

Sawbones 150: Doping

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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.

[Intro, theme music plays]

Justin:

Hello, everybody, and welcome to *Sawbones: A Marital Tour of Misguided Medicine*. I'm your co-host Justin McElroy.

Sydnee:

And I'm Sydnee McElroy.

Justin:

[making musical noises]

Sydnee:

Hold on. You're doing a... An Olymp—

Justin:

[Continues doing what seems to be the Olympic theme music]

Sydnee:

That's an Olympics music thing, right?

Justin:

[Imitates Olympics theme]

Sydnee:

Okay.

Justin:

It's a good theme.

Sydnee:

That was pretty good.

Justin:

You know who wrote that?

Sydnee:

No.

Justin:

John Williams, composer of *Superman*, *Harry Potter*—

Sydnee:

Really?

Justin:

... and *Indiana Jones*, all those movies.

Sydnee:

I had no idea.

Justin:

Star Wars, obviously.

Sydnee:

I didn't know that.

Justin:

Yeah, it's a John Williams joint.

Sydnee:

Is that the official...? I mean, that's just like for the... That's the Olympics theme just for us here—

Justin:

That—

Sydnee:

... stateside, right?

Justin:

... is actually a really good question, I—

Sydnee:

Like they're not playing that, you know—

Justin:

I think it's the official one, like all over.

Sydnee:

... in Rio. Well, no, I mean like if people were watching the Olympics in Rio, they're not playing that music—

Justin:

They had—

Sydnee:

... are they? Are they?

Justin:

Are they?

Sydnee:

Or is it... I mean, that's gotta just be in the US, right?

Justin:

I literally don't know. I mean, I think it's their theme. I don't think you would buy—

Sydnee:

The Olympics' theme?

Justin:

I don't think you would buy... Like, okay, if you're, the Olymp- I don't think you would buy an Olympics theme and be like, "No, I don't think this John Williams music is gonna fly internationally."

I think it's probably for the wor—

Sydnee:

Well, you never... Tastes are different. Maybe not everybody—

Justin:

This is—

Sydnee:

... digs that.

Justin:

This is not the way to begin our podcast. Obviously I'm talking about the Olympics. And we—

Sydnee:

That was the... That was the theme music to the Olympics, I guess?

Justin:

As sung by the Justin Pops Orchestra, yes.

Sydnee:

[laughs]

Justin:

But we're continuing our Olympics coverage this... this... during the Olympics.

Sydnee:

Our... [laughs] Our own version of Olympics coverage.

Justin:

Yeah, our own going—

Sydnee:

We're not gonna tell you anything about the events or who's winning them or... anything actually pertaining to the current Olympics that are happening.

Justin:

Uh...

Sydnee:

We wanna talk about medical issues sort of surrounding the Olympics.

Justin:

Okay. 'Kay. So—

Sydnee:

Or hopefully not.

Justin:

Yeah. With any luck. Give me an example.

Sydnee:

Well, for example, how about some performance enhancing drugs?

Justin:

Absolutely.

Sydnee:

I thought we should talk about that a little bit.

Justin:

Yeah. I'm... I'm in.

Sydnee:

Now, let's hope that nobody's using these.

Justin:

Nobody's ever used any performance-enhancing drugs.

Sydnee:

Well, that's not true.

Justin:

No, they are a myth.

Sydnee:

That's not true. The Olympics have a long history, specifically the Summer Olympics.

Justin:

Yeah. 'Cause nobody cares enough to cheat in the Winter Olympics, right?

Sydnee:

No, I don't know why. I just, a lot of the things that I wanna talk about, I'm gonna talk about performance-enhancing drugs.

And a lot of the things I'm gonna talk about, it was specifically mentioned, were more popular in the Summer Olympics than the Winter Olympics.

And then they even say like, "In the Winter Olympics there's rarely any doping."

I don't know why. Like it's too cold to—

Justin:

I feel... Okay.

Sydnee:

... bother? Like I [laughs] —

Justin:

I think part of it is that the Olymp—

Sydnee:

... am not sure. [laughs]

Justin:

... the Winter Olympics are, if you'll forgive the expression, chill.

Sydnee:

[laughs]

Justin:

A lot of the events there are like, you stand at the top of a hill and wait. That's skiing. You stand on top of a hill in a sled and that's bobsledding or toboggan race.

Sydnee:

Now you've watched these events before and you know they go down the hill at some point, right?

Justin:

Yeah. But that doesn't require any effort on their part. Gravity takes care of it, is what I'm saying.

Do you understand? It's just easy. You just chill out and wait.

Sydnee:

I would say that some of the Winter Olympians would disagree.

Justin:

Let's see. I'll name all of them. There's the one where you ski and shoot stuff, that's half hard, I guess. Skating, okay. You got me there, but that's all the Winter Olympics, so...

Sydnee:

Right. Well, let's just focus on the summer ones since that's what's going on right now.

Justin:

Okay. Got it.

Sydnee:

And let me clarify too, I wanna talk about some performance-enhancing drugs, some specifically using Olympics, and then just in general in sports.

You know.

