

**Nicki:** Welcome to The Healthy Rebellion Radio. This is an episode of Salty Talk, a deep dive into popular and relevant healthy performance news pieces mixed with the occasional salty conversation with movers and shakers in the world of research, performance, health and longevity. Healthy Rebellion Radio 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 adherents without any of the sugar colors and fillers found in popular commercial products.

**Nicki:** Health rebels, this is Salty Talk. 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:** Welcome back, folks to another edition of the-

**Nicki:** Healthy Rebellion Radio. And we've got the-

**Robb:** Salty Talk.

**Nicki:** Salty Talk.

**Robb:** I came out of retirement to interview someone. That someone being Chris Masterjohn.

**Nicki:** Highly requested within the Healthy Rebellion community. Chris has been-

**Robb:** Fighting the good fucking fight.

**Nicki:** ... Fighting the good fight for the last, what is it now? It's not even 18 months, we say 18 months all the time. But it's more like I don't know coming up on two years or wherever.

**Robb:** Forever.

**Nicki:** The long time. Yeah. Let's see, before we jump into that interview, anything new and exciting around these here parts.

**Robb:** We got a wee bit of snow.

**Nicki:** We did get a wee bit of snow. And it was like... It wasn't predicted on the weather app. Because those things are not always accurate, as we all know. But yeah, nice little dusting, the girls were ecstatic. Of course, that meant they had to go put on their snow attire and try to eat as many snowflakes as they could find. It didn't stick. I mean it barely-

**Robb:** It barely stuck.

**Nicki:** Yeah, just briefly, but a little fun. More of that to come here this winter.

**Robb:** Hopefully.

**Nicki:** Hopefully, yes. We need some snow. So this conversation you had with Chris Masterjohn, I know a lot of people have been very appreciative of the work that he's

been doing throughout COVID. Do you want to give a little overview of some of the things that you guys touched on?

**Robb:** I opened up with just kind of like, how does Chris Masterjohn do what Chris Masterjohn does. And he's a big systems thinker. And he's very much in that camp that yeah, you need to find some area of expertise. But then outside of that we have expertise and then proficiency, and then competency. And we should be able to dabble and communicate and collaborate all the way out to maybe the level of competency and made the case that science is far too siloed. And this is one of the big problems that we have. That the 20th century was a big win, that reductionism was necessary up to a certain point and will continue to be necessary up to a certain point, but it's actually synthesis. It's the people synthesizing things that move the world forward.

**Robb:** I've commented on this just related to nutrition, it seems like the people who do the best work in nutrition are folks with an engineering or physics background, family member gets sick, that person does a deep dive on it. Arrives at nutrition completely or relatively unencumbered with the bullshit that usually goes along with medicine and nutrition. And they end up arriving at some sort of a low-ish carb, paleo type thing for more things than not. And with some nuance and whatnot, but we talked about that.

**Robb:** Chris did a phenomenal breakdown of the recent CDC piece that suggested that vaccination was far superior to natural immunity with regards to cases and hospitalization and whatnot. And Chris did go out of his way to make the point, the famous quote, never ascribe to malice, what can be explained with incompetence, and he said, this is not incompetence. You can't do this type of shoddy work at that level via simple incompetence. And so we talked about that stuff.

**Robb:** We talked about his material that he's put together that would ostensibly help people mitigate their risk of contracting COVID from mitigating the severity of COVID and all this stuff applies to the vaccines too. If one chooses to be vaccinated, being metabolically healthy having low inflammatory status, adequate vitamin D like all of that, what we're finding more and more is that COVID or vaccine, there's a certain risk profile that is very, very similar. And the things that go sideways are very, very similar.

**Robb:** Issues around systemic inflammatory response, particularly neuroinflammation. And then also challenges with energy production. Like that mitochondrial just biogenesis, so limited mitochondria in number, but also limited in their ability to produce energy which leaves people fatigued and knackered and part of this long haul thing. So we didn't dig into that as much but I would... Personally I feel that the two are very, very similar and so strategy to mitigate one it's likely strategy to mitigate the other.

**Robb:** We talked a little bit about kind of his social justicing crusades. And I mean it really came down to he just couldn't in good faith look around at the people around him, especially like these first responders. He was in and around New York during 9/11 and so like they're heroes and then bad things happen and now-

**Nicki:** And all of last year they were heroes.

**Robb:** They were alternately heroes in absolute villains depending on which day we were on. But he in some ways financially he mentioned the same thing that we have. COVID's been good for him like he's been able to establish himself as a subject matter expert and lots of people flock around that and that's been great but he couldn't just in good faith sit back and let this stuff roll out. And he mentioned the Cuomo test which was basically if it will save one life then it's worth shutting down society and he's like, why the fuck

are the subways going. Like somebody dies on those... Taxi cabs. It is an absolutely, appallingly, ridiculously, dishonest position.

**Nicki:** Nobody should drive the car anymore.

**Robb:** Nobody should drive a car and then the irony there, okay, so no more transportation, well than everybody fucking starves to death. Like there is just trade offs. And it's funny, I was listening to a Dan Crenshaw podcast yesterday and he had Kayleigh McEnany. She was Trump's former press secretary, which even mentioning that is going to cause some number of people listening now to like, check out or whatever. But she made the case that we really need to use persuasion and not argumentation. We need to persuade people.

**Robb:** And I think there's a very different tenor and cadence around trying to persuade people to just have conversations and whatnot. And so we dug into some of what he's been trying to do around that. Just, here's the data that we have. And here's how I dug into... This is Chris talking, I dug into PubMed, I dug into all these pre-print servers and whatnot, I relegated things only to randomized control trials as the first pass, retrospective cohort studies and whatnot, I allocated secondarily. And on and on and on. So it lays it all out very transparently.

**Robb:** And here's where the flag lies with my interpretation of the data. And it's been interesting, he has a very warm following, but some of the vitriol that the guy has sustained around this is remarkable, but he's got some cool stuff going on. He's working with an immunologist, to look into what is real vaccine efficacy. So Masterjohn is going to start applying his non-trivial analytical skills to some of these other very thorny topics. So excited to see where that goes.

**Nicki:** Awesome. Awesome. I know our listeners are eager to jump in. I'm going to actually read our sponsor ad here now instead of have it be in the middle. So I'm going to jump in on that.

