

Sawbones 127: Vinegar

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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 song plays]

Justin:

Hello everybody and welcome to Sawbones: A Marital Tour of Misguided Medicine. I am your cohost, Justin McElroy.

Sydnee:

And I'm Sydnee McElroy.

Justin:

Syd, um I cannot seem to shake this, uh, like, throat gunk...

Sydnee:

Mm-hmm.

Justin:

...that I've had. Can you, like, can you suggest any...?

Sydnee:

This cold that's been going on forever and ever.

Justin:

Forever and—

Sydnee:

At least I feel like I've been hearing about it forever and ever, does it seem that way to you?

Justin:

All right, smart—

Sydnee:

Maybe I've been hearing about this, like, simple little cold that you've had forever.

Justin:

All right, smart aleck. Smart aleck, what are you hearing? Any home remedies you can think of that might help?

Sydnee:

I mean, have you tried vinegar?

Justin:

I guess I can. Um yeah, I could try it. Um, also, I'm— Not mean to, like— Continue to complain here. But, um, I've been noticing some, like, dry skin right around my scalp...

Sydnee:

Mm-hmm, sure, sure.

Justin:

...stuff. Have you, I know you're not a dermatologist. But like, do you have any suggestions? Any ideas?

Sydnee:

Yeah, how about some vinegar?

Justin:

Well, um, yeah, I guess I could, I— Okay, I mean, I'm already getting vinegar. I guess we could try that.

Sydnee:

Mm-hmm. We have vinegar.

Justin:

What about— Okay, we need to start recording the show. I guess already pressed record, didn't I, but, like, doing...

Sydnee:

It's too late for that.

Justin:

Doing the show parts. But super quick. Do not let me forget the, uh, induction stovetop upstairs, the glass stovetop.

Sydnee:

Mm-hmm.

Justin:

I've got to figure out to get it cleaned. It's really hard to clean off and I cannot figure anything out.

Sydnee:

Sure.

Justin:

So remind me to, like, check...

Sydnee:

Yeah.

Justin:

...Wikipedia or something.

Sydnee:

No, I— You don't need to do that. Just you know, uh, how about some vinegar?

Justin:

Okay, Syd, you are suggesting vinegar for everything right now.

Sydnee:

Yeah, mm-hmm. Yeah, it seems that way. it's weird, huh? Yeah.

Justin:

It's weird. It's weird. What's going on?

Sydnee:

Well, uh, so vinegar has, it's really, it's really hot right now with vinegar.

Justin:

So hot.

Sydnee:

Yeah, vinegar. It's really popular. And, um, everybody's kind of on this, like, not just vinegar, apple cider vinegar or ACV, you know, for—

Justin:

ACV?

Sydnee:

ACV, for those of us in the know.

Justin:

Okay.

Sydnee:

Uh, people are really into it now. And usually I kind of shy away from these things, but I thought maybe I'd be more popular if I also suggested vinegar for everything.

Justin:

Okay, so you're just gonna give it in, huh?

Sydnee:

Yeah, I'm just gonna give in.

Justin:

You know, give up more.

Sydnee:

I mean, who needs research and science data?

Justin:

Well, go for it. Well—

Sydnee:

Take this, Neil deGrasse Tyson, I'm going wild.

Justin:

I'm like, you know me, I'm, like, into it. Like, you don't need a lot of convincing to get me off that science train and into that just, like, belief.

Sydnee:

[laughs]

Justin:

Just, like, leaning into it train. So what do you, uh— Do it. Just tell me everything about vinegar.

Sydnee:

Well, I'd be following in a long, proud medical, semi-medical tradition of using something like, you know, that we don't necessarily know that works, uh, over and over and over again, uh, because Vinegar has been used since ancient times.

Justin:

Can I tell you something I just realized?

Sydnee:

What?

Justin:

I don't even know what vinegar is.

Sydnee:

I'm gonna tell you what vinegar is.

Justin:

Okay, good. Like, I know what vinegar is. But it's, like, where is this coming from?

Sydnee:

Real quick, I do want to thank Kara, Allen and Erica for suggesting vinegar, because it is so hot right now.

Justin:

So hot right now.

Sydnee:

Vinegar. So vinegar comes, the word vinegar comes from the French for sour wine.

Justin:

Okay.

Sydnee:

And this is probably because of the way that it was first discovered, or at least this is the thought is the first time that, uh, someone made vinegar it was by accident. So you take some sort of carbohydrate, fruit or, you know, some sort of wheat or grain or whatever. And you're gonna ferment it, right?

Justin:

Right.

Sydnee:

And after that first fermentation, you're gonna have alcohol.

Justin:

Okay.

Sydnee:

Woo hoo.

Justin:

Yay, so let's stop there.

Sydnee:

No, no, we're not gonna stop there. We're gonna ferment that again.

Justin:

Okay.

Sydnee:

With a certain kind of bacteria that could randomly fall into some sort of container easily, which is why this probably happened by accident the first time. Um some sort of acetic acid-creating bacteria.

Justin:

Okay.