Justin:

Mm-hmm.

Sydnee:

These people wanna do well in all sports, I guess. And this was inspired by John Bois who has done a really cool video on one particular use of performance-enhancing drugs in the Olympics.

Justin:

Which Olympics? It was the—

Sydnee:

The 1904 Olympics, specifically the marathon.

Justin:

It was a real debacle, right?

Sydnee:

Yes. And that kind of inspired me to look into some other crazy substances that athletes have used over time to try to boost their performance.

Similar to cupping that we talked about last week.

Justin:

If you haven't seen John's great video series, *Pretty Good*. It's... Well, it's really good. It's not just pretty good. And you can find it on YouTube or spnation.com, I believe.

Sydnee:

And I would highly recommend it, not just the one that I'm in.

Justin:

No, it's a great series.

Sydnee:

So we've... We talked about a little bit of this too on the arsenic episode that arsenic has been used throughout history as a ...

Justin:

Mm-hmm.

Sydnee:

... as a performance enhancing drug, but there's a lot of other substances that we would think of traditionally as like dangerous or poisonous that have also...

So I used the word "doping" a few minutes ago.

Justin:

Right.

Sydnee:

The w- Do you know where the word doping comes from?

Justin:

No. I mean, I know loosely what you mean by it but...

Sydnee:

Right. When I say "doping," I mean like using... using some sort of performance-enhancing drug.

It comes probably from the Dutch word "dupe," which is some sort of viscous opium juice. And that was the performance-enhancing drug of choice for the ancient Greeks...

Justin:

Oh wow! Oh, wow!

Sydnee:

... in the Olympics.

Justin:

That's wild.

Sydnee:

Yes. So dupe, and then doping and there you go.

Of course now when we say it, we don't necessarily mean opium juice. We often don't. The ancient Greeks were fans of using this to perform better in sports.

As well as eating a lot of meat was one of their tricks of the trade and drinking a lot of wine and then sometimes eating animal testicles.

Justin:

You know, I saw—

Sydnee:

[laughs]

Justin:

... a report on vox.com. We're just going through all the Vox properties today, but I saw a report in there that Olympic athletes are actually getting a lot healthier with their diets.

Which is wild, if you think about the fact that they weren't healthy before, but there used to be a lot more like, carbo loading and—

Sydnee:

Mm-hmm.

Justin:

... and calorie intake and... But I guess athletes are getting a lot more diligent about their diets. Not... and not eating a lot of animal testicles.

Sydnee:

I don't know how many, fewer.

Justin:

A few is fine.

Sydnee:

They're definitely cutting back on animal testicles.

Justin:

You gotta live, right?

Sydnee:

It was, in the third century in Greece, it was common for Olympic competitors to use shrooms, as in magic mushrooms.

Justin:

[incredulous] What?!

Sydnee:

Psychedelic shrooms to gain advantages in races.

Justin:

"So, how did the marathon go?"

"Well, it was going pretty good. I was winning. Then halfway through I decided to run into a ditch—"

Sydnee:

[laughs]

Justin:

[As Shroomed Up Marathon Runner] "... and become a fish there. And I lived there in a kingdom made of cotton candy and it was like, so good and like really kind of an awakening for me in a way that...

"Like, I dealt with a lot of stuff with my dad that I had never... It was great. It was a good marathon, is what I'm saying. It was a really good marathon."

Sydnee:

But then the weird thing is, I guess, then you got up and won the race? Because people did it.

Justin:

Well, if everybody did it, that would be like the best. That would be the—

Sydnee:

That would be fun to watch.

Justin:

The best.

Sydnee:

Can you imagine how much more fun...?

Justin:

Ratings off the charts.

Sydnee:

[laughs] Just... just think about that, NBC. Just think about it.

In the Roman chariot races, not necessarily an Olympic event, but a sporting-esque event, they would often dope in some way, take some substance.

A lot of the things we've already mentioned, but they would also dope their horses. [laughs]

Specifically they would feed them substances like hydromel, which is this alcoholic beverage that was made from fermenting honey.

And they thought it would make them run faster. So...

Justin:

Why... why honey? Why would that... I guess it... Energy?

Sydnee:

Yeah.

Justin:

You feel energetic, maybe?

Sydnee:

So what... For whatever reason they thought this alcoholic beverage would make your horse run really fast. So, dope up your horse so that you can win your chariot race.

Justin:

[laughs]

Sydnee:

Um... [laughs]

Justin:

That should be legal. You should be able to give whatever you want to your horse.

Sydnee:

No! What?!

Justin:

Like I understand why you can't... I understand—

Sydnee:

That's abusing animals! No, you shouldn't. And you should give your horse—
What? Horse food.

Justin:

Horse food.

Sydnee:

[laughs] Whatever... I don't have horses. So I don't have to know how to take care of them, but people who do probably feed them appropriate food for horses [laughing] and they should continue to do so.

Justin:

You don't... So you don't know that heroin isn't part of like, a horse diet?

Sydnee:

I have a strong suspicion.

Justin:

Fair.

Sydnee:

Gladiators also used to use performance-enhancing drugs, which I kind of can't blame `em for.