**Robb:** Cool.

**Nicki:** So this Salty Talk episode of the Healthy Rebellion radio is sponsored by LMNT. Our salty AF electrolyte company that provides you with all the salty goodness and none of the sugar found in typical electrolyte or hydration beverages. So I wanted to share this. This is super cool. One of our LMNT co-founders Tyler Cartwright of Ketogains, he shared a screenshot earlier this week. One of his Ketogains boot campers had turned on one of her friends to LMNT last year.

**Nicki:** And this particular friend she turned on LMNT is getting married and she's including LMNT in her wedding. And I thought this was so cute. She has these little baggies with a sticker that has like a Red Cross, kind of like the Red Cross logo. And it says just in case. And then around in a circle, it says, "For better or for worse, in sickness and in health." And inside are some Tic Tacs and some LMNT.

**Nicki:** And she says, "I'm making little hangover kits to put in the welcome bags for wedding guests, and I'm putting LMNT in them. I thought you'd appreciate that." So she was sending that to her friend that turned them on. And so her friend shared that with Tyler and the rest of the Ketogains crew. And I just thought that was so clever, so cute. And she even put grapefruit packets in her little wedding kits. So anyway, great idea. If any of y'all are getting married, you might want to steal that idea.

**Robb:** Indeed.

**Nicki:** And you can grab your LMNT at [drinkLMNT.com/rob](https://drinkLMNT.com/rob). That's drink L-M-N-T.com/rob. And let's jump into your conversation with Chris Masterjohn.

**Robb:** Chris Masterjohn, how are you?

**Chris:** Rob Wolf, I'm doing great. How you doing?

**Robb:** I'm good. It's funny. We did an AMA in the Healthy Rebellion, I don't know, maybe two weeks ago, three weeks ago, and somebody asked... I always love these kind of thorny questions, but they were like, "Who do you feel like is the biggest turd over the last two years in the ancestral health space." And a few names came to mind. But then I was like, "Well, I'm not quite ready to commit career suicide entirely." So I said why don't I focus instead on the biggest hero that I've seen in the ancestral health space? And everybody was like, okay that works

**Chris:** - Haha, I was waiting to see where-

**Robb:** And I said that is easily Chris Masterjohn, you have been this beacon of light and hope and-

**Chris:** Thanks, man.

**Robb:** ... Logic. And I mean, I've tried doing what I can in this space as well, but have honestly felt, I don't know if hamstrung is the quite the right word. But definitely a strong sense of pissing into an onrushing blast of wind and just like, not really sure if this is working, not really sure if I'm accomplishing much of anything. But you've just been amazing. And I mean, I've always been... We don't chat all that often. But you're one of my favorite people in the world.

**Chris:** It's always good when we do.

**Robb:** Yeah, I always love it, really appreciate it. I had a couple of different thoughts about how to kind of jump into this thing. But early in COVID, Nikki, and I remember, it was maybe week one, week two, when like the Imperial College projections about where deaths were going to go. And we were living in Texas at the time, we fortunately had a little bit of space. So we were out walking around with the kids, kids were on bikes, and we were chatting, and I was basically like, "Okay, if you die, here's what our game plan is, if I die, here's what your game plan is."

**Robb:** And I mean, we took this thing seriously, like we really did. But I got to say it wasn't long after that just like hound dog style, like my ears just started kind of perking up and feeling like there was something not really adding up. Like if this was an existential threat, it didn't feel like things were being approached in the way that one would approach an existential threat.

**Robb:** I remember reading about the Manhattan Project where they had like the most brilliant minds on the planet trying to outrace the literally Nazis to develop an atomic bomb, which could alter the course of human history. And they divided people into different teams. And although there was collaboration within those teams, they were kind of competing against each other. And there were a couple of different ideas about where to go, uranium versus plutonium. Nobody knew if that was possible, some people

thought that when we detonated one of these things, it was going to turn the Earth into a sun for a period of time because it was going to fuse the atmosphere.

**Robb:** But there was this really multi pronged approach. Whereas super early in this experience, it was like, "We're going to have y'all a vaccine, and it's going to roll out real fast." And that's where I started amongst other things... What was your experience in this whole thing? Where did you start with this say late March of 2020, I guess and then kind of going forward?

**Chris:** Yeah, well, I guess where I started with it, which I didn't realize until a while later was I'm a COVID OG. So I got first set of symptoms... First day of symptoms was February 1, 2020. Although at that point, I totally dismissed it. And I had a whole different theory on how I had become the sickest I've ever been in my life. After the demographic started coming in, and especially after a lot of science around the taste loss. Actually during that period of time, you got LMNT in the background, I had some samples of that. And it actually helped get me through it.

**Chris:** Because I had become so dehydrated that I was developing an extremely sore throat and I was realizing that my body wasn't retaining any water. And so just throwing a bunch of salty electrolytes in water actually got me through it, but that's besides the point. So anyway, I mean, after that terrible experience that I lived through fine, but it was quite bad. I was just listening to podcasts. And I heard Sam Harris talk about it. And Tim Ferriss talk about it. And I just heard some anecdotes of someone new, a 30 year old who was healthy and died or whatever.

**Chris:** And so it's like, "Oh, this looks pretty bad. I don't know what's going to happen." And I was worried about getting it because I wasn't at that point yet convinced that I had already gotten it. But I think my moment where I first knew something didn't add up was way earlier than the vaccine. It was when Cuomo introduced the Cuomo test, which was publicly announced, with no one calling him out on how utterly irrational this was.

**Chris:** He came on live conference and introduced the test that if it can save one life, we shut the whole city down. And there is nothing that could more blatantly signify the complete loss of irrationality than that test. Nor could anything more signify that the entire press had lost any sense of a duty to push back against government, for no one to have said that that was the most blatantly irrational thing anyone had ever said about this pandemic.

**Chris:** The way that you approach any policy is you consider a cost benefit analysis. And they should have completely banned traffic many decades ago, if that was the test.

**Robb:** If this was our test, yeah.

**Chris:** I lived in Brooklyn for two and a half years. And while I was there, there were three children who died by traffic accidents in my own neighborhood, just in my neighborhood. Why wasn't the first one enough to shut the whole roads down until no one ever died of traffic accidents, it's totally irrational.

**Chris:** I mean, so that was my first turning point. But it took a while to... I guess, to shorten the rest of the story. I spent most of 2020, at least through September, being completely immersed in COVID research, because I learned from my audience that no one wanted anything else from me. It was just clear the way that my life... COVID turned my life financially upside down, and then spending all my time researching COVID turned it back

around. And so nothing could have been a more clear signal that it was the one thing that my community valued from me.

