

Sawbones 310: Laudable Pus

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

[theme music plays]

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

Sydnee: And I'm Sydnee McElroy.

Justin: Now, Syd, uh, you share your uh... your episode titles with me before we begin, so I have some idea of what we're talking about.

Sydnee: That's right.

Justin: I gotta be honest. This one, uhh... the J-Man's havin' trouble making heads or tails of.

Sydnee: Well, we uh, we haven't had what I would consider a really... a really gross one in a while. Right?

Justin: Yeah. Yeah, I mean—

Sydnee: Do you like the gross ones?

Justin: Yeah. If you don't, uh, this one has pus right there in the title.

Sydnee: Yeah, there's some pus. Well, I mean... some. A lot.

Justin: A lot. It's right there in the title, folks.

Sydnee: It's a lot about that.

Justin: Truth in advertising.

Sydnee: Just to get out ahead of it. That is what I'm gonna be...

Justin: It's not a cute... not a cute nickname for something less gross.

Sydnee: ... talking about. No. Purulent material, or... pus.

Justin: I'm not sure I—y'know, I'm takin' my own temperature to see how I feel. I don't actually get a bye week on Sawbones. I just kind of have to... have to uh, grit my teeth and bear it.

Sydnee: We haven't really dug down deep into infections of the skin before.

Justin: That's a—is that a pun?

Sydnee: No.

Justin: Were you being punny there?

Sydnee: Well, 'cause they can be superficial infections as well.

Justin: Here she goes.

Sydnee: We—and you—as you may imagine, we've been getting infections in our skin as long as we have, y'know, had skin. So...

Justin: I mean, at least since dinosaur times. Easy.

Sydnee: Well, there weren't humans then, so...

Justin: Hm. Agree to disagree.

Sydnee: No, that's... mmm, no. Science show it's not...

Justin: Psh. Okay, how do we know what color they were?

Sydnee: Dinosaurs?

Justin: Gotcha.

Sydnee: Are you asking me what color—I don't—Justin.

Justin: Your honor, the case is closed. We know what color dinosaurs were, so we saw some of them.

Sydnee: [laughs] We didn't. We don't—

Justin: Your honor, if it pleases the court, dinosaurs are green, and we know that 'cause we saw 'em.

Sydnee: No we don't. I'm sure that there are good science guesses that could be made about that, but that's not...

Justin: Science guesses?

Sydnee: We didn't see them. Yeah.

Justin: Sydnee, I prefer science fact. And the fact is, we know what color dinosaurs are, because we saw 'em and wrote it down.

Sydnee: I remember sometimes in class, in science classes, they would ask, "Do we have a hypothesis as to the answer?" So like, y'know, a guess based on information. Something like a... y'know, that would make sense, based on known facts. And then, if nobody had a hypothesis, they would say, "Does anybody have a SWAG?"

Justin: What's a SWAG?

Sydnee: It was a scientific wild... I can't say that word on the podcast. Butt, but starts with an A.

Justin: Got it.

Sydnee: Guess. And that's the next step.

Justin: That's the next step. And then there's the thing that I do, which is one step below that.

Sydnee: You make stuff up, and I have to stop you, because we're trying to spread the truth.

Justin: So we got skin. Speaking of spreading stuff, we got skin, and we get infections in it.

Sydnee: Yes. Because it is our—it's our first line of defense, right? It's the thing that gets hit first by the bugs, because it's out there. Out there on the front lines of our bodies. The skin. And I want to talk about—specifically, in case you're curious, this episode is gonna address the concept, in medical history, of laudable pus.

Justin: See? Heads or tails. No idea. Laudable. Like, good... impressive pus.

Sydnee: Like applaudable.

Justin: Applaudable pus.

Sydnee: Mm-hmm. Except laudable.

Justin: Got it.

Sydnee: So, I like 'laudable.' It always makes me think of people like... y'know when you clasp your hands together and go like, "Here here! Hooray!"