Justin:

Yeah.

Sydnee:

I mean...

Justin:

Yeah, it's a... It's a tough gig out there.

Sydnee:

It's a little different than like, "I just didn't medal at the Olympics" to "I died."

Justin:

[As Gladiator] "I died `cause—"

Sydnee:

[As Gladiator] "So... I died."

Justin:

[As Gladiator] "... somebody stabbed me and spilled my guts all over the sand", yeah.

Sydnee:

[laughs] So they would use hallucinogens as well as—

Justin:

Not good. Bad.

Sydnee:

Also [laughs]...

Justin:

Bad job.

Sydnee:

... things that were perceived as stimulants, such as strychnine, which we're gonna talk a little bit more about strychnine in particular, to stave off fatigue and to try to be more intense and stay and fight longer.

Justin:

[laughs softly]

Sydnee:

And survive longer to kill more things longer so that it would be a better fight and, 'cause I guess if you won, you probably got a lot more money ...

Justin:

Yeah—

Sydnee:

Or prestige—

Justin:

... or something.

Sydnee:

... or something.

Justin:

Some... a sponsorship deal.

Sydnee:

Mainly you live.

Justin:

Yeah, you don't die. You don't—

Sydnee:

That's the biggest—

Justin:

Yeah—

Sydnee:

... prize.

Justin:

That's a huge plus.

Sydnee:

The Aztec warriors, in order to gain strength before different events, they would engage in, would eat human hearts.

Justin:

Now, is that..

Sydnee:

I don't—

Justin:

Is that permitted? Should that be permitted?

Sydnee:

You know, I'm gonna say that Olympic athletes aren't allowed to eat human hearts.

But at the same time on that list that the, you know, that the IOC has of performance-enhancing drugs that you're not allowed to take, I bet you human hearts isn't on there. [laughs]

Justin:

Yeah. Hey, can I ask a quick question about that?

Sydnee:

Yeah.

Justin:

The... We talked about cupping ...

Sydnee:

Mm-hmm.

Justin:

... last week and somebody mentioned that if it was effective, wouldn't it be banned by the IOC? So like generally speaking, do you... Is it... Do we ban stuff that's like more chemical? Or...?

Sydnee:

Yeah. I mean, generally speaking, yes. And also something that is perceived to give you an unfair advantage.

If it's within the realm of like normal medical care or normal, like physical therapy, kind of. You know, things that you would just do to take care of your muscles and bones and joints?

Then I... you're okay. Something available to everybody and legal and safe.

That's the other thing too. Is it safe?

Justin:

Mm-hmm.

Sydnee:

Which, enh, when we talked about cupping, you could make a case that it isn't.

But the other thing is that, would it actually give you an advantage? And we have no reason to think cupping does.

Justin:

Oh.

Sydnee:

So... But...

Justin:

Yeah. Right.

Sydnee:

But yeah, I mean the big reason when they started, and we'll kind of get into this, but the big reason why they started banning these substances had a lot to do with how dangerous they were.

Justin:

Yeah.

Sydnee:

First.

Justin:

Yeah.

Sydnee:

And then the unfairness second.

Justin:

Makes sense.

Sydnee:

The... There was a tribe from Northern Mexico that used to be famous for doing peyote in order to run a lot.

Justin:

Really?

Sydnee:

Yeah.

Justin:

It seems... I don't know much about peyote—

Sydnee:

I don't—

Justin:

... but it seems like the last thing I'd want to do.

Sydnee:

The best theory I could come up with is just that, like, you don't realize how much you're running. [laughs]

Justin:

I guess. That works for like, alcohol where it's like teleportation, if you get drunk enough, you're just like, "Whoa, I walked home. Amazing!"

Sydnee:

"How did I get there?" The drunk... The drunk walk is the best walk.

Justin:

Yeah.

Sydnee:

It's the fast walk. I don't recommend that. Don't drunk walk.

Justin:

Don't drunk walk.

Sydnee:

No.

Justin:

Don't be- What are you... Who are you... What podcast did you hear that from? Don't do that.

Sydnee:

No, I didn't tell you to do that. Don't get drunk. And if you do, go to bed, what are you doing?

Justin:

What are you doing?

Sydnee:

You're an adult.

Justin:

Look at the time.

Sydnee:

You're up too late. Go to bed.

Justin:

You gotta work in the morning.

Sydnee:

Come on.

Now I mentioned strychnine and strychnine was used very, I don't wanna say commonly, but for a time period, very commonly in races and endurance events, anything that you would have to keep going for a long time.

And it's because it is somewhat similar to caffeine.

Justin:

Okay.

Sydnee:

Like the molecular structure, it is somewhat like caffeine. And so it is a stimulant.

Except whereas caffeine just, you know, worst case scenario makes you feel kind of jittery...

Justin:

Sure.

Sydnee:

... and on edge, strychnine, if you take too much can kill you.

Justin:

That's a big difference actually.

Sydnee:

[laughs] That... It's a pretty big [audio glitch] Strychnine in pills, sort of like caffeine pills, would've been used. Like this is Jessie Spano of the early 1900s—

Justin:

[laughs] ... would've been dancing to "I'm So Excited" and taking strychnine.