**Chris:** And so that was all pre-vaccine, I was accumulating all this knowledge about what are the many things that can be done to protect yourself from COVID. And I feel like a lot of people who were just doing what they always do, became outspoken when they started getting more and more bullying. That's what happened to me. I mean, I never intended to be outspoken, I was just making the same points the whole time. But all the sudden, this religion was adopted in December, that there is the one thing you must do.

**Chris:** I mean, it's really like a baptism. It's like, the one thing that you must do unto the remission of sins. And if you don't do this, you're going to burn in hell fire. And if you say anything to question the faith, even if it's just posting some data on breakthrough cases, or something like that, you're responsible for the mass graves in Mexico.

**Chris:** And it was at that point that I accidentally became outspoken because I was just reporting on research the way that I had always done. Although I didn't feel... Even when I got kicked out of every gym in New York City, I that didn't quite make me deliberately outspoken. But now that I'm watching 10s of thousands of people lose their jobs around me I'm protected from it, but I actually do feel a responsibility to speak out as all the teachers get fired, as all the health care workers get fired, as all the firefighters get fired, as all the police get fired.

**Chris:** And the Cuomo test was if one person dies, shut it down. Well, the first, apparently, I mean, I can't prove this. But according to the news reports, the first seven year old child died this weekend because the firefighters showed up for work and they told them, you're not allowed to work, you got to go home and they were short staffed that day. And so it by the Cuomo test, the mandate should now be shut down. But we don't apply the Cuomo test to that side of things.

**Robb:** I just kind of noticed that you seem to have a strong worldview... Backup a little bit. I have this sneaky suspicion that economics thermodynamics and evolution are these really foundational pieces to our understanding the universe and energy flows, resource allocation and cost benefit analysis. And then the way that dynamic complex systems adapt to change. I really think that those are a thing and kind of sticky and all that. But I found it really challenging.

**Robb:** I'll find folks that maybe have a stepping in the evolutionary biology, but like the econ part, or the thermodynamics part is like missing. Or you'll find a physicist that clearly is well steeped in thermodynamics and everything physics, but doesn't really put much stock in economic theory. And evolution is this trite thing that applies in biology, and who really cares about that?

**Robb:** But I've always felt like you've had this very balanced way that you parse things. And it seems like you're passing things through a filter that encompasses all of these elements. And I'm kind of the opinion that if one doesn't at least pass shit through this initial filter, that the world is magic. And I don't mean magic, like in a good way whimsical way. It's like demons and witches and burnings, and stuff like that.

**Robb:** I mean, how do you inform your worldview the way that you do? Because I always feel like you're kind of Johnny on the spot with whether it was super early in the ancestral health scene and acknowledging some great elements to it, but also saying, "Hey, we don't really have the full accounting here." I've just seen you consistently out ahead of

everybody in the way that data analysis is provided, hypothesis generation, what is your kind of process to get to that spot?

**Chris:** Well, I'm definitely a systems thinker. And so what you just said resonates a lot with me. I think, in large part because of my personality type. So in the Myers Briggs system, I am an INTP, that means I lead with Introverted Thinking, which is like theory building and optimizing systems. And I look at the world with extroverted intuition, which is like connecting the outward dots. So the person that looks at the night sky and is able to realize that actually, all those dots make a constellation that looks like this.

**Chris:** And so, I think for that reason, I'm very resistant to the whole stay in your lane philosophy, which I think is the enemy of the way forward. And it's funny too, because I think that everyone in science, who thought meta about science. Who thought about the scientific process, and who thought about scientific education, realized that towards the end of the 20th century that the 20th century had made enormous feats by fragmenting and breaking things down and getting granular.

**Chris:** But we wound up in this ridiculous situation where, like a vitamin A expert couldn't comment on different types of carrots, because their specific field is the effect of retinoic acid on PPAR gamma expression or something like that. And it was just like so-

**Robb:** Siloed.

**Chris:** ... Pigeonholed and siloed, so siloed into... But it's the tiniest molecular silo, like this is my space. And I'm not allowed to talk about anything else. And I think that was the direction that scientists as individuals went in. Because that's where they succeeded. I mean, I know that my own success personally has largely been at the expense of my personal balance, because I've realized, I get money when I do this. And so I just put all my eggs in that basket.

**Chris:** And scientists have the same incentive structure, I get grants when I get more specific about the last thing I researched. And so it naturally pushes them into that siloing position. But when I was in my first semester of grad school, we had a two credit class, it was a real brilliant class called concepts in nutrition. And the first thing we did was read a paper about how this was the major problem in 20th century science. And the path forward was into interdisciplinary collaboration.

**Chris:** And so everyone should have a core expertise, but around that they should have a much larger sphere of... What was the word they used? I'm missing the word, things that you're good at. But it's not your core expertise and a proficiency, that's the word I'm looking for. And then around that you have an even much bigger sphere of competence.

**Chris:** And so that you can not stay in your lane. Maybe at certain hours of the day, you stay real deep in your lane, but then you also get out of your lane and talk to the people in the other lanes so that we can collaborate and put Humpty Dumpty back together again. And that always... When I find something that just clicks, I'm like, "Yes, this is the model."

**Chris:** And so whenever someone tells me stay in your lane, I'm like, you're an enemy of the 21st century. No. And so I mean, that's basically where I'm coming from. So I don't necessarily carved my identity around thermodynamics, or economics, or evolution, I think I carved my identity more around being a systems thinker who connects the dots and then constructs theories and optimizes systems. But when I hear you talking about thermodynamics, and economics and evolution, I'm like, "Oh, yeah, these are these

systematic frameworks that we need to unify." And I do identify with that process of unifying those different ways of thinking about systems.

**Robb:** Well, and maybe that's why we didn't cut it in academia. It seemed slow and boring compared to whatever it is that we do currently. So it's fascinating, I just... We're in this really interesting spot where, arguably, some degree of specialization is really how one makes their way in the world. But then this hyper specialization and the inability to then have some interdisciplinary conversation or even just that ability to have a conversation within say, like an online forum.

**Robb:** And folks are like, "Wait, you're a nutritionist, you can't comment on like economic topics, or vaccine related topics." And it's kind of ridiculous. And it's really hamstringing things. And clearly, you and I are pretty bought in on that. But I'm ever wondering like how we kind of move that conversation forward. I think it's just going to be trench warfare. We have job security and that nobody else is going to come solve this problem. Like, it's not just going to magically be solved out from under us. And we'll be left wondering, okay, well, what do I do next?