Justin: Hooray for me! Cheers! Yeah.

Sydnee: And like, shake 'em above your head.

Justin: [sings] For he's a jolly good pus...

Sydnee: Exactly.

Justin: Got it.

Sydnee: So let's go over a couple different terms for skin infection, and then get into, what is laudable pus? Why did we ever think pus was laudable? And how did we get to a point where we maybe knew a little bit better?

So, first of all, you may have heard the term cellulitis.

Justin: Yes.

Sydnee: It's an infection of the skin. It usually involves—it can start superficially, like on the top, and move deeper into the lower layers of the dermis and into the fat. There's also a similar infection called erysipelas, which is just depends on what layers of skin.

Justin: Okay.

Sydnee: And these are usually infections where there isn't necessarily pus. There might be, but most of the time, it's more like... hot, red, warm, swollen, tender. Y'know...

Justin: Infection looking.

Sydnee: Yes. Right? Um, on the other hand, there's an abscess. And an abscess is going to be full of pus, by definition. It's a collection of pus. It's either in the dermis or the subcutaneous tissue to the dermis, but it is a—it's like—I usually describe it to patients as like, a little water balloon full of pus.

Justin: Whoa. Okay.

Sydnee: In your... in your tissues.

Justin: Got it.

Sydnee: Down in there.

Justin: Lovin' it.

Sydnee: And you could either have like, one water balloon, which we could call, like, a furuncle.

Justin: [laughs]

Sydnee: So that means it has one opening, is usually a good way to think about it. It has one sinus tract or opening to the surface, up to like... the air. And that's where the pus comes out.

Justin: Y'know, sometimes, when I was a kid watching Disney afternoon, I would pretend that Baloo the Bear was my furuncle. Y'know, he's just so kind, and went on so many amazing adventures. Y'know? Could've been me and Kit Cloudkicker, just hangin' up there with my furuncle, Baloo. The bear.

Sydnee: Who was your carbuncle?

Justin: What? My uh... my uncle, Pasta.

Sydnee: [laughing] What?

Justin: My uncle Pasta Doug is my carbuncle.

Sydnee: Mmm... stretch. It's a stretch.

Justin: Because he would always bring pasta for the whole family to enjoy.

Sydnee: It's a... it's a stretch, there. A carbuncle is the same idea, except there are multiple openings. You can Google these, if you are so inclined to look at pictures so that you know what we're talking about. The difference between a furuncle and a carbuncle.

Justin: I wouldn't.

Sydnee: But the basic idea is that, instead of—

Justin: Facebook will be like, "Hey, I heard you like this nasty, nasty stuff. Do you want to buy a scarf with this on it?"

Sydnee: There's a whole show. Dr. Pimple Popper. Whole show about this kind of thing. People love this stuff.

Justin: Ugh. Chilling.

Sydnee: I'm just saying, it's out there. Anyway, so, a carbuncle would, like I said, have multiple little whiteheads on it that could drain pus.

Justin: Ugh.

Sydnee: Like, a bunch of, like, separate furuncles, coalesced together to form... sort of like a bunch of grapes.

Justin: Come on.

Sydnee: [laughs] I'm just saying. This is what they are. You need to understand where we're coming from. They both result from the same—

Justin: I'm glad I already finished my fajitas, by the way.

Sydnee: All of this results from the same thing. Bacteria gets in where it shouldn't be. And a lot of times, people will—a lot of patients will tell me, like, "I didn't have a cut. I don't understand how this could've happened. Like, I don't—there was no damage to my skin. I didn't have an accident, I didn't cut myself, nothing scratched me. How did this happen?"

And that's the thing about bacteria is, they're really small. So it doesn't take...

Justin: Microscopic, some might say.

Sydnee: Everyone should say. It doesn't take a large opening for them to get through. Just the tiniest little cracked skin or enflamed hair follicle... anything, and a bacteria can slip down in there and... y'know, set up shop. And the thing is, like, we're covered in bacteria, and that's fine. We should be. It's no problem.