Sydnee:

Acetobacter, if you will. And that bacteria will create acetic acid from the alcohol and everything that was already fermented, correct?

Justin:

Right.

Sydnee:

This product is now vinegar. So you can imagine if you left something to ferment for too long out in the wild, eventually this would occur or, like, most likely.

Justin:

When you say the alcohol, you literally mean, like, it becomes non-alcoholic again?

Sydnee:

Yeah, no, vinegar is not an alcoholic beverage.

Justin:

[laughs] No kidding? Okay, I would go so far as to say it's not much of a beverage at all.

Sydnee:

We'll get into that. I would quibble. But no, so the first— So, it is sour wine, in that sense. It's something that you fermented into something delicious. And then nature fermented into something... I don't know that I would call it delicious, personally. Um and you can do this with any carbohydrate. So whatever you're starting with, I mean, like, if we're talking about apple cider vinegar, assuming we started with apple cider there.

Justin:

Yeah.

Sydnee:

You know, or apples or, you know, apple cider then apples. But you could use any kind of fruit. You could, you could use anything. That's why there's so many different kinds of vinegar, right?

Justin:

Right.

Sydnee:

Or is it many different varieties of vinegar, right?

Justin:

Varieties of vinegar.

Sydnee:

Yeah. Um there's actually two fermentation processes for vinegar. And it doesn't really matter. There's a fast way and a slow way and the only reason I'm bringing this up is because...

Justin:

Hold on. I was— I've been using my whole seat, I gonna scoot up to the edge. Two different ways of making vinegar? Hold on.

Sydnee:

Shut up. There's only one reason...

Justin:

Is it my birthday already?

Sydnee:

...that I'm mentioning this.

Justin:

Okay.

Sydnee:

Because in the slow fermentation process, there forms this substance on the top of— As it slowly ferments, as it's becoming vinegar, it collects this substance on the surface of the vinegar type solution.

Justin:

Okay.

Sydnee:

It's a slimy substance. And what it's made up of is a lot of yeast and a lot of bacteria goo. And it's all mixed together in, like, this stew, this slimy stew that floats on top of the vinegar substance.

Justin:

Yeah.

Sydnee:

Uh, now, if you pasteurize vinegar, this will go away.

Justin:

Good.

Sydnee:

But if you're really into vinegar, you don't want that. No, no, no. No, because that substance, which by the way has a name, we call it mother. That is not a joke. It is called mother. Vinegar mother, mother vinegar, the mother of vinegar.

That substance, uh people think has a lot more health benefits, all these things that we're going to talk about than just vinegar, you know, that's already been pasteurized, just the clear vinegar. So that gooey, slimy bacteria yeasty mother is ingested by people for health benefits. This is the thing that just— I don't know why this is a trigger for me.

Justin:

Why is this making— Sydnee, we talk about a lot of wack stuff. I literally have been about to throw up for 30 seconds.

Sydnee:

I don't know why this grossed me out so much.

Justin:

This is the grossest thing I've ever heard.

Sydnee:

This really grosses me out.

Justin:

Oh, my God. This is, like, primal. It's, like, instinctual. You know what I mean?

Sydnee:

Well, that's because it's the bacteria yeast goo.

Justin:

Off the double fermented fruit like...

Sydnee:

Yes.

Justin:

Every— If, like, every impulse in your, like, primal programming is not, like, "Wait a minute, it's the junk you throw off of the thing that's rotted twice?" Like no, thank you.

Sydnee:

No, no. I mean it probably doesn't smell good, I would imagine.

Justin:

Oh, Sydnee, I think it smells bad. But what if it's double alcohol?

Sydnee:

[laughs]

Justin:

What if alcohol leaves for the vinegar, and it comes back for that. It's like, "What's up? I heard you guys are throwing a party." And it just gets you super drunk.

Sydnee:

Not in the mother.

Justin:

Alcohol 2, it's like a new alcohol that's better than the old one.

Sydnee:

I think, by the way, I think it's called mother because I think you can kind of use it like you would, you know, like a sourdough starter.

Justin:

Yeah.

Sydnee:

Like you have that little bag of weirdness...

Justin:

That makes sense, okay.

Sydnee:

...that— I think you can use this to start a new vinegar. So I think that's where the mother comes from. Anyway, for whatever reason, that really yucks me out. And so— But you will hear, you will hear people say, like, if you're going to use vinegar for health benefits, you don't want to use pasteurized vinegar. You want the murky, nasty stuff.

Justin:

Great.

Sydnee:

Yeah. Uh, vinegar is more than just acetic acid, which a lot of people are familiar with that, like, oh, it's an acid. It's some sort of acid, it's acetic acid. It is that but there are a lot of other things in vinegar and it depends on what you start with. But there are mineral salts and amino acids. There are some trace amounts of different vitamins. There's all kinds of stuff in there. So you can't just take— There is acetic acid, that is a substance that exists all on its own. That's not vinegar, and you can't just dilute that and call it vinegar and pasteurize food with it, or I'm sorry, preserve food with it.