**Robb:** So I have a ton of questions I want to ask you. I opened up to the Healthy Rebellion for folks to post some questions to you. The main onslaught that came out of the rebellion was tell Chris, thank you for his work. I mean that was first and foremost. And I mean and I only posted this thing about an hour and 20 minutes ago, an hour and 30 minutes. And there was just a mountain of comments. So the bulk of the commentary was, basically thank you.

**Robb:** So I really got to convey that a lot of folks I think, had just looked at your analysis of the CDC materials that had just popped up suggesting that durability of immunity, natural infection versus vaccination. Okay, stop the press, vaccinated immunity appears to be orders of magnitude better than natural immunity, which would really be kind of a cool, I think it would be kind of a first in biology moment. And it appears to be kind of a first in the current research moment. I mean, this stuff evolves and changes. So we do have to be open to things modifying but everything that I've looked at thus far has really painted natural immunity, although there are costs and benefits there like you said.

**Chris:** You could [audio indiscernible] on your way to trying to get it.

**Robb:** Yeah. Yeah. Do you go lick doorknobs or what are your pre-existing conditions, do you do that versus the vaccine. All this stuff. But would you mind breaking that down? I know that you've done a really extensive piece on your blog talking about this.

**Chris:** So yeah, well, so I'm just, I'm going to be honest. There's a saying that you should never ascribe to malice, what you can ascribe to incompetence. And you cannot ascribe this to incompetence, and you can only ascribe it to malice. And the reason that I say that is, and that's not a comment on the study design, that's a comment on the framing that they used in the significance of their study and the entire discussion that followed it.

**Chris:** So I don't understand how it's possible for the mis-framing not to be deliberate. So they stated at the beginning that the significance of this... You know how in the beginning of the paper, what was known, what's new, what does this mean, what does this add? And so they say what's known is that the vaccine and natural infection both offer immunity. Full stop.

**Chris:** And, that's not what was known. What was known was that there are over 90 studies looking at immune responses, but there are specifically nine studies that looked directly



comparing future infection risk from people who were either vaccinated but never infected, or people who were previously infected, but never vaccinated. And all those show across them, that even an older, natural infection is equal to or better than a more recent vaccination.

**Chris:** And in some contexts, so for example, in the general population of Israel, in a sample of, depending on which data set they were analyzing, between 28,000 and 80,000 people. If you control for the week in which someone was vaccinated, or the week in which they were infected, so that you're comparing equal lengths of time since the immunity event, then the vaccination... Excuse me, the natural immunity is 13 times as protective against testing positive, 27 times as protective against becoming a symptomatic case and seven times as protective against being hospitalized.

**Chris:** And so for them to make the significant statement that what was previously known is that they both offer protection. But now, and then they go on to say, "What did we add?" Well, we've we compared them now quantitatively, as if no one had compared them quantitatively is grossly misleading. But then in their discussion, they say that there is one study that conflicts with theirs. And they named this specific study I just covered, which showed wild superiority of natural immunity.

**Chris:** But what they say about it is this one study that conflicts with ours did not show that vaccination was superior. What? I mean, how is that not a mischaracterization of it statistically significantly showing an order of magnitude or more better protection from natural immunity. So the framing of the findings is ridiculous. But the big problem with the actual study design, though, is that all the other studies, the ones that are relevant, what you want to do is you want to say, okay, if we start with a representative sample of people who've been vaccinated, but never infected, or a representative sample of people who have been infected, but never vaccinated, and then we follow them forward, or we look back in time and trace that forward progression, who winds up sick, who winds up testing positive, who winds up with symptoms, and who winds up in the hospital, and who winds up dying?

**Chris:** But that's not what they did, they started in the hospital. And so in the hospital, there were six times as many people hospitalized for COVID-like illness. And these people are not there, because... This isn't a sample of people who filled out a questionnaire and they lost their sense of taste. This is people who are hospitalized for respiratory failure, for pneumonia, for dyspnea, which is trouble breathing, for vomiting, or diarrhea or fever. Every single person in the hospital was hospitalized for that. And there were six times as many people who were vaccinated. So then in the comparison 94.4% of everyone tested negative for COVID.

**Chris:** So the first noticeable thing here is among hospitalized people with respiratory failure, and these other symptoms, either this test is worthless, or the test works well and is showing that COVID is irrelevant to almost all cases of respiratory failure, trouble breathing, and hospitalization for those other symptoms. I mean, which is it? I mean, so that's the first thing.

**Chris:** And then the second thing is, like I said, they didn't draw from the representative sample of people who've been vaccinated and people who had been infected. And so we can't say like, this is the rate at which people wind up in the hospital from those populations. But it's concerning that there were six times more people hospitalized for those symptoms who were vaccinated, then who are naturally infected. So put a flag in that.

**Chris:** What they then show is that among the dramatic minority who tested positive for COVID, it was about 5% of... Yeah, it was about 5% in the vaccinated group, I'm rounding up or down a percentage point and about 8% in the naturally infected group. And so the relative risks of testing positive was 70% higher for the naturally immune people than for the vaccinated people. But once they adjusted for confounding factors like age and geographical region, local virus circulation, calendar time, and other stuff like that then we get the headline that was plastered in the New York Times and everywhere else, which is the natural immune people are 5.5 times more likely to test positive.

**Chris:** Okay, so neither of these findings, that there are six times more people hospitalized who are vaccinated for those symptoms, or 70% greater relative risk of testing positive among the minority who do and statistically adjusted 5.5 fold, none of those are drawn from their respective samples in the population. So we can't say that's the rate for either of them.

**Chris:** But if they're going to come out and use the adjusted odds ratio of testing positive among the small minority of people who tested positive, and use that relative difference, to just assume that the denominators would be proportional, and say, "Oh, it's 5.5 fold higher risk." Then why can't I do the exact same thing and say that you're six times more likely to wind up in the hospital with those symptoms if you got vaccinated?

**Chris:** The study's not designed to make those statements. But if you make the statement for one, you should make it for the other. If you treat those data the same, you are six times more likely to wind up in the hospital with respiratory failure, trouble breathing, fever, pneumonia, vomiting, and diarrhea if you've been vaccinated, than if you are naturally immune. Once you get there, your chances of testing positive are 5%. And so you're almost certainly not going to test positive. But if you were naturally immune instead of vaccinated, your chances are 8% instead of 5%. I mean, that's what you would conclude from that. And that's sort of the big part of that story is what the hell is causing six times more people to wind up in the hospital who had been vaccinated with those symptoms? That's the big story from it.