Justin:

That would be a very different episode by the way.

Sydnee:

Yeah. Much more... You know what? Much more intense, uh—

Justin:

Sure.

Sydnee:

... more serious.

Justin:

Yeah, a lot more serious.

Sydnee:

The stakes would be a lot higher.

Justin:

Also where'd she find it? You know—

Sydnee:

Yeah. Well—

Justin:

... it's not like caffeine pills.

Sydnee:

Well, if it's the early 1900s, you can buy it over the counter in tonics and various—

Justin:

Of course you can.

Sydnee:

Yeah, various preparations, pills and things that are sold for stimulants.

Justin:

Yeah, not surprising.

Sydnee:

Yeah. Now because it is, it- I don't know, maybe it would help a little bit? Maybe? You know, I mean that's fair. One Olympian did win a gold medal on strychnine, so...

Justin:

Wow.

Sydnee:

So it is possible.

A slightly stranger performance-enhancing drug that I found was in ancient Egypt. They used to take donkey hooves, the Abyssinian donkey, and powder them.

Justin:

Okay.

Sydnee:

And that was popular. You would boil that in oil and then you wanted to add some rose hips to that because...

Justin:

Well, for flavor.

Sydnee:

For flavor. [laughs]

Justin:

Yeah, right.

Sydnee:

So that was... I don't know, my best guess for the theory on that was like, 'cause donkeys... is the hooves? They run on those.

Justin:

They're good at running, I guess?

Sydnee:

[laughs] I mean, don-

Justin:

I don't even know. Could I beat a donkey in a foot race?

Sydnee:

I don't know that donkeys are fast, but are they like incredi- don't they have like a lot of endurance? Don't they just keep going?

Justin:

They would have to, yeah.

Sydnee:

I thought that they were good at that. Like donkeys just keep going.

Justin:

They would need to be pretty determined to survive being crappy horses, which is what they are.

Sydnee:

[laughs] I don't think that's fair.

Justin:

I don't wanna talk about donkeys, Sydnee. They make me so angry.

Sydnee:

Because they're bad horses?

Justin:

They're just bad horses.

Sydnee:

'Cause they're wannabe horses?

Justin:

They wann- They wish.

Sydnee:

I'm sorry. I'm sorry donkeys and donkey lovers for Justin's [laughs] outpouring of hatred towards you. Now, baking soda.

Justin:

Yeah?

Sydnee:

The- Did you know this is used for doping?

Justin:

No, and that's not doping.

Sydnee:

Well, it's not illegal.

Justin:

Okay.

Sydnee:

But it is used as a performance-enhancing substance. So baking soda doping, which is also called just "soda doping," which—

Justin:

So cool.

Sydnee:

... I actually really enjoy. Although I kind of imagine you chugging like five Crystal Pepsis before a race.

Like, "Oh, you're soda doping!"

Justin:

[Jock voice] [laughs] "Yeah. Do the Dew! It's gonna give you the extreme edge!"

Sydnee:

That's what that means before like the X Games.

Justin:

Right. You gotta jam ...

Sydnee:

You just... You just jam like five Code Reds.

Justin:

[laughs]

Sydnee:

[laughing] And there you go.

Justin:

Doin' 900s.

Sydnee: You're ready to do your cool skateboard stunts.

Justin:

Goofy boneless Jesus.

Sydnee:

Uh ... [laughs]

Justin:

All the moves, all the hit snowboarding moves.

Sydnee:

[laughs] So soda doping is still used today by some swimmers. So, there you go. This is still... This is old and new. Old and forever.

The idea behind taking baking soda to enhance your athletic performance is that if you're... If you... If the pH in your blood, so the acid-base balance, if you can add more baking soda, make it more basic.

Justin:

Mm-hmm.

Sydnee:

So raise that pH, then what, as you start exercising, you know, you accumulate lactic acid, as you do, especially certain kinds of exercise are more anaerobic and so you get more lactic acid.

The point is, you make an acid, your blood becomes more acidic. So if you're adding a base in there, that process will happen more slowly, is the thought process.

Justin:

Okay.

Sydnee:

That lactic acid accumulating in your muscles is what eventually makes you tired and makes you wanna stop exercising.

So if you slow down that process, you won't get tired as quickly, therefore you can do things longer.

Justin:

Okay.

Sydnee:

Does that make sense?

Justin:

That makes perfect sense.

Sydnee:

It's not illegal. They've done some studies on this and they've shown like a teeny little benefit. Some of them have.

Like maybe it really did do something, maybe like a one to two percent increase in how fast or how long you can—

Justin:

Well that, that sounds—

Sydnee:

... run or swim or whatever.

Justin:

... small but like that could be enough really for a lot of these events.

Sydnee:

Exactly. In the Olympics, it could be enough. Now, not all studies support this, there are just as many that say, "Eh, maybe not" as say that it does.

It's really not dangerous if properly administered.

Justin:

But it's yucky.

Sydnee:

Except, it can give you pretty vicious diarrhea.