Justin:

Obviously the conditions aren't right for fermentation, but I do feel like sometimes if wine goes rogue, like, if you leave wine open too long or something, I do think it has kind of, like, I can remember having kind of like a vinegary vibe.

Sydnee:

That can happen. I mean, that's not unheard of. That's just probably, again, that's probably how this first happened. Somebody was making wine and it just kept fermenting. And there you go.

Justin:

That could be me. It could be me, you know?

Sydnee:

So yeah, if you left, if you left something that, you know, was still fermenting out long enough, because these bacteria that make acetic acid are just floating around. They're just out there, just around.

Justin:

One time I left Mountain Dew in the water bottle that was attached to my bicycle when I was a kid.

Sydnee:

Mm-hmm.

Justin:

And I left it in the garage for like six months during cold season. And when I got it out, I thought it was alcoholic. I thought that I had fermented Mountain Dew.

Sydnee:

Uh, I hope you don't ever ferment Mountain Dew, um, because a Mountain Dew alcoholic product...

Justin:

Would be amazing.

Sydnee:

No, it could really cause a lot of damage, I think.

Justin:

Yeah. But it would also be, like, I'd be rich.

Sydnee:

Right.

Justin:

Like super rich. I think you're referring to vodka...

Sydnee:

Super rich, super rich.

Justin:

Isn't it one of those [crosstalk]...

Sydnee:

Mountain Dew, I don't want to know.

Justin:

Then of course, it's not labeled.

Sydnee:

It just makes me sad. This is why I drink beer, people.

Justin:

Okay.

Sydnee:

So this has long been used as a food preservative. by the way. Once we figured all this out about vinegar, it was a good thing to use to keep food from going bad and for flavoring and things like that. Also, there are these weird stories that will pop up, like, uh, Hannibal of Carthage used it to dissolve boulders that were in his path while he was invading Italy. I didn't know that vinegar— I mean, I guess with, like, enough, you just dump it on a boulder. How big is this boulder? I have problems.

But anyway, I found this document in several places. So there you go. Um, there are a lot of biblical references to vinegar. I saw one person— I didn't count, I don't know if this is right, said that vinegar is referenced as many times as wine in the Bible.

Justin:

Wow.

Sydnee:

I don't know if that's true. You can check that.

Justin:

Okay.

Sydnee:

Uh, Hippocrates used vinegar on everything. He really liked it for wounds, for sure. Uh, it was thought to clean wounds and disinfect wounds and help wounds from healing. Before we really knew what the infection was, it was thought to keep them clean, especially ulcers. Uh, he also the Greeks and Hippocrates as well, used something with vinegar in it called oxymel, which was a mixture of, uh, honey and vinegar and it would be used for coughs but also for just about everything. So I want to tell you about oxymel.

Justin:

Okay, that's pretty good branding for Greeks.

Sydnee:

Yeah.

Justin:

For Ancient Greece, it sounds good.

Sydnee:

Yeah, well, it also sounds a little like a narcotic, which is upsetting to me.

Justin:

Yeah, a little bit.

Sydnee:

So oxymel was four parts honey, and one part any vinegar. Um, apple cider is a popular idea now, but I think if you scan through the, like, the references from Hippocrates, he never says apple cider vinegar. He just says vinegar. It probably wasn't apple cider vinegar, in all honesty.

Justin:

Yeah.

Sydnee:

You could just, uh, mix those together and you got oxymel or you can boil it down with some water and have, like, a concentrated, kind of syrupy thing.

Justin:

Mm-hmm.

Sydnee:

And then you keep that in a bottle basically on the shelf, and you mix it with other stuff to use, you know, as, like, a restorative. So, you can take it for fevers, you can take it for sore throats, whatever is ailing you. Um, they also put— You could put it in teas and it would be used as, like, a base for a cough syrup as well, because you could boil it down to a syrupy substance.

Justin:

So is apple cider vinegar, was that made from like alcoholic cider?

Sydnee:

No.

Justin:

And then turned into vinegar?

Sydnee:

Well, I mean yeah, it would be alcoholic.

Justin:

No, like, apple cider in the way that we think about, like—

Sydnee:

You could certainly, no, but I mean, if you had just regular apple cider, you could ferment that into alcoholic apple cider and then into vinegar.

Justin:

Oh, okay.

Sydnee:

You know?

Justin:

Yeah.

Sydnee:

It's all just a continuum.

Justin:

Yeah.

Sydnee:

Um the weirdest part about oxymel, this is a strange thing. So, I've never heard of this, and uh, as I was reading about it, this started in ancient Greece. And it was around until at least the mid 1900s.

Justin:

Oh, my gosh.

Sydnee:

That's how long this...

Justin:

There's got to be like a record, right?

Sydnee:

...existed. I had, and I've never even heard of it. I feel like this is a huge blind spot for me in my medical history.

Justin:

Yeah.

Sydnee:

Because you can find recipes for this substance, which and I mean they don't always call it oxymel. But it's the same thing that they're talking about. Uh, it was in the Pharmacopoeias from England, from Germany, from France, all the way up until the late 1800s.