**Robb:** Yeah, yeah. And it's interesting there's a... I still don't know who this person is, he goes buy the Gato Malo @boriquagato, some guy of Puerto Rican descent who clearly has an inside look both at this pharma story. Has a very strong data analysis background. And he made a very interesting case around why are there so many people that are just ending up hospitalized sick currently. And they're not flagging, specifically with SARS-COV2 virus. And it's interesting. There's some really interesting stuff there.

**Robb:** And something I've been tinkering with is kind of a retrospective look at how is a standard influenza season kind of tracked and monitored? And what are the processes that go in into making sense of that? Total number of cases, cases for ethnicity, and all these different things. But basically what is the mechanistic process for really making sense of a standard influenza season, and I've been trying to kind of break that out, and then do a bit of a compare and contrast to the current COVID season. We'll just start.

**Robb:** And there's all these pieces that are missing, there are... And I'm not remotely close to being done with it. But there are some fascinating spots where within an influenza story, if you're like, "Well, Chris, what is the relative risk for this age group and this demographic." And with influenza you can auger in and get it and it's pretty, pretty damn clear. It's not difficult to find. And then within this COVID story, it's really difficult to find quality information.

**Robb:** It is really... And this was another thing that early on, I started saying, "Well, why are we not tracking this? Why are we not doing that?" Like the cycle threshold topics and whatnot with testing. It's like, there's no standardization on this. And Kary Mullis said that you shouldn't really use PCR for diagnostic purposes any way other than then in some really specific circumstances. So I'm not sure what my point is. It's kind of crazyville. It is really interesting to see a compare and contrast between, say, like a standard influenza season, and the way that the data is handled in that situation, when additional studies are warranted to try to get more granular.

**Robb:** And I swear, the more studies that are done on this COVID topic, we don't seem to get more granular, it just seems to get more confusing. It seems purposely obfuscated to generate a huge amount of data. There's a bunch of information floating around out there, but it's stuff that you can't really draw any conclusions with. It's great for spinning up a headline. It's great for devoting what little time we have left on this planet to try and stay on top of nearly infinite amounts of data to try to make sense of it, to provide some value to people.

**Robb:** But yeah, it's tough and it's been interesting also, again that the best data that we've seen, has largely been coming from outside of the United States. To the degree that we have some data that we can sink our teeth into it's places like South Africa, Israel, the UK that either by accident or because they're still doing good work, it's actually like, "Okay, we can actually draw some conclusions on this stuff." So Well, thank you for that. That was again, one of the more popular questions that folks had, you might find just throw a few specific questions at you from some folks.

**Chris:** Yeah, go ahead.

**Robb:** Thoughts on... Oh yeah.

**Chris:** Just a real quick comment on that.

**Robb:** Yeah, yeah.

**Chris:** It's really interesting how... So I'm reading Edward Snowden, his book, permanent record. And last night, I was just reading a part where he was talking about how in the British Empire, the census was really a tool for taxation and military conscription. And the American Constitution basically flipped it on its head and made it more of a tool for democracy. And so as you're saying that, I'm just thinking about how it's interesting, because I think in a lot of cases, we have better data in some places, because they are a little bit more advanced with the surveillance state and the centralization of data. But yet, I don't see any of this data obfuscation being used to preserve anyone's freedom in America. So that's my only comment on that.

**Robb:** That's funny. That's a fascinating point. And yeah, fuck, I wasn't even sure if I was going to get into like the vaccine passports.

**Chris:** We don't have to. I just thought it was very interesting how you would in a not upside down world, you would be a little bit more afraid of collecting the high quality data because you're afraid of the surveillance state having that thing. Whereas we know that the American surveillance state is all permeating, and perfect. And yet, we have all this refusal to synthesize the data in a way that is actually high quality and good for conclusions. And yet, all that's doing is obscuring the path to protecting anyone's freedom. I mean, so it's upside down, world.

**Robb:** No that's a fascinating insight for sure. I'll noodle on that. And I won't drag us into the mandates and green passes and all that stuff.

**Chris:** No we can go straight to your question list.

**Robb:** Yeah, yeah. Fuck, I'm thinking like 50 things. Okay, let's see here. This is from Serena, "Thoughts on vaccination for a teen male with asthma, not following a healthy lifestyle, and flares with significant coughing normally, with typical colds. Not necessarily asking if he should or shouldn't get vaccinated. Just wondering about your insights on the options in addition to lifestyle changes. Thank you." So I think a little bit of... Not that healthy of a kid. Risks of vaccination, versus naturally acquired immunity, but it sounds like he already has some challenges just with standard cold and flu season.

**Chris:** Yeah. So, keeping in mind, I'm not a medical doctor, and this isn't medical advice, my thoughts that come to mind are, first of all, I view asthma as a deficiency of nitroso glutathione. And nitroso glutathione, is the endogenous bronchodilator in the lungs. If you're inhaling albuterol, it's because you don't have enough nitroso glutathione in your lungs. If you wind up in the ER with an asthma attack, that's bad enough to wind up in the ER studies suggest that your nitroso glutathione levels have dropped to zero.

**Chris:** And so I think that asthma generally should be done in mind with trying to improve nitric oxide delivery to the lungs and glutathione delivery to the lungs, which are the two components that make up nitroso glutathione and keep the airways dilated. And I would note that the study on L-arginine use people who have established, it's not early treatment, people have established COVID-19 pneumonia verified on CT scan, with two indices of severe respiratory distress and established lymphopenia which is a major marker of the risk of death.

**Chris:** 1.6 grams of L-arginine twice a day was shown to seven fold increase the likelihood of improving their respiratory function by day 10. By day 10 after taking the arginine. And so far no one in the arginine group has died and three people in the placebo group have died although we're going to have... For statistics, we're going to have to wait till the final data come out. But I think that underscores two things. That COVID is... And I mean, we know asthma is a risk factor for severe COVID cases.

**Chris:** But clearly what's interacting there is has a lot of parallels to asthma. And so from a COVID risk perspective, I think you do have to keep in mind that the asthma increases the risk of COVID, of having a severe outcome if he gets COVID. But at the same time, the things that have been shown to work for COVID respiratory distress, are probably the same things that would work for asthma for nutritional support.

**Chris:** And I would not be surprised if that study got even better results if they combine the L-arginine with something that focused on glutathione. Because I think that opening the airways with nitroso glutathione is probably one of the main protective benefits there. And so, I can't make the decision... I will not and cannot make the decision for anyone whether to get vaccinated.