Justin:

Whoa. Let's hope that waits till after the race, eh?

Sydnee:

Yeah.

Justin:

That would be a really... an unfortunate Olympic spectacle.

Sydnee:

Especially in the pool.

Justin:

Yeah. They got enough problems in Rio. Can you not, please?

Sydnee:

[laughs] Could you not?

Justin:

Can you not?

Sydnee:

With the soda doping? So...

Justin:

Yeah.

Sydnee:

Yeah. And again, it's not illegal because it's baking soda.

Justin:

Yeah.

Sydnee:

Also one weird side note, UV rays have been experimented with throughout the years. I don't know. Based on the idea that it gives you energy.

Specifically—

Justin:

Mm-hmm.

Sydnee:

... there have been a lot of Russian and German experiments throughout history where they have tried to like, radiate runners and make them [laughs] run faster.

And I don't... I don't think that works.

Justin:

No dice?

Sydnee:

No. Mm-mm.

Justin:

Alright, I'm ready—

Sydnee:

They just get... They just get cool tans.

Justin:

Cool tans. What else... What else we got, Syd?

Sydnee:

Well, Justin, I'm gonna tell y'all about that, but first, why don't you come with me to the Billing Department?

Justin:

Let's go.

[Theme song plays as we go to the Billing Department]

[We leave the Billing Department]

Justin:

So Syd before I so rudely interrupted you, you were about to continue to surprise and delight me with the history of performance-enhancing baking soda.

Sydnee:

Now, I know after I told you all that baking soda may, who knows? May slightly enhance your athletic performance and probably isn't fatal, uh, you may be tempted to try it.

Well, I've got another one that might be less appealing.

Justin:

Okay, I'm ready.

Sydnee:

Guinea pig sperm.

Justin:

[pleading] Now, come on.

Sydnee:

Nope. That's the truth.

Justin:

Come on.

Sydnee:

So in the 1800s, Charles Brown-Séguard, and by the way, there are other medical people out there going, "I know about a Brown-Séguard syndrome."

Yep, it's the very guy. He also has a syndrome, unrelated to the Guinea pig semen. Just—

Justin:

Yeah.

Sydnee:

... throwing that out there.

Justin:

And probably more respected in the community, I'm going to guess?

Sydnee:

[laughs] Yeah.

Justin:

Okay.

Sydnee:

He did some things. He was a smart guy, but he also did some things.

Justin:

I just mean that that specific achievement is probably—

Sydnee:

Yeah, more respected than what—

Justin:

... better than the one we're about to delve into.

Sydnee:

... I'm about to talk about.

Justin:

Okay.

Sydnee:

He made an extract out of dog and Guinea pig testicles, and then he injected it into himself.

Justin:

And then he decided, you know what? I should record this and turn it into a science experiment instead of my dirty, weird thing that I love.

Sydnee:

[laughs] He was very much trying... He had this idea that there was something contained within the testicles that was, uh, vital for your youth and your energy and your continued vitality.

And so he thought if you could make an extract out of testicles and take regular injections, that maybe that would improve your quality of life and then from that, athletic performance.

So not only did he use it on himself, he wanted to prove, you know, that it could help with, you know, physical functioning and performance.

So he gave it to a pitcher from the 1800s, James "Pud" Galvin.

Justin:

You gotta pick on a guy who's middle name is...

Sydnee:

Pud? [rhymes with thud]

Justin:

That poor guy. He probably—

Sydnee:

No, that was his—

Justin:

... had a hard run.

Sydnee:

No, that was his—

Justin:

A hard road.

Sydnee:

... nickname.

Justin:

Pud?

Sydnee:

Pud. Do you know why?

Justin:

Oh. Why?

Sydnee:

Because he was known for reducing batters to pudding.

Justin:

Oh, okay.

Sydnee:

So that's pretty good, pretty—

Justin:

So maybe—

Sydnee:

... good reason to have that nickname.

Justin:

Maybe his nickname was "Pud" [rhymes with "good"] then, right?

Sydnee:

Well, m- Yeah, I guess.

Justin:

Pud? [rhymes with "good"]

Sydnee:

It looks like Pud. [rhymes with "thud"]

Justin:

It does look like Pud. [rhymes with "thud"]

Sydnee:

But it's Pud. [rhymes with "good"]

Justin:

It's Pud [rhymes with "good"], probably.

Sydnee:

Anyway.

Justin:

Anyway.

Sydnee:

He was famous. He won 364 games, he played a total of 646 games, which... I guess that's a big deal.

Justin:

Seems good. That's—

Sydnee:

That sounds like a lot of games.

Justin:

Let me say, that's 364 more than I have won.

Sydnee:

[laughs]

Justin:

In my personal career.

Sydnee:

The way that I read that sentence, when I read it, it sounded like it was impressive.

Anyway, because he used this, it gained a lot of popularity and it became called the Brown-Séquard [dramatic whisper] Elixir of Life.

Justin:

Very dramatic.

Sydnee:

Yes. So how did he go about collecting this? He... Or what did he put in this, first of all? So—

Justin:

Yeah.

