that the full moon is going to make humans behave less like humans, or like a different human, then it would be easy to extend that into a werewolf-type myth.

Justin: Why not?

Sydnee: You know? Yeah, I mean you can see—

Justin: Everyone loves crossovers.

Sydnee: [laughs] Well, you can see the roots of that.

Justin: Yeah.

Sydnee: You can see the origins of those stories. In 18th century England, if you— let's say that you killed somebody. Okay?

Justin: They've never proven anything.

Sydnee: Well, but no, you already said you did it.

Justin: Oh, okay.

Sydnee: But if you've been caught and you could prove that you did it on the night of a full moon, you could kinda request a lighter sentence.

Justin: Because the moon.

Sydnee: Cause it was the moon's fault, not really yours.

Justin: I love that.

Sydnee: Yeah. And you could actually, your grounds were what they would call at the time 'lunacy'. The moon had an effect on me, it was not my fault, I had no control over my behavior. You can't blame me.

Justin: It was the moon.

Sydnee: Blame it on the moon.

Justin: Blame it on the moon.

Sydnee: Yeah. Is that like a...

Justin: Blame it on the...

Sydnee: No. That's the bossa nova. [laughs]

Justin: Blame It on the Bossa Nova! That's what you're thinking of.

Sydnee: [laughs]

Justin: Blame It on the Rain. That's what it was.

Sydnee: You can blame it on the moon, but that's not a song as far as I know. It might be.

Justin: It could be, there's actually lots of songs.

Sydnee: Are there, Justin?

Justin: Blame It on the Moon by Bob Seger.

Sydnee: There you go.

Justin: No, that's Shame on the Moon.

Sydnee: Oh.

Justin: Blame It on the Moon by Katie Melua. So, there you go.

Sydnee: There are songs where they are imploring you, please blame it on the moon. In London's Bethlehem Hospital they actually would take it a step further. Because there was this fear that patients who were there

for psychiatric reasons would be influenced by the moon, by the full moon, to do things that they typically wouldn't do, to have more extreme behaviors, they would be shackled on certain nights, to try to prevent that behavior.

Justin: It's so wild to me that we were able to understand that the moon affected tides, and yet...

Sydnee: And yet.

Justin: We thought that inside a building, the moon could still getcha and do things.

Sydnee: [laughs] Well, I mean, we... I don't know, honey, we just didn't understand much.

Justin: Yeah, no. I mean, I'm not asking for you to mount a defense. I've been here for a while, too.

Sydnee: [laughs] Human behavior is difficult. It's difficult to this day to categorize and to diagnose, and at a time when we didn't have— I mean, you wouldn't have had the language to understand any of this.

Justin: Sure. But we worked out that the moon, a giant rock in space, altered the tides, which is a pretty big jump, I mean, all things considered. And then we were like, "What else could—" I mean, they got greedy is what it was.

Sydnee: [laughs]

Justin: They made on discovery and they're like, "I guess it does a lot of things with liquids. Come on."

Sydnee: "Like brain liquid."

Justin: "Like brain liquid."

Sydnee: Yeah. Epilepsy has been blamed on the moon in the past. We've done a whole episode on epilepsy. That because seizures and epilepsy were for a long time so poorly understood, and could be very unsettling to observe, that there were lots of theories about them that—

Justin: But that's a lot of that epilepsy and psychiatric illness getting lumped together throughout history, right? Like, people sort of—

Sydnee: Yes. And then, like, the tie-in with magic and witchcraft or possession.

Justin: Right, possession, sure.

Sydnee: Exactly, those kinds of things. Just because it was hard for people to understand, a patient who has a seizure is not able to explain to you afterwards, "Oh, let me tell you exactly what just happened." You know, they're not conscious during their seizure.

Justin: Right, right.

Sydnee: You know, so it was, they were very poorly understood. So, it was easy to leap from there to assumptions that the moon could trigger seizures. And, you know, you see somebody have a seizure and you happen to look up and it's full moon and you just assume, "Well there you go."

Justin: Well that's the thing, right? Like, your acne clears up and you look up and it's the full moon and it's like, "Oh cool, the moon cures acne. Neat." [laughs]

Sydnee: [laughs] As silly as that sounds, how many times is that really what an episode boils down to on this show?

Justin: Yeah, absolutely. I'm not— hiccups are my favorite.

Sydnee: [laughs]

Justin: Whatever happened the moment before your hiccups naturally stopped is what cured your hiccups.

Sydnee: [laughs] I think that's magical thinking. Many patients even began to believe this, and fear the effect of the full moon.

Justin: Really?

Sydnee: Mm hmm. Because they didn't— well, like I said, its not like you would understand your seizures yourself back then. So, it could be the full moon.

Justin: Something's doing it.

Sydnee: Many people claim insomnia on full moon nights, especially if you're somebody who suffers from insomnia periodically, that it's worse on the night of a full moon.

Justin: I wonder. You know what, I wonder in the days back before we had a lot of electric lights, if there might be something to that, like if—

Sydnee: I have a whole thing on that, J-man.

Justin: Really?

Sydnee: Yeah.

Justin: Oh cool! I don't want to get ahead of you, I'm sorry.

Sydnee: We'll get there. But I will say this: evidence has never really backed up the idea that there is a higher incidence of insomnia on nights of the full moon. There have been some small studies that found maybe, like, an overall decrease in sleep time of five minutes on a night of a full moon, as compared to the average night. But they were very small studies and the results were not particularly significant and they've not been reproducible.

And so, as much as, even people, like I said, who suffer from insomnia will say it gets worse on the night of a full moon, we haven't really been able to scientifically prove that. There is also a study from 1980 of 312 people who have periods that found that 40% of them started their menstrual cycle within two weeks of a full moon. This is not— even when I say that, that doesn't sound impressive, right?

Justin: Right.

Sydnee: 40% of people in this study started their period within two weeks of a full moon.

Justin: Yeah, if you run the numbers, that just about tracks.

Sydnee: Yeah, like, even that statistic, I read it and I thought, "I don't know what... I don't know if this is a positive or negative, I don't know what you've proven."

Justin: Right.

Sydnee: And it's never been reproduced since. Again, 312 people in 1980. However, this is used to this day as evidence that somehow the moon can affect your period.

Justin: Okay, now I hate to quibble about this but... is it... okay. [laughs]

Sydnee: Are you gonna try to make a case that it does?

Justin: No, I'm gonna say isn't within two weeks of a full moon cover the entirety of the lunar cycle?

Sydnee: Uh, no?

Justin: No, I guess it's just the half-month. The half-month before and the half-month... after, right?

Sydnee: Yeah, well I mean, what you're— what you start running into are, like, the overlap of the lunar cycle and the menstrual cycle and how many days on average they both tend to run.

Justin: I'm saying that you're talking about it's two weeks away from a full moon, right?

Sydnee: Mm hmm.

Justin: It's always either two weeks before or two weeks after the full moon, right?

Sydnee: I guess, yeah.

Justin: So, within two weeks of a full moon would be four weeks, right?

Sydnee: I know, it seems... yeah.

Justin: I'm sure they didn't mean it like that. It's a confusing statistic.

Sydnee: It's also, well, it doesn't mean anything, I don't think.

Justin: It doesn't mean anything, why am I trying to read into it?

Sydnee: I think it's a meaningless statistic. I think that's the problem. But somehow it's been used as, like, "Well, don't you remember that one study? That one study about moons and periods?"

Justin: "Remember."

Sydnee: "That's very important for us all to remember."

Justin: I bet they mean the two weeks leading up to a full moon, I bet.

Sydnee: But this— perhaps, two weeks within. But this is just the beginning of the connection that people try to draw between the moon and menstrual cycles and fertility and pregnancy in general.

Justin: Well, tell me more.

Sydnee: I'm gonna tell you about it, but first, come with me to the billing department.

Justin: Let's go!

[ad break]

Justin: So you were gonna tell me more moon heat.

Sydnee: So, as I said, this idea that somehow the moon is connected to menstrual cycles and ovulation and fertility and that kinda thing is more than just moons and periods. In the 1950s there was a Czech doctor, Eugen Jonas, who—

Justin: [mobster voice] You want that check to look like something else? Me, I know a guy who could sneak a zero or two in there. He's a check doctor. [laughs] He'll fix that up, make it look like a real nice, big check.

Sydnee: That's where you're going, there?

Justin: Check doctor.

Sydnee: [laughs]

Justin: Yeah, real clean work.

Sydnee: So anyway, Dr Jonas. The story was that he was motivated in this search and what he would uncover, he was motivated by his religious

beliefs in response to recent Czech law that had been passed allowing for abortions. And that he was a very religious person and he was morally opposed, and so he kind of, as a way to channel his energy, he began looking for a way to medically ensure fertility and healthy births and to kind of help promote birth.

Justin: Okay.

Sydnee: Like, that was his goal. Not necessarily to change the law, but just on the other end of things. I'm just gonna make more people have babies.

Justin: Okay.

Sydnee: And so, in his search for this he stumbled across an ancient Assyrian astrological text, that cited certain mathematical formulas you could use and by calculating angles of the moon and working out, like, your nativity on the day you were born—

Justin: It's sounding made up...

Sydnee: In order to figure out when you are most fertile and most likely to conceive.

Justin: Okay.

Sydnee: So, based on his readings, he discovered this kind of secret second cycle that people who have menstrual cycles are able to undergo. And it's all based on the moon and it's totally separate.

Justin: Okay.

Sydnee: It's not your period. It's a secret thing that the moon is doing to you.

Justin: Okay.

Sydnee: To your uterus and your ovaries.

Justin: But it's a secret.

Sydnee: But it's a secret. But he discovered it, so now this secret can be yours.

Justin: [laughs]

Sydnee: It has to do with the angle between the sun and the moon at the exact time of your birth. And so, if you can figure out the time of your birth, and like the time of day, and what that angle was, then you can figure out when that's going to occur at a given day when you have already determined you're most fertile. That is the time of day during which you should have intercourse in order to conceive.

Justin: Oh, cool. Why isn't everybody talking about this great information?

Sydnee: The day that you need to do this, so you calculate the time, the day you need to do is two days prior to the day that the moon was in the same position as it was when you were born, because that's the day you're gonna ovulate. Regardless of where you are in your menstrual cycle.

Justin: That's when it's gonna happen.

Sydnee: So, you may be right in the middle of your period, but if it's two days before the moon is in the same position as it was on the day you were born, you are going to ovulate. And if you go to the exact time that the angle of the sun and the moon is the way that it was when you were born, if you have sex at that moment, then you'll definitely, definitely conceive.

Justin: This seems so powerful, why am I just now hearing about it?

Sydnee: It's all over the internet. If you look up the Jonas Method, you will find endless, like, modern sites describing to you how to do this. This is not gone.

Justin: Now I can see why his brothers don't talk about him more. The rest of the Jonas brothers, I mean.

Sydnee: [laughs] I knew you'd go there.

Justin: I took the long way around to make you think that I wasn't. And then what's that behind the bush? It's an asp. A comedy asp. Waiting to strike.

Sydnee: Then we're coming back. [laughs] So, he called this... science? He called this...

Justin: Sydnee, no. Dear, no, no sweetie, no. Sawbones has gotten into your brain.

Sydnee: Astrology?

Justin: No. [laughs] Maybe. Maybe astrology, I could grant you.

Sydnee: Whatever you wanna say this is, he called it cosmobiology.

Justin: [laughs] That is so good!

Sydnee: [laughs]

Justin: It's my favorite Red Hot Chili Peppers album.

Sydnee: I like it too because in my head, when I hear cosmobiology, I think of a biology textbook brought to you by Cosmo.

Justin: Sure.

Sydnee: So, it's like biology, but then like, lipstick tips or something? I don't know. Anyway, and he based—

Justin: See how to make your, uh, see how to make your Golgi bodies really pop for your special man.

Sydnee: [laughs] That was good. Golgi bodies.

Justin: Thanks, Syd.

Sydnee: You pulled that out of nowhere.

Justin: Thanks.

Sydnee: So, and he based an entire family planning method on this hypothesis, as I said, the Jonas Method, which you can still read about. Which, I think if you want, like, in a lot of places, if you try to get explained in depth, you have to pay. And they'll do the math for you.

Justin: Starting to get a little sketchy at that point, huh?

Sydnee: Yeah. They'll calculate all this stuff for you.

Justin: The fact that there's not just a website where I can just type it in seems...

Sydnee: There are those.

Justin: Oh, sure.

Sydnee: But if you really want the full deal with, like, the big chart with the moon phases and different days and telling you what time and day you should have sex and all that kinda stuff, I think there are places you can pay to get that done. He also— and this wasn't enough though. All this sounds like a well-meaning guy who's trying to help people who, I mean, I'm assuming people who are coming to him and saying, "I would like to conceive. I would like to have help having a child." A misguided, for sure, but a way to try to help them figure that out. He took it a step further. He believed that you could use these methods to try to control the gender of your child, as well.

Justin: Okay...

Sydnee: So, if you could figure out the position—

Justin: That your parents did it.

Sydnee: No.

Justin: Okay. [laughs]

Sydnee: Please don't ever figure that out. The position of the moon at the time of conception will consider your gender. And this is pretty straightforward. So, you know there's, like, your astrological sign? That's like your sun sign? Like, you're a Scorpio, that kinda thing.

Justin: Sure, yeah. Yeah, yeah.

Sydnee: Okay. There's a— you have a moon sign, too.

Justin: Oh, great.

Sydnee: That's where the moon is.

Justin: Great.

Sydnee: They're the same signs, it's just different.

Justin: Can't believe I'm just now finding out about this.

Sydnee: Yeah. So, you have a moon sign. So, the position of the moon on the day that you conceive is, based on what astrological sign that corresponds with, will decide what gender your child is. So, if the moon is in Aries, Gemini, Libra, Leo, Sagittarius, Aquarius, you get a boy. Taurus, Cancer, Virgo, Scorpio, Capricorn, Pisces, you get a girl.

Justin: Okay.

Sydnee: Pretty straightforward.

Justin: Yeah.

Sydnee: So, once you've done all that math, you can pay for your charts, you get all that, you very technically, scientifically start doing it, and then you get a baby.

Justin: That's science, folks.

Sydnee: That's... [sings] Let me tell ya 'bout the birds and the bees...
[laughs]

Justin: [laughs] And the moon and the sun...

Sydnee: [laughs] And the Jonas Method. So, there's the Jonas Method. I don't believe that there's any evidence that any of that works.

Justin: Whoa! Slow down. [laughs] It all sounded very plausible.

Sydnee: So, with all this in mind, all these different theories. So, people think that the moon can affect psychiatric behavior, it can affect fertility—

Justin: ER rates.

Sydnee: It'll affect ER visits, it'll affect birth rates in general—

Justin: Your brain meat. Your psych—

Sydnee: Yeah, exactly, and with your periods, with all this, the question is, is it true? So, as I already alluded to, people who work in medicine think it is. A 2011 study from the World Journal of Surgery found that 40% of medical staff believe that on nights of a full moon there is an increased incidence of one or several of these different things. That somehow the moon is a factor.

Justin: Let me ask you, did you ever notice it? Like, did you ever feel this, as a medical professional?

Sydnee: I have never myself noticed it.

Justin: Who's going outside to look at the moon? That's question one for me. [laughs]

Sydnee: Well, and I think that's part of it for me. I don't know if maybe if you talk to ER staff, it would be a different view. I only worked overnight as a resident, and in residency you don't really go outside. [laughs]

Justin: Right, ever. For a few years.

Sydnee: Ever. Until you stumble out of the hospital after 30 hours into the blinding sun and have no idea where or when or what's happened. I certainly didn't know what phase the moon was in at any specific time.

Justin: No, ma'am. No ma'am.

Sydnee: So, I don't think there's any way for me to do that. But if you live, you know, if your career, if your life, is shift work where you work at night, you get used to it, you may be more likely to notice these things.

Justin: Sure.

Sydnee: There was a study from Iran in 2004 that tried to check this out, see is this true. So, we know that medical staff believe it, but is it true? They analyzed three emergency departments over the course of thirteen months, and they found absolutely no variation in ER visits based on the lunar cycle.

Justin: Huh.

Sydnee: So, it didn't matter where the moon was, what phase the moon was in, you average about the same number.

Justin: So why, but like, why— it seems like such an easy thing to prove. Why is it still kicking around?

Sydnee: It's very easy to prove. There was another study in '92 from Canada that showed no relation between full moons and calls to trauma or poison centers, and yet another 1992 study that showed no relationship between full moons and suicide. So, all of these kinds of myths have been studied. I always wonder, who funded these?

Justin: Yeah. It seems like one of those that's so sort of like, "No, probably not." That it seems weird.

Sydnee: Somebody funded them.

Justin: It's maybe worth a check.

Sydnee: I guess, just chart review, but still, who funded it?

Justin: Probably universities, right?

Sydnee: Universities, yeah.

Justin: Gotta do something.

Sydnee: So, anyway, despite all this, why do we believe it? Well, first of all for a very basic reason, that humans don't like things that are unpredictable. We don't like when things are out of control.

Justin: Wanna throw rocks at the moon. [laughs]

Sydnee: [laughs] If you're Charlie, you wanna punch it.

Justin: You wanna punch it.

Sydnee: You wanna punch the moon. Because the moon comes out in the day sometimes.

Justin: What's he doing up there?

Sydnee: Yeah. You can't control the moon.

Justin: Nope.

Sydnee: But then, now all of a sudden we have this concept that maybe the moon controls us, and we don't like that. We don't like that. So, we try to find patterns that we can apply to the world to make sense of it.

Justin: Yeah.

Sydnee: Even though you can't control the way the moon might influence your behavior, you can prepare for the fact that the moon definitely does and stay home on nights of full moons?

Justin: I guess? Chain yourself up?

Sydnee: Something?

Justin: Like in Buffy? [laughs]

Sydnee: Like check your work shifts ahead of time and make sure you're not working on a night of a full moon?

Justin: I guess, yeah.

Sydnee: I dunno. We like the idea that we can predict and plan out the world and therefore we make sense of it and we have more control. And it's also just confirmation bias. So, let's say that you are working in an ER and you have a particularly busy night where a lot of unusual kinds of things happen.

Justin: As you're leaving, you see it's a full moon and you think, "Well, there you go."

Sydnee: And you always remember that night. You'll forget all the nights where you had a really busy, unusual night and it wasn't a full moon. You'll forget all the nights that it was a full moon and it was a pretty mundane shift. You just remember the evidence that supports your assumption and you forget everything that refutes it. Which is not just true of medical staff in ERs, of course. It's true of all of us as humans all the time. We like to do that.

Justin: Yeah.

Sydnee: Some have argued exactly what you said, Justin. That maybe the origins of this are in a time before a lot of electric lighting, indoor lighting.

Justin: So, the moon is out, everybody can stay out and drink later, they just go full debauch, tear the town up.

Sydnee: Well, in general the idea that if you don't have any artificial sources of light, your night and day schedules are a lot more clearly dictated by the moon and the sun.

Justin: Your circadian rhythms.

Sydnee: And so, you would be maybe more prone to be more active, be out later, and maybe do stunts.

Justin: Cool, sort of, dangerous stunts.

Sydnee: Cool, dangerous stunts. Because you've got more light by the full moon to do it.

Justin: [laughs] To ramp your bike over a pedal-cab.

Sydnee: That's exactly what people were doing in ancient times, prior to any sort of lighting. [laughs]

Justin: Yeah.

Sydnee: But, so, there is that theory that maybe that's why we used to believe that. Maybe that did lead to insomnia back then.

Justin: Well, it's bright outside, right?

Sydnee: Yeah, it's brighter.

Justin: I really mean, that's what I was talking about. I mean, it's just bright.

Sydnee: And certainly, if you wanna continue to extrapolate that, we know that if you do have underlying psychiatric illness, a stretch of days, you know, a night where you don't get a good night's sleep or you do have insomnia, you know, that can exacerbate that.

Justin: Yeah.

Sydnee: But now we have lamps. So, none of that really makes sense.

Justin: So yeah, we're all fine.

Sydnee: Yeah. One interesting little note, all of this stuff I've said may not apply to animals. In studying 11,940 cases, so a significant number of cases, at the Colorado State University Veterinary Medical Center, researchers found that the risk of emergency room visits for pets is 23% higher for cats and 28% higher for dogs on days surrounding full moons.

Justin: Huh.

Sydnee: I got nothing for that. [laughs]

Justin: Who knows? I dunno. [laughs]

Sydnee: I got nothing. All I'm saying is everything else I just said apparently only applies to humans.

Justin: Check back with us at Sawbones Two, where we answer all these lingering questions.

Sydnee: No, I will never be able to answer questions about any other animal than the human animal. I don't know anything about them.

Justin: Sorry.

Sydnee: Sorry.

Justin: Folks, that is gonna do it for us. Thank you so much for listening to our podcast, hope you enjoyed yourselves. Sorry we missed you last week, I was doing a thing and I couldn't be here to record.

Sydnee: And Charlie got sick and...

Justin: Charlie got sick and then, um—

Sydnee: Life just happened. It must have been a full moon.

Justin: And, um...

Sydnee: That's not true. The last full moon was October 5th.

Justin: You just keep that on hand, sort of, in your mind's eye?

Sydnee: No, I looked it up. Tomorrow's a new moon.

Justin: Oh, looking forward to it.

Sydnee: Happy new moon. Might be the day you hear this, probably.

Justin: Can't wait. Which one will it— what color will it be this time? Who knows.

Sydnee: No, wait... [laughs]

Justin: Thanks to Max Fun network for having us on. If you're looking for a new Max Fun show that kinda has, I think Sawbones listeners would dig, Adam Ruins Everything is not just a very fun TV show, it is also a podcast on our network. Same guy, too. [laughs]

Sydnee: I enjoy it, so I think you would.

Justin: Yeah. So, check it out, Adam Ruins Everything on iTunes or MaximumFun.org. And folks, that's gonna do it for us for this week. Oh, thank you to The Taxpayers for letting us use their song "Medicines" as the intro and outroduction— no one says outroduction. [laughs] You ever notice that?

Sydnee: Except you. You just... go ahead and TM that.

Justin: Intro is introduction. But outro is not outroduction.

Sydnee: No.

Justin: Something to think about.

Sydnee: [laughs]

Justin: A few people sent stuff to our post office box. Megan sent some Jimmy Buffett books, thank you. Sarah sent a beautiful junk journal that she made. I know it doesn't sound beautiful, because I called it junk, but that was her name, not mine.

Sydnee: She called it that, not us.

Justin: It was a lovely object.

Sydnee: Yeah, thank you all.

Justin: Thank you to everybody who did that. And that's gonna do it for us, folks, 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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