**Chris:** But I mean, you do have to consider the risk of a severe COVID case, and that is one. However I don't know if the data is there. And I don't know how good the data is on what the risk of the vaccination is with asthma. And I do have some concerns that the overlap between the vaccination and the COVID cases in terms of symptoms and consequences is very suggestive that the spike protein winding up circulating is what's causing them.

**Chris:** And you do have to consider that a child is compared to an adult or to someone who's older, is likely to have extremely good mucosal immunity, which will lock the virus in the respiratory mucosa. And make sure that the spike protein never gets in the blood, whereas you do guarantee that the child gets the spike protein in the blood through vaccination. And so those are the thoughts that come to mind. But I think in terms of... The things that I have confidence are, is that if you try to boost nitric oxide and glutathione functioning in the lungs, you're probably likely to protect against all three options. Having asthma now, and getting side effects in either case.

**Robb:** Okay, and that I think, just filled in a gap that I've had. There's been this observation or suggestion, that part of the reason why younger folks, kids in particular, are navigating this so well, is it the virus in particular is handled via innate immune response versus adaptive immune response.

**Robb:** But then what you're suggesting there is that when we default to... It's been fairly clear, at least in my mind that... And again, there's risk profiles, people need to make their individual assessment and whatnot, but it seems like we're offloading some of the risks that usually attributable to or relegated for older folks, when they're facing the virus. We kind of seem to shift some of that into younger folks when they take the vaccine. And that is likely due to the fact that they are dealing with that via an adaptive immune response. And so they're being exposed to that spike protein and all the downstream consequences.

**Chris:** Yeah, one of the FDA voting members on the panel to five to 11 year olds, expressed that he was very uncomfortable with the fact that we seem to be vaccinating the children to protect the adults, when we should be vaccinating the adults to protect the children. And I don't remember his name, but I did capture a video of him in something I put on YouTube.

**Chris:** But yeah, I do. I've been thinking about this. And I'm not an immunologist. And so this is something where I'm... It's in my sphere of competence, but not my sphere of proficiency or core expertise. But I'm starting to synthesize that the risk reward relationship being so different between old people and young people, is largely a result of the younger people having stronger immunity in general. And maybe the stronger innate immunity specifically plays a role in that. But I also think just stronger mucosal immunity. And general and mucosal immunity is not just innate. There are also adaptive responses that are locally induced, that are not systemic, that are locally reduced induced in isolated mucosal immune compartments that make Secretory IgA antibodies that are much better than any other type of antibody at mopping up anything without initiating an inflammatory response.

**Chris:** Whereas an intramuscular vaccine, is focused very specifically on a systemic IgG response, which does induce an inflammatory response unlike IgA. And you do get transferred For those IgA antibodies into the mucosa, but at a much lower rate than you would get if you locally stimulated the IgA. And the IgA are just seven to 15 times better than other antibodies at binding things up in the first place, but they also don't elicit an inflammatory response, unlike the IgG do.

**Chris:** And so, my picture of this is that if a child got exposure to COVID, and stimulated and even better mucosal response, the spike protein probably never gets in their blood. But then every time they get additional exposure, they boost that response, and they lessen and lessen and lessen the chances that the spike per team will ever get in their blood. They might have such, and I'm just speculating, but by the time they're 30 years old, they might have such strong mucosal immunity, that they're like bulletproof to COVID

ever getting systemic. Whereas because they have a higher immunity response in general. And because that's not so much a problem if the mucosal IgA is mopping things up and preventing them from leaking systemically to light on fire, they're really good systemic immunity, then the mucosal exposure isn't so bad.

**Chris:** But when you're injecting them intramuscularly, you're guaranteeing that dose gets in. And probably if they're just adjusting... I'm not sure exactly what the dosing adjustments were for the teenagers. But if it's the same dose, or if it's just adjusted for body weight, it's probably not adjusted for the strength of the immune response. And so that kid is... They're bypassing their very good mucosal antibodies that would have prevented the spike protein from getting in the blood, they're guaranteeing the spike protein gets in their blood. And then they're overdosing and generating this on fire systemic response that is just too inflammatory.

**Chris:** And so the risk reward is very skewed towards the negative side compared to older people. So with older people, their mucosal immunity is not that great, if they get COVID, it's probably going to make its way... Not probably, but maybe, if they wind up with a severe case, there's some 30% or 40% chance that it got into their blood, and it's circulating systemically. And because their immune response at that point is still not that great compared to a kid's, then it's better if they're primed beforehand with something that taught them to be a little bit stronger.

**Chris:** So old person has a weak response, a high probability of getting systemic, so they might as well just guarantee it gets systemic. I'm not saying they might as well guarantee but I'm saying relative to the kids the risk reward. It makes more sense for them to want to get it systemically to prime them so that it's a little bit stronger when they do get the virus so they can actually mount an effective response. Whereas the child's problem is mainly that if it does get systemic, their response is too great. And so they're much better off just getting the mucosal exposure.

**Chris:** And then it's not just that it's stronger, but these kids, especially pre-locked down life, were always sticking their hands in everything and sticking in their noses. And so there was one study that showed that if you got a cold in the week, before you got COVID that your nose just completely destroyed COVID within 24 hours, and you basically we're invincible to getting sick.

**Chris:** And so these kids who are just sticking their fingers in everything, including their mouth, and nose, and eyes and ears although that's not a great habit, they're still getting constantly primed by everything in a way that was once the COVID is on the finger. Well, they already got like seven other viruses in the week before. And so the immune system is just constantly on fight and it's just not going to escape through. So anyway, that was long winded, but I think that's where my view is converging on kids versus adults and why the risk reward is so different.

**Robb:** No, that's amazing. I mean, I think at a macro level we've had a pretty clear sense of that, from the very beginning. And I think that this is another one of the really truly frustrating pieces to this whole story is that we're going to use a ham handed one size fits all approach to one of the most complex information processing stories that exists in the universe, which is the human immune system. One size fits everybody and doesn't matter the age doesn't matter demographic. No discussion of these trade offs about just the general circulating cold is a variety of Coronavirus.

**Robb:** And it was postulated very early on that likely conferred some degree of non-trivial immunity. And so, let's have a discussion around the risk reward of pulling kids out of

schools and at a minimum, like even in the 1918 flu pandemic, which is different, but lots of parallels they operated classrooms outside wherever and whenever possible. And there seems to be a lot of wisdom there. I had some questions around original antigenic sin and a couple other things, but I'll ping those to you offline because I too am not an immunologist.