Sydnee:

... he needed to—

Justin:

Let's... Let's... Give me a second to ease into collection? Okay?

Sydnee:

Yeah.

Justin:

'Cause I'm not quite prepared.

Sydnee:

So in order to make the Elixir of Life, you need blood of the testicular veins.

So you have to go into the testicular veins and extract blood, you know, hypodermic needle-wise.

Secondly, you need the semen.

Justin:

Mm-hmm.

Sydnee:

... which, I mean, at this point, we're probably talking about dogs and Guinea pigs that we've already ...

Justin:

Yeah.

Sydnee:

... you know.

Justin:

The fi-

Sydnee:

Dissected.

Justin:

The hard part about it is finding erotica that both of them can enjoy.

Sydnee:

[laughs]

Justin:

That's the real struggle with the... making it out of dogs and Guinea pigs.

Sydnee:

And now, thirdly, you're just gonna wanna... take the testicle...

Justin:

Mm-hmm?

Sydnee:

... crush it.

Justin:

[pained] Oh no.

Sydnee:

And... I know. And you wanna... I mean, you're taking them out of the animal first. Like you're removing testicles, you're castrating dogs and Guinea pigs.

You're going to crush the testicles instantly. Like you want 'em crushed fresh out of the dog.

Justin:

Fresh, yeah.

Sydnee:

And then take that juice and add it in with the blood and the semen that is already in there.

Justin:

That poor... that poor dog. Is it from the same dogs that just got their semen?

Sydnee:

Yeah.

Justin:

I wish they had... They... But they probably didn't even know that it was—

Sydnee:

[laughs]

Justin:

... it was their last... [singing] one last run!

Sydnee:

[laughs]

I mean, you could mix it together from different dogs and different Guinea pigs if you wanted.

Justin:

Yeah, I get... Yeah, that's true. That seems like... I know the job I would want if I was a dog or a guinea pig.

Sydnee:

[laughs]

Justin:

It would... [as dog or Guinea pig] "I'm sorry, can I apply for a transfer?"

Sydnee:

And then, I mean, worst, worst part of it, I think though, is after all that, you're going to put it in a syringe and inject it into your arm.

Justin:

Yeah. "Thanks. This will make me play baseball good for 15 minutes. Cool."

Sydnee:

[laughs] [sarcastic] Totally worth it.

Justin:

[sarcastic] Totally worth it. Thanks animals. You did it again.

Sydnee:

So he used it himself and he promoted it extensively.

And like I said, 'cause he really believed that semen contained this thing that was a... it was essential for physical function, but he took it a step further.

He also thought it was essential for intellectual function and psychological well-being. That semen was the source [laughs] ...

Justin:

Of it all, yeah.

Sydnee:

... of it all.

As a result of that, he also firmly believed that losing too much semen made you, I mean, dumb and weak, basically.

Justin:

Perfect.

Sydnee:

So he was an advocate of keeping your semen as a key to productivity.

Justin:

Oh no.

Sydnee:

And I don't mean like in jars, I don't mean like, store it. I mean like, don't...

Justin:

Oh, okay.

Sydnee:

Yeah.

Justin:

Yeah. Just keep it... on lock.

Sydnee:

So, no masturbation certainly, but you're really better off not having sex and you certainly should never allow yourself to be castrated. He felt like that people—

Justin:

That seems like a pretty good rule of thumb, generally.

Sydnee:

[laughs] He felt that men who were castrated definitely suffered from this.

Justin:

You know, I don't need to be good at baseball and even I am going to heed that advice.

Sydnee:

One quote, directly from his recount of the creating this Elixir of Life and what he did with it and everything, that I really appreciated when he was making this argument that you can tell a difference between men who have a lot of sex or masturbate a lot and men who don't...

This is one of the things he said, "It is known that well-organized men, especially from 20 to 35 years of age, who remain absolutely free from sexual intercourse or any other causes of expenditure of seminal fluid, are in a state of excitement.

"Giving them a great, although abnormal, physical and mental activity."

Which I think is very accurate. I think if it's been a while, you're probably constantly [laughing] in a state of excitement.

Justin:

Yeah, you were right on the money with that one.

Sydnee:

Prone to abnormal physical and mental activity.

Justin:

Check.

Sydnee:

That could be true of many men.

Justin:

Yeah, absolutely.

Sydnee:

And women.

Justin:

Sure.

Sydnee:

Many humans.

Justin:

Many human beings.

Sydnee:

Many of us who are into...

Justin:

Anywhere you fall on the gender spectrum, this is pretty much going to be, with rare exceptions...

Sydnee:

If sexual intercourse is your thing.

Justin:

If that is your thing.

Sydnee:

He credited it with making him stronger and smarter and able to stay up later.

He recounted episodes of being able to lift a lot more, specifically with his forearms. He thought it made his forearms much, much stronger.

He calculated the arc of his urine stream and he felt that it was a higher arc and it was going farther, the stream of his urination, after he started giving himself these testicle shots.

Justin:

And that's so important.

Sydnee:

[laughs] It kept his bowels more regular.

