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Introducing Amy Baxter 00:52

You're in for a treat. Amy Baxter, pediatric emergency physician, pain researcher, and device manufacturer, is the CEO and Founder of Pain Care Labs. Amy has been recognized as a Forbes Ten Healthcare Disruptors, Inc., Top Women in Tech to Watch, Top 10 Innovative and Disruptive Women in Healthcare, a Wall Street Journal "Idea Person", and the Most Innovative CEO of 2014 from Georgia. I confess that after interviewing Melissa Reynolds a couple of weeks ago, published last week, I thought, "I ought to interview Amy Baxter." Turns out I had interviewed Amy in March and forgot about the episode. A senior moment, indeed. Here is that interview from March. It's long, over an hour. It's jam packed full of valuable information about pain and pain management. I learned so much. If you have a short attention span, like I do, download the episode or the transcript in the show notes and save it for future reference. Also, this is the first episode with a podcast sponsor. Listen for my introduction to Abridge a software app for people like us about midway in the episode. Here's the interview. Enjoy!

Health Hats: Amy, thanks for joining me. How do you introduce yourself when you go to a social engagement?

Amy: It depends on the social engagement, but it's difficult because I'm a pediatric Emergency physician who transitioned to entrepreneur in the pain space full time. So I usually say I'm a creator of pain relief devices and then when it becomes relevant to talk about the medical background.

Health is fragile 03:02

Health Hats: Where were you when you first realized that Health was fragile?

Amy: I had an accident about four years ago where I broke my neck. I was Boogie boarding in Hawaii. Truthfully, up until that time, I had felt resilient despite being in emergency medicine despite seeing how fragile health was. It wasn't personal until I became a patient. And then all of the spiraling realities that would happen without me being there or with me in a Halo or with me in a full-on paraplegic chair for the rest of my life. All of those different possibilities started becoming extremely real in the moments after hitting my head on the rock in Hawaii.

Health Hats: Oh, my goodness. We've met virtually in several venues around pain management. It seems like you've had quite a trajectory of perspectives on pain. I'm wondering if could we start early, even as early as your young adult days. How did you think about pain before you entered a professional life?

Unnecessary, wasteful pain 04:33

Amy: The interesting thing for me is that pain was not as much an issue as unnecessary pain or unnecessary nausea or unnecessary suffering of any kind. I grew up really poor thinking about anything that was able to be done more cheaply or more efficiently and more effectively. That's where my interest started. Pain didn't enter into the equation as much for me. It's interesting because I am very aware now of the issues of needle fear and the psychology of barriers to healthcare. So I try to avoid sharing my own perception of needle pain because I don't want to undermine the very real experience for people who have psychological barriers and issues. I want to normalize that a lot of people have needle fear. People react to needle pain very differently. But the pain part didn't become something that I was as passionate about until I got into medical environments where people were being hurt unnecessarily or where there was nausea that was not being treated and it was unnecessary. We had things to make this better and faster. So that was really where the interesting pain started. I knew that we had topical anesthetics to block pain. We had mechanisms to relieve pain. Physicians weren't using them. That seemed wasteful. So, my interest in pain became more that not only are we putting people through trauma but that it's just wasting everyone's time. It's making it harder for procedures to get done. It's going against what our first 'Do No Harm' pledge was in a very literal manner.

Health Hats: Did that awakening happened while you were in medical school or before medical school?

Amy: In medical school, I had one really traumatic memory of a man in the VA who had a nasogastric tube ordered and without any kind of Lidocaine spray or numbing medicine for the back of his nose, he was held down and this veteran had five people trying to shove a nasogastric tube in. It was traumatic. It was difficult as a medical student. It was horrifically brutal. He passed away the next day. So, I started to question when procedures are necessary and whether the whole perspective of what the patient needed was most important. I worked in college in a hospice. A different side of pain awareness came from hospice because some of the patients who were there had such high doses of opioids that they were sleepy and foggy and didn't recognize when their visitors were there. So one, in particular, had told me that she didn't want her pain medicine even though she was moaning because she was going to have a visitor. Someone else gave her the pain medicine anyway shortly after that and she didn't want to fight them. So, she slept through the visit with the person that was coming. As you know, pain is a very

nuanced balance between what the person is experiencing, what they want to experience, and the helplessness both on stopping the pain but also having some agency in the degree to which pain impacts the rest of their life.

