

## Hacking Injury Healing from the Inside Out – Interventions With Dave – Rachelle Copeland – #1006

Dave Asprey:

You're listening to the Human Upgrade with Dave Asprey. Today is an intervention with Dave episode, and this is when one of the members of my membership and mentorship group called the Upgrade Collective asks me for a personal consult to figure out what strategies might work. This is not medical advice, it is information, and some of it can be medical information, but all the medical stuff is stuff you ask your doctors about, and the non-medical stuff is stuff you are free to do of your own free will, but I am not making formal recommendations here.

To be really clear, if you're new to the show, I do an intervention maybe every week or two, only for members of the Upgrade Collective or occasionally a good friend who will ask for it, and this is to teach you how to think about managing your own biology better than you probably do today.

One of your most important partners in managing your biology is your doctor, or better yet, your team of doctors, if you're working on a specific problem, and there's a lot you do outside of your work there, and that's where I come in. So I will suggest some things that might help your body do what it does naturally, but these are the kind of things that you always let your doctor know about, if you're even under a doctor's care. Sometimes it's... You know how to exercise and lose weight, but in today's episode, it's an urgent problem, and one that definitely has doctors involved, but it's one where you're certainly not helpless.

This is Rachelle Copeland: from Atlanta, who, as I mentioned, is an Upgrade Collective member, and she reached out and said, "I have an emergency situation here. I need your help, Dave. I've been in the Collective, I do the biohacking techniques, I take good care of myself, but something bad happened." Rachelle Copeland, what happened?

Rachelle Copeland:

I was out of town, and I was unfortunately accidentally knocked down and hit my face first on the pavement, and knocked my nose, my upper lip, my mouth, my teeth and my chin pretty severely, and now I'm dealing with open wounds on all three of those places in my face. I have severe teeth pain, pain going up into my nerves, my jaw being out of alignment, and between the plastic surgeon and the biological dentist that I'm seeing, we're trying to figure out what exact damage there is, and I'm reaching out to you to try to figure out my best strategy to heal faster, not scar on the face and not have long-term damage in my mouth.

Dave:

When there's an emotional component of a physical trauma, sometimes it doesn't heal as well, as if you're saying, "Oh, there's something..." It just happened. So people have the most equanimity, people have the most resilience, most of the things that we're working to build in the Upgrade Collective, and just throughout all my companies. We want more resilient people, and this means if something happens, it happened for you, but it didn't happen to you. So you weren't targeted and you're not feeling all that. You're just going, "This sucks. I want to deal with it." So you seem like you're pretty clean there. You don't have tears in your eyes when you recount the story. So I'm just going to check that box off. As emotionally, you're worried, but you don't feel victimized.

Rachelle Copeland:

Right.

Dave:

Okay. What that means, Rachelle, is that... Well, you've already done some work, so congratulations, and I want you to count that in your list of wins for the day. Thank you. Heck for the week is that you just took a hit, but you didn't take it personally, and so that means you can heal faster, because your energy is going to go into healing and building new tissues instead of into being all pissed off about things, but some of your energy is going into, "Oh my god, am I ever going to be okay again?"

Rachelle Copeland:

A lot of my energy.

Dave:

Yeah. Okay. It is worth setting that down as fast as you can. In fact, I'm going to recommend that you find a local practitioner there in Atlanta who does EMDR.

Rachelle Copeland:

I have one that I do EMDR with by Zoom, but it's worked in the past. Yeah.

Dave:

So you're already a pretty accomplished biohacker, a member of the community. You do the things that work that we've talked about over the years. So that's fantastic. You already have a team of people who can do this. I want you to go do... It'll probably be one session, maybe two EMDR sessions, and one of them is around the physical trauma that just happened, and that'll probably be a pretty easy one, because it just happened, and you'll go through, and if you're listening to this going, "Dave, what the hell is EMDR?", and this is a neat reset mode that your body can go into.

So when you experience a trauma at any age, whether it's an emotional trauma, a physical trauma, an abuse kind of trauma, or even like a spiritual trauma, which is an actual thing, you can go back in this weird reset mode that you do with a therapist, kind of go back and re-experience that from your calm, normal adult perspective now, and drop the charge on it. It's kind of related to forgiveness, but it's a different thing, and it can be really helpful, because what you don't want to do is get stuck where you are emotionally.

