

Nicki: Welcome to the Healthy Rebellion Radio. This is an episode of Salty Talk, a deep dive into popular and relevant health and performance news pieces mixed with the occasional salty conversation with movers and shakers in the world of research, performance, health and longevity.

Nicki: Healthy Rebellion Radio's Salty talk episodes are brought to you by drink LMNT, the only electrolyte drink mix that's salty enough to make a difference in how you look, feel and perform. We co-founded this company to fill a void in the hydration space. We needed an electrolyte drink that actually met the sodium needs of active people, low carb, keto and carnivore adherence, without any of the sugar, colors and fillers found in popular commercial products. Health Rebels, this is Salty Talk.

Nicki: And now the thing our attorney advises. The contents of this show are for entertainment and educational purposes only. Nothing in this podcast should be considered medical advice. Please consult your licensed and credentialed functional medicine practitioner before embarking on any health, dietary or fitness change. And given that this is Salty Talk, you should expect the occasional expletive.

Robb: Well, howdy there, wife and fellow rebels.

Nicki: Hubs, it's Salty Talk time.

Robb: It is.

Nicki: We haven't had a Salty Talk in a while.

Robb: Not that we haven't had salt or things to talk about but we've just been keeping our heads down.

Nicki: Haven't done it full on, so.

Robb: Full Monty?

Nicki: Full Monty, full salty.

Robb: Full salty. Oh, full salt dip.

Nicki: Salt dip?

Robb: We don't have the video on here but hopefully folks get it.

Nicki: No.

Robb: Yeah.

Nicki: Okay, you know what that's making me think of? I'm not sure what the name of the thing is, but as a kid I remember this candy that-

Robb: Yes, that you dip in the-

Nicki: ... you had the sugar stick and you got to dip it in flavored sugars.

Robb: Yep, other sugars, yeah.

Nicki: Yeah.

Robb: Somewhat similar to that.

Nicki: Mm-hmm (affirmative), let's see. What's new?

Robb: We are back into Jujustu, you're opening up my envelope from my daughter, who we've got that on my computer specifically for that, but anyway. Week three, week four, back at Jujustu?

Nicki: We just wrapped up our third full week at Jujustu.

Robb: SBG Kalispell. And then you've been jumping into the women's class on Saturdays, which bounces between Kalispell and Whitefish, tell folks... And the reason why I wanted to mention this is that you had huge reservations about doing Jujustu.

Nicki: In the very beginning, yeah

Robb: Until you had some access to a women's class. I'm throwing this out there because there are a lot of people who coach Jujustu or part of schools and frequently these are thriving large businesses. They have lots of students, they have lots of types of students. And it's absolutely a shame and a borderline crime that there's so many of these schools that just barely bump high, which is not dissimilar from the way that CrossFit gyms operate. It's because they do much the same way. They just take newbies and throw them into the general population as meat and only a few people stick that way.

Nicki: And Jujustu is a fairly intimidating sport to get into as a female if you've never wrestled, which I never wrestled. I was a team sport, person volleyball, basketball, and then I swam.

Robb: My God! Basketball!

Nicki: My individual sport was swimming. And when I talk to other women who have never tried Jujustu, the number one thing is, "I just don't know, the proximity to other people. You're basically laying on them or rolling around with them on the floor." And so it's definitely a big barrier, I think, to a lot of women even trying it. And it certainly was for me. And then when I was kicking around the idea of... I tried it way back when we first met and I was like, "This hurts." I was getting my shins banged. I didn't know what I was doing.

Nicki: It didn't pull me in. The hook didn't sink at that point. But when I did decide to try it again, when I turned 40 I went to a women's class first and there's definitely... I don't know, it definitely just takes that intimidation level down a whole notch. Obviously, it's still can be intimidating. You've got women of all skill levels in these classes. It's not just white belt women's class, you've got-

Robb: Some purple belts, some brown belts, some black belts.

Nicki: -some purple belts, yeah, you've got all the way up. And so I don't know. I would just encourage anybody who's on the fence or, "Thinking gosh, that sounds cool.

It sounds really hardcore. I'm just not sure if that's for me." If you can find a school that does have a women's class it definitely... And it's fun. When it's just women like there's just a lot of-

Robb: Let your hair down.

Nicki: Sort of. Yeah, it's just more fun. And yeah, so today was my third. So the women's classes here are on Saturdays, and Leah Taylor, who's one of the black belts here at SBG, coaches it. And it's been great. We've been working a lot of stand up stuff and takedowns, and it's just... I don't know. I feel like I'm getting a lot of exposure and practice on some stuff that I haven't dug deep in before. And also just having a big absence from Jujustu, prior to the move, and just the chaos of all of that. We've been out for a little bit. So it's nice to get my feet back underneath me nice with the girls.

Robb: Nice. Yeah. So if you're looking for a school, having a women's program is a pretty good indication, kids program. For the love of God people need to start doing some sort of an on ramp, or fundamentals, or foundation and if if the general...

Nicki: And that's one of the beautiful things about SBG, because there is a Foundation's program. And I know a lot of people usually guys I think are like, "Why do I have to do that? Can't I just like get in and start-

Robb: And start popping people in the nose, and making them bite their tongue off because you postured your head up into their jaw like a spasm and-

Nicki: The SBG foundations program is solid. By the time people finish that they have a really good base and it just prepares you. And so you're not flailing around, and you have a sense of what to do and all the positions and just sets you up for-

Robb: And just as a side note, today's show is not remotely about Jujustu, but it's just front of mind right now. And so if you're looking for school, which we receive that question a lot, these are some of the things to look forward to, they have a beginner's class, they start you live rolling on day one. Or do to kind of earn your way into that? When we ran a CrossFit facility and then post CrossFit, still, you had to go through an on ramp-program or personal training, and then you have to test into the, quote CrossFit classes. You had to demonstrate some basic work capacity, some competency and a battery of movements, which were part of what we used as our level one.

Robb: And then there was another test to get into level two. And lo and behold, we kept the lights on and the bills paid, and our trainers had retirement, and made decent money and all that stuff. So the folks that just fight this tooth and nail, maybe you shouldn't be doing this if you're not willing to do it properly. And if you're not running some sort of a beginners program and foundation... Look, if you just want to be a stud competitor and everything, and you're high enough level, that you can pack your gym off of the credibility of your competition, fine, I guess.