Health Hats: I remember my early days as an ER nurse putting in the NG tube. I was more concerned if could I do the procedure. Then once I started to become more comfortable, I started to think about the experience of the person who was sitting or lying having the procedure.

Amy: I vowed that I was never going to use pain as an outcome because it wasn't going to change physician behavior. That's not what we're taught to put into the equation of whether you do a procedure or not. So my very first study was evaluating lumbar punctures and whether or not success was improved when residents use a topical anesthetic. I realized that by appealing to the desire to have a successful procedure and to motivating people with the shame of a failed procedure, that learning part is so much the priority of everyone's mind and training. I realized that if I could prove, which we did, that using topical anesthetics improve the likelihood of success, that would change behavior. In fact, I was required, before I started the study, to do a survey establishing that people did not actually use topical anesthetics. The institutional review board, the group at the hospital that verifies whether it's a safe study to do, couldn't believe that doctors weren't using topical anesthetics for a spinal tap. So I had to first do a survey, and published that to prove that 90% of the time people weren't, before we were allowed to do the study looking at the topical anesthetic.

Pain research: so much about drugs 11:00

Health Hats: It is interesting that so much research about pain management is about pharmaceuticals. It's difficult for researchers to find funding for non-pharmaceutical solutions to pain. Comparative effectiveness research, as somebody once said to me, is a lot of looking in the rearview mirror. Somebody needs to have already started to prove something before you can get funding to really prove it. I think that non-pharmaceutical solutions to pain management gets short rift. You've been doing non-pharmaceutical pain studies for some time. So, how did you break into that or deal with that dilemma of the pharmaceutical focus?

Amy: This is something that I've only become aware of in the past two or three years, just because you don't see what's around you all the time. My very first grant was a $1000 unrestricted topical anesthetic study grant from AstraZeneca. It wasn't given to me. It was given to my department. Just free money, here you go. If somebody wants to do some research on this, you go for it. That milieu surrounds you throughout medical school, residency. Pharma's providing your meals when you're tired and post-call. You're so grateful that you're getting information as well as lasagna. There are these small grants that are unrestricted that the pharmaceutical companies can afford to just pepper throughout the system. So, as a young researcher to realize that I could put AstraZeneca on my CV because I was partially funded with that. That is a fairly insidious prompting of what kind of research you are going to do. So the non-pharmaceutical research that I began with was because I was concerned about children having needle pain in that being a barrier to vaccinations. I wanted something that parents could use to take to the doctor with them to block the pain of vaccinations. So that the pain part wouldn't be a barrier to develop the device and I made prototypes, and I was using it for my kids. But it was a lot of dissonance in the emergency department believing that I had something that could help the children who were being held down and subjected to procedures. They wouldn't be screaming if it didn't hurt. They

wouldn't have to be held down. It would be a lot faster. So I started a company to be able to qualify for an NIH SBIR grant which is a small business Innovative research and we developed…

Health Hats: NIH is?

Amy: National Institutes of Health. So shout out to my homies at Eunice Shriver and NICHD [the National Institutes of Health, Child and Healthy Development Center], but they gave us the grant to develop this pain relief device. Without having already done research, there's no way I could have gotten that grant. There isn't a lobby to support magnesium for pain research. There's not a good yoga intervention pot of money that's just sitting around for someone who was looking for a project. And say, "oh, this is funded by the Yoga Institute of America" to see how yoga is for my patients. So my journey had to start with Pharma and I think that that it's probably always going to be that way because the rigor of doing academic research takes a lot of time to learn. The studies that we base our evaluation and statistical understanding are all Pharma studies. So I'm not sure how easy it would be to train someone to do the kind of rigorous research without being in a Pharma basis.

Physician superpower: writing prescriptions 15:33

Health Hats: My own personal pain journey: I have MS and neuropathy, seriously annoying neuropathy. One of my personal goals or guideposts is that I don't want to do anything that is going to impact my pathological optimism. I had neuropathy, and my neurologist wanted to give me gabapentin. I said to him, "Is this going to mess with my pathological optimism?" He said, "it might." I said, "well then I want to try other things." He says, "so what do you have in mind?" I said chiropractic, massage, meditation, acupuncture. I'll try some other things. And bless him, he said "I don't know anything about that stuff and I've never seen studies about it, but I'm into whatever works for my patients. So let me give you this prescription. Fill it or don't. Try what you want to try. Let me know how it goes and have this in your back pocket if what you're trying doesn't work." It's great that he had that attitude. On the other hand, it alarmed me that it wasn't in his constellation of knowledge and he didn't feel like he could do research about it or that there was evidence to find.