Um, and it was really popularized in the U.S. when there was a book called Folk Medicine by Dr. D.C. Jarvis that was printed in 1958 - 1958! - that advocated using oxymel, which at this point was some sort of mixture of honey and vinegar in different, you know, different amounts for everything, arthritis, gout, high cholesterol, weight loss.

He said that it would extend your life. So this has been around for a really long time. And I think this is part of where when you get people who say, like, vinegar cures everything, I think this is part of where that comes from, especially that book in 1958, that Folk Medicine book, that's where that love of vinegar starts to— We see like the modern version of it.

Justin:

Yeah.

Sydnee:

Hippocrates had a lot of other uses, in addition to the oxymel in the wounds. Um, it was particularly good for head wounds, uh, for difficulty breathing. You could use some vinegar. And then also, uh, he didn't mention because we're kind of in the humor system of medicine, right? The four humors that you had to keep in balance...

Justin:

Right.

Sydnee:

That it was much better for those who had too much yellow bile than those who had too much black bile. So something you know, I would get your humors checked before you tried vinegar. And then, uhm it was better for men because it could irritate your uterus. They would prescribe it to men more.

Justin:

Oh, I had no idea, Sydnee. I'm so sorry.

Sydnee:

Yeah.

Justin:

You could have been enjoying vinegar. This whole time, I feel like I've never been, uh, very sensitive about that.

Sydnee:

So now—

Justin:

Your inability to enjoy vinegar.

Sydnee:

Yeah, if you could be the one— I just really don't want to be around it, just in case, like, my uterus gets irritated by it.

Justin:

Yeah.

Sydnee:

If you could dye eggs with Charlie this year, just so I don't have to be around vinegar at all.

Justin:

Will you—

Sydnee:

I don't want it to seep through. Like what if I spilled it on, like, my lower abdomen and it seeped through to my uterus and irritated it?

Justin:

Could you watch from a distance? Would that be okay? I mean, could you be the same room?

Sydnee:

Wear, like, a mask or something?

Justin:

Yeah.

Sydnee:

Yeah, I could do that.

Justin:

Or scuba mask?

Sydnee:

That'd be fine.

Justin:

Yeah, a rebreather maybe.

Sydnee:

And in both ancient Greece and Rome, there was a drink, uh, that members of the military would actually drink on a daily basis, kind of, to keep them healthy, uh, like, a tonic called Posca with, uh, vinegar and a bunch of different herbs. Um, and that was just to maintain health in people who are probably already...

Justin:

Like a tonic.

Sydnee:

Yeah, like, a daily health tonic. Um, and in the 10th century, we see Sung Tse, uh, advising the use of vinegar with sulfur to wash your hands between autopsies, again, before we even really understood infection, or how to transmit infection, we see people trying to use vinegar to stop it.

Justin:

Hmm.

Sydnee:

Um, one really weird story about Cleopatra and vinegar. So—

Justin:

Here's the one weird trick about vinegar that Cleopatra doesn't want you to know.

Sydnee:

[laughs] So there's a story that I found reference of Cleopatra and Mark Antony, who have this bet. He is eating a lot of fine expensive foods, a lot of things that he's bragging about where they came from, and how much they cost. And I'm assuming trying to, like, show off because it's Cleopatra. Right? So, like, he's trying to show off. And she bet that she could do better and she could eat 10 million sesterces? Sesterces.

Justin:

What's that?

Sydnee:

It's a unit of money. It would be equal to about \$500,000 now.

Justin:

Okay.

Sydnee:

Uh, in a single meal, she bet that she could spend that, like, that she could eat something in one single meal that would equal that much money, right? And he was, like, "Well, obviously you can't. I get the finest foods and they're the most expensive and I don't even spend that much money per meal."

So they sat down to dinner together. They had a nice whatever for dinner. I don't know what they had. It doesn't matter. For dessert, she's brought out

a dish and when they lift the cover off, all that's in it is a bowl of vinegar. She then removes one of her pearl earrings, puts it in the vinegar, and after a time it dissolves.

Justin:

Oh wow.

Sydnee:

She then drinks the vinegar. And she has now consumed the equivalent today, according to this story, of \$500,000. She didn't even have to eat the other one by the way. She just saved the other earring.

Justin:

I bet she does because she's hungry for pearls, and she becomes obsessed with eating pearls. It's the only food she'll eat anymore. She's got Pica. Cleopatra had Pica.

Sydnee:

It's a— Well, like, this story is crazy to me because, like, take that, poor Ancient Egyptians. We're eating pearls.

Justin:

We're eating pearls over here although, like, people these days do eat gold leaf so it's, like, well... It's not too—

Sydnee:

It's not too far.

Justin:

Yeah—

Sydnee:

Not too far out there.

Justin:

Um, does it really work that way?

Sydnee:

If— Can you dissolve a pearl in vinegar? I don't— I mean— I guess it's an acid maybe over time? I guess you can. I don't see anybody contradicting the story so...