Robb: But the sun will set on that phase of your life. And then you are going to be in a situation where the next new cool hot person is going to start wicking people away from you. What Matt Thornton has made the cases that, this progressive overload approach to Jujustu, gets the super strong, athletic, talented people

awesome at Jujustu, and it gets the old beat up husbands like me good at Jujustu too. And it makes it accessible to just about anybody. So and again, today is not about Jujustu. But we are cracking that open. What is today about wife?

Nicki: Today is about, drumroll, everybody's favorite subject, not really COVID. I'm sure everybody is more than tired of the topic. But we have one of our Healthy Rebellion members as a guest. And we're going to talk about a unique aspect of the potential solutions to dealing with COVID and one that hasn't been discussed very much, at least definitely not in the mainstream media. And her name is Clementina Russo. And she's a PhD in Applied Physics and runs a consulting group and-

Robb: Has been in and around the DC beltway doing consulting for DARPA, and so calm, and every three letter acronym and governmental agency that has things that go pew pew and explode and do other things.

Nicki: And private enterprise as well.

Robb: Yeah.

Nicki: So I'm definitely excited to share this interview with you. Did you want to touch on this article as well?

Robb: I do. So yeah, the COVID topic is tired. And we have just been keeping our heads down on this. It's just a shit show. It is what it is. But Clementina actually has a view of something that could have been done, should still now be done. And when we consider the fact that both Dr. Fauci and Bill Gates smirkingly said, "This will happen again," then maybe we should have it front of mind that we do do this solution that she proposes at some point. And the maybe one of the drivers, I literally just got this piece, which I have a link to in the show notes too, it said another COVID myth dies the death. And it's basically talking about surface level transmission that we get this from groceries, or ATM machines, and different things like that.

Robb: And in the beginning of this whole thing, nobody knew what the story was. You can get influenza from surfaces, and you can get other stuff from surfaces. But it started appearing pretty quickly that surface transmission, grabbing a doorknob or whatever wasn't the way to get this. And the article makes the case that billions of dollars have been spent on disinfectants, which may have actually caused all kinds of indoor air pollution problems and other respiratory ailments. And we may have like, a massive upswing in these gnarly respiratory ailments from all of these aerosolized and volatile disinfectants. And the amount of manpower that went into disinfecting all these different wacky surfaces.

Robb: We had some preliminary stuff early on. And actually, this article makes the case that we had significant information very early on, making the point that this was not the place to focus, but people did, because similar to the TSA and taking your shoes off, and all the things with that, it's theater. It's things that people can see. So it looks like you're doing something, even if it's wasting everybody's time, money, and actually exposing them to greater risk and challenges. So I mentioned this, just because this is very front of mind, hot off the press. And this is something that everybody was all fired up about.

Robb: We personally know folks that were apparently housebound for like a year, and received all their groceries into their garage. They would open the door, the delivery guy would shuffle the stuff in, and they would close the door. And then they would come out and like hazmat suits, and then disinfect their pile of groceries. And this has been their life. And maybe the first couple of weeks, that was something to consider. And then very quickly, that should have been something that is abandoned, and it hasn't been. So again, I mentioned this just as the point that what Clementina is going to dig into in this discussion, is a really legit solution to just about every goddamn problem that we face in this thing. And not to give it away too early, but the main problem is indoor tight space transmission. And so what do you do about addressing that? Because we're not seeing transmission outdoors. We're not seeing transmission in high airflow environments. So what do you do about that?

Nicki: Let's jump on in. Cool.

Clementina: Well, how are you? I'm very excited about this.

Robb: Awesome. I'm sorry, it took us so long. You pinged us I think a week, week and a half before we were like scheduled to move and it was-

Nicki: The whole month leading up to a move is just like you can't add anything else to your plate.

Robb: Yeah.

Clementina: Why are you going to do that to yourself? Don't do any of that to yourself. I didn't know you were moving and then you're like, "Peace out guys and leaving Texas and going to Montana now." And I was like-

Nicki: And now you're in Texas, right?

Clementina: I'm not there permanent. I'm in DC. I've been in DC for 10 years now, actually, this year. But I'm back and forth to Houston now more regularly, I have a business that operates out of there and my whole family is there. So I'm more there than I am here, as of this year, which is been a breath of fresh air because as we're about to dive, in DC is a fucking disaster.

Nicki: I can't even imagine.

Clementina: Abject nightmare! And everybody seems to be thinking that this is fine, that this is all fine. And I'm not understanding how everybody's thinking that this is fine. And then you go somewhere else and you see how not fine it really is.

Robb: Right? You don't even understand it until you get a compare contrast situation. We usually do an intro and outro with all this stuff. So we can fill in some of the CV and details and everything, but I'm already recording. So let's just jump into this in and tell folks who you are, if they don't know.

Clementina: Nobody knows who I am.

Robb: They will soon.

Clementina: Here we go. Hi, I am Clementina Russo, I have a PhD in Applied Physics. And I am a science research technical consultant here in DC. I have a consulting business called Kalliope. And I've lived here for 10 years, and I have worked in all kinds of fashions of the industry, between research and development in scientific fields, engineering, many different disciplines of science. And in government, DoD, Intel, bridged in the middle of all those, DoD military maybe. And all of our problem solving endeavors are largely the same.

Clementina: I also consult for small businesses, for business practice, and method operation, like operational methods. And all of our problems are largely the same. It's usually a failure of understanding how to get what you want, because you don't know how to ask the questions. And that's what physics really is. And that's what it's always really been for me is, figuring out a way to get to the heart of the matter that we can understand what the intention is, and then we can we can build that vision, and then we can work towards it.

Clementina: So my bread and butter is to be in a room with many different kinds of people who are all interested to think about the same thing, to think about a particular thing, that's a very complex thing, that may have a lot of risk associated with it. And then figure out how do we do that. And hearing everybody talk about the thing in their own language, they may even be using the same words, but those words mean something very different to everybody. And so I love to be in that place where there's seemingly disparate, almost competing ideas that we're coalescing around to solve, because it's an important thing for us to solve. And then putting the pieces together to build that vision and then write the roadmap to get us there. So all of that, to say, I feel like the vision that we are working towards right now is terrifying. I'm not on board with it. This has been a has been a crusade that's turned into a hill that maybe I'm going to die on.