Amy: You did hit on three big things. First of all, isn't pathological optimism an oxymoron? Well, let's put a pin in that one or don't. The second thing is that you're up on what you're up on, and as physicians we're up on Pharma. It's our superpower. We can write prescriptions. In most places no one else can. We're up on that in multiple ways. But the key thing that you said that fascinates me as I've gotten into chronic pain is that there <u>is</u> a lot of research out there. There is a ton of beautiful randomized controlled trials on things like magnesium, on different types of acceptance and commitment therapy, lots of different alternative pain support. But physicians aren't exposed to that. I went to Pain Week which is ostensibly the biggest pain educational event for doctors dealing with pain.

Health Hats: You texted me in the airplane leaving that. You were so frustrated.

Amy: Because 67% of the lectures there were about Pharma. Of those, half of them were about side effects and not getting busted and put in jail for your opioid prescribing habits. So the number of ways that doctors are being taught about alternative therapies, they're not even complimentary. I think we should use the word comprehensive. Because pain is so much a constellation of the physical and the mental and the ways that the brain changes.

The Thalamus: Our brain's CPU 19:01

Now there were a few lectures about pathophysiology and one of the most interesting ones to me was that the thalamus in the brains of people with chronic knee pain enlarge and then after they've had a knee replacement therapy six months later, the thalamus is back down to normal. So there are clear indications that away with some…

Health Hats: What's the purpose of the thalamus in the brain?

Amy: It is the gatekeeper that allocates, it's almost the microprocessing unit. It's the main filter and CPU. It's the area of the brain that has to deal with what's most important in your life. The thalamus is responding to chronic pain by completely changing in size and shape and once it no longer needs to do that It goes back down to normal. Which shows that, first of all, pain is really the most important thing that your brain and body are dealing with, which is why it's so exhausting and impacts every other area of your life. But it also shows that there are non pharmacologic and non-physical places where pain impacts us. So unless we know about that and take responsibility as physicians to learn that and to use that information to force us to look at the nutritive and the physical solutions and the cognitive solutions and all of the different ways. I think that one of the most exciting things right now is that functional MRI has given us this window of ways to address pain. Because if we can we know the places in the brain that are processing pain; if we can then superimpose areas of, for example, different kinds of cognitive processing that happen in the same place in the brain. You can learn that distraction is visual and highly overlapping with pain. Ordering, sort of, how you would set up a problem or how you would identify something that overlaps enormously with the areas that deal with pain but calculating doesn't. Asking someone to do a math problem, that's not going to deal with their pain at all. Asking someone to recall is not in the area the processes pain. So when you are in the Emergency room saying, "tell me about your dog Jimmy or hey, do you remember this?" That area of the brain is not going to help with processing and with dampening and inhibiting the pain experience. So I'm really interested right now and looking at some of the different aromatherapy areas because I think that there's also a really easy way to making it a mathematical problem. Okay, this area lights up with nausea., These different aromas also are processed in the same area. So this is going to work for nausea. This isn't. So I think that's a really fun place. But unless physicians decide to make themselves familiar with the research then and conferences present the body of Comprehensive Pain Relief as equally valuable to the pharmaceutical, we're not going to make the kind of progress that we need and get this sort of funding that has to be there. One final thing about neuropathy and funding: a guy I met at pain week, Dr. Bob Odell, does neuropathy electricity pain management. He's an anesthesiologist and he does blocks and treatments that incorporate electricity with analgesics, like lidocaine. So pushing them through the nerves. I must admit I haven't read too much about what he is doing, but his results have been presented a lot of different conferences and have seemed to be almost the only thing that's worked for neuropathy for a lot of patients. His attempts to get funding have been so frustrating for him. It's difficult to earmark money for novel research in medicine.

And now a quick break to hear about our sponsor, Abridge. I see many clinicians on a regular basis, way too many. I'm appalled at how little I can remember when I get home. My wife asks, What did she say? What about this medication or that test? I'm happy to remember half of it. To help me remember everything, I downloaded a new smartphone app called Abridge.