So we haven't even talked about scarring, because this is tied directly to how the body is going to interpret this injury, and what you want to do is do one session on the trauma that happened now, and one session on, and you might have to work with your EMDR therapist a little bit, where did you get this fear that you'll never be okay again? Is it because your mom told you if you made a face like that, it'll get stuck that way, and you believed it and you had nightmares about it? I have no idea.

All I know is that when we're kids, our emotions are so incredibly stupid and weird that your parents can say the most innocuous thing or something random can happen that was not targeted, but at the time, as a kid, we experience these little traumas, and then they can come up years later. So whatever part is going, "Oh my god, I won't be okay," can easily be soothed and smoothed, which is exactly what you want your face to do.

So I just had, about two weeks ago, a four inch cut on my foot as a surgery all the way down to the bone, and they cut the bone in half and screwed it back together again, and I told my body that I was welcoming this, I was happy for it. I never felt any pain. I did it without any anesthesia. I had a local anesthetic only, and I never even took anything beyond an anti-inflammatory. Didn't need to. Never, at all, any pain.

Now, if I had a different mindset, "Oh my god, this is such a big deal!" Okay, so we're going to address that, because it needs to be addressed, and because you probably have 20, 30%, and I'm making that number up, but it just feels right, 20, 30% faster healing available for you just by not worrying. "Yeah, I got this. This is a natural thing. This is what my body does. I have prepared for this. I'm already a biohacker, I already have a team, I have supportive friends, I have a community, I have collagen, I have people I can call like you." You're better equipped than anybody to do this, to be perfectly honest.

Rachelle Copeland:

This is true, and I am grateful for that every day, that I was in such good shape before this happened, and I think that's going to be a big blessing.

Dave:

It is going to be a big blessing. So we're going to get you into that. "Ah, I've got this. It's a chore."

Now, here's where it gets a little bit icky. The jaw stuff. I'm not even going to address the face, the worry about scarring and all that stuff. We have the technology, but when your teeth are chipped, when your nervous system is messed with via that way, you've got to deal with the electrical side of the stress that's going on and how that ties into neuroinflammation, which is one of the reasons you're feeling so wrecked, because having a misaligned jaw is really, really a big deal.

For listeners, they say, "Dave, what the hell are you talking about? There might be scarring on her face." I'm like, no, we have the technology to deal with scarring on your face, and it feels like it's big. It's not going to look nice for a while, but it's going to be fine, because, well, we're going to talk about some accelerated healing techniques during the call, and then you're working with doctors on scar reduction, and I'll talk about some of the things that plastic surgeons use that my guess is your surgeon may have talked with you about, and these are natural approaches, but we'll get there.

Meantime, though, let's talk about jaw alignment. I want anyone listening, and I want you to listen to the episode of Bulletproof Radio with Dr. Dwight Jennings. This is one of the first hundred episodes of the show. It's an old one. Dr. Jennings showed me how my misaligned jaw was completely wrecking my nervous system, and he helped me fix it, and to this day, my jaw, my rear molars are about two to three millimeters higher than they used to be, because that's what it took for my jaw to relax and come forward.

The reason that the jaw is so important is two areas, and you have taken hits in both of those areas that we're going to address. Here's what's happening. Your fifth cranial nerve is the only nerve that goes into the brain that lets the brain look at itself, kind of. The rest of the brain is externally facing, and I'm way overgeneralizing here, but the brain is all about looking outside of itself. It doesn't look inside itself, but it turns out the nerve from the molars goes into the brain, and it lets the brain know something about proprioception, and people who either work in biological or neurological dentistry or neurosurgeon types will know what I'm talking about, from the fifth cranial nerve.

What happens, though, is there's something called proprioception, which is your body's sense of where it is in space, and you have local proprioceptors in your fingers. They know where they are independent of you, which is why you cannot think about it and catch a ball. There's a lot of local stuff that happens, but the centralized stuff that happens about the body, the main information is the molars, surprisingly, and as we age, our molars get shorter, and it contributes to all sorts of problems you would never think of.

When people have jaw misalignment, they actually get scoliosis. It changes their gait and inflammation in the trigeminal nerve, which is the nerve that gets impinged when you have lockjaw, when you have

any sort of jaw pain, even grinding your teeth at night, you do that, you trigger the trigeminal nerve, it becomes inflamed, and when it becomes inflamed, it creates inflammatory cytokines that signal nervous system stress and/or damage.