Nicki: I remember, we were in a live chat in the rebellion. Obviously, you're a member of the Health Rebellion. And I think you said something like, "Guys, I fucking figured it out. I know what's going on. I know what we can do to stop this, to put the brakes on this thing."

Robb: And just really quickly, this is more broadly related to COVID, and all the challenges we're facing. There are many a problem that, to your point, could nest under this general discussion, but we're more COVID focused.

Clementina: Yeah, that's why it's so interesting is that, you think about something in a very general... We get in the weeds in the specifics about a very specific problem. And then you start to untangle it, you're like, "Oh, that's not. But it's just a little knot. Let me untangle this knot." And then you realize that this knot is infinitely folded on itself. And then the more things that you untangle about it, you're like, "Oh, wait, how is that thing related to this thing? Everything is everything. And we're living in a prank." We're going to talk about our operational strategy around COVID. But how did we get here? How did we arrive at the strategy? It's from all of this other stuff that got wrapped into it, and actually about our understanding of information. And that's my bread and butter.

Robb: And so that struck us. And I don't know if it was before that, or after that, that we reached out to you because I still had the home fire cooking on this whole medical risk assessment thing when we moved to Reno. And I discovered that this program had been rolled out and that it saved the city of Reno \$22 million, with a 33 to one return on investment. I was like, "Damn, we just need to scale

this thing. And we'll change everything." And we're 10 years down stream from that. I think I actually know the nuts and bolts of where we have to go to get something like that going. And I think it's on the payer side of this like, "Oh, maybe we need to do this, maybe we need to do this."

Robb: But it's it's simple, but at the same time enacting it is monumentally challenging because of the institutional structure involved with doing this, which is maybe a segue into some of the thinking that you have have around this COVID situation. And correct me if I'm wrong, but it pertains, in particular to the reopening of schools and the way that we can tackle that. But this clearly has broader application. So hopefully that was a pretty good segue to that.

Clementina: Yeah, so it was it was before all of this that we were talking about the insurance and then the chair. And then that was in the middle of last year.

Nicki: It was early. Yeah, it was maybe April. It might have been a year ago, like a couple months into COVID.

Clementina: Yeah. And that's when it was... And everything else was ramping. And then, in the very beginning of COVID, the narrative was we don't have enough of a fundamental understanding of what this thing is and what it's doing. And so we need to take a step, flatten the curve, and let's tension back, and then maybe this won't be so catastrophic. And that made sense, because we needed to gather information. But the problem is that we started to gather more information. And then what happened? We get new information. But it didn't actually it didn't change the narrative.

Robb: Inform anything we did, yeah.

Clementina: No. And in fact, then the narrative, it just kind of got woven into the whole thing, and then flatten the curve became no one can ever get this ever. And then everything was set. And then it was terrifying. And then airborne, and aerosol. And all of that became like one gobbledygook mush mouth thing. And the operation was really... There was no difference between community spread and frontline exposure. And because there was no difference between these two ideas, we were treating everything as if it was frontline exposure out in the community, and nothing makes any sense anymore. And then infections became cases, we have no understanding of information at all anymore. And that becomes a very clear problem in how we're living our lives. So that was my first, "Wait, now that we have information, how have we not changed our strategy?" That was my first-

Robb: Concerning moment. Yeah. We saw similar processes and went through similar things like just the singular focus on a vaccine as the the end goal, when a vaccine had never been developed in this class of viruses.

Nicki: Or this rapidly.

Robb: Or this rapidly. And it's cool, these mRNA vaccines may end up changing the world. But maybe we may look back 50 years from now, and it may be as significant or more than Fleming discovering penicillin originally and whatnot. Let's hope so. But from the information perspective that we had, then assuming that all the information was actually on the table, which maybe it was, maybe it wasn't, maybe some other folks were operating with more information than we

had. But it was odd to me that the whole kit and caboodle was put into the vaccine story. We've never developed a vaccine for HIV. There had never, at this point, been a vaccine for this kind of class of kind of gnarlier Corona viruses and whatnot. And if it was an existential threat, that seemed kind of odd that we had a one stop shop solution.

Nicki: We could take most people were projecting, we're going to take a minimum of 18 months, but even much longer. So it was like, what existing therapeutics do we have that we could start trying and seeing how this works?

Robb: Well, not even therapeutics, but what can we do environmentally? You have some ideas around this, I had thrown around some ideas like UVC lights that emit radiation that is very nasty for airborne viruses and pathogens, and is completely benign to humans and other warm blooded critters for the most part. So this is something that could have been rolled out immediately. They're reasonably inexpensive. They have broad ranging application. It ends up fixing a lot of these unknowns, like, is it aerosolized? To what degree? Well, if we sterilize the air around us, or turn the air over in an effective way, will it change that dramatically? Yeah.

Clementina: Yeah. And this was also part of it. So first I'll say that, the development of an mRNA vaccine had been in the works for like 15, 20 years. And actually, I think as a feat of science, it's pretty telling to say, "Hey, if we just remove a bunch of barriers and some red tape here, and we say hey smart people think about this, how do you do it? Let's go," That it just went. And that's an incredible feat of science. But the idea that the singular focus was on this as the only solution was extremely problematic, because again, we're talking about a thing that we had a lot of information around. But all of that information became like one gobbledygook woven narrative that then we can't untangle and we don't really have an understanding of what is frontline exposure, what is community spread? Why are they different? And what is time of exposure? What is concentration in the atmosphere? And also to your point, can we talk about air quality?

Clementina: And scientists started to talk about this, industrial engineers, and applied physicists. Aerosol physicists, were talking about this, everyone was talking about this. But there was a reluctance, to even adopt the idea because viruses tend to not be aerosol transmitted. There was only really one in our history that is transmitted in this particular way. And that's measles. And so in the very beginning, I started to think, my best friend, he's basically an aerosol chemist. He works in chemical weapons, and in sensors, and I worked in sensors. And we were talking about this and talking actually about the first case of what looked like a super spreader event. And it was a choir practice in Skagit Valley in Washington. And he's like, "This is aerosol." And I know what he means when he says aerosol. And he knows what that means. It's not tiny of these droplets of a particular size. There's a physical parameter around aerosol particles, and we know what it means for an aerosolized particle to be hanging out in the air, and how that could potentially harm somebody else in a space that's contained and unventilated.