Now, when I go to the doctor, I ask if it's okay to record our conversation. Nobody has said no yet. I push a big pink button to record, and after I'm done, the transcript from our audio appears -- not the whole thing that's too much, but sections around medical keywords like fatigue, pain, tests, exercise meds. Now when I'm done, I can share my visit with my wife, and she can listen to exactly what the doctor said. Abridge was created by patients doctors and caregivers. Check out the app at abridge.com -- a b r i d g e .com, or download it on the Apple App Store or Google Play Store. Record your health care conversations. Let me know how it went!

Perceptions of pain: attitude and attention 25:12

Health Hats: When I think about pain, I have different buckets. There's the acute injury trauma, some medical thing, this acute burst of pain and managing that kind of pain. Then there are the people who go from that acute to some chronic pain that is an extension or a continuation of that acute pain. And then there are people who have systemic issues: fibromyalgia, Sickle Cell, where pain is a huge part. They seem like different pain problems, different pain scenarios. So when you're exploring pain and doing your research and entrepreneurial work, how do you think about those different cohorts or whatever you want to call them?

Amy: What a broad question. I am most fascinated by the fact that attitude and attention impact all of those different kinds of pain and the fact that in America we use, depending on your source eighty to ninety percent of the world's opioids. We are focused much more on pain. It explains a lot about how the interplay of the identity and the act of cognition impact acute and chronic pain. Because the meaning of pain has been well-established to change the perception of pain. If you're on a battlefield and an injury means you're going to be going home, those patients use less morphine than someone who is in an accident that's caused by someone else. So the overlay of causality of responsibility of unfairness I think that Americans, in particular, feel entitled to fairness in a way that other cultures may not. So when I'm thinking about pain, my goal is not to eliminate pain. My mission is to eliminate unnecessary pain. When it's a waste. That's where I want to be on the forefront of intervening. But I think that a huge part of successful pain management is getting people not to look at pain as binary - either I have it or I don't. Pain is part of being alive. It's part of the physical condition. And so the preservation of optimism is an extraordinary linchpin in conquering pain. The degree to which you can use distraction and cognitive therapies to impact procedural pain, in immediate pain, chronic pain and all of the aspects of pain management, that's huge. I'm sure you know the concept of acceptance and commitment therapy is rather than focusing on pain, the patients are coached on what is valuable to them in their lives and how to make priorities participating in and supporting their values. Rather than limiting what happens with pain?

The Pain Scale: a mixed bag 29:11

And so the outcomes that are milestones are not where am I on a 1 to 10 scale. It is how many times was I able to garden or lift my grandchild or do things that matter to me? And so taking this aspect of pain away from a binary or a 1 to 10 unidimensional scale and instead, looking at how do I go past pain. At the end of six months, pediatric and adult studies show people who are doing acceptance and commitment therapy did better, perform better and ended up rating their pain lower on that 10 point scale at the end of the period.

Health Hats: That's so interesting. I wrote a blog post once about how many words there are for pain, and I went to how many words there for snow in Iceland? There's at least 30 words for snow and I find as both as a clinician, as a nurse, and as somebody who has pain, is that if I can or get somebody to be able to describe their pain in a granular fashion that all of a sudden becomes less of an enemy and more of a friend. My attitude with myself is, look I'm a good guy and I have pain. So, I have some things that cause me pain and I know that that pain is going to last 15 seconds, two minutes, for the morning. Just being able to know that becoming more familiar with it helps me already begin to manage it. As a nurse the 10 point scale would infuriate me. What is it the sixth sense or whatever?

Amy: Vital Sign, sixth vital sign.

Health Hats: It made no sense to me whatsoever. Like what good did that do anybody?