Justin: Good.

Sydnee: But you—there's bacteria you want to keep on the outside, and bacteria that's good on the inside, and never the twain shall meet. And so...

Justin: Except they do. The twain are meeting all the time.

Sydnee: Yes. Constantly, that is the human condition. So you get a crack in your skin, some staph or strep that's on your skin that should be out there gets in there. It starts growing, and it goes forth and multiplies, and has a lot of little staph or strep babies.

Justin: Adorable.

Sydnee: And then you get an infection.

Justin: Less adorable.

Sydnee: And that's how it happens. Most often, that's how it happens.

Now, when we look back to the ancient world, the biggest—there are a lot of differences to how we would've treated these kinds of things. First of all, it should be noted, we didn't know they were infections, obviously. When we go back to ancient history, we did not know that bacteria were causing these. Right? We had no idea. We didn't know about germs yet. The germ theory of disease was many, many years from developing. So we, uh...

And there were people who, from time to time, would postulate that there was a contagion. Some sort of invader that caused these things. But we didn't know that. Uh, and so, the biggest difference, when we had these skin infections in the ancient world, is that pus was seen as a step in the healing process.

Justin: Hm.

Sydnee: So, it wasn't just... like, now, we would think that the infection, the pus itself, the infection is the problem, whereas in the ancient world, you—

Justin: That's how you know it's working.

Sydnee: Yes. Pus will happen. It is part of—it is a step in the process. So, both Hippocrates and Galen wrote about how, y'know, a wound is going to produce what they described as like a thick, white pus. Not necessarily particularly foul smelling, but definitely like, lots and lots of thick, white pus, and that is part of the healing process.

So, when you would get a wound of some sort, or if there was like an abscess or something, you would want to clean it, get rid of any obviously dead tissue... that was always part of the process. If part of the tissue looked dead and ragged, and something that you couldn't recover, you got rid of it.

And then, after that, the focus was just on like, keeping it covered. So, you would usually use some like, greased wool, or some sort of bandage. Grease was like, a barrier.

Justin: Yeah. That's not like, the worst idea.

Sydnee: No, it really wasn't. And then you would try to keep it dry. And then you would do other things to try to help you heal. Things that, at the time, like, balancing your humors, right? We had the humoral system of medicine, where you had to keep your four humors in balance.

And so like, as—if you had a big wound, and it was healing, then the next steps would be, okay, we've packed that with some greasy wool. Why don't you try to eat a really healthy diet and get plenty of sleep and exercise and stay away from hot foods and only drink these cool things and don't get too much... blood.

Justin: Yeah. So important.

Sydnee: Make sure you have plenty of... yeah, all that kind of... not too much phlegm, and whatever. Um, but the idea was that, even back then, no matter how clean you kept the wound, it was probably gonna get infected, right?

Justin: Right.

Sydnee: Because we had no—we didn't know what was—

Justin: No clue. We were guessing about everything.

Sydnee: We didn't know what we were doing. So, you may as well see pus as a good sign.

Justin: [laughs] I guess that's an optimistic way of looking at it.

Sydnee: Because it was gonna happen.

Justin: Kind of an abscess is half full kind of deal.

Sydnee: Um, and if you consider—hey, that was good.

Justin: Wow. Just gonna blow right past it.

Sydnee: Sorry.

Justin: Mm-hmm. It's okay.

Sydnee: Sorry, I was getting excited about the next part.

Justin: Sure, yeah. I mean, why wouldn't you be?

Sydnee: It was good, though.

Justin: Would you say it was—

Sydnee: However, if you're—

Justin: Would you say it was laudable?

Sydnee: [laughs] That was better. However, uh, this partially was probably because we understood, pretty early on, that the thing to do for an abscess was open it. And if anyone has ever had an abscess out there, or what you might call a boil. They're very commonly, like, colloquially called boils. You know that opening them is the key. Antibiotics are great. Nowadays, we have them. That's fantastic. But until you open them, they're not gonna heal.