Clementina: And so just taking precautionary measures to ventilate a space, and then try for higher air exchange, these are things that could be implemented. But to your point, a simple solution and elegant solution is not easy to implement. And so there's an entire operational strategy that needs to go around this. So as it

became more and more clear that people were becoming infected in these super spreader events in the same kind of way that it was contained in an unventilated space with lots of people. And so Japan got it right. In this way, they were like, "Ah, maybe you should avoid crowds, and contained places, and maybe not be on top of each other." And so they did that. And they didn't have a universal mask mandate. People were wearing it because it was part of the culture of a pandemic, or even just out of concerns about pollution that people put a face mask on.

Clementina: But they didn't mandate any of it. They said, "Just avoid these particular situations. And maybe we can bring it down." And they did. But then what happened is, it got hot, people went back indoors, and we haven't fixed the indoors yet. And that's the same thing that we're seeing here over and over again, is, well, when did we start to see spikes again? In the summer, it was hot, people went indoors, and then in the wintertime, it's cold, you go back into indoors. And so if we're continuing to not fix the problem, we're going to continue to see this. And then there's like 27 other things that happened simultaneously that changed the infection rate and how we're assessing it, and then how we're discussing it also, namely, that we finally standardized the PCR test. That's a big impact on everything else, too.

Clementina: But the primary concern here is we didn't... Okay, so to go back, here's this choir practice. It was the first super spreader event. People didn't have any symptoms, but then within a few days, they started to and then they were going other places, and then they were infecting other people. And then this was ground zero of what not to do. But this was early last year. And the WHO didn't even cop to the idea that this was aerosol transmitted until much later. And the CDC is still not even really saying it. They kind of are. They're like, "That's a possibility." But they haven't really talked about it.

Clementina: And so our strategy became rather than, why don't we make a model of dilute measles, maybe less deadly measles and see maybe if we change the air that we can... And there's plenty of examples of how we can start from ground zero. We have biological cleanrooms for HVAC. So I went to the place where it was, let's fix the indoors. And fixing the indoors is ventilation, high air exchange ventilation, and filtration. And ASHRAE had written a protocol about reopening colleges and universities, predicated on earlier recommendations that may not be applicable to COVID. And so there was still some questions about how we can improve this. But after he writes the thing, dumps it into the world, and then they're like, "We're all done with that now." And everyone else is like, "Well, do we have technicians? Do we have the right gear? Do we know anything about our about our HVAC system? No, there's all these unanswered questions, and nobody was able to facilitate it.

Clementina: And so where I went with all of this is, "Oh, we have information. But that doesn't mean that we have an understanding of it. And we also have an operation, but it doesn't mean that we know how to implement it. And we don't have manpower. And all of this basically goes straight to hell, if we don't know where to start." And so I wrote a strategy. And I looked at HVAC, there's like six manufacturers of air exchangers and air handlers in the United States. And I wrote to all of the congressman in those districts. I'd started in Texas, and then I went everywhere. I got a lot of engagement about it. Everybody was like, "Yeah, this is the right thing. If we fix the indoors, we don't have to do all this bustling about everything else that we're doing. We can open our economy again." It

was a very simple solution. It had many layers to it, but it's not an easy thing to get everybody on board and then go do it. I've been talking a lot.

Robb: No. A well run show, the host should actually say very little.

Clementina: I don't even know if any of that made sense.

Robb: Just to maybe recap. So you observed, and other folks observed, that one of these first super spreader events was an indoor scenario in which people are singing, they're not spitting everywhere, but there is definitely the potential for aerosolized particles, which to your point, what defines an aerosol is there's actually physical and chemical constraints around that. It's not sputum being spread around. It's different parameter size molecules that are floating about. And one of the really amazing ways to deal with this is just diluting it, diluting the hell out of it. This is why even early in the information that was coming out of China, which is always a little bit suspect, but it appeared that possibly one in like 4000 of the events that they saw there came from outside exposure.

Robb: And so if we wrap our head around the fact that what is this main characteristic of outside, very easy to dilute things. You've got UV radiation, you have massive airflow, even on a relatively still day. And so why don't we triangulate that. Yeah. And to your point, reaching out to people in the positions to be able to make decisions to enact this. And folks said, "This is really cool. This is smart. But we're still maybe six more months down range. And we haven't really seen a whole lot of change on this."

Nicki: Have you been able to... And so I know in one of our emails, you said you keep hitting these gatekeepers. Have you been able to connect with anybody that has the power-

Robb: Or the handshake?

Nicki: ... to actually put this together yet?

Clementina: Yeah, that's actually a very interesting thing about how government is run, is that it's nearly impossible for a civilian to have a direct conversation with our leadership. You have you go through several iterations of staff, and then maybe eventually you'll talk to somebody. And they're educated staff. It's just, you don't know what anybody's priority is. And because you can't really untangle what anybody's priority is, it's very difficult to find, and then utilize, and convey the right language to convey the urgency.

Robb: And there's definitely... There's a piece, we encountered this with trying to push the risk assessment and then with other things that we've done, movers and shakers get their heads lopped off eventually because the people around them and end up hating them. Because it's kind of like, "Don't rock the boat. Don't do too much." Anybody competent usually gets passed up... They move up the chain. So you spend two years cultivating this relationship, you're almost ready to press play on this because it always takes at least two years to do anything. And then the person you're working with is gone. Because they've advanced that next person comes in, and the next person...

Clementina: Starts from zero again.

Robb: Well, their job is to say that the person who came before them was a complete idiot. And so they need to jettison everything that that person was doing. And then the final piece on this is the worst thing that you can do is a mistake. So instead, you just do nothing. If you do nothing, you still get the paycheck, you're still there, you're still okay, but you fuck something up, that's the only way that you really get buggered on this.

Robb: And it occurred to me that there are a lot of private schools, private institutions, ranging from like Montessori on up to private universities and whatnot. And I'm wondering if the angle here wouldn't be there are gatekeepers in these institutions too. But it's kind of like, "Hey, man." And you need the right state, you need the right situation, these places need to be indemnified so that when they roll these things out, and somebody claims that they caught COVID in their classroom, it's not on the institution, but I'm just wondering if the incentives aren't better aligned, trying to find something privately owned that would embrace this? What's on that or...