**Robb:** And so every once in a while, I think I have a smart idea. I spent about four hours the other day, like I thought that I was really on to something with like, original antigenic sin and some of the antibody dependent enhancements, and parasitic infections and maybe a little bit of an evolutionary thing. And eventually, I realized I just didn't know what the fuck I was talking about. Spun myself into a whole variety of circles.

**Robb:** So let's see here. Somebody asked a great question. Who does Chris Masterjohn follow? Who do you look at for some guidance, particularly, I would say in this COVID era? Or are you mainly going to the research and doing the first pass on your own? Or is there anybody that you're really impressed with, like their handling of the data. Their handling of kind of the hypothesis generation and all that stuff?

**Chris:** This is something that I struggled with I was saying to you earlier that I feel like one of the negative, positive... Negative in effect positive feedback loops for me has been, the more siloed I got, the more I feel like that's where my success is. And so I've tended not just to feel so completely set on reading primary research that I really don't wind up following anyone.

**Chris:** But I am trying to improve that a little bit. But I would say, on the nutrition front, I don't really follow anyone. I mean, I've looked at the I-MASK protocol and like some of the other things as they come my way. I've looked at some other protocols, the Niatonen protocol and stuff when people have asked me to. Because that is my core expertise I'm just 100% into the primary research on that.

**Chris:** I have a COVID guide. And the last thing I did was just read every single randomized controlled trial, there was 41 by the time, I wrote the seventh edition of the guide in September. And so that was just... I'm just completely siloed in the primary research. Right now, I've actually dropped all my nutrition work to work on the vaccine stuff, because... And I made that decision when I started seeing everyone get fired around me. And I'm realizing that the science does come up in the court hearings. I've listened in, I've done some audio calls on court hearings, I've jumped on Zoom calls with lawyers and healthcare workers and teachers getting fired.

**Chris:** And I'm in touch with some lawyers. And so I feel like my analytical skills are best served by producing high quality rigorous analysis that can make its way into the peer reviewed literature. And I'm actually cooperating with an immunologist on that. And actually, I don't know if you want to do any more interviews, but if you do want to talk about your original sin thing, you should probably talk about it with her, she might be into it. But we can talk about that later.

**Chris:** But anyway, on the vaccine stuff. I mean, the thing is where I follow people is on Twitter, and I don't read my Twitter feed. Because I do read my Twitter feed sometimes, but it's not very frequent. And so what I actually did was I started pulling all these people onto a private list where once a week when I feel like I have time I can go in and read that list. But on Twitter, I follow Robert Malone, I follow Sean Crotty, I follow Eric Topol, I follow Martin Kulldorff. There's a couple other people. I mean, generally all those people in like the Kulldorff, Malone circle, I think.

**Chris:** Oh, Marty Makary and... But that includes some of the... And there's this guy Francis or Francisco someone who calls himself a COVID centrist. So I got Topol and Crotty on the sort of pro-vaccine side, I got Malone and Makary on the rationality side, and I got that... It's a French name. I don't know how to pronounce it, but he's the centrist. So I got those people but that's still not what I'm primarily looking at.

**Chris:** Right now I'm writing a review... Or I just produced a review on the natural immunity studies. And what I did was I did a complete search of everything conceivable search term I could on PubMed, BioRxiv, MedRxiv and SSRN. Those last three are the preprint sites, and I went through hundreds of titles that may have been relevant, but only nine of them turned out to be. And I reviewed the nine studies.

**Chris:** And so I did that before I read anyone else. So just have a surface level, I follow those people just to kind of see what's going on and whether I might be missing anything. But I'm generally immersed in the primary research. And right now, I'm working on the primary research on whether the vaccines reduce transmission, and we're hoping to... The immunologist and I are hoping to submit something for a peer review, know that it might take forever or never get published, but release it as a preprint. And then blog about the simplified version.

**Robb:** Gotcha. Gotcha. And, Chris, I know that we have a hard stop here. So I wanted to dig into a little bit of the material that you have generated for folks that within the Healthy Rebellion people have used that extensively.

**Chris:** We can... I got 15 more minutes, so I can...

**Robb:** Okay, okay.

**Chris:** Yeah, we can do 15.

**Robb:** Let's tackle that first, just so that we make sure that we get that. For a long time, you've had these comprehensive guides on just general nutritional status, sound supplementation for different protocols, and then you've really kind of gone crazy on the COVID front consolidating... I just couldn't even believe the extensive nature, the breadth and the depth, and also the easy utility of the material that you've put around this.

**Robb:** Because let's face it this ongoing battle around mandates and lockdowns. We're going to be battling that thing. But then more to the point like, we've been having some internal discussion within the Healthy Rebellion about how do we move forward, what's kind of the process. And folks are like, "Well people are still getting sick, people are still dying, and we're still going to deal with long COVID." Like full stop like that's a guaranteed thing. So what do we do around dealing with improving general health status, and then also, this other piece of either preventing or trying to mitigate some of these long term effects. I had COVID in November, December of last year, navigated it pretty well, but coffee now tastes like crap to me, and chocolate isn't much better. So good or bad, I don't know.

**Chris:** When I had COVID the first time one of the two taste things that happened to me was that coffee and Gasteiner mineral water, which I usually crave tasted utterly disgusting to me.

**Robb:** Yeah.



**Chris:** And the only thing that I could tolerate was sugar sweetened smoothies. Because my sweet taste was so dimmed. It was basically anything that I loved, that had any sense of bitter was disgusting. Because I had just totally squashed the sweet taste buds. And so it had to be mega sweet to taste normal to me. But in both times I've had COVID, the taste function has been very isolated to the illness period, and it hasn't lasted.

**Chris:** So yeah, I mean, I guess just so I have the COVID guides in version seven, at a high level view, basically, what's going on here is... And so in the guide, I broke things down into three categories based on the strength and trustworthiness of the evidence. And so I have the essentials, the best add ons, and the things might help just based on how confident I am. And for prevention, I've always been a fan of keeping 25(OH)D in the 30s or so. And I've never really been into the... As an umbrella suggestion, never really been into pushing up into the 50s.

**Chris:** But the data is really clear that you want to be circa 55 nanograms per milliliter, give or take five nanograms per milliliter. So 50 to 60 range. A lot of people are going to need 5000 IU to get there, but it varies. So you got to do the testing. And that will cut your risk of infection in half, although it doesn't get rid of your risk of infection. It's just that's where you can maximize that effect. And nutritionally speaking, that's the only thing that has real good data from a preventative perspective.