And we knew that from Hippocrates on. We knew that in ancient times. So, any time you would have an abscess, obviously, pus was gonna be part of the healing process. You had to see the pus, because you gotta open it up, drain out all the pus, allow it to keep draining, and that's the only way it's ever gonna heal.

And Hippocrates had a saying. "Ubi pus, ibi evacua."

Justin: Meaning?

Sydnee: Where there is pus, there evacuate it.

Justin: Oh, that's nice. Catchy.

Sydnee: I know. So... could I have that on a t-shirt?

Justin: You got it.

Sydnee: I guess is the reason I'm doing this topic for our podcast.

Justin: We'll get on it.

Sydnee: I need that. It's so critical.

Justin: I think it applies to a lot of different things in life.

Sydnee: No, just for abscesses and other, y'know, skin infections. But my point is that, where there is pus, you need to evacuate it. It's so important.

Justin: [laughing] Mm-hmm. I'll keep that in mind. By looking at the t-shirt that we're going to make.

Sydnee: Please get me this t-shirt. It's in Latin. People won't know.

Justin: Okay.

Sydnee: Except those who are in the know, and they're gonna think it's really cool.

Justin: Really cool.

Sydnee: Mm-hmm. Uh, there were other spins on like, this same, basic concept, if you look to different medical traditions. Same ideas, but like, the Egyptians were big fans of honey as well. But they did the same things with

like, the greased wool. They usually would dip it in wine, too. And then, let it heal. Same kinds of ideas.

You see this in uh, Indian ayurvedic medicine. There was a lot of focus on keeping a wound clean. There was a lot of different—and we've gone through some of this, like, different methods of suturing wounds. Not so much on the pus.

Um, and uh, that's interesting, 'cause like, we tend to think about like... when we look at this concept of laudable pus that is really going to throw us back many centuries in medicine soon, in this story, uh... you can't blame it on these other medical traditions.

Because in Indian medicine, they knew that like, this wasn't... pus was not necessarily a great thing. It happened a lot. It was accepted that it happened a lot. But that wasn't something that was associated with the concept of healing.

Same thing in like, traditional Chinese medicine. There was a lot of focus on clean the wound, suture it up, and then... kind of like the humoral system – get all your body's systems in harmony. Um, pus may be a natural consequence of all of this, but just like, let's get through it, because it's like, another challenge in the healing process.

Justin: Okay.

Sydnee: But was really—what was really interesting is that Galen got really focused on pus. On the importance of pus. And he wrote a lot about how intrinsic it was to the healing process.

Now, there's a lot of debate as to whether or not these writings have been misinterpreted. Or had been, I should say. We know better now. But um, Galen probably didn't think that pus had to happen, as much as it was accepted as an inevitable consequence. But his writings were interpreted as that, it *must* occur. You *have* to have it.

Justin: Or you won't get better.

Sydnee: Or you won't get better. If you don't see pus, then it's not moving in the right direction. So like, packing a wound with wool that was soaked in grease and wine and all this stuff is all well and good, but like... you have to have the pus.

And when we move forward into like, um, Avicenna, and some of the like, Islamic medicine traditions that followed, they agreed with this way of thinking and thought, like, y'know, we need to follow the Galenic tradition. And whatever we have to do to like, get this wound clean, and then make sure that pus happens is important. 'Cause he writes so much about pus, this must be important.

So, cauterizing a wound, not just to stop the bleeding, but to make sure that like, you saw that kind of tissue damage that would eventually rot... like, you would get these like, really gross wounds...

Justin: [laughs]

Sydnee: Like, and other things that you could do to ensure that pus happened became very important. And that's where you see—it wasn't until, really, the middle ages, and moving forward from even that, based on these writings, that you see people start to use the term 'laudable pus.' And that it becomes, uh, like... not just a passive concept, that pus is okay, it's fine, it's gonna happen, don't worry about it... as an active concept.