Clementina: I guess maybe we'll start we have to start a little earlier on, which is, what are the barriers to entry in making this in changing our operational strategy? The barriers to entry are understanding of technology, maintenance of that technology, implementation, and money. And then regulation, on top of all of that. And this maybe puts it in context, there was an engineering firm, that had written this big white paper last summer, they were fielding a lot of questions from their mechanical and civil engineering, or maybe a civil engineering firm. And many of their clients were asking them a lot of questions like, "What do we do about COVID in our office space? And is a check enough? What do we do?"

Clementina: And they couldn't answer this question because they also didn't want to be liable. My understanding of this whole thing is that they didn't want to be liable to tell one of their one of their clients that, "Oh yeah, if you just do this and this, it'll be fine." Because it's completely untested territory. And, and who has the initial funds to do the R&D to set some parameters? The real gatekeeper here is CDC, because all the guidelines are coming out of CDC. But even more higher than that is DHHS. Anyway, so this firm, they put this paper out, and they were like, HVAC is never going to be enough.

Clementina: And they did all this kind of mental gymnastics with this model that actually really wasn't that applicable. And then came to this conclusion. And then everybody was citing, "Okay, well this isn't going to be enough." And then, and then it was like, "Well, wait, what are we actually really talking about? Are we talking about previous standards for other things without actually talking about what needs to be done scientifically, and what research needs to be done right now for us to actually have a better handle on this?" And we have other examples, especially now that the year that the year has gone by?

Clementina: There's been studies on airplanes, there's been studies in gyms, we know a lot about biological clean rooms. Like HVAC makes systems specifically for bio clean rooms that people don't get killed. And so a classroom is not a biological clean room but there's some similar parameters. People aren't getting infected in gyms unless they're on top of each other in a spin class. Because the gym typically has the state of the art HVAC system and the ceilings are very high and the air exchange is high.

Clementina: On an airplane, it's a tiny little vessel and it's super enclosed, but the air change is so high that you could be sitting next to somebody and talking and as long as you're not coughing in somebody's nose, it's all going away. And that HEPA filter is fine enough that it's grabbing it and pushing it out. So we have these examples. The only way I think a private industry, or a private entity would go through this is if there was a coalition of them. I had a moment where I was like, restaurants actually have a lot of leverage right now. But they have zero funds, and there was no and there was no relief for them.

Clementina: But if all of them had gotten together, either in a red state that really wanted to open, or in a blue state that was like, "Lock everything down." If they had all come together, if they had the know how to come together to say, "Hey, we think that we have a better operational strategy here, can we just get some money to test it out, and then do the fit." And then basically fund it themselves. But that would have required somebody like a scientist to be in the rest and do it, and I would have actually have done that if their people were amenable to it, but getting everybody on board when there was not just competing ideas, but there was competing interests about priorities. Like they need to pay their staff, they don't want to shut down.

Clementina: But then it was the non comprehension about what happens next is, "Okay, but now you're spending the next year bending over backwards to accommodate new regulation standards about how your business is going to be open or not. And we still haven't fixed the problem." In the very beginning, if what we had said is, "This seems to be like it's traveling really easily in contained spaces. So why don't we do this?" Open all the window, move everybody outside, it was starting to get warm, which we did. But we moved everybody outside and we had this capacity limit, and then there was all of this rigmarole about your face covering and all this other thing.

Clementina: And if we had just outfitted what would be frontline exposure to a hospitality worker who's with people all day long. If we just outfitted them with proper PPE and told them how to use it, "Here's your N95, this is how you use it, shave your face that you know. It needs a close fit." And we had just protected our retail hospitality workers, we would have been able to open and everybody else you can wear a thing if you want to or not, but understand your risks. But the crisis communication from the outset, it wasn't changing. It was gobbly goop, there was a lot of over reassurance, and then there was under reassurance, and then we never really struck that balance. And then nobody actually really understood and everybody was freaked out.

Clementina: And so when you say airborne, you think, "I'm walking around outside, and somebody's cough, and then I'm going to die." It's not how it works. So to answer your question, there would have needed to have been a lot of buy in from that entire industry of people. So when I talked to Congress about it the first time I was like, "Look, nobody understands what's going on, we need to do some research, we need everybody at the table. I need a tech industry at the table, I need consumers at the table and I need government at the table. Government's responsibility is to write checks. Industries' responsibility is to do some R&D. And consumers' responsibility is to confer with industry and understand what they have so that industry can inform them about what they need, and then government can provide the money to buy it and then everybody's working together.

Clementina: There's long term relationships with technical maintenance. This can work. It's going to take some time but I even thought, when I started talking about it in August I was like, "I think by springtime next year, we can open schools and hospitality. We can do those two things and keep our economy going at the same time."

Robb: And again, it's maybe worth mentioning too in to whatever degree there is a risk potential there dramatically reduce it. I don't want that to get lost in this story. Open everything up and take whatever the current risk exposure is in a waiting room, a dentist office or whatever, and drop precipitously. Yeah.

Clementina: Right. And that was my point about retail. It's essentially, if you're in contact with people all day long you need to protect yourself, you need to do it correctly so that you are actually minimizing your exposure. And ventilation was number one, and then being in contact. If you have to be in close contact, protect yourself appropriately. So yeah, all of this, there was a lot of traction in the beginning, and then it would all very quickly run away.

Clementina: And then I would talk to somebody else. The first member of congress I was talking to was actually not up for reelection, which is why I wanted to talk to him, because I thought that, maybe this is like your great kind of parting... This is a good parting gift. You've been in Congress a long time. And maybe we could really get this going before the shit really starts hitting the fan. And they seemed amenable to it, and then they stopped responding. And so I told them I was going to somebody else. And they were actually very gracious, and they took all the history of what we had discussed and then carried it to the next person.

Clementina: And then we had a really great exchange, and then our political landscape was getting combustible and everything was a disaster. And then they stopped responding. And then I went to somebody else. And then I was like, "This is a blast." Congressmen, Senators, and governors, industry leaders, I sent to everybody and I got zero to maybe a little bit mostly zero.

Nicki: Is it just because people they don't feel like this is their ball to carry. Why do you think it's dying when it gets...