And he even describes that on days when he's having a lot of constipation, he's able to... like really... like really push it out. [laughs]

Justin:

Yeah, just like so strong.

Sydnee:

[laughs] Like he's so... Even though it's hard, he's able to summon the inner...

Justin:

Just—

Sydnee:

... will.

Justin:

... burn some pewter and just like, do it.

Sydnee:

To force it out.

Justin:

Yeah.

Sydnee:

Because of... because of these... these injections.

Now, this sounds crazy, I know. Bear with me for a second.

Have you seen any commercials for Low-T?

Justin:

Yeah. Usually it's older guys playing guitars in a circle.

Sydnee:

[laughs] Well, I mean- [laughs] What commercials are you watching?

Justin:

Oh, that's probably more of a Viagra thing. The Viagra thing has the old guys playing guitars in a circle.

Sydnee:

But the Low-T commercials are like, "Hey, I know you're a little bit older, but you still wanna, you know, get frisky in the sack and also hang out in this waterfall and also hang glide."

Justin:

Rip a telephone book in half with your bare hands.

Sydnee:

[laughs] I'm just saying like... It's not that far off base?

Justin:

Okay.

Sydnee:

This kind of like, "Hey, look, I started taking these injections of a male hormone and it made me stronger and smarter and faster, and my life was better."

Justin:

Mm-hmm.

Sydnee:

I think we see those commercials today, I'm just saying.

Justin:

That's fair.

Sydnee:

It did... this did kick off a lot of research into hormones and endocrinology in general.

So this guy is regarded in some ways as kind a genius, but he also did this thing where he crushed dog testicles [laughs] and—

Justin:

Yeah, but other than that one—

Sydnee:

... injected them in his arm.

Justin:

... little misstep.

Sydnee:

So there was that too.

This is, I mean, and you can see where this would be based on the idea that there's testosterone and whatnot.

And so did it actually do anything? I don't know, because when you're crushing `em like that, what are you getting?

And is it synthesized enough and is it free or unbound? Anyway. There you go. Don't... don't crush dog testicles would be my advice.

Justin:

Fair.

Sydnee:

Or Guinea pig.

Justin:

Now that frees up my afternoon tomorrow, so...

Sydnee:

[laughs] Now back in the 1870s, cyclists were big fans of using ether as a performance-enhancing drug.

And the way you would administer that is you would just take some sugar cubes, soak them in ether, and then if you really wanted that get up and go, if you have a long bike race, and maybe you've got those cobblestones that everybody keeps talking about in the current Olympics ...

Justin:

Mm-hmm.

Sydnee:

... the cyclists are on cobblestones and that's a problem or something. You can add some nitroglycerin and some cocaine and maybe a little peppermint for flavor. [laughs]

Justin:

So peppermint, cocaine, uh, nitroglycerin...

Sydnee:

Ether and a sugar cube.

Justin:

And that is how Gatorade was invented.

Sydnee:

[laughs]

Justin:

Just like that.

Sydnee:

I would've said that that sounds much more similar to the formula for Mountain Dew, honestly. [laughs]

Justin:

Yeah, fair enough.

Sydnee:

In general, the 1870s was a really rough period for endurance athletes.

A lot of them were using things like heroin and cocaine. There were no rules.

There was one widely used mixture of coca leaf extract and wine called Vin Mariana... Mariani. And it was specifically like, dubbed "the wine for athletes."

Justin:

Oh, yeah. That makes sense. You know, I was at the running shoe store, I saw that they had energy Jelly Bellies for running.

So that makes sense that ...

Sydnee:

[laughs] It's the same thing.

Justin:

It's the same category.

Sydnee:

The wine for athletes. "Uh, don't... don't mind this—"

Justin:

Sport wine.

Sydnee:

"... this is... this is my athletic wine." [laughs]

Justin:

"No, no, this is, this is pro sport wine for my muscles."

Sydnee:

It... That is sort of like those commercials where you see those people like, rollerblading on their lunch break and then they drink a Michelob Ultra.

Justin:

Yeah, right.

Sydnee:

It's sport beer.

Justin:

That seems like a fun day.

Sydnee:

[laughs] Uh, it was actually not until the 1920s that we started to see, stimulants first, and then other substances in the decades that followed, banned kind of one by one.

And since then, it's been like a series of substances pop up, people start using them. The IOC becomes aware of it, and eventually they are banned.

Justin:

So gimme the quick timeline.

Sydnee:

So we get... Testosterone shows up in the '30s. Amphetamines are very popular in the '50s. Anabolic steroids, still a very, I would say popular, performance-enhancing drug of abuse, in the '60s.

We start to see erythropoietin and other hormones in the '80s. Are you familiar with EPO?

Justin:

Mm-mm.

Sydnee:

This makes you have more red blood cells.

Justin:

Oh, weird.

Sydnee:

So you can carry more oxygen.

Justin:

Okay.

Sydnee:

We use it in medicine. Not for...

Justin:

Sport.

Sydnee:

... sport. We use it in medicine.

What happened that really set off a lot of the, kind of the investigation that we do into it now, and how seriously it's taken in the Olympics- and other professional sporting arenas now- was the first death in a cyclist in 1960, who was on amphetamines.