Amy: It's very good in an emergency setting because then you are using that person's own scale to see whether or not your treatment had an intervention. I wrote one of the two studies that has proven clinical value in the ten-point scale, which was we looked at Sickle Cell patients who came in. And what was most predictive of whether they needed to be admitted to the hospital was whether or not the first dose of opioids changed there pain rating from attend to something else and if it didn't that was highly predictive of them needing to be admitted. Whether the in it was predictive of bounce-backs and it was predictive of everything it was. I had a student who's the first author if you're interested, Melissa Frei-Jones. I'm in there somewhere. But apart from Emergency Settings, you're absolutely right. The pain is so nuanced. There's a great book, which I'm sure you've heard of, that's the Schmidt Sting Pain Scale, describing stings of various bugs as granular, smokey, and intense pulsating. I think that a couple of things you've said are useful is that when you apply language to something it makes you an observer. It makes you a bit of a scientist and so it's not your identity or your destiny. It is a condition that you're able to evaluate. And the other part is depression, and being overwhelmed, comes from this catastrophic feeling of inevitability. To know it's a finite period of time. I can do this for this period of time. There's a value to this. I'm going to live through this surgery and the pain from it because this is going to make things better. Looking at that timeframe of why something is happening. I think that all of those different aspects do help remove your identity from what the pain is. And I think that that gives it the whole American focus on pain because we have such a visual celebrity culture that doesn't allow for imperfections. And if you're limping for the rest of your life, you are marginalized. If you can't stand up properly and easily at different times of the day, there is a fear of you as a human being marginalized. It's not an inappropriate fear. It's legit because our culture focuses on that youth and physical ability. I think that that's part of why pain is so frightening and becomes part of who we are instead of a separate part of the human condition that everybody has to deal with to a certain extent or another.

Pain: What we teach kids? 34:40

Health Hats: How should we be approaching pain with young adults? People who are just getting started in their life and part of this American culture? I feel like we're so unprepared.

Amy: I do think that that part of the value of the Buzzy device for needle pain is emphasizing to children that there is a pain solution. That they have agency over their pain. One thing we find with patients who have a new onset diabetes is that they will, particularly if they're already afraid of needles, they'll use the Buzzy religiously for the first couple of weeks. And then maybe they don't get the ice pack. Then

maybe they don't get it for insulin, but they get it for finger sticks. It gives them the ability to choose. Is it worth the hassle of dealing with pain? So, over time particularly with insulin injections, but using it because they get comfortable enough that that they are resilient to the degree of pain that's there now.

Health Hats: Tell us about the Buzzy device so listeners will know what that is.

Amy: Buzzy and Viber cool and all of the technology we do uses an ice pack that blocks pain by causing the brain to sense something obnoxious that it doesn't want to feel so it inhibits pain over about 30 to 60 seconds because the pain is going along with the cold. Then the vibration part of it uses the same technique as if you bump your elbow, you rub it. Or if you burn your finger, you stick it under cold water. It's stimulating much bigger nerves called beta nerves or mechanoreceptors that are used to feel motion and pressure and touch. Those nerves override the fairly wimpy pain signal. So, combining a really strong vibration stimulus that is right in the frequency. It's a lot faster than TENS unit frequencies because there are certain motion receptors called Pacinian corpuscles that are exquisitely sensitive and really fast vibration frequencies. So you put together the ice and the vibration and it can block up to 90% of sharp pain now. It's not going to work for neuropathic pain because all this is doing is blocking a beta nerve so it's not going to work for CRPS (Complex regional pain syndrome) or pain that comes from the nerves themselves. But if the nerve is transmitting, it can block or inhibit. To get back to the young adult question, I think that we need to teach kids that it's okay to get bumped. It's okay to get injured. It's okay to have a chronic thing that you have to train past. I think about how dancers and athletes approach pain, dancers in particular. They're not getting opioids or medications. They know they're going to get injured. It's part of the gig. So, they have to train past pain. If they realized they're using their limbs in a certain way, they'll take them to make them retrain the muscles. So they're stronger in a different direction, and they'll keep working with the rest of their body even if they have an injured area. What they care about is am I going to damage this further and if not, then their goal and their job of using their bodies. They just push past it. So I think that it's multifocal. I do think that the anxiety that parents have about their children's pain is exacerbating the problem. We shouldn't jump in with Tylenol or Motrin or be too concerned about kids pain because that teaches them that they need to be concerned about it. Young adults also need to realize that there's not a quick fix. We're such an instant gratification culture now that it's going to be an uphill battle, but making people realize that a pill temporarily getting past pain is not the answer that is most effective for your body's health.

Pain management: People vary so much 39:18

Health Hats: The point of care, meaning the time when a clinician and a layperson are together is rare. When layperson and a clinician are together deciding how to manage pain whether in the office because of a sprain or whatever is such a fraught and important moment. It's amazing to me that the effectiveness or the quality of that interaction in making decisions about pain ever works. People are coming from so many different places and the spectrum of where people are coming from is so broad. So for patients, there's "I'm the CEO of my health care, and this is what I want, and this is what I need." To "just give me a pill." And then there are clinicians who know this is the answer to those who are really engaged and listening to burned out. There are so many combinations of factors in that relationship moment where pain gets managed. How do you take what you've learned about pain and apply that to helping that fraught moment be more satisfying, more useful, more productive?