Clementina: My instinct about it is that CDC is the gatekeeper and the priority of CDC has been face coverings. Because everything is frontline exposure, so let's just do that. I mean right now, the Biden administration just put out a contest to make a better face covering.

Nicki: Let's take a quick break and have a word from today's sponsor. The Healthy Rebellion Radio and our salty talks. From The Healthy Rebellion Radio are sponsored by our Salty AF Electrolyte company element. And as we mentioned in last week's episode, the new element flavor watermelon is out and in the wild as of the 13th and it's making a splash. We've actually had lots of conversation inside The Healthy Rebellion about watermelon. And watermelon is now your top flavor.

Robb: It is and I don't know if that's just because I get serially burned out on the previous flavors, but it's actually really really good.

Nicki: So we had Gwen mention. "Wowza! I just got my watermelon salt and I must say it's my favorite by a landslide. My old favorite was mango chili, which

bumped to the OG citrus salt, you all must try." Twitch said, "I just tried watermelon today not thinking I would like it. But I totally agree with you. We have the same faves." And several other people, "I got mine yesterday, I think it might be my new favorite flavor. Watermelon is definitely my favorite flavor." So that's pretty cool. Pretty cool. I wasn't sure because like I have shared before, I'm not a watermelon flavored thing kind of person. I do like this watermelon. I wouldn't say it's my top. I think orange has sort of slid into my top slot even though...

Nicki: So there is hope for watermelon being my top slap down the road because when orange came out, it was not my favorite either. But now Orange is the one I repeatedly go to. But yeah, if you all want to get your hands on watermelon, it is available on the element website along with all the other flavors and you can find those at drinklmt.com/robb, that's drinklmt.com/robb. And now let's jump back into our conversation with Clementina Russo.

Clementina: So there was a working group. CDC had made a working group.

Nicki: So we have this myopic fixation on this one thing, which is face coverings and so any other potential solutions are sort of like...

Clementina: No we're not. We're not even looking. We're just not fixing the indoors. We're not fixing the indoors because we're just going to wear face coverings everywhere. We're living in a prank. It's not a solution. If it was an efficacious solution, or even if it had any meaningful effect, great, but it's been proven to not have a meaningful effect over and over and over again. And the way that we're talking about face coverings is dubious at best and every scientific study that has come out about face coverings, tells us the exact same thing over and over again that some of them are really great for frontline exposure in this particular one. Some of them are really great for aerosol transmission in this particular way. But putting two of them on top of each other isn't actually really reducing your risk.

Clementina: And also, what is your risk? And where is it appropriate? And also, we know we have very good engineering bounds on each of these materials. We know the same thing over and over and over again, we haven't gotten any new information out of any of it. But we've doubled down about it because of how it makes us feel. Because we're believing that this is a small thing for us to do, but we're not actually understanding the ramifications of what it's doing. And ultimately, it really isn't being that helpful.

Nicki: And to mention some of the ramifications, just share like in Texas, or at least in New Braunfels in Komal County, they had removed... When Governor Abbott removed the mask mandate, the schools were able to choose. And so the Komal county schools, the superintendent said, "It's up to the parent. If you want to send your child in a mask, send your mask. If you don't want to, you don't have to." We had a neighbor who sent her children without a mask, because she believes children... She's done the risk analysis children are at risk.

Nicki: And it was appalling what she shared. She said that first day there was so much bullying. Teachers put the kids without masks in the back of the room. PE teachers said that the kids couldn't participate if they weren't wearing a mask, there was a teacher who chose not to wear a mask. And she said that she felt like she was in middle school again, because all of the other teachers who were

wearing masks avoided her. She sat alone and ate lunch by herself. She said, "I feel like I'm the outcast in middle school."

Nicki: Aside from all of... This focus on this masking is causing so much psychological divisiveness, psychological trauma.

Robb: Ironically, discrimination. And like, state sanctioned discrimination ironically, but yeah.

Clementina: That's the spiral. Because we uphold this as a virtue, and we're upholding our signal of the virtue that this is imperative, that it's trumping all understanding of information, and that there can't be new information to change our minds about it. And we've all doubled down about it now. So where does this go? Well, as long as it is in line with how we're believing things to be, then whatever happens is fine. Whatever ramification it has is fine. And I think the ACLU right now is actually having a shit fit about a vaccine passport. And I'm glad that they're having a shit fit about a passport, because that's a can of worms that needs to get burned, just integrated.

Robb: I've been tempted to just post, "Somebody helped me with this vaccine passport plus HIPAA. Go." We're supposed to have our health information protected, it's not supposed to be stencilled into a scarlet letter or a similar garb, that is, for public review, or institutional review. But in this one case, we start rolling back all of this Health Information Protection and stuff that there's... The whole EMR platform and the need for doctors to do this onerous process is supposed to be to support this HIPAA process, and now we're just using it wholesale.

Robb: What's fascinating to me, Clementina is that the solution you're putting forward, neuters, or de natures, all of this potential to divide us. You've got a solution that really is kind of like... No, it is kind of like the way we were before because there's always been some degree of risk indoors with some sort of airborne infectious agent. Whether COVID was there basically...

Clementina: Just a cold.

Robb: Yeah just a cold. Just plain influenza, which kills a lot of people.

Clementina: Which I'll say, it transmits differently. Things transmit differently. They're infectious in different ways. But the greater point is, the indoors are always a problem and they'll continue to be a problem with another thing that's like this. And if we're never focusing on solving that problem, then what's the solution next year? It's another vaccine, it's another... It's more masking. It's extremely myopic and I think the greatest disservice to our humanity in this year has been that we've destroyed the most basic primal needs, which is being with people and going to places. It's gone. Those things are gone. And then how are we not unhappy? How are we not in unrest? We can't be together and we can't go anywhere. And so they're... I mean, shits gonna fly, sorry.

Clementina: And it's very generous of you to say that because all I've cared about is getting us out of the anguish, and I believe that alleviating that, allowing us to be together and go and do things, we'll just get rid of the anguish.

Robb: There's so many different problems and I guess maybe that skirts into conspiracy theory land. What's the saying never attribute to malice, what can be

accomplished within competence. The Byzantine nature of government and the misaligned incentives for innovation and whatnot, that's enough to explain why nobody has been able to champion this. For our listeners, part of our goal, and when you reached out to us originally, which I still just sad that we couldn't pull the trigger on this earlier, but what can we do with this point? We don't have a massive show, but this is a non trivial size show? What the fuck do we do?