Justin: What can we do to get the pus cookin'?

Sydnee: What can we do to make sure that this clean, healing, dry wound that looks great gets a ton of pus?

Justin: [laughs]

Sydnee: And that—

Justin: Classic us.

Sydnee: And that's when things get really nasty.

Justin: Okay, I'm braced. I'm ready.

Sydnee: Well, I'm gonna take you there. But before we do that... let's go to the billing department.

Justin: Let's go!

[theme music plays]

[ad break]

Justin: Okay, Syd. You warned me things were about to get, quote, "really nasty" at this point.

Sydnee: So, as I said, we get to an idea where it becomes less of a passive concept, and now it's more of an active concept. We're gonna make pus happen. If you're taking a step back here and thinking, like, "Why in the world would we have thought this was true?" Uh, one possible theory to keep in mind, so that everybody who does this doesn't seem like they've gone totally, y'know, wild with their ideas.

Um, if you look at a chronic wound infection...

Justin: And I will.

Sydnee: If you think about, like, from a medical standpoint, what would've been observed. If you have a wound that is slowly healing, but then gets some bacteria in it, and so, then, pus starts happening... and especially like that thick, white pus that we're thinking about.

Justin: [sighs]

Sydnee: This is usually an infection that's treatable. Through drainage, through antiseptis... I mean, nowadays, we have antibiotics. That's all well and good.

Justin: Sure.

Sydnee: But like, these were infections that people, even back then, would probably have survived, and not lost a limb. These were the more mild types of infections. The infections that didn't cause a lot of that pus would've been, like, necrotizing fasciitis. The kinds of infections, like, what you think about as the flesh-eating bacteria... that's what everybody likes to call it, right? The flesh-eating bacteria. Necrotizing fasciitis.

Uh, these kinds of infections don't tend to produce a ton of that like, thick, white pus that we think about. They're not as purulent as like, they just sort of... destroy all the tissue very quickly, and they kind of liquefy.

And so, if you're comparing that to, "Uh oh, this wound is like, all the tissue has turned really black and necrotic, and there's just this thin, watery, very smelly substance coming out of it," as opposed to, "Oh, the wound still looks the same, except now it's got pus on it," that's obviously the better option.

Justin: So we're talking about a confusion of causation versus correlation, right? The wounds that had pus tended to get better. So, the connection was made that they needed to get pus to get better.

Sydnee: Right.

Justin: Gotcha.

Sydnee: So this is probably where some of these concepts, like, why they solidified, why they took the writings of Galen... which, we very much think now, looking back at them, that he was not saying, "Please cause pus in a wound." He was saying, "Well, it's better than the alternative."

And by the middle ages, we started saying... the Latin was "Pus bonum et laudabile," meaning, laudable pus, and it was the mainstay of wound management. So you wouldn't just clean a wound, remove the dead tissue, and let stuff happen. Now, you had to clean the wound, get the dead tissue

out of there, and then do whatever it took... to make sure that it got really nasty.

Justin: [laughs]

Sydney: Um, and the thing is, we didn't understand—we still didn't know how to form pus, because we didn't know why it was forming to begin with, right? Like, we still didn't understand germs. We still didn't understand bacteria. We didn't know it was infection.

So, we had to—so we looked for other things. Like, well, when that happens to a wound, it also tends to look at what we already identified as the signs of inflammation. Rubor, dolor, the swelling, redness, edema, pain... these, uh, y'know, these date back to ancient times. These concepts of like, what inflammation looks like.

And when inflammation was there, pus tended to be there. So if you could do something that caused inflammation, maybe you could also ensure that the wound would become purulent. And so, there were a lot of different techniques introduced to like, irritate a wound. To apply caustic substances to a wound.

Justin: To just make it grosser and worse.

Sydney: Yes. So it would get inflamed and purulent. Um, there were people who fought back against this. There was a writer, uh, Theodoric Borgognoni, who was a very prolific writer from the late 1200s. And he read about all these ideas of laudable pus and said, "I think we maybe got it wrong, that either Galen was wrong, or we're misinterpreting Galen. But something about this seems really wack, and I think we should just clean the wound..."

He did believe in cauterizing it to stop the bleeding. And it would. Y'know, if you burn the wound, it stops the bleeding. And then just leave it be. And everybody was like, "Theodoric... so stupid."

Justin: He's so dumb.

Sydnee: [laughing] “He’s so dumb. Can you believe?”

Justin: “He thinks pus is bad. This guy over here, he thinks pus is bad.”

Sydnee: “He’s so stupid.” And everybody spoke out against him. I mean, vehemently spoke out against him. And to be fair, it wasn’t just this idea – it was to go against Galen. [gasps]

Justin: [gasps]

Sydnee: Shock. I mean, how could you believe that somebody, y’know, hundreds of years ago didn’t know...

Justin: Exactly what they were doing.

Sydnee: Exactly what they were doing. Uh, and so, there was another surgeon, uh, Guy de Chauliac, who wrote uh—

Justin: I trust this guy more already, by the way.

Sydnee: [laughs] ‘Cause his name is Guy?

Justin: Seems—yeah, seems relatable.

Sydnee: Guy was like, “Oh my gosh. Theodoric is so wrong, and he’s so stupid, and I’m gonna write so much about how stupid he is, and how right Galen was, and how important pus is, and how...” Look, the more things—basically, more is more. He was like a really, like, into over accessorizing a wound kind of guy. Like, the more stuff we can do to this wound...

Justin: Glue some rhinestones on there. Really bedazzle it up.

Sydnee: Yes. More is more is more the better, and please don’t listen to Theodoric, because he’s so wrong. And if you look at like, how much he wrote about it, and how Guy de Chauliac became like... the gu—I mean, he was Guy the guy. He was *the guy* who knew about wound healing at this point in the middle ages.

Everyone read his books. Everybody ignored Theodoric, and everybody followed in his tradition, which said, "Do everything you possibly can to a wound to make it gory, and once the pus forms, you're on the right track." So much so that, um, Garrison in his history of medicine, which is like, a giant tome about the whole history of medical history, writes that he probably set, uh, antiseptics in surgery back, like, six centuries.

Justin: [bursts into laughter]

Sydnee: Because of how vocal he was about this... concept. I mean, it would take Lister to undo this.

Justin: 600 years later. [laughing]

Sydnee: So this is when we see wound management become, instead of just like, "I don't know, clean it out and get it dry and cross your fingers and hope things work."

Justin: That's rough.

Sydnee: And we start seeing like, "Alright, put some stuff on it. You got some herbs. Make a paste. Make a poultice. Do you have a hot iron? Maybe some hot tar? Do you have chalk? How about some copper? Cobwebs are huge. Keep cobwebs with you at all times so you can stuff those cobwebs in any wound that happens. Cook up some egg whites, dump those on there. Honey? Well, of course. Everybody loves honey."

Justin: Yeah, get honey in there.

Sydnee: "But also some vinegar, and maybe some radishes."

Justin: Sounds like me ordering at Cold Stone.

Sydnee: [laughs] Do you have turpentine?

Justin: Do you have turpentine? Can you dump a little bit of that in there?

Sydnee: How about some turpentine? Powdered snail shells?

Justin: Mmm, nice little bit of crunch.

Sydnee: Pigeon blood.

Justin: Yeah, sure.

Sydnee: Some lizard dung?

Justin: No thank you. No, y'know what? I will. It's Saturday. I'll treat myself.

Sydnee: It was really—the approach to healing a wound, at this point, was definitely more of a uh, nurture over nature. [laughs] That the idea was that, it was not going to heal itself.

Justin: Well, that's true. When does the body ever do that?

Sydnee: Well, constantly.

Justin: Right.

Sydnee: Oh, okay.

Justin: Yeah. Hey. I'm with ya.