**Chris:** Then, if and when you get... And then for exposures I think I've really, really... As I've gotten a little bit more skeptical of the COVID situation, and as I've gotten COVID twice, my conscientiousness about exposure has gone up and down and now I've settled on a happy medium where when I am in the midst of packed crowds I'll do an exposure protocol before and especially after. I'll do a life extension enhanced zinc acetate lozenge, which is in the best add on category. And I'll do a povidone iodine rinse with 0.5% or 1%. I use 0.5%. Although most of the studies that have come out since I started using 0.5% have used 1%. And I just rent it through my nose, although if you wanted to be real strict about it, or real comprehensive about it, you also do mouth rinse, gargle and put a couple drops in the eyes, which I've never tried.

**Chris:** What I keep in my backpack now is betadine, naspal spray cold defense, which is Iota-carrageenan, which has a good study behind it. And that's just a squirt the nose, it's much easier to carry around in your pocket or in your backpack and just do a squirt in the nose instead of a povidone iodine rinse. But what you consider exposure, I think you have to take in your own risk tolerance. So if you think you're going to die, if you get COVID no matter what, then you should probably be erring on the side of talking to any person or being anywhere near anybody else as an exposure.

**Chris:** But if you think that your risk is minimal, and the caseload around you is minimal, and you're probably not going to get COVID. And if you do, you're almost certainly going to be fine with it, then you should probably have a very narrow view of what is a potential exposure. And so for me, it's like just being in the midst of packed crowds, is the only thing I treat like that. But for someone else that might be going to the grocery store.

**Chris:** And then if and when you get sick the things that are... The things that have what I consider good data are behind it are you want to do a loading dose of vitamin D of 100,000 IU once or twice. So on day one, and maybe day two, if you've kept your levels high, you can probably just do it on day one. If you haven't, you should definitely do it on day one and day two, and that's on developing potential symptoms. You don't want to wait till it's... You confirm COVID on day seven, then you wound up in the hospital on day eight or something like that, or the reverse of that.

**Chris:** And I've always been a big fan of balancing D with... Oh I should say then drop down to a maintenance dose of 10,000 IU until the symptoms are gone. Although when I had COVID the second time I was using 20,000 IU because I thought it worked better, but I didn't do a loading dose. I do recommend balancing that with a ratio of 0.5% or 1% so the same or half as much vitamin A, and 200 micrograms of K2 and 20 IU of vitamin E, although that's driven mostly from my other research.

**Chris:** And then doing the povidone iodine rinsing that we just talked about four times a day. There was a Bengali study in an obscure journal but nevertheless had 1,200 people treated by telling telemedicine that found that just doing that decreased the death rate by 88%. So that's incredible. I think black seed oil at 500 milligrams twice a day has some good support and melatonin 9 or 10 milligrams before bed has some good support.

**Chris:** And then there's a few... Lots of other things that people talk about. So quercetin, specifically quercetin, phytosome or mixed one to one with lecithin if you don't use the phytosome patented version. It doesn't have good prevention data behind it, but it has some decent treatment data, but it's all from one place. And I'm not totally convinced on it yet, but I know a lot of people have been super bullish on quercetin the whole time, but that made it into my best add ons. B propolis and a specific probiotic made it into the best add ons. Enough omega-3 fatty acids to give a gram of EPA and DHA a day and using the zinc lozenges I was just talking about also made it in there. And then there's some these might help stuff that's just drawn from they'll probably help. But that's the gist of it.

**Robb:** And the zinc is the same one that you recommend when you're battling the cold.

**Chris:** It's for the colds, yeah it's for the colds, yeah.

**Robb:** Awesome. Awesome. I have a million other questions but I knew that was going to be kind of the way that this thing was going to play out. Chris let people know where they can track down the guide and your other work. Nikki and I are going to do an intro for this thing separately so we'll get all of that stuff double stamped within all this. But let folks know where they can track all this material down.

**Chris:** Yeah, so I'm at [ChrisMasterjohnphd.com](http://ChrisMasterjohnphd.com). If you want to get the COVID guide or anything else you can. I'm sure you'll put links in the description for that but I also have it on my website or [ChrisMasterjohnphd.com/COVIDguide](http://ChrisMasterjohnphd.com/COVIDguide) and then you know I'm at Chris Masterjohn on all social media. For now my risk of deep platforming on Instagram is imminent, but I have plans for that. And so joining my occasional newsletter [Chris MasterjohnPhD.com/newsletter](http://ChrisMasterjohnPhD.com/newsletter) is a smart choice to make sure that the cabal doesn't get between you and me.

**Robb:** Cool.

**Chris:** And so I'm but mainly I'm on Instagram, Facebook, Twitter, YouTube and Telegram right now.

**Robb:** Awesome. Awesome. We'll get all that stuff in there. Any plans on coming out to visit me in Montana? Are you still doing jujitsu.

**Chris:** I'd love to.

**Robb:** Okay.

**Chris:** Well, I actually I got a reply to my former trainer that if he's cool with me not taking the juice, maybe he can come do home lessons or something. Because I could set up some mats. But I'm actually banned from all gyms in New York City.

**Robb:** Well, we're wide open here. So if you want to come hang out with us, do some skiing, snowboarding and get in some jujitsu, I will host you, so wide open door.

**Chris:** Cool, cool.

**Robb:** Awesome. Chris, anything else to wrap things up? Again, like I don't want to overly polish the brass here in front of everybody. But it just so impressed and so grateful for the work that you're doing.

**Chris:** I really appreciate all the thank yous it means a lot to me.

**Robb:** Well, sometimes I think when you're facing that front end of the blast, because I see some of the shit that gets thrown your way when you're making, "Hey, here's how I see this." And, of course, folks don't say, "Well, Chris, I think you're misinterpreting this data." It's just you want to kill old people and... Because that's what you've devoted your life to is killing old people.

**Chris:** Right, that's what I've always been about.

**Robb:** Yeah, totally, totally. And I just think that there's this really hardwired evolutionary tendency. It's much more dangerous evolutionarily to be unaware of somebody who is unhappy with us than to ignore the many people who may be okay with this. That's a potentially life ending deal. So it takes a very low signal of have people hating on you to really get one's attention. So I just can't say enough thank yous, and attaboys and high fives and all the rest of that. The people in the Rebellion, absolutely love you and are ecstatic with the work that you're doing, are rabid followers. So yeah.

**Chris:** Thank you. Appreciate it. Appreciate you having me on everything you're doing too.

**Robb:** Cool. Yeah, I came out of retirement. I said, I wasn't doing interviews anymore. But you were like, