

Sawbones Episode 94: Guinea Worms

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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 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 song Medicines by The Taxpayers plays]

Justin:

Welcome to *Sawbones: A Marital Tour of Misguided Medicine*. I am your co-host, Justin McElroy.

Sydnee:

And I'm Sydnee McElroy.

Justin:

Sydnee, guess what I just realized?

Sydnee:

What?

Justin:

I bet... I bet it's the same thing you just realized.

Sydnee:

We didn't have a bit for this.

Justin:

Well, what I thought was that we could just try it out, uh, test it out of nowhere-

Sydnee:

Okay.

Justin:

And get... This dry run will just be like a, a test bed for this intro. We'll be testing it on this intro.

Sydnee:

Okay.

Justin:

You see where I'm going with this. This intro will be the, the, the guinea pig, and then we'll, uh-

Sydnee:

Ah.

Justin:

You see?

Sydnee:

Okay.

Justin:

You see?

Sydnee:

That's great!

Justin:

I read the top line.

Sydnee:

Right.

Justin:

I read the top line.

Sydnee:

So-

Justin:

No problem.

Sydnee:

How am I gonna-

Justin:

So, the people, the listeners are the *guinea pigs* for this intro because we're just testing it out. We haven't tested it on ourselves yet, we're testing it out on them-

Sydnee:

Uh-huh. [affirmative]

Justin:

Do you understand?

Sydnee:

Right, so they are the... They are the- proverbial guinea pigs because we use to-

Justin:

They are the guinea pigs. Exactly.

Sydnee:

We used to do experiments on guinea pigs, I guess.

Justin:

Guinea, the word guinea, yes.

Sydnee:

Uh-huh [affirmative] Yes, and what... Do you know other things that have the word guinea in them?

Justin:

Um, no. I don't.

Sydnee:

Guinea worms.

Justin:

Whoa. Seamless transition!

Sydnee:

[laughs] That was awful.

Justin:

That was one of our best.

Sydnee:

So, although to be fair, I don't think we could have come up with a better intro for guinea worm because there is no way that you accidentally stumble into this topic if you don't already know what it is.

Justin:

Why is that? Well, first-

Sydnee:

Well, because it's a weird thing, and you don't know anything about it, right?

Justin:

Not a darn thing.

Sydnee:

Okay.

Justin:

Uh, did anybody suggest this?

Sydnee:

Yes, lots of people suggested this. Uh, Jessica, Primrose, Dawn, Karen, and Jonathon, thank you all so much. Uh, this is a, a weird topic, not... You know, we usually... Most of our topics that I think we cover are like, kind of bigger, broader things. Like, we've talked about diabetes-

Justin:

Sure.

Sydnee:

And like, plague, and urine. This is a more specific topic. Um, it's... And like I said, there's no way... You probably don't know anything about this, and have never heard of it, and, and it's kind of weird, though, so I think it'll be fun to talk about.

Justin:

Well, good. Sydnee, let's, uh... Let's not waste any more, uh, chin music on this, let's just get going.

Sydnee:

Chin music?

Justin:

Yeah. No more chin music, let's just keep going.

Sydnee:

All right. So, a guinea worm is a parasite. It's in the phylum of, uh, Nematoda, so it's a nematode.

Justin:

Got it.

Sydnee:

So it's a little worm, okay?

Justin:

Tiny worm.

Sydnee:

It's a tiny, tiny worm, and it lives in the gut of a water flea called cyclops.

Justin:

Okay, so-

Sydnee:

It can swim around in water, but then it-

Justin:

The-

Sydnee:

That's where it has to grow, is in the gut of this water flea called cyclops.

Justin:

Revered X-Man, Cyclops.

Sydnee:

Yes. [laughs]

Justin:

Uh, leader of a, a rebel band of mutants, built on a... Uh, hellbent on taking over humanity.

Sydnee:

Yes.

Justin:

I am not an *X-Men* fan, I'm Brotherhood all the way. I don't trust those X-Men.

Sydnee:

I don't... I have no... I have no idea of what you're talking about.

Justin:

Evolve or die, X-Men.

Sydnee:

I don't-

Justin:

Evolve or die. That's what I say.

Sydnee:

Does that have something to do with Wolverine, 'cause he's the cool one.

Justin:

Don't do this. Don't pretend-

Sydnee:

Wolverine's the one everybody-

Justin:

Don't deny.

Sydnee:

You know, 'cause he's got the big-

Justin:

Don't deny yourself.

Sydnee:

Hugh Jackman, with the hair, and the claws.

Justin:

Don't put up bumpers on your identity.

Sydnee:

I'm kidding, I... No.

Justin:

You love Wolverine.

Sydnee:

Well, doesn't everybody love Wolver-...

Justin:

I don't. Actually, I don't like Wolverine all that much.

Sydnee:

Before... Okay. Before he got all, like, Wolverine, yeah.

Justin:

Okay. So-

Sydnee:

I prefer Jean Gray.

Justin:

Okay, good. I prefer Cyclops, which is the... Because he is a-

Sydnee:

A water flea-

Justin:

Water flea-

Sydnee:

With worms in his gut. [laughs]

Justin:

[laughs] Puts a whole `nother spin on that character. I can see why he's so cantankerous now.

Sydnee:

Uh, what happens is the, the water fleas live in the water. Got that?

Justin:

Okay.

Sydnee:

And humans accidentally ingest them because they're so small, you don't know they're there.

Justin:

Great.

Sydnee:

So you drink the water, you ingest the water fleas, the-

Justin:

Do you think that's ever happened to me?

Sydnee:

No. It absolutely has not.

Justin:

Okay, good.

Sydnee:

Uh, because you're gonna find out what happens later, and then you're gonna be freaked out.

Justin:

Okay, good. Great.

Sydnee:

So-

Justin:

Good, good, good.

Sydnee:

So, the water fleas are, are swallowed by the humans. Now at this point, you should know that the water fleas are probably... They're pretty much, like... They're not dead, but they're kind of like zombie little creatures now. They're filled with these... With these little, um, worm larvae and eggs, and like, the worms, like, when they get inside the cyclops, like eat their ovaries, and testes, and all this kind of...

It was... I read this really graphic description of what they do to the water flea, which is even worse than what they do to us. Uh-

Justin:

Excellent.

Sydnee:

So they kind of destroy the cyclops inside. The cyclops is finally digested by us, right? So it gets to our stomach acid, we break down the water flea, so the water flea casing is gone, releasing the guts, re-... Or, releasing the worm into our guts.

Justin:

This is-

Sydnee:

You got that?

Justin:

Yeah. I'm having trouble not getting it-

Sydnee:

So-

Justin:

This is uniquely unpleasant.

Sydnee:

So, the worms are not digested.

Justin:

Okay.

Sydnee:

The worms can survive. The parasite is there.

Justin:

Of course they can.

Sydnee:

Um, and so, they kind of like, swim around in there, and they mate. Um, and the... And after, uh, guinea worms mate, the males die.

Justin:

Okay.

Sydnee:

Um, and-

Justin:

Something, something, [inaudible 00:06:22] something, something, "Take my wife please." Okay.

Sydnee:

Great one. That was a good-

Justin:

Thanks.

Sydnee:

Good, good bit. Uh, so the male dies, the females do not. They grow because they're now, you know, gestating eggs, um, and they get bigger, and bigger, and bigger, um, about a meter, so about, like, three feet, right?

Justin:

[gasp] Okay. Excellent.

Sydnee:

So, they get pretty big. Um, and so, they're in our gut, they're really big, they're full of eggs now, and they need to release those eggs to be free to the world, so what they... What the worm does is it starts burrowing through our tissues, uh, until it gets to an extremity. It's looking for a way out, and it works it's way down. It just... That's how it knows to travel is down, so, um, it goes down our legs, through the tissue in our legs, to our feet-

Justin:

Mm-hmm. [affirmative]

Sydnee:

And by the way, this is about... At this point, this is about 10 to 14 months after you first swallow the flea-

Justin:

Oh, great. Cool.

Sydnee:

So you have no idea that this is happening. You... And you don't, you have no clue this is happening the whole time.

Justin:

Cool.

Sydnee:

Until at this point, a blister will pop out on your leg, probably like, your ankle or your foot, low on your leg, or your foot, um, and what happens is it's, it's incredibly painful. So the natural thing to do, it makes you want to stick your foot or your leg in water. That is what people tend to do.

Justin:

Okay.

Sydnee:

Which is perfect, that's exactly what the guinea worm wants because you stick your foot in water, and it then vomits some of it's eggs out-

Justin:

Ah.

Sydnee:

Through the blister, into the water, to continue the cycle, you know, so that they can infect cyclops, and then other humans can drink those cyclops, and blah, blah, blah, blah, blah.

Justin:

Ehhhhh.

Sydnee:

Right?

Justin:

I hate this.

Sydnee:

Uh, it results, of course, in this worm being in your leg, uh, and you get fevers, you get swelling where the, you know, worm is, and the eggs are being released, and it's extremely painful. And then, obviously the worst case, uh, scenario is that the- there's a worm sticking out of your leg.

Justin:

Okay-

Sydnee:

Which is-

Justin:

Yes, that's very unpleasant.

Sydnee:

Um, a foot long worm, or a three foot... Sorry, three foot long worm. So-

Justin:

Okay.

Sydnee:

That's why we're gonna talk about guinea worm.

Justin:

That sucked.

Sydnee:

Sorry.

Justin:

That sucked.

Sydnee:

So that's why we know you don't have it.

Justin:

Yeah. You would have heard about it every day for the rest of my life, constantly.

Sydnee:

There's also another reason you don't have it, and that's Jimmy Carter, but we'll get to that.

Justin:

Do you... Does it make you sick?

Sydnee:

I mean, did, did that sound like something that happens to someone who's well? [laughs]

Justin:

No, that's fair. That's fair.

Sydnee:

No, you... I mean, you get fevers, but otherwise it's just that your leg hurts really freaking bad. Uh, it... This is also called, by the way, Dracunculiasis, which I think is a... Is a good name because it sounds scary, right?

Justin:

Yeah, it does.

Sydnee:

Dracunculiasis.

Justin:

[Dracula voice] Dracunculiasis.

Sydnee:

It sounds really awful. It's also known as the Pharaoh's worm, and it is an-

Justin:

Classy.

Sydnee:

Yeah. It is an ancient disease. It isn't... It has been a known entity for a very long time. It's referenced in the Ebers Papyrus, which we've talked about

before, ancient Egyptian text. Um, and they actually already kind of knew how to take care of this, how to... How to fix this problem.

Justin:

How to... What did you... What did they do? What would you do?

Sydnee:

So, so what they describe in the Ebers Papyrus is that as the worm starts to emerge from your leg, you start winding it around a stick slowly to remove it. And they describe that process in the Ebers Papyrus.

Justin:

At the risk of prolonging this mental image, like, how long are we talking, like slowly emerging, or-

Sydnee:

Weeks.

Justin:

That is cool. [singing] Hope you didn't have any first dates, because that's gonna be hard to explain. No more going out in shorts for a real long time.

Sydnee:

Yep.

Justin:

Wow. This sucks!

Sydnee:

Yes, it does. It is likely referenced in the Old Testament, this specific guinea worm, this Dracunculiasis is probably referenced in the Old Testament. In Numbers, there's a point where they talk about fiery serpent descending upon the Israelites-

Justin:

Mm-hmm [affirmative]

Sydnee:

Um, specifically when they are along the Red Sea, and, uh, guinea worm, at the time would have been endemic in that area, um, and they, they think that that is, is what they are... What they're talking about.

Justin:

That is just wholly, wholly unpleasant, top to bottom.

Sydnee:

They have found, um, calcified guinea worms in mummies, so we know it's been around for a really long time. When you're out there looking for mummies to eat.

Justin:

During your mummy hunting sessions?

Sydnee:

Yeah, sometimes you find calcified guinea worms. Um, it was probably there, and then it was brought to Mesopotamia, uh, from captured prisoners who had guinea worms in them. Um, and it's... It... Like I said, it's really efficient at continuing its species because it makes you want to stick your leg in water, and then it vomits its eggs into the water.

And then, like I said, then other humans are gonna end up drinking that.

Justin:

Like, my skin is crawling.

Sydnee:

Or, it's larvae, I should say, not its eggs. Larvae.

Justin:

I feel like it's gonna fall off. Like, I feel like my skin's gonna come off of my body.

Sydnee:

It's really horrible, right?

Justin:

I'm not even upset by stuff like this, and this is like, the most profoundly upsetting *Sawbones*, I think ever, maybe worse than cataracts. I'm not sure, the jury's out. Please let us know, @sawbones on Twitter.

Sydnee:

[laughs] This is... This is why everybody wants us to talk about it. Th-... And this is why, also, things like... We haven't talked a lot about parasites on the show. Um-

Justin:

Yeah, I've been meaning to rectify that.

Sydnee:

No, well, I have.

Justin:

We can get really deep in the parasite game.

Sydnee:

I have, because I love parasites.

Justin:

Who doesn't?

Sydnee:

I mean, I don't love parasites, they're awful, but you know, I mean, they're, they're crazy to talk about.

Justin:

You, you love them. You can say it.

Sydnee:

The problem is that... Well, I kind of do. For a lot of them, um, they... There isn't like, thi- this huge history. For guinea worm there is, uh, but they're crazy to talk about, 'cause they shouldn't be in you. A lot of these worms end up in you, and it's not a good situation. You weren't... You're not... I don't know. They just do a lot of damage.

Anyway, uh, Greek, and Roman, and Persian physicians all wrote of the guinea worm. Um, Galen wrote about it, Avicenna wrote about it. Galen named it, um, which is weird because he never saw it. He never... He, he notes that he never saw a patient with it, but he read about it, and heard about it. [laughs] Heard about it from a friend.

Justin:

That's classic Galen, he's just trying to glom onto other people's successes.

Sydnee:

And then the name is, is a Latin reference to little dragons, which, which is befitting.

Justin:

Right.

Sydnee:

Um, he thought, though, and this was, uh, a common misconception. A lot of people thought that it was like a, um, a nerve sticking, like a protruding nerve.

Justin:

What did they think nerves did?

Sydnee:

[laughs] They had no idea what nerves did.

Justin:

I mean, I guess if you touched it, it would prob-... I can't. I can't even th-... Bwaaaaah!

Sydnee:

Yeah, they had no idea what it was, and so they... And... But they didn't know what nerves were, and so they thought, "Well, maybe it's a nerve. I don't know. I've seen... I've cut people open and seen nerves in there, so maybe it is. Maybe it has something to do with why... With that." Um, the, the Greeks did write about the associa- association with water, uh, when it comes out.

Like, they knew that if they saw that blister, they knew that you could stick your foot in water and it would make the worm emerge, um, 'cause it will. Um, and they also, uh, reference the idea of winding the worm around a stick in order to remove it slowly, you know, to kind of wrap it up very, very slowly, like I said, over the course of weeks.

Um, and as many people have, have mentioned when they have suggested this topic, that is prob-... That is thought to be, we don't know for sure, but that is thought to be where the medical symbol, the snake wrapped around the stick-

Justin:

Sure, the, uh... The caduceus?

Sydnee:

No.

Justin:

No?

Sydnee:

No, the Rod of Asclepius.

Justin:

Rod of Asclepius.

Sydnee:

Yes.

Justin:

I actually knew that, and I felt... Um, I was just trying to play my character of dumb Justin, but I'm honestly too broken inside to even... To even front.

Sydnee:

So, you knew... So, you knew that it was probably the guinea worm is where that came from?

Justin:

No, I didn't know that.

Sydnee:

Oh.

Justin:

I don't know anything about that, but I know it's the, the Rod of Asclepi...pius...

Sydnee:

Yes. So, that... So they... There's some thought that it's actually, um... It's actually a worm wrapped around a stick and that it's a... Because that would have been a sign of healing, you know, because that's how you, you healed this affliction. Um, and that that is where this comes from, which I think is a good, by the way, segue into... 'Cause you said caduceus-

Justin:

Yep.

Sydnee:

And our show symbol is caduceus.

Justin:

Yep.

Sydnee:

Right?

Justin:

Staff of Hermes, right?

Sydnee:

Yes.

Justin:

Is that the other thing?

Sydnee:

Yes. Yeah. Exactly.

Justin:

Okay.

Sydnee:

Mercury, Hermes. Yeah. Which has nothing to do with medicine, initially.

Justin:

Got it.

Sydnee:

Right?

Justin:

Yes.

Sydnee:

As many people like to point out.

Justin:

Yes.

Sydnee:

The Rod of Asclepius, which is one snake wrapped around a stick, is what was the medical symbol.

Justin:

Right.

Sydnee:

And is used by, I think, like, the World Health Organization uses it.

Justin:

But the caduceus is two snakes.

Sydnee:

The caduceus is two snakes, and it was not initially a medical symbol, but this is what I'm gonna say now, and this will be the end of it, okay?

Justin:

Okay. I'm ready.

Sydnee:

But symbols-

Justin:

Welcome to Syd's soap box.

Sydnee:

Symbols have meaning that we pin on them over time, and they can change. And now, when someone sees a caduceus, what do they think?

Justin:

M- medicine.

Sydnee:

They think medicine. So, if we use a caduceus in our *Sawbones* logo, people know that it's about medicine, and also, it has two snakes, and there are two of us, and one is wearing a dunce cap, and that is funny.

Justin:

It is funny. I chuckle every time.

Sydnee:

And so, it works way better for our show. Also, also, I have a caduceus tattoo, and I thought about getting the Rod of Asclepius, and then I thought, "Nobody's gonna know what that is. Everybody associates the caduceus with medicine. So what if it wasn't initially? It is now."

Justin:

Because that's how symbols work.

Sydnee:

Because now, people look at it and go, "Oh. Are you a doctor? Are you in medicine?" If I had the Rod of Asclepius, they'd go, "Is that a snake?" Sorry.

Justin:

Sorry.

Sydnee:

There's a reason.

Justin:

There.

Sydnee:

I'm sorry, and I know there are nerds like me out there who know the difference, but most people just see a caduceus and think medicine.

Justin:

Well, if you, uh... Well, some of you are... Have been sufficiently put on blast, or maybe none of you. Maybe Sydnee was shouting in the wind. I have no idea.

Sydnee:

[laughs] At least one person once, probably one time said that.

Justin:

Absolutely, and now we will come to hat... You hat in hand, asking for money. Let's go to the billing department.

[ad break]

Justin:

So what, Sydnee, did people think that the-... That these guinea worms were?

Sydnee:

So, like I said, th- there were some theories that these guinea worms were nerves emerging from the skin. Some people thought that it was some kind of dead tissue, and you just needed to kind of, like, yank it out and then that would fix everything, 'cause it's dead-

Justin:

And it didn't, right?

Sydnee:

And you're alive.

Justin:

Like, it can just get through that no problem?

Sydnee:

Um, what, if you just yank it out?

Justin:

Yeah.

Sydnee:

So, and that, that is a point I wanted to make, 'cause a lot of people probably wonder that question. Why are you slowly wrapping a worm around a stick, just get the worm out of my leg. [laughs]

Justin:

Right. It's awful.

Sydnee:

So, that's really bad. You don't want to accidentally break the worm. You don't want to pull it in half.

Justin:

Yeah, listen. I've drank tequila enough to know not to break the worm.

Sydnee:

[laughs] The, the reason is that, uh, if you were to just, like, tear the worm, um, one, the rest of the worm would kind of... I mean, it would be stuck inside you.

Justin:

Great.

Sydnee:

Right?

Justin:

Excellent. How cool.

Sydnee:

You can't... The only way you could get the part that's way up inside your leg out is if it's attached the part that's already hanging out of your leg-

Justin:

Okay.

Sydnee:

Um, without surgery. And of course, if we're talking about ancient times, surgery meant death.

Justin:

[singing] How's the rest of your life? You've got a dead half a worm in your leg.

Sydnee:

Yes. And the worm will... If you rip it in half and it dies, it's gonna create an intense inflammatory response, number one. So, it's gonna be really painful, and swollen, and inflamed. Number two, it's almost certainly going to get an... Horrible infection afterwards. You're gonna have bacteria in there- and you're gonna lose the leg.

And, and if we're talking about ancient Rome, or Greece, or wherever, you're gonna die.

Justin:

So, like, okay. So, ugh. Oh, this episode sucks. So, you're gonna tell me that I'm gonna see a weird little worm emerging from my leg, my favorite... One of my top two favorite legs. I'm gonna see a little worm emerging from it,

and my first thought is going to be, "Oh, holy Moses. I have to keep this thing alive."

Sydnee:

Yes.

Justin:

"No matter what-"

Sydnee:

Yep.

Justin:

"I have to keep this thing alive."

Sydnee:

You and the worm are in this together-

Justin:

We are a team, you and I.

Sydnee:

Until it's completely out, in which... At which point, you can kill it.

Justin:

Man, that really stinks. Ugh!

Sydnee:

Now-

Justin:

Oh, I hate the guinea worm.

Sydnee:

Linnaeus figured out that it was actually a worm, but this wasn't 'til like, the end of the 19th Century, so it took us... Or no, no, no. He, he figured that out earlier, he figured out that it was a worm, but it wasn't until the end of the 19th Century that we understood like, the whole thing with the water flea, and the life cycle, and the fact that it lived in water, and, and how we got it.

Um, and so, it wasn't until then that we could actually do anything effective to try to stop, uh, from getting the guinea worm. Um, which by the way, I haven't mentioned this, it- it's called the guinea worm because, uh, European travelers called it that because they would, uh, get into the water off the coast of, uh, Guinea, in Africa, and that's often when they would get it, and so they started calling it that.

Justin:

I thought the name was a reference to like, tiny dragons, or something.

Sydnee:

That's dr- dracunculiasis.

Justin:

Oh, sorry. Okay, yeah, makes perfect sense.

Sydnee:

Yeah, that's the... That's the proper name for it, but most people know it by guinea worm.

Justin:

Got it.

Sydnee:

Um, so like I said, uh, by the end of the 19th, uh, Century, a Russian scientist, Fedchenko had described it's life cycle, and we kind of understood, "Okay, so drinking water is the problem if it has the fleas in it, blah, blah, blah." And we actually start to see it being eradicated bit by bit, just with this understanding from different places.

Justin:

Wow.

Sydnee:

So, once, um, Fedchenko described that, we see it, it disappear pretty quickly from the Soviet Union, from the Americas, from the Middle East, from North Africa, um, but it persists as an issue, uh, in India, in Pakistan, and Sub-Saharan Africa up until the 1980s. And this is why I said you can thank Jimmy Carter-

Justin:

Oh, yeah?

Sydnee:

For you not having guinea worm. Um-

Justin:

I would... I would track it to my, uh, fear of going into bodies of water, but go on.

Sydnee:

[laughs] So-

Justin:

No natural water for me. "Hey, come du-... Jump in the creek with me." "No, I don't think I will. Uh, I don't know if you heard about this thing called guinea worm, but I'm never getting into a creek again."

Sydnee:

You think-

Justin:

I used to love crickin'.

Sydnee:

That's... [laughs] Is that what that's called?

Justin:

Yeah, you go out crawdaddin', you get some cricks. Grab a crick, get some crawdads, rather?

Sydnee:

I don't think that's the thing.

Justin:

Oh, sure, yeah, that's West Virginia, we have that.

Sydnee:

You can't go out 'senging.

Justin:

With... Now what's 'senging?

Sydnee:

You never heard of 'senging?

Justin:

I have not.

Sydnee:

So, um, you get... You collect ginseng. Wild ginseng grows in West Virginia.

Justin:

Oh, okay.

Sydnee:

This is a true thing, wild ginseng grows in West Virginia, and it's worth a lot of money, so if you can collect some, you can sell it for, you know, people who like nature-y things use it for herbal things.

Justin:

Just wait, like, a few weeks, I'm sure there'll be two competing reality shows on TLC and Animal Planet about it.

Sydnee:

About 'sengers?

Justin:

'Sengers. 'Sengers. One will be called 'Sengers, and the other one, couldn't call it 'Sengers, so they'll be like West Virginia Wild Boys, or something like that.

Sydnee:

[laughs] I am... If there is a show called West Virginia Wild Boys, I am all over that.

Justin:

Yeah.

Sydnee:

I so want to watch that. Pour me a beer, I am-

Justin:

I'm just gonna start-

Sydnee:

Strap in.

Justin:

I'm gonna start searching it on the Direct TV Now for fear that I'll miss it, should it ever be created.

Sydnee:

So, uh, so Jimmy Carter. He, he decided that, you know... And this is pretty cool, because you have to think, like, this was not a disease that was affecting, first of all, anybody in this country, and secondly, anybody in most places.

Justin:

Mm-hmm [affirmative]

Sydnee:

Um, it was limited, at this point, to, to just a few places, but it was still a huge problem. When he started tackling this issue, about 3.5 million people a year were getting this.

Justin:

Ugh!

Sydnee:

Okay? So that's a lot of people to have a worm slowly removed from their leg.

Justin:

Yes.

Sydnee:

So, he decided to form a coalition to eradicate it. Um, he worked with UNICEF, and the World Health Organization, and, and then of course, the Carter Center, and what's fa-... What's amazing is that the way that... That they did this was mainly through prevention, was through having people filter their drinking water.

Justin:

That's it?

Sydnee:

That's it. Just filter your drinking water. 'Cause a... 'Cause a simple mesh filter can filter out the water fleas.

Justin:

Huh, okay.

Sydnee:

So, through just having people filter their drinking water, and educating people, um, by 2010, it, it, it, it persists in only four African countries, and it is still dropping, in terms of the rate. Uh, last year, in 2014, there were only 126 cases of guinea worm.

Justin:

That's, an- astounding!

Sydnee:

Down from 3.5 million, uh, back in, I think it was '86, I believe, is when this started. Um, and just a word on this, the Carter Foundation, by the way, they target, um, this and four other neglect... What they call neglected tropical diseases. So, basically what we mean is it's not affecting us, so-

Justin:

Right.

Sydnee:

We're not gonna... Basically, we're not gonna think about it, which is terrible, and, and they look for problems that no one else wants to take on, which I think is crazy cool.

Justin:

I agree.

Sydnee:

Um-

Justin:

They're sort of like us, if you think about it. A lot of people aren't talking about these topics, and we have the courage to, uh, take them on, and help bring them out, you know, kicking and screaming into the light of knowledge and awareness, and that's us doing our part, really, to help heal the world.

Sydnee:

I thought we were just trying to make people laugh.

Justin:

Um, yeah, but w-... Failing that, we, we are also saving the world.

Sydnee:

Okay. Well, good. Yay!

Justin:

Yay us!

Sydnee:

So, we've kind of talked about the treatment-

Justin:

That was intentionally self-aggrandizing, and you didn't really pick up on that, so I thi-... I'm worried that your straight laced response made me sound like kind of a tool box.

Sydnee:

[laughs] I thought... I thought I was supposed to... That was my thing. I have a straight... Like, that- that's what I do. That's my character.

Justin:

Yeah, but like, you cannot f-... Be afraid to pull me down to earth when this chubby Icarus flies too close to the sun. [laughter] You've got to... You've got to trust your instincts, Smirl.

Sydnee:

I know... I know what you think of, of your podcasting abilities, so I never, you know, underestimate your ego when it comes to that.

Justin:

Yes. See, that's good. Puncture. That's good. Now, you don't mean that, of course, but like, that's good for the show. That's good material, that's good patter.

Sydnee:

[laughs] So, we've talked a little bit about the treatment of guinea worms, just to... Just to make it clear, by the way, this is still the treatment. I don't know if I made that perfectly crystal clear.

Justin:

Yeah.

Sydnee:

You slowly wrap it around a stick as it emerges from your leg.

Justin:

That's crazy.

Sydnee:

That is still what we do.

Justin:

That's crazy. There's no pill or something?

Sydnee:

No, no. There, there is no vaccine, there is no good, um, medicine you can take for it. You just slowly apply traction, wrapping it around, you know, a stick, or a piece of gauze or something. Over the course of, again, weeks. Most people are out of work for an average of three months while they are being treated for this, um, and that is the biggest impact.

Not just... I mean, 'cause people, if they're treated appropriately, they, they don't die from this, um-

Justin:

Mm-hmm [affirmative]

Sydnee:

For the most part, but, uh, they, they are out of work, they can't do anything. They just sit in a room because they hurt all the time, and they can't do anything to disturb the worm or they will die, so... Or at least get really, really sick. Um, so the social impact of the disease is horrible. You know, the socioeconomic impact for, for years, was awful.

Um, the... Like I said, the worm is a meter long, so it takes a while, and you can treat them with pain medicine, and then put some like, topical antibiotic ointment on the site, just to make sure it doesn't get like, superficially infected, but-

Justin:

I, I have to say, this is all nightmare-ish, obviously, that there's no, like... I mean, obviously, this is terrible but... I will say, the one thing you can say in favor of the guinea worm-

Sydnee:

You have something to say in favor?

Justin:

I have something to say in favor. You and I, in our existence, will never know a day as happy as the day when this person hears a stick rattle to the floor, confident in the knowledge that the worm has worked its way out of their body. [laughter] There will ne-... We... I will never have a day that is as cool as that day because that day is probably the happiest anybody could ever be.

Sydnee:

I mean, we... Look, I gave birth to our child.

Justin:

Nobody on earth could know the extreme thrill of having a worm come out of you for good.

Sydnee:

That's probably true.

Justin:

Yeah.

Sydnee:

That's probably fair.

Justin:

Exactly true.

Sydnee:

Now, I will say one other kind of neat thing about the guinea worm, it makes morphine, which may help... They've done-

Justin:

You make morphine out of the guinea worm?

Sydnee:

No, like it c-... It, it makes morphine, like it releases it, it secretes... I don't know. Like, it... In it's body, it makes it, um, which may help explain why it hangs out in your body for so long, and like, travels through your leg and stuff, and you don't notice, um, that- that's just an interesting thing people have learned studying the guinea worm. Um-

Justin:

See, it's not all bad.

Sydnee:

Another kind of cool fact is that a, a big problem with the guinea worm, with controlling the spread of it was that there are a lot of, um, nomads who would get it from traveling around drinking water from different sources, so it's hard to target these people because, um, you wanted them to drink through, like, you know, a filter, but then they, they don't... I mean, everything they carry, like... Everything they own, they carry with them, and so like, they don't want to carry a filter.

So, they have these, like, cool pipe filters that you can... You can look up, they've got mesh in them, and you can just kind of suck water through them out of a water source, and it will filter the water as you drink it. And so, th- that's one big thing that the Carter Center has done, is give tons of people these filters so they can just like, strap them on, it's like, this teeny little pipe filter, and, and drink through it.

Um, they also print, like, pictures on shirts and dresses that people in, in communities can wear, so they just send them the-... Send them into villages, like, new clothes, and the pictures have like, a woman using a filter with no guinea worm, and then another woman who isn't using a filter, and she's got a guinea worm sticking out of her leg. And so, it's like the easiest way, no matter what the language barrier is, if people can't read it doesn't matter, just to, like-

Justin:

I would totally wear that shirt.

Sydnee:

Th- there's pictures of them online, they're pretty cool.

Justin:

I would love that.

Sydnee:

What's kind of crazy is you know if we got rid of the last case of guinea worm, it would be gone, I mean, like, forever, like we would eradicate the guinea worm completely?

Justin:

'Cause it's an animal, right?

Sydnee:

Well, 'cause it's a parasite. It has to have a human, so it can't just live in the... In the water fleas in the...

Justin:

Huh.

Sydnee:

In the water forever, it has to have a human host. So if we, like, completely eliminate it from going into humans, it'll just die and that'll be it. It'll be just...

Justin:

Well, I hope it's not important to the ecosystem or anything.

Sydnee:

It'll be like the...

Justin:

Kind of playing with fire there.

Sydnee:

Yeah. I mean, me too.

Justin:

Okay, well, Sydnee, I... This has been a uniquely upsetting episode, and of course, there's like, as, as hard as it is for me to just, like sit here and conceive of it, there are... It's good to remember there are people who are like, struggling with this every day, so I'm glad-

Sydnee:

And-

Justin:

It's, well, so many fewer now, though, so that's good.

Sydnee:

Yeah, and hopefully, hopefully in the next couple years, we will see the end of guinea worm forever-

Justin:

Take that, guinea worm.

Sydnee:

Which would be awesome.

Justin:

Uh, thanks to you, so much for listening. Thanks to Maximum Fun Network for having us on, they've got a ton of great, uh, programs for you to enjoy. Uh, this week, I'm going to recommend *The Flophouse*, which is a show about bad movies, and, uh, it is... I know that there are a lot of shows about bad movies, but this one's been going on for like, a decade or something. There are tons of episodes, and they're all really, really funny, so you should, uh, listen to, uh, *The Flophouse* on Maximum Fun Network, and there's a lot of other great shows there for you to enjoy.

Uh, thanks to The Taxpayers for letting us use their song, *Medicines* as the intro and outro of our program, and, uh, thanks so much to you for listening. Uh, until next Wednesday, I'm Justin McElroy.

Sydnee:

I'm Sydnee McElroy.

Justin:

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

[theme music plays out]

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