Amy: This one does lend itself to different buckets instead of a comprehensive approach. First of all, I think that the reason most people come to an emergency room is pain related. And so the people on the front lines in emergency departments need to know what works for pain. We need to know that Ibuprofen is better than opioids for cast and fractures and for myriad acute injuries. There are very few that benefit from home opioids. The literature is clear on this. That needs to be known. For more chronic pain issues, the physical solutions that are available are often too laborious for a physician to go into. I think that the promise on the horizon is a lot of patient portals and the places where patients can talk to each other about what's worked for them, those are invaluable. Some some policing to make sure that people are not advocating for willow bark cream when a patient may be older and on blood thinners and would be a bad combination. There ought to be oversight. But I think that we're moving to a place where patients can help each other. I also think that the critical part that physicians need to communicate to patients is there is not one answer and then duration. There isn't one answer to this pain, and it's probably going to last about blank number of days, and our goal is to make sure it's not getting worse. So, alleviating the fear by giving an expectation and then setting the groundwork for the patient to be the CEO and to look for different options. There's something called the Ikea bias, which is that if you put it together, you like it better. What works best for pain is for patients to regain some of their agency, make their own pain plans, and to do that. The person who's first addressing the pain needs to acknowledge that there's not one answer and that to the degree that your pain bothers you, here are ways you can look into addressing this pain. So the missing part of this is a really good repository of evidence-based options because I would love for physicians to do as yours did. And say I'm open to this. But even then I'm not sure your physician said, "why don't I go into PubMed and look at the nutrition and the physical modalities or massage or acupuncture." What's probably going to work best for you? He was just, if it's out there, you go for it. So I think that there's going to have to be some uptake of the approach for pain management on the part of the patients, but we could make that a lot easier by acknowledging it.

Pain and cannabis 44:31

Health Hats: Where I'm seeing an exception to that now from physicians in terms of their doing some research has to do with research meaning around cannabis. I'm starting to find when I came out to my physicians that cannabis was part of my options for what ails me. I was pleasantly surprised. I say come out because I was nervous even though I have great clinicians on my team and they're so supportive, and they're so open. It's my baggage that I was reluctant to share that with them. I was especially pleased with my primary care doc and neurologist who are my main clinicians. They were open. They were knowledgeable. They knew what they didn't know. They were willing to say, "I need to learn more about that." But that was about cannabis. It was just interesting to me. It wasn't about mindful meditation. It wasn't about Chiropractic. It wasn't about acupuncture. It was about cannabis. I thought, "Wow, what is this?" I was pleased, but I was also startled, I guess.

Amy: Anyone who's working with chronic pain is hoping for better options. To some extent cannabis still fits into the pharmacologic realm because it's stimulating the dopamine pain receptors. There's specific cannabinoid dopamine receptors. So, it's not that much of a stretch for me to see that physicians are more comfortable with a psychoactive medication because that's what opioids are doing and we're comfortable with Pharma. We've talked a little before, I think one of the things that is a pendulum problem right now, is that young kids are telling each other that cannabis is safer than alcohol which it is

from a driving a car and getting in a wreck standpoint. But from a causing lasting psychosis standpoint, it's not for the developing brain under age 26. There are risks. I work with an orthopedist who has been ardently trying to reduce opioid prescription and use in his athletes who have ACL repairs. He asked me whether or not I could help him with a trial to use cannabis for acute pain. And fortunately, I was able to hook him up with someone who does research in this area, Michael Chapman. He says that's not the place for cannabis in pain. It's more of a chronic solution, like nausea. There a lot of other places for it. But it does make sense to me that physicians would be open to medical marijuana because to us it makes sense. There's good data that it's decreasing seizures and then there's really good data that it decreases pain and PTSD and opioid use and all sorts of things. I think it makes sense as a great adjunct. We have to not let that become conflated with that it is benign.

See the show notes or my website www.health-hats.com and click on blog/podcast for more information, to subscribe or contribute. If you like it, share it. Thanks.

Public policy and pain. We can do better. 48:47

Health Hats: What haven't I asked you that I ought to be asking you?