Sydnee: Alright. Whew. Man, you made me worried there. But it really was this idea that your body cannot heal itself, which, of course, is not true. And so, we need to do everything we possibly can to—to, y'know, move this wound along, so that it will indeed heal. Plasters were very popular.

Justin: Like a bandage?

Sydnee: A bandage, or like a big, thick, plaster cast.

Justin: Ah, see, Peppa Pig has messed me up, 'cause they call Band-Aids 'plasters.'

Sydnee: So you could put a big, thick, plaster cast around it, which was like a... it's funny, 'cause as you read about this, this would later actually help in fixing the problem, because once you put these big, thick, plaster casts around them, you can't touch them. But also, they would create like a, um... a plaster of pus, essentially.

Justin: Oh, yum.

Sydnee: Like, they would get soaked through with pus from these separating wounds, and you'd just get like this... [laughs]

Justin: [sighs]

Sydnee: ... very unpleasant leg. Or arm.

Justin: [sighs] Okay.

Sydnee: Uh, a poultice is, of course, tinctures. Just irritate it. Noxious substances were very important. Um, in addition to things like animal dung and herbal pastes or whatever.

Justin: Yeah, get that.

Sydnee: Or just cut it off. I mean, that was the other option that was given.

Justin: Hey, yeah. Let's never forget.

Sydnee: It was like, y'know what? Let's also remember, we do not know what we're doing. We are making it—everything up. And so, maybe amputation? Which isn't great. We don't have anesthesia.

Justin: Oof. Yeah, that's a rough day. Rough afternoon.

Sydnee: But maybe?

Justin: Not a great survivability rate, also, on that one.

Sydnee: [laughs] This concept of doing a bunch of stuff to produce this laudable pus, this important, uh, applaudable... worthy of a standing ovation pus. This persisted until the late 1800s.

Justin: Oh man.

Sydnee: You don't see the complete—like, the death knell on this concept is not really until the very early 1900s. There was like a mention of it in like, 1916. But then, it's like, it's being mentioned as like a... I think we can all agree that this was—this is probably wrong now. Right?

Justin: Right? We should've thought of this several hundred years ago.

Sydnee: This is a bad idea.

Justin: We let this one go too long.

Sydnee: It started with Lister, with the idea of antiseptic technique, and that germs cause a wound to be infected. And so, if you can keep the wound clean and don't let germs in, the pus never forms, and that's better, not worse. Because infection is always a bad thing in a wound. You don't want infection in a wound, whatever the material seeping from the infected wound looks like.

So he started with putting carbolic acid in the wounds, and that definitely did keep them cleaner. Kept infection at bay.

Justin: Still no anesthesia, though?

Sydnee: No.

Justin: With the carbolic acid?

Sydnee: No, not necessarily, no.

Justin: Oof.

Sydnee: No, uh-uh. So, and that's—that was the trade off, too. Like, and we've talked about this in things like the hydrogen peroxide episode. Like, if you're gonna put caustic substances on a wound that do kill bacteria, um, they're also gonna damage tissue. So, there was a trade off at one point in medical history where we started putting stuff on wounds that probably did do a pretty good job of killing any pathogens. But also like, y'know, you. Your tissue. Your skin. And prevented healing.

Which is why... it's a little—we've said this before on the show, but I hear it so frequently, I think it bears mentioning – please do not continue to put those substances on wounds. I know a lot of people get excited about like, they just cut themselves, like, outside, and it's dirty, so they want to go dump like, alcohol or hydrogen peroxide on it or whatever to clean it out.

And I mean, I guess, y'know, it's dirty, whatever. You're not gonna do too much damage initially to the wound. But then, please don't ever do that again to it. 'Cause every time you continue to apply that substance, you're preventing healing.

Justin: Hm. Good to know.

Sydnee: Yeah. That initial time, if there are germs, yes, you've killed them. Great job. Now, stop. Go put it away. Give it to someone else, if you can't help yourself.