Robb: Here's an analogy a five foot tall, 98 pound woman wearing pinpoint stilettos can punch a hole through your sternum if she places it. It's not just guys, it's proper application of leverage and focusing that energy. Wave a magic wand. What do we in this community do? And I feel like, we only need one god damn win. We only need one person to pick this up and champion it. And although cancel culture being what it is, and the fact that all media is owned by by one narrative, it might be hard to get the story out, but that story will get out.

Robb: We just need a win. We just need one success story here that can be documented and tracked, and for the people are like, "I don't know, is this really legit? Well, let's fucking look at it and see. Let's do the..."

Nicki: R&D and do the testing.

Robb: "Do the R&D and do the testing and let the data... And if we're full of shit, then that will be exposed pretty damn quickly."

Clementina: If it doesn't work, and it was stupid, or it was nonsensical, or there was something internally and consistent about it that comes out in research. The hunch is the hunch. To summarize, I think we could have done this differently. If we had done it differently, we could be having different outcomes. Other countries did it differently, they had similar death rates and mortality across all of them, irrespective of what their strategy was. And that in and of itself should give us some information about... Well, they had very different approaches and similar things happen. So there is something that's fundamental about this particular thing about infection, about transmission about and about the course of a, of a virus and epidemiology.

Clementina: That's giving us some information. But the other effects that these operational methods and strategies have had on a society is very deep and very meaningful. And if we can change our approach now. Even just change it now, because everybody's, they're in a place where we're having an existential crisis, about how we think and feel, either because we thought and felt that this was the wrong thing to do in the beginning, or we thought and felt that this was the right thing to do, but it's still not working. Or we're still doing it and we don't want to be doing it anymore. So everybody's having a kind of anguish about this, which I think that's the thing to coalesce around in our shared humanity right now is we're unhappy. We are very much unhappy with how this is still going. And I believe that there is a way to change it.

Clementina: And I think with that buy in of, maybe we can approach this differently or I just don't like how it is right now with that buy in, there may be a better understanding of information and with a better understanding of information, there's a different call to action. I wanted to talk about this because I believe that there are many of us who would like to see it differently, and that they maybe feel powerless to do so because of all the reasons that we just discussed. And, "Where does anything ever go?" "It goes straight to fucking hell." But

maybe it doesn't have to if there's enough of us and if everybody is banging on their state legislators door or their governors door and is like, "Hey, motherfucker not into this shit anymore." Then maybe they do something.

Robb: Let me throw this out there. I think most people were feeling, "Oh, this sucks. This has sucked, it will continue to suck." But we're feeling like we're coming around a bend. And it's like, "There's a little hope on the horizon." I just got to throw out there, Dr. Fauci and Bill Gates, both with fucking smirks on their faces said this will happen again. It's like a great line out of BSD. It's all happened before, it'll all happen again. So this will come and visit us again. And this may even be to the tune of just the, "Oh, well, this variant is doing this. And that variant is doing that." And there will always be new variants. That's evolution...

Nicki: A prophylactic against the next one. It seems like it would make sense to...

Robb: Yeah, so even if folks think that we're popping out the other side of this, that we're crowning, and there might be some sunlight ahead, the light in your eyes maybe...

Clementina: We are.

Robb: An onrushing train.

Clementina: Right. We are until the eclipse happens again. So we're coming out in the tunnel, and then the eclipse happens, and then we go back into the tunnel again, or we don't know which... We'll continue to be disoriented, and we'll continue to be disoriented, with bad strategy. And that's what I'm trying to prevent.

Robb: So do we have some resources for folks like local, working up to like... I would say, like the state level is possibly where we look first.

Clementina: Yeah.

Robb: Local and state level, trying to get some people rallied around that. Do we have a strategy or a script or anything for folks to follow around this?

Clementina: I did make this a little bulletin that has some information on it. I frame the problem, I talk about how we have approached it and what's wrong with the approach and what we have not been able to solve. And a new procedure and how that new procedure mixes concerns with industry, with government and this kind of triangulation of problem solving can actually get us to a solution. And it's a very short bullet, I shared it with you guys. You can put it anywhere, you can download it. Everybody take it.

Nicki: We'll add it to the show notes, yeah.

Robb: We'll add to the show notes. And when we do our intro outro for this, we will do a dive into that so that we can discuss it, let folks know what's in it and...

Nicki: Who to call.

Robb: Who to call, how to go about doing it? We did some stuff around this when we had Senator Massie on around the prime act and it moved the needle. It

mattered. The prime act was opening up the potential for folks in the meat processing space, the food space, to have more decentralization in the butchering process. And it's something that Senator Massie had been championing for the better part of a decade. And then COVID happened and then food shortages began to loom on the horizon and people's self interest finally aligned with what morally should have been done ages ago. And we actually got some good headway on that. So yeah, I think that we can move the needle on this.

Clementina: That's the empathetic understanding of information is that, "Oh, I'm actually physically embodying the suffering of the ramifications of this thing that I didn't understand or this event that unfolded and I'm having, and I am now suffering for it." We joke about it like oh, now it's your ox that's being gored and now it's your and now it's a problem is where like before this wasn't a problem, but but I mean, we don't we don't understand information until we can relate it to our own experience. That's just, that's literally everything that we do. So I yes, I my all of my contact information is on that bulletin. Please feel free to ask me any questions. If you are another scientist or engineer, or a government official, and you want to take this up, or you have questions for me, please.

Clementina: And then I would entreat everybody, listeners and anybody interested to find all of their state and local government and start talking about this. There are six states that have air handler manufacturers in them, and we can put them all to work. And I think we can tackle this literally from the inside.

Robb: Cool.

Clementina: Anybody else who wants to have me on a podcast, please.

Nicki: Yes.

Robb: Okay.

Clementina: Gesticulate wildly.

Robb: Are you game for doing any traveling to that end?

Clementina: Please, yeah, tell me.

Robb: Okay.

Clementina: Yeah.

Robb: Okay. Cool. Well, our governor here in Montana, Gianforte.

Nicki: Gianforte.

Robb: Gianforte.

Nicki: Pronounce it the Italian way.