Amy: I think the pathway to keep acute pain from becoming chronic and the aspects of catastrophizing and how we can eliminate that and public policy. Take the last one first, because of all the mentions we've discussed why pain becomes so intertwined with identity and fear. One of the problems that our payment and payer system have perpetuated is that pharmacy's paid for and other solutions aren't. Which means that the ability for a patient to address 'not your garden-variety pain' is limited to going through a physician portal and gatekeeper. So, one of the clear parts of the psychological implications of pain is that helplessness makes the pain worse, and fear makes the pain worse. When you can't get your pain under control without physically schlepping yourself to a doctor, you're going to have more pain and more fear and more helplessness. So we have to change what we're paying for to give patients the ability to make their Ikea pain plan and have it paid for. It's nice and doesn't help you to learn that 500 milligrams of magnesium a day decreased pain in most autoimmune disorders unless you can afford to go buy $12 bottles of magnesium. It doesn't help you to know that yoga is good unless you can get a ride to or have a place or a video for yoga. So we're just completely blocking all of the ability for patients to control their pain by not subsidizing and letting patients try for themselves. TENS units work well for a subset of patients.

Health Hats: Wait, what did you just say - TENS units?

Amy: TENS units. You can use electrical nerve stimulation. It does a lot of what my technology does. There are four different motion receptors. And so motion triggers all four of them. So vibration is going to hit all four. But TENS units hit the surface one, which is called the Meissner one and it's like Icy Hot triggers that one or light touch. So little bits of electrical stimulation hit the Meissner Corpuscle and if you really jack up the intensity you're twitching muscles which then can get the Pacinian one which is the the one that's really good at preceeding vibration.

So some people benefit from these. The total studies in TENS units don't tend to show an average benefit. But I think that one of the problems with the way the scientific research is interpreted is for one

size fits all. And so with different kinds of pain and different kinds of people, you're going to have different results. We need to free up funding so that chronic pain patients can try what works for them. I don't know whether a loaner system is good for some of these things. I think it's clear that different therapies work on different days. There may be days where you want a hot pack and cold is awful. There may be days where the ice and vibration together are great, but we've got a fund that.

Pain management: what works for you? 52:19

Health Hats: That's so interesting. The way I think about it is that I need many arrows in my quiver. It's sometimes easy to predict which arrow is going to work and sometimes it isn't — but having multiple solutions to try to me, that's the win. When I think about my own plan, my Ikea plan or whatever, is to know that there's two solutions. I probably would feel like I went to heaven if I would have three that I could try and then likely one of them is going to work. And the challenge is to remember that I have three and go ahead and use one. That's why you have a team and whether its a family member or friend or a clinician. Did you try the other thing that sometimes works? But if you don't know what those options could be and you haven't tried things.

Amy: For been given the permission to try things.

Health Hats: I'm lucky that I'm an old two-legged white man who can afford this stuff I can get access to. I'm not dependent on just my doctor. I can afford to go to the chiropractor. I can afford to get acupuncture. I can afford these things that aren't paid for but I'm a person of privilege.

Amy: Two ideas: One is we put together a 'what works for pain' diagram. It was heavily based on my discussions with a woman named Regina Yocum, who is a child-life worker who also had JIA.

Health Hats: What's JIA?

Amy: Juvenile idiopathic arthritis. She's had a chronic pain condition since she was little. She taught me that fixing the source of pain is very difficult with very few options. And medications to treat the pain, the symptom, there are few more options, but it's still finite. But when you start talking about the physical solutions, it is much larger and you've got different combinations that give you an almost infinite variety of things to try. And when you start getting into the mind-body approaches to be in support groups, to plan for a movie, to have an 'in case plan.' To make your pain plan when you're not in severe pain. To have the discipline of saying, " okay, I'm going to make this list of things that work for me so I can look at it." Because when you're in pain you don't recall very well. So having something that's a physical visual stimulus and then having things that you plan for. If you're in real severe pain, you've got a treat that you're going to do. You've got a book you haven't read yet. You've got something that you know is going to give you pleasure, you're holding off on using it. One of the aspects of pain is controls. So if you know that I'm doing pretty bad right now, but I'm not yet bad enough to break into my chocolate from Venice (If Venice made chocolate). So, I know when I get the neck pain to the place where I can't turn around and look over my shoulder, and I know that I've got some options. So, sometimes it makes the pain better. Because I don't want to hassle with going to get my little Flex thing and put it on right now. Therefore, my pain must not be that bad, and it's a little bit easier to move past it because I chose not to use something that I know will help. But you're right, we've got to have the funding for it because otherwise it just exacerbates the fear and the staying inside and the loneliness that having only your pain for a friend can cause.