Justin: [laughs]

Sydnee: Hand it to a friend you can trust and say, "Don't give this back to me until my cut heals." Um, please don't continue to dump it on it, because

it will—all it's gonna do is damage the tissue at that point. It's not doing anything good for you. Um, and go see a doctor, if you're worried.

But anyway, so Lister introduced this idea that like, what if we just don't cause an infection? Of course, this was radical. But enough evidence eventually, y'know, was collected that this was true. And when we look into like, the following world wars, this is really where we see like, wound management.

We've talked about this before on the show. This kind of wound management really takes off during, unfortunately, during major world conflicts, because there's a lot of wounds created, and so, a lot of improved wound management techniques are found.

And they found, pretty quickly, that if they could – especially in like, Spain and Italy during different conflicts there – that if you could clean a wound to bleed it, wrap it up in a plaster, and keep it covered, and don't let anybody touch it or mess with it, even if it did form pus, it was better. And some of them didn't form pus.

And so like, overall, this was a better method of wound care, because uh, as they would say, inspection is infection. The more you like...

Justin: Look at it and mess with it.

Sydney: Look at it and mess with it, the more likely you are to infect it. Which is true. Um, and so like, if you could try to prevent, even as we had a very vague understanding of the germ theory of disease, people were already understanding that like... when you get your fingers in there, things get worse.

And so, this led to the idea that, okay, well, pus is not necessary for healing, but something we would rather avoid if possible. And then, antibiotics were the final end of this. It started with, actually, these like, sulfa drugs, which we—the most popular sulfa drug you think of now is Bactrim, you've probably heard of. Sulfamethoxazole.

Justin: Okay.

Sydnee: A lot of people have had this antibiotic. The first antibiotics before penicillin, which was the first widespread systemic antibiotic. We had these like, sulfa drug like powders that we could kind of sprinkle on wounds, and that was done, like, on the battlefield in an open wound. And that was somewhat effective. And then, penicillin was the big thing.

So, somebody got a wound. Shoot `em with some penicillin right there. Send `em to the hospital. It didn't get infected. And obviously, that was way superior to any method of wound healing that involved pus and infection. And so, no more... no more laudable pus.

Nowadays, that is how we treat cellulitis, is with antibiotics. And when it comes to abscesses, it's still the same idea. Antibiotics are fantastic, but... you gotta drain `em. You have to open `em up.

Justin: Get it out.

Sydnee: Break up any loculations that are in there. Sometimes, it's like one balloon. Like I said, one water balloon. And then, sometimes, it's sort of like a bunch of grapes.

Justin: You don't need to do that again. We got it.

Sydnee: And so, then, you gotta break up all the little...

Justin: Nope.

Sydnee: Septations...

Justin: That's it.

Sydnee: ... between all the grapes.

Justin: You're done.

Sydnee: All the little pockets.

Justin: Thank you so much for listening to our podcast.

Sydnee: And drain all of them.

Justin: We've really appreciated you listening to it.

Sydnee: Ubi pus, ibi evacua.

Justin: Thank you to the Taxpayers for the use of their song—

Sydnee: Very important.

Justin: — 'Medicines' as the intro and outro of our program. Hey, thanks to Travis and Teresa McElroy for watching our children while we record this episode of Sawbones.

Sydnee: We really appreciate it.

Justin: If you like this show, and you want to hear something of a similar format, but about manners and etiquette, you should check out Shmanners. It's their show. And uh, if you don't listen to it, and you like our show, you should check theirs out. I think you'd dig it.

Uh, thanks to the Max Fun network for having us as a part of their extended podcasting family. And uh, thank you to you for listening to our program. We hope you've enjoyed yourself.

If you would be so kind, you can leave us a rating or review in your podcast platform of choice, or you could just tell some friends about the show. We'd sure appreciate that.

But that is going to do it for us for this, Syd. So until next time, my name is Justin McElroy.

Sydnee: I'm Sydnee McElroy.

Justin: And as always, don't drill a hole in your head!

[theme music plays]

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