Unfortunately, the trigeminal nerve that runs right through the job runs also right next to the vagal nerve. Now for that one, you want to listen to the episode with Stephen Porges, P-O-R-G-E-S, who is known as the father of polyvagal theory. Stephen Porges is an expert in PTSD and trauma, more so than he does with the deep neuroscience that he's rooted in. The things he does with people come from understanding these things about the vagal nerve, because it controls your fight or flight response. So what's going on now is you have inflammation in your jaw, which affects your trigeminal nerve, which affects your vagal nerve, which affects your fight or flight response. So you're feeling tweaked and jittery and like, "Oh, things aren't right." Correct?

Rachelle Copeland:

Correct.

Dave:

Okay. That's one of the two reasons that that's happening, or maybe three, and there's just a systemic inflammation that's going on. Whenever there's inflammation in the body, there's inflammation in the brain, because the inflammatory signaling molecules, the cytokines, are the same thing.

So one of the most important things you can do is get the jaw to calm down and heal and to get the inflammation down, and you want to get your molars to hit again. So I would make sure you do some craniosacral work, as soon as you're ready, with an experienced... I'm talking 20 year experienced person who's done a lot of craniosacral, chiropractic or other similar kind of work, who's going to understand, what did this do to the plates in your head? How are they related to your jaw? Because whether it's a jaw adjustment or something else, your back molars need to be hitting. Otherwise, your brain, to a certain extent, doesn't quite know where the body is in space, and the primordial pain signaling molecule that is in bacteria, it is in slugs and it is in people, and probably the lowest level one, is called substance P. Stands for pain.

The reason that cayenne, when you use it topically or even orally, reduces pain is it depletes your substance P, and it helps enormously unless you're allergic to night shade vegetables, in which case it causes pain and inflammation for you. Are you sensitive to night shades? If you're in the Upgrade Collective, you probably know.

Rachelle Copeland:

I don't think so.

Dave:

You don't think so? Excellent. So for you to deplete your cayenne, I really like the idea of using some oral cayenne, and especially a topical cream on your lower jaw.

Rachelle Copeland:

So I rub cayenne cream on my jaw?

Dave:

Yeah. That's going to help to deplete substance P, which is happening right now. You also, and this is another trick I learned from, actually, Dr. Jennings, as well as the first guy who invented the first medical laser ever, who was a bit of a maverick, actually quite a lot of mavericks, named Larry Lightle. This is going back 20 plus years. Literally the first patent on the first laser used on your gums was him, and he ended up quitting and becoming a neurological guy, and a very storied and controversial past, as a lot of medical innovators have, but...

What you can do is you can take a 5% lidocaine cream, you can buy these at the store, sometimes you have to go to the pharmacy, depending on where you are. I don't know what the rules are in Atlanta, you can ask your doctor for this, but you want a strong lidocaine. You could even go to the doctor and say, "Give me some BLT." That is not bacon, lettuce and tomato, although if they give you one of those, I'd spit out the tomato, because it's gross, and make sure the bacon's good and the bread's gluten free and you can eat it, but BLT is three different forms of lidocaine, tetracaine and... I don't know, boingocaine, I forget what the B stands for in the other one, but it's even more useful. It's what they would use if they were doing a facial procedure on you.

The reason you do this is you take it, and watch what I'm doing here. You're going to put it on your temples going down the side of your face, all along the jaw, behind the ear and down the neck. Lidocaine and its cousins there will cause the nerves to calm down. It will cause them to relax and shrink a little bit, and this is going to give you some relief, but the lidocaine, you're going to take a deep breath about five minutes after it goes on and go... Because the jangling of your nervous system will calm down, and this is going to allow your jaw, and thus your brain and your fight or flight response, to turn themselves down.

Now we've got the proprioceptors, the trigeminal and the vagal nerve for fight or flight. Okay, that's kind of a big deal. However, your front four teeth are neural crest derived. They come from your nervous system. They don't come from whatever cells the other teeth come from, and so this goes back to what happens in the womb when we're evolving and growing and dropping our gills and all the other weird stuff that happens in the womb.

So those are part of the nervous system, which is why people whose front four teeth hit before their molars do have a lot of pain, because when your front teeth hit like that, it's jangling your whole nervous system. So you've chipped those front four teeth. The thing that works best, aside from maybe lidocaine, on calming down nerves is... And actually relaxing muscles, but calming down nerves specifically is red and infrared, LED or laser light therapy. The amber frequencies work better for causing small blood vessels and capillaries and things like that to grow in form.