Robb: He's an engineer by training and an entrepreneur. But first in engineering, I think, a PhD in engineering. So I'm going to see what type of trees I can shake, in a minimum, at least. And apologies to our legal educated folks, but he's not a

fucking lawyer, which is what most politicians are at this point. And being a scientist and being in public office, I would say is kind of an advantage and something that we need a whole lot more of. Doesn't guarantee that the person's not going to screw it up. But we can at least sit down and start having a conversation much more rapidly. If you've got a physicist or an engineer or something like that sitting across the table from you, there's a lot of background information that can be somewhat bypassed and get right to the to the heart of the matter.

Clementina: I think that one of the biggest problems is been the... I mean, there's a serious politicization of science and the politicization of information and to be a scientist is inherently to question what is reality all the time, and also to allow other people to question it differently, and then discuss about it and we are in serious hell about that. And some of that is now about serious risk aversion, which is what a lawyer is supposed to... A lawyer's job is to be risk averse, and then tell you about all the risks. But to be a scientist is inherently to assume all of that risk. Because you need to know something, and there's a lot of investigation that goes along with it. And just because I think something is so, doesn't mean that it is and my beliefs need to be challenged in every capacity in order for us to reify what is what is real or not real. And we have all of our biases prevent us from really understanding all of that.

Clementina: So I would love to talk to to our Italian Montana governor, who is an engineer, and also maybe put a lawyer in the room so we can figure out what's possible.

Robb: Cool.

Clementina: Get us all together.

Robb: Okay. We love you. You're awesome. We're we are incredibly grateful that you chose to join the Healthy Rebellion...

Nicki: Han gout with us.

Robb: So many people here have contributed so much. I'm really stoked. If I croak tomorrow, I'm confident that that thing will go on for a good long time and we'll continue to help move people out of the sick care system.

Clementina: You've changed everybody's life in there. Everybody is wholeheartedly grateful for that. I'm wholeheartedly grateful that there was a place for us to go to talk about all of the nitty gritty, dirty shit about what's happening in our world in a day to day way, in our personal lives and freely. That was a great thing about last year.

Robb: Well, in some ways, we have to thank Google because they tried to kill us and hopefully it was like Darth Vader striking down Obi Wan and it's like, "I will become more powerful than you could possibly imagine." So I hope that's the case. But in a minimum, it made me really love my work again and love at least a core group of people that weren't just obnoxious assholes. I mean, we all are in a good way. So we will have all of your contact information. We're going to do an intro outro on this. And I'm going to see what other trees I can shake. I have some connections to some shows that are much larger than this one. And we'll see what type of interest could be drummed up around that to get the story out there.

Clementina: I love it. Thank you. Let's fucking go.

Nicki: Awesome Clementina. Thank you so much for joining us today and we'll see you in the rebellion.

Robb: Yeah.

Nicki: That was a great interview.

Robb: Clementina is the smartest person...

Nicki: She is amazing.

Robb: ...in the room. Doesn't really matter.

Nicki: It was a fun conversation and just love, love, love her and love what she had to share. And so the big call to action here is for and we're going to post in the show notes on RobbWolf.com on this episode. The bulletin that she mentioned, which talks about a lot of these talking points, please call your local and state representatives and let them know that you want some effort being put into this ventilation story.

Robb: And the main point that I would make is that the two downsides that I see with adopting what Clementina is proposing here is that we could immediately go back to life as we knew it pre-COVID. If we all lived outside, then this would not be an issue. And so sufficient ventilation creates effectively the same type of scenario as more or less living outside. And then the other doubt, which clearly is not a downside, but some might look at it that way. The other downside is that all of the social political identifying elements of compliance or non compliance around the COVID topic...

Nicki: Divisive elements.

Robb: Divisive elements which may lead us into civil wars and other such things...

Nicki: They're tearing fabric of our...

Robb: Okay, so Clementina has a PhD in Applied Physics, clearly very smart, very well trained. Maybe she's right, maybe she's wrong. But stuff like this is worth having discussion around and exploring it. And this is something that could be studied in small scale settings, very nominal budgets, to look at what the spread is like and there's ways of modeling it, or you actually do it in a live environment and see what type of COVID transmission occurs within these scenarios. But those are the two quote downsides to this. there would no longer really be this significant need for masks maybe a little bit here a little bit there. But not our kids wearing them all day at school and stuff like that. And some of the crazy discriminatory stuff that we talked about last time where when it's left up to people to wear or not wear a mask, the people wearing masks decide that they're going to discriminate against and really hammer on the people that choose not to so that would be a non issue.

Robb: Which again, are we at this point where some people have so much power and have a hard on for doing this, that they don't want to let go of this. This is the only thing that makes me wonder that people wouldn't want to consider

something like this. But I will wrap this up finally with the thing again, that I mentioned at the outset. That Dr. Fauci and Bill Gates with a smirk said that, "We've known this was coming for a long time, and this won't be the only one." So if this really is a viable option, do we do this? Do we invest some money in some infrastructure? And prepare.

Nicki: And risk mitigate any future pandemic like this.

Robb: Right. Or not. And if the not... If the knot if this isn't worth investing in. Even if it's just not worth exploring, why not? I would be really curious to know why we wouldn't put some skulls sweat and some CPU cycles into exploring options like this. In the show, I also mentioned the possible application of UVC lights which are non injurious to humans and other vertebrate organisms, but work wonderfully at disinfecting the atmosphere. So maybe you've got a combination of that word. Entryways have have UVC light, and then we have a high throughput turnover of the atmosphere within restaurants. And this is what they already do in airplanes and it's fairly well established that we don't see massive transmission on airplanes, because the air is turned over remarkably quickly, even though it seems like kind of a claustrophobic can't breathe little space in there. But they do actually turn the air over a lot. And we're not seeing really crazy amounts of problems there.

Nicki: Awesome. Well, again, please check those show notes. Please call your local and state representatives if this is something that you would like to see some forward progress on. And one more ask if you have connections to other podcasts you'd like to hear Clementina on, please email the hosts and etc as a guest. We'd love to help her get this message out to as many people as possible, especially people in positions of power, who could actually help move this forward.

Robb: Help me Tom Cruise.

Nicki: Help me Tom Cruise. Alright, folks, we'll see you next time.

Robb: Bye, everybody.