Justin:

Oh, wow.

Sydnee:

And that called a lot of attention to it.

In 1968, drug testing begins and they start banning certain substances. You know, we are able... That's a big hangup, right? Until you can actually test for 'em, what's the point of banning them?

Justin:

Yeah, right, right.

Sydnee:

You know, you just ask everybody if they used them, they say no... [laughs]

Justin:

It's the honor system, yeah.

Sydnee:

So once you can... once you can start testing people for 'em, then it makes sense to actually start banning things.

And since then we've just had, you know, endless media reports of people using and testing positive for different things and new things being developed that they can't test for.

And, you know, it takes them a while to catch up.

In 1998, one interesting point is a snowboarder lost his medal after he tested positive for marijuana.

Justin:

Well, that seems ludicrous. I mean...

Sydnee:

Well, right. Why would you say that?

Justin:

Well, because pot wouldn't make you better at snowboarding?

Sydnee:

Exactly. Which is why he got the medal back. [laughs]

Justin:

Oh, right. They didn't have these plans in place ahead of time?

Sydnee:

No, they didn't. I mean, they took it away 'cause they were like, "Uh oh, he's got marijuana in there. That's a drug."

But then that was the argument he made and that a lot of people made was, "Yeah, but marijuana doesn't make you better at sports."

Justin:

If anything, he should get a do-over.

Sydnee:

[laughs]

Justin:

Just let him do it, try again.

Sydnee:

I think he should get special commendation 'cause imagine how much better he could have been. I mean, like he did that high.

Justin:

That's what I'm saying. He should get like a sober run.

Sydnee:

[laughs]

Justin:

Maybe he needs it to like, carve just right though.

Sydnee:

And you keep seeing athletes look for things that aren't illegal and aren't dangerous.

I mean, people are more aware that, you know, they're not just injecting anything, strychnine, into their body anymore because they don't wanna die.

They don't want their hearts to explode. So last Olympics my understanding is beet juice was very popular.

Justin:

Sure. Why not?

Sydnee:

Because it has nitrates and those are metabolized in your saliva.

They're broken down in your saliva into nitric oxide and the thought was that this might help dilate blood vessels and improve your per- well, athletic performance a little bit- if you drink a lot of beet juice.

And obviously that's not illegal. You can't test for that and it's not banned.

Still you hear a lot about athletes using things that are banned, human growth hormone, creatine, steroids, erythropoietin.

Some things that aren't banned like beta blockers, which is a certain medication that... Well, you're not allowed to take it unless you're prescribed it. Let me say that.

Justin:

Oh.

Sydnee:

A certain medication for blood pressure. But we can't ban everything. Beets are okay, caffeine is still okay ... That was banned for a while and then it—

Justin:

Really?

Sydnee:

... came back. Mm-hmm. And then they realized that was crazy, I think.

Justin:

Yeah, right.

Sydnee:

But you know, what's weird is you... You asked about where the line is with cupping and that's the weird thing with a lot of these substances.

So I mentioned erythropoietin or EPO, which is used to give you more red blood cells. You know the other way you can get, naturally, have more EPO?

Justin:

No.

Sydnee:

Just move to Colorado.

Justin:

Really?

Sydnee:

Higher elevations.

Justin:

Give you- Well, that's wild. I had no idea.

Sydnee:

Because the air is thinner, so you get more... so you get more red blood cells, more oxygen carrying capacity.

So if you wanted to do this, instead of injecting yourself with something, you could just live in Colorado and that's not illegal.

Justin:

No, it's perfectly legal to live in Colorado.

Sydnee:

Yeah. It's legal to live in Colorado, it is not legal to use EPO. So it's weird. It's a weird line.

Justin:

That's true.

Sydnee:

Like what's... You know, baking soda's fine, but obviously steroids aren't so...

Justin:

Go figure.

Sydnee:

Cupping is still okay and I don't, even though it doesn't work, maybe that's why it's okay. Kinesio tape is okay. I wouldn't recommend it though.

Justin:

Folks that's gonna do it—

Sydnee:

Although it's pretty. [laughs]

Justin:

That's gonna do it for us. Thank you so much for listening.

I want to thank the Taxpayers for the use of their song "Medicines" as the intro and outro of our program. You can find more of their stuff at taxpayers.bandcamp.com.

Thanks to the maximumfun.org network for letting us be part of their extended podcasting family. There's a ton of great shows on there that you can go enjoy right now if you head over to maximumfun.org.

I would highly recommend a little podcast called *Magic Lessons* by our friend, Liz Gilbert. You know her as the author of *Eat, Pray, Love*, and *Signature of All Things* and *Big Magic*.

She is doing a podcast where she talks to people who are in creative professions and tries to help them pass creative stumbling blocks with the help of a lot of cool guests.

And it's a great show and I think you'll really like it. It's on iTunes right now, so you can go listen to it.

Anything else, Sydster?

Sydnee:

I think that'll do it for us, Justin.

Justin:

Well folks, 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.

[Outro, theme music plays]

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