Health Hats: I'm trying to remember her name Melissa - Melissa Reynolds. She calls herself FibroMama. [I know - I interviewed Melissa last week. I recorded this interview in March. Senior moment!]

Amy: Yeah, she's great.

Health Hats: Yeah she is. She talks a lot about fibromyalgia and pregnancy, the four trimesters: first second third and then nursing with the various solutions that she has for pain at those different stages. It's brilliant, absolutely brilliant. She sent me her book to review and I reviewed it. She starts with: this is what works for me. This might not work for you. But the point is that there is stuff that will work for you. You could start with what works for me and then you'll find out what works for you. I think it's brilliant.

Amy: Okay, and sleep, one of the things that I think is under-appreciated: how much your reservoir to deal with something is sleep based. So she's got to go from melatonin or go for naps. If you've got to go for anything to make your sleep better- really good pillows, really good bed, whatever it is. Sleep is such an underpinning of dealing with pain.

Pain is not my enemy 58:01

Health Hats: Anything you want to ask me?

Amy: What's something you found in the last two years that helps your pain that's new?

Health Hats: What has helped me over the last couple of years is becoming friends with my pain. That I love myself, it's part of me. It started as goddamn pain. Now, OK, here it is. This is me and just taking the weight off.

Amy: It cannot be an enemy of yourself.

Health Hats: Yeah. I have a program of things that I do: stretching, exercise, playing music, meditation, acupuncture, whatever. I don't know for sure what of all of that really works, when. Just feeling that it's part of me and it's okay, is what works. And then something in there is also working because it isn't just that. It just isn't. So, when I joke around with this pathological optimism business because it does sound dramatic and I say it and people laugh. But I guess the way I got to the pathological part of it, is that there certainly are times where you got to have a good cry. Like, life sucks. Why me? I won a lottery I didn't buy a ticket for. This is so unfair. I basically have very little patience for that. I can give myself five minutes and really get into it. Then it's boring. That isn't sustainable for me and it's just no fun. I don't want to be that. I'm enjoying life. Why not?

Amy: That's really powerful. On both sides. One thing that underscores, too, is that knowing that there's not one answer also takes some of the pressure off. Because if you feel like there's one solution to pain then you have to find it. And there's a perpetual frustration that we haven't found it. So, understanding that the recipe for making pain livable is that this may take off 10%. This may help 20%. And this may do nothing some days and some days maybe 40%. So, it's a cocktail and it's a work in progress. It means that you have found the solution: it's a lot of solutions. And then it's not like you're failing at finding a solution.

Health Hats: It's been great talking to you. I can see talking again.

Amy: I so appreciate what you're doing, and it's just a delight to have smart people thinking and working in this space to try to see what's not there and make it exist. Thank you for what you're doing. All right. Talk to you soon. All right, bye-bye.

Reflections 1:02:05

My brain is going to bust. As Melissa Reynold said in last week's episode, "knowledge is power." I've never heard the nuances of pain so well described and I went to nursing school, I practiced for decades, and I have pain. We talked about:

- Pain is inevitable, it's life. Unnecessary pain is wasteful and it sucks.
- Doctors' superpower is writing prescriptions. While lots of research has been done about non-pharm pain, doctors aren't familiar with it.
- Public policy doesn't support non-drug solutions. It funnels people to doctors and medication.
- Attitude and attention impact pain. If you focus on life rather than pain, the pain can be more manageable. We're in control.
- The 1-10 pain scale has limited value unless you're evaluating what'a not working for acute pain.
- We could teach our kids about pain differently. Think, dancers and other athletes.
- While cannabis may be helpful for chronic pain, it's not a panacea, especially for young brains.

We learned about TENS units, Buzzy, the Meissner Corpusle, the thalamus (the brains CPU/microprocessor), the Schmidt Sting Pain Scale, the IKEA bias, beta nerves and mechanoreceptors, and more. My head spins.

I think the most important lesson I've learned from Amy is that it's not about the pain, it's about what we want to do with our lives and how we manage the challenges we face that get in the way, including pain. Let's take control. It's the most powerful tool we have.