So this is going back to when I first got a medical laser a very long time ago. No one had approved these for use in humans. They were only approved for use in racehorses. Of course, the guy who invented it is the dentist who was using them on people, but they weren't supposed to be used on people. So I had whiplash at the time, which is you hit your head... Actually, you don't hit your head, but you shake your brain, but you get all the muscle neck trauma stuff similar, but not the same as what you're dealing with.

Second time I'd had it, and I get the laser from a friend who's an osteopath, his name is David, and I put it on my back, and within 30 seconds of where I had the knot of pain, I felt a softening, and then literally electricity. For the first time I'd ever felt that. Just going straight up my spine. I was like, "Ugh," and right then, my hands got warm. They'd been cold for three days since I got hit by a BMW when I was sitting on a stoplight. The moral of the story was I went and I said, "That laser's going to save me that much money on chiropractors." So I went and I spent four or five grand on a laser, and I used that laser for 10 plus years, and I've since replaced it. I have a light therapy kind of company and all that.

I would highly encourage you to go to your dentist or another chiropractor or therapist who has a high end medical laser, whether it's red or infrared, they'll both be helpful. This is going to be more powerful than the LED kind of lights that I make with one of my companies. Those are great for some systemic use. They're great for using over the GI tract. They're great for face and skin, but if you want to go really deep, the super high powered medical lasers are the way to go for the jaw specifically, and to calm even the front teeth. So you want the nervous system to chill out, and I think this is going to make such a difference for you.

So when we first got on the phone, I thought this was going to be about scar healing and all, but when we talk about your injury, this is like a nervous system injury. So one of the things I highly recommend for you, if it's within reach and within a good distance for you, hyperbaric therapy. It speeds wound healing in a very meaningful way.

Rachelle Copeland:

I do have access to it, and I already had a consultation. I just thought maybe it was way too intense for what was going... It's kind of scary looking. It's a submarine looking type thing, and you're in it for two hours, and you have to sign your life away and all that. So it was a little intimidating.

Dave:

Do it every day. 90 minutes is enough, but two hours is probably good, but just to save time, I would be pretty comfortable with 90 minutes. I love it that your plastic surgeon has you wearing DuoDERM patches on your face. These help greatly on scarring. There's really good evidence. We know so much more than we did even five or 10 years ago.

You've already started doing some ozone therapy, which is good. Some systemic ozone therapy, which is going to help calm the nervous system. Cupping is going to help that as well, or cupping with ozone. You've done an IV glutathione, which I love. That was such a good move. Anyone listening, post-injury or post-surgery, IV glutathione, I did the same thing the day after my surgery. You took some amino acids as well via IV. You're doing another one this weekend. I would do those as often as you can. You're doing a thousand milligrams of vitamin C a day. This is post-injury. You might want to take a little bit more for a while, even two or three grams a day.

The reason is that when your body makes collagen, collagen is made out of vitamin C and glycine and proline and serine, and only a little bit of serine, it's mostly proline, glycine and vitamin C. That's your collagen recipe. The other thing that's really important, I highly recommend having some MCT oil as a backup energy source for the body on top of whatever blood sugar you have. You don't want to be in the fastest state or a full on keto state, but that's just a backup energy so the cells have more.

You want to take digestive enzymes, those same MassZymes, or you could take something like a serrapeptase, which is a silk worm enzyme derived thing that's actually studied specifically for scarring. You take masses of them on an empty stomach. So I use MassZymes post-procedure for my surgery, and when I say a lot of them, 20 or 30 pills on an empty stomach, and the body goes, "Oh look, I have so much extra protein digesting capabilities that I can use those around the injury and I can make less scar tissue."

So about 15 years ago, some of the more progressive functional plastic surgeons started giving protein enzymes to their patients in order to facilitate less scarring. So I think there's a really good case to do that here, and I want you to run all this ideas past your doctor, because you have a plastic surgeon, if they know about these, they're going to say yay or nay. If they don't know about these, then you've got to say, "Okay, well, are you going to learn?"

I also know that post procedure, doing something like 80 grams of L glutamine spread out over four doses. So four 20 gram doses of L glutamine for the first few days is a really good idea for you.

Rachelle Copeland:

80 grams a day, and spread out four times. Is that what you said?

Dave:

Yeah. So it's basically 20 grams four times a day. You do that for about three days. That's considered a loading dose. It's actually a gut healing protocol that's been talked about for a long time. I've used it... It's actually something I relied on a lot, but it's another source of quick energy for cells, and it works quite well. I think even Tim Ferris mentioned that in the very early days of four-hour body, he talked about that protocol as well. So that can be good. That's one of the things that I did. I also took broad spectrum amino acid, which I see in the notes, you have started taking an amino acid blend. I highly recommend that for anyone who needs to heal.

Rachelle Copeland:

How many times a day would you take that?

Dave:

The aminos? Three times a day, and what I would do is I would do the glutamine, and I'd wait at least 15 minutes before you take the other things. The receptors in the gut compete for amino acids some of the time. So if you fill the receptors for glutamine with other aminos, then you can absorb less glutamine. So generally, glutamine first, and then wait a little while so the receptors can clear out, but you want to get a big kind of boost of glutamine, and that can work really, really well.

You've added hydrogen water, which is a great idea, because it stops peroxynitrite from forming. You've added zinc and copper, which I like. Copper is important. Something called GHK is really important for a healing of skin and for collagen formation, which is a copper tripeptide.

Rachelle Copeland:

I just ordered that peptide as well. So I'm planning on injecting that.

Dave:

So you're doing a lot of stuff right already, but for you, I think what we went through is I'm more worried about your nervous system than your face. You're more worried about your face than your nervous system.

Rachelle Copeland:

I'm worried about both.

Dave:

You're worried about both, but when we talk about it, I see you tense up when we talk about scarring, but you don't tense up when we talk about a nervous system that could be dysfunctional forever. "Oh my god, what would happen?" The answer is that's not going to happen, but it's actually the more serious thing to focus on, because when the nervous system isn't sympathetic, is it allocating resources to healing? No. It's only when you can go parasympathetic that your nervous system is going to let you

to do this, and this is why EMDR, EFT, tapping, deep breathing, box breathing, those are going to be really helpful, because you've got to get parasympathetic, heart rate variability training, meditation, whatever makes you just relax and let go and be floaty, even though your face hurts, right?

These are the things that allow healing to happen faster, and with a hit to the jaw and a hit to the front teeth, your nervous system is jangled, and it's going to be hard to switch into that mode right when you need it most. That's why I want your energy there, and let's do some of these neat hacks on your face itself, right? By doing that, you're going to give your face the internal energy and orders and instructions to heal while you're doing the external stuff. The light therapy, the ozone, continuing with the patches that you have, doing BPC, doing GK internally, all of those things are going to stack up to you recovering way faster than you wanted to, and you looking in the mirror six months from now and going, "I remember when I was really worried about this." That's where this is all going.

Rachelle Copeland:

Looking forward to that.

Dave:

Rachelle, was that a pretty good intervention or what?

Rachelle Copeland:

It was great. Thank you. I am eternally grateful for you, your support, the Upgrade Collective. It has been such a gift, and during a really tough time, it's been amazing to have everybody's support and help, and the knowledge that I get from you and the group is unbelievable. Thank you. Thank you so much for your time and your knowledge and for caring. I appreciate it.

Dave:

I do care, and you have lots of other members in the Upgrade Collective who are caring for you right now. We're all sending good vibes. Sleep well, recover well, take care of yourself, be kind to yourself, go into healing mode and show us all what you can do.

Rachelle Copeland:

Thank you so much, I appreciate it.

Dave:

If you think you'd like an intervention, you know what to do, join the Upgrade Collective. Go to [ourupgradecollective.com](http://ourupgradecollective.com), and this is my membership and mentorship group. There's a group of caring, educated, knowledgeable people who are members, and my team of coaches works to support you, answer all of your questions in our private membership group, and I have recorded courses on each one of my books so that I will teach them to you over the course of a year. You get a 10 minute class, a 15 minute class, or five minute class once a week, and you pick what you want to learn first, and I'll walk you through, I'll hold your hand, and the community will hold your hand as you learn all the stuff that it takes to really be in charge of your own biology.

This has been hundreds of hours of recording content and doing work in order to make it possible for you. So if you want to shortcut reading the 3000 articles, the five books, actually seven books, and the thousand hours of video content, that's what the Upgrade Collective is for, and part of that is I select



people who are in need, and we do these interventions when they're willing to talk about it, to educate you about how stuff works. I will see you all in the Upgrade Collective.