Justin:

You're just dropping, like, some apocryphal stuff today, huh? You are going wet and wild.

Sydnee:

No, this story— Okay, this is not apocryphal because the person who wrote this story down, recorded it for posterity, is none other than Pliny the Elder.

Justin:

Okay, all right. You're done. I'm cutting you off.

Sydnee:

You know, my man Pliny does not lie...

Justin:

Okay.

Sydnee:

...because apparently he writes down everything.

Justin:

Yeah.

Sydnee:

Including this weird story about Cleopatra eating pearls.

Justin:

Weird story we heard from just random people.

Sydnee:

[laughs]

Justin:

Okay. Any other countries where vinegar's, like, hot?

Sydnee:

Uh, we— I'm going to tell you about a lot more vinegar lore in just a minute, Justin, if you will first follow me to the billing department.

Justin:

Let's go. [theme song plays]

[ad break]

Justin:

So Sydnee, you were uh gonna tell me about some other countries where vinegar is so hot right now, vinegar.

Sydnee:

So, like I was saying vinegar is not just a modern phenomenon. It dates back to ancient times, and it crosses oceans. In China, it was used for lots of different things, burns, dog bites, hernias, again high cholesterol. It was considered essential to a healthy life. You must have your vinegar. Um, in Japan, there's actually— And I don't know what all 10 longevity rules are,

but there apparently are 10 longevity rules. The second one is less salt, more vinegar.

Justin:

Hmm.

Sydnee:

So—

Justin:

I mean, uh, I guess

Sydnee:

I kind of like vinegar and salt though, especially with fries.

Justin:

Or maybe, like, salt and vinegar.

Sydnee:

Yeah.

Justin:

Yes, please. Don't mind if I do. Yes.

Sydnee:

But maybe this is why I won't live as long.

Justin:

Yeah, it was okay. But, like, salt and vinegar together though.
Counterpoint—

Sydnee:

Yum.

Justin:

Yum.

Sydnee:

That's our counterpoint.

Justin:

Our counterpoint to living longer. Yum!

Sydnee:

And...

Justin:

God, I wish that was a little further from the truth.

Sydnee:

In plague times, uh, doctors were fans of using vinegar to protect themselves or so they thought from getting the plague. So they would rub themselves in, uh, vinegar infused with herbs and essential oils, just kind of coat their whole bodies in it as a way to try to, like, you know, provide some sort of armor against their plague patients. There were actually— There's this weird story about four convicted thieves. And I'm not sure—

Justin:

There she goes again, folks, I don't know. She's just—

Sydnee:

Listen, something like...

Justin:

Loosey-goosey.

Sydnee:

...this probably happened. Anyway, it's part of folklore and there's a lot of that surrounding vinegar.

Justin:

Well, I know this story. How do I know the story?

Sydnee:

Because it's very similar to another story that we've told, but let me...

Justin:

Okay, go ahead, sorry.

Sydnee:

So there were four convicted thieves.

Justin:

I didn't mean to look ahead.

Sydnee:

And they were either robbing sick plague victims, either that's the case or they were robbing them and then they got caught and then they were forced to bury dead plague victims as punishment. One of these two things are true. One way or another, they were being exposed to lots of people with the plague. Gotcha? You got it?

Justin:

Mm-hmm.

Sydnee:

Okay, that's the important part. And they didn't get it though. And so at one point they were asked, "Why aren't you getting the plague? You should be. You're around all these plague victims." And they said that what they were doing to survive it was rub a mixture of vinegar with a bunch of herbs and also a lot of garlic in it all over themselves. And then there's also mentioned maybe they were drinking it too.

Uh, this recipe has a bunch of different versions. The root of it is vinegar with garlic in it and then there can be other things. And there are lots of different mythologies surrounding it. But one way or another, this is the beginning of four thieves vinegar, which is different than I think we have talked about before four thieves oil.

Justin:

Okay.

Sydnee:

Which has, I think like some sort of similar story, not exactly the same, but some sort of origin story involving four people who are stealing things. Either way, there is a fourth use of vinegar that you can use for various...

Justin:

Yeah, that's so strange, yeah.

Sydnee:

...ailments.

Justin:

Yeah, that's uh, that's really odd.

Sydnee:

And this is supposedly the story of where that came from.

Justin:

I guess just whenever you get it in your head that you need some of the fix, you just summon up that four thieves story.

Sydnee:

Exactly.

Justin:

And just go to— It works for everything.

Sydnee:

[overlapping] Buy something labeled four thieves.

Justin:

Um yeah, it seems like, just looking right here, it seems like the four thieves oil is more, like, uh, essential oils kind of vibe.

Sydnee:

It is, isn't it? That's where we mentioned...

Justin:

Is that what we talked about?

Sydnee:

Yeah, we talked about it in essential oils. I don't remember the backstory on why it's called four thieves.

Justin:

Listen. Listen, listen. Vinegar is just oil that you put on chips.

Sydnee:

No, mm-mm. No.

Justin:

Think about it.

Sydnee:

Nope, no.

Justin:

Think about it.

Sydnee:

Uh, in the Middle Ages, this was a bad idea, vinegar was poured over lead to make sugar of lead, which was used for sweetening cider. Uh...

Justin:

That's, uh, that's nonsense.

Sydnee:

As you can imagine while it is great for sweetening things, it is bad for getting lead poisoning or maybe good for getting lead poisoning? I mean, if you want to get lead poisoning...

Justin:

It's effective, yeah.

Sydnee:

...it's a great way to get it. I wouldn't do that. In the 18th century, we see mention of vinegar for, again, for everything. Dropsy, poison ivy, croup, stomach aches, we talked about before, on the hygiene episode, you could use vinegar to, like, soak a small sponge in and then hold it up to your nose

because everything was smelly in the 18th century. Plumbing was an issue, you know. So you could walk around with a little box, the vinaigrette. Remember, we talked about this?

Justin: Right, yeah.

Sydnee:

And you kept your sponge that was soaked in vinegar and your vinaigrette, and then you opened it up and, like, took a few whiffs when you felt like you were gonna pass out on a particularly smelly street.

Justin:

Vinegar's really got its fingers in a lot of pots throughout medical history.

Sydnee:

Yeah, it does.

Justin:

We've touched on a lot, it seems like.

Sydnee:

I know, this is the thread that connects it all. There's also, you mentioned that you wouldn't want to drink vinegar.

Justin:

I wouldn't.

Sydnee:

Well, not so fast there.

Justin:

I mean, don't try to tell me I would like to drink vinegar. I would not, guaranteed.

Sydnee:

Unless there are switchels, which was a vinegar based drink, uh, that used to exist, especially if we look around, like, revolutionary times. And it even predates that, but especially in the US. Vinegar based drinks, that they had some water, something sweet in them, like, molasses would be a good example of a sweetener use for these switchels, ginger, and then of course, the vinegar. And this was good basically for anything that ailed you. So, you would make this— And it was also used as, like, a refreshing summer drink. So, like, if it was really hot outside, you would make yourself up a switchel.

Justin:

Okay.

Sydnee:

And it was a vinegar based cooling drink. Vinegar was seen as a cooling substance in general to fight heat. So that's why we thought it would fight fever and things like that. But it was also just a good way to cool off after a hot summer day.

Justin:

Beat the heat with some vinegar.

Sydnee:

Uh, there's another variety— And you could mix it with alcohol if you wanted to. There was another variety that was probably more often mixed with alcohol called a shrub, which was the same idea except with fruit. And you could make it just by, like, pouring vinegar over, like, berries and then letting

it sit there for a long time and then taking the liquid. You have this vinegar infused with some sort of fruity thing.

Justin:

That's probably not that bad. You make another drink but—

Sydnee:

When, well you could— Again, you could mix it with alcohol, you could drink it as is and it could be used to cool fever or just cool off. It was seen as healthier than water in large quantities. It was advised that, like, if you're really thirsty, don't drink water.

Justin:

[laughs]

Sydnee:

Drink a shrub. Drink some vinegar. It was often used on ships. Uh, they thought it would prevent scurvy. We have learned that that's not true.

Justin:

Well, depending on what fruit they use, right?

Sydnee:

Yeah, yeah, I guess, but yeah.

Justin:

Yeah.

Sydnee:

But it was— Actually they probably wouldn't, I know what you're getting at. But they probably wouldn't have used a citrus fruit because part of why these were so popular is that you know, vinegar has a tanginess to it?

Justin:

Sure.

Sydnee:

Citrus fruits were not easy to obtain for a lot of people at this time period in history. So if you didn't have that tanginess from a citrus drink, you could add vinegar instead and you'd get that same, and that is very refreshing on a hot day.

Justin:

Vinegar.

Sydnee:

Lemonade. And so you know...

Justin:

Okay, you can't, that's— What you're doing now is poo sticks. You cannot just say, "lemonade, you know, like vinegar." Like, what are you talking about?

Sydnee:

Tangy.

Justin:

Tangy. Okay, yes. Okay.

Sydnee:

See? It's tangy.

Justin:

Sure.

Sydnee:

The thought on ships too is that you can use it to prevent scurvy. You could treat any illness you wanted with it because vinegar was in it. And everybody thought vinegar was a cure all. And then, uh, you could also use it to clean your ship.

Justin:

Yeah, great, it's multipurpose. Bring a jug. Bring a barrel.

Sydnee:

We see it soon after this proposes a treatment to control diabetes, uh, which is interesting. And I'll talk about why with some current research. But especially before we had any idea how to treat diabetes, vinegar was often used. Um, and then, the use for wounds, the use of vinegar to clean wounds actually persisted all the way up until World War I, where people were thinking that this was a good way to disinfect and keep bacteria from growing in a wound.

Justin:

Yeah.

Sydnee:

So, um, so let's...

Justin:

Okay, I have to ask, like, is it good for anything? Because I can't get it. I think that there's a natural thing of, like, if something tastes bad, object— I mean, like, I know, in context, it can but like, you know, your first response to that is that it does not taste good.

Sydnee:

Right.

Justin:

If something tastes bad but also doesn't hurt you, I think there's like would be an assumption made, like, it's got to be doing something good. Because it doesn't taste good.

Sydnee:

We see that a lot, I think, throughout medical history, the idea that because, uh, something elicits some sort of response in your body, is either, like, tastes bad or it's hard for you to eat or drink or it makes you throw up or makes you poop a lot or something, that it must be helping in some way.

Justin:

Right.

Sydnee:

I don't know why we think that but that is a common theme throughout medical history. I'm gonna break it down, though, kind of claim by claim when it comes to vinegar as to what— And this is just what we have evidence for. Okay?

Justin:

Well, you know what? I have the list here. Why don't I just throw these at you? And you give me, like, the short answer. How's that sound?

Sydnee:

Okay.

Justin:

Okay, infections?

Sydnee:

No. You'd think this would work. Let me just say this, you'd think this would work because we do use it as a food preservative. And in the lab, we have seen that it can help to kill some bacteria that can cause infections. However, it's not as effective, uh, when it comes to, like, cleaning your house.

It's not as effective as household cleaners. Um, and it doesn't kill all the bacteria you would need it to clean a wound. So it really isn't a great choice for infection. It does work to clean dentures and outer ear infections. Sometimes we use a vinegar solution, we have some evidence for that. Um, but it also can irritate the ear canal. So basically, in order to use vinegar to kill bacteria, we would have to use a concentration that would damage our own cells. So it's not a great choice.

Justin:

Uh, what about jellyfish things?

Sydnee:

Uh, it will help with the pain, yes, but hot water is way better than vinegar. If you want something natural, what's more natural than water? Use hot water if you get a jellyfish sting. It deactivates the toxin.

Justin:

Nail fungus?

Sydnee:

No.

Justin:

Ice.

Sydnee:

No.

Justin:

Warts?

Sydnee:

No.

Justin:

Blood pressure?

Sydnee:

In rats, we did see evidence that vinegar daily would lower your systolic, that's the top number, blood pressure. But that's never been shown in humans.

Justin:

You know what? I'm done with rats, by the way. Everybody, stop telling me something happens in rats, it doesn't matter. They're eating Splenda, like 24/7 and they die of cancer. And it's, like, there's no, I'm now on Splenda, aspartame, like everything gives breast cancer, they suck, like, and everything fixes their blood pressure.

Sydnee:

I just think that's an old joke, but I think it's true. Like maybe rats just get a lot of cancer.

Justin:

Maybe just rats, okay. Um, CAD risk.

Sydnee:

Coronary artery disease.

Justin:

As I was about to enumerate, yes.

Sydnee:

Justin doesn't understand my abbreviations. There was a study, uh, that showed women who ate vinaigrette on their salad as opposed to some sort of creamy salad dressing, were less likely to get heart disease, and so they tried to tie that to vinegar. I think there's a whole lot of other things you could say about that, frankly, as a woman who loves ranch, but chooses that vinaigrette because I'm trying.

Justin:

See, I like vinaigrette anyway. Uh, cancer, I'm sure it cures cancer, right?

Sydnee:

No.

Justin:

No.

Sydnee:

There is nothing concrete to those claims. There have been some studies in lab some anti like— Does it have some— Does it reduce oxidative stress, like, that whole antioxidant thing? But um, no, it is not— At this point has not been proven effective against cancer. In, in one study, it was actually shown to increase the rate of cancer of one kind. And another study, it showed that it decreased so we're kind of equivocal and the apple cider vinegar, no.

Justin:

So vinegar gives you cancer. You heard it here first.

Sydnee:

No, no, no. I didn't say that. I said it won't cure it.

Justin:

It says here DMs, I'm assuming dungeon master.

Sydnee:

Or diabetes mellitus.

Justin:

Sure, yeah.

Sydnee:

It— This is interesting. This is the one thing that I'll give vinegar, a little bit. I think this is the only thing I give it. Um, when they did some studies where they gave people vinegar with meals, they found that their sugar after a meal, their glucose after a meal was not as high as somebody who didn't get vinegar before the meal.

So that somehow helps you use the glucose a little better. So you don't have as high blood sugar afterwards. But we need a lot more study before we figure out what role it would play and if it's even worthwhile, is it enough that it would even be— You know, because if it lowers it a point or two, is it even worthwhile at all to use? Is it actually going to help to prevent diabetes from getting worse? I have no idea. But I do think it would be interesting to do more study on that.

Justin:

Real quick, weight loss.

Sydnee:

Uh, not really significant. No, there was one study that showed that you got full faster if you took vinegar, and that's all that we've ever been seeing. That's all we've ever seen.

Justin:

Heartburn.

Sydnee:

There is no evidence that it helps with heartburn. It is entirely anecdotal. But, oh boy, oh boy, there are people on the internet who will come try to convince you that it fixed their heartburn. I have no idea. I've never tried it. But there is no evidence for it.

Justin:

Uh, is there anything we can use it for?

Sydnee:

We do use acetic acid, so not vinegar, but the main, you know, acid in vinegar, acetic acid, we use it in, um, sometimes when we're doing an exam of the cervix. If we're looking for cells in the cervix that might be infected by the Human Papilloma Virus, the HPV virus, which leads to cervical cancer in some patients, uh, we can apply the acetic acid to the cervix, and it'll turn white if that area might be infected.

Justin:

Okay.

Sydnee:

An area we might need to investigate for regular cells. So, they're not really vinegar, but it is medical use of acetic acid. And there is some stuff you need

to know because usually, I'll give things that are fairly harmless to pass as long as people aren't trying to convince you to use them instead of, like, don't go see a doctor for your cancer, just drink vinegar. Obviously I have problems with that.

But there are some problems with vinegar. There was a patient who drank 250 mls of vinegar, milliliters of vinegar a day and got low potassium from it, which can cause heart arrhythmias that can be fatal. So too much vinegar is bad for you. There was somebody else who drank it to dislodge a crab shell that was stuck in their esophagus, and she wound up with a lot of damage to her esophagus from it.

Justin:

Okay.

Sydnee:

Uh, there were also some studies that showed in diabetic patients who took a lot of vinegar, while maybe their glucose was slightly better, they had more stomach problems. There's also been studies that show that it can cause more tooth decay than people who don't regularly consume vinegar, and it can interact with some of your medications.

Justin:

Is a silent killer waiting in your kitchen cupboard? Diabetes, crab shell wounds. What doesn't this sinister substance cause? Tonight at 11, vinegar.

Sydnee:

I would just say this about vinegar.

Justin:

It gives you cancer.

Sydnee:

No, if you're using vinegar for your food, you know, like, most of us do, I think that's fine. I think if you want to use it medicinally, I would talk to a doctor first, always. Always talk to your doctor first before you're going to try something like this.

Um, I wouldn't bank on it. I wouldn't put all my eggs in that basket. Um, and just because, I think this just goes to prove people over and over again will say, "Well, you know vinegar is good because it's been around since Hippocrates." If you listen to our show, I hope you know that the fact that we have been doing something for hundreds of thousands of years does not mean that it's right or good...

Justin:

Yes.

Sydnee:

...or helps in any way. We as humans will do the same thing over and over and over again despite evidence to the contrary. So.

Justin:

Uh, folks, that's gonna do it for us. Thank you so much for, uh, for listening to our program. I'm sorry that my voice still sounds like this. Hopefully, it'll improve at some point in the future.

Sydnee:

Justin loves that his voice sounds like this. So don't let him fool you.

Justin:

No, I mean—

Sydnee:

He thinks he sounds, like, low and gravelly all the time.

Justin:

It does, it sounds awesome.

Sydnee:

Or like late night radio...

Justin:

But it hurts to talk. It's really sad.

Sydnee:

Thanks also, again, to Blue Apron who makes cooking at home easy and don't forget, you can get your first two meals for free by going to blueapron.com/sawbones

Justin:

Hey, are you looking for a new podcast? I would highly suggest you go to maximumfun.org and add any one of their fantastic shows. Uh, they've got a ton of good ones. This week I, uh, got into, uh, We Got This, uh,1 which is a really funny, newer addition to the, uh, to the Maximum Fun family.

It is, uh, about two really funny dudes, uh, uh Mark Gagliardi and Hal Lublin who, uh, talk about a topic and try to, like, settle a long standing debate. Uh, one of the ones I listened to this week for example, Best Girl Scout Cookie, you know, stuff like that. It is a really funny show and they're really funny guys and you should check it out. It's that and so much more at maximumfun.org. Thanks to the Taxpayers for letting us use Medicines as the intro and outro of our program.

Sydnee:

Thank you as always for listening to our show. And please join us next week, probably on Wednesday.

Justin:

Probably on Wednesday. Max Fun Drive kicking off next week. We got it, that means, uh, cool stuff. We got a cool Sawbones for donors that we cooked up that I think people are really going to dig.

Sydnee:

Yeah, I'm not entirely comfortable with its existence, but there it is. I did it for you.

Justin:

It's gonna be great.

Sydnee:

Don't say I never gave you nothing.

Justin:

Let's talk about that next week. Till then, my name is Justin McElroy.

Sydnee:

I'm Sydnee McElroy.

Justin:

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

[theme music plays]

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Jonathan Van Ness:

You guys, I'm so excited to introduce to you my new baby, Getting Curious with Jonathan Van Ness. This is gonna be a really fun look at things that I find curious whether it's a menstrual cup, it might be the Romanov family, it might be fracking. It could be Carly Fiorina. I don't even know, who knows? It's going to be whatever I think is interesting.

I can't wait to bring it to you guys. We're going to be bringing in content experts. I'm going to be learning the things. It's only going to take about 30 minutes for you to expand your baby brains with me and have a super fun time, so I can't wait to see you on our first episode of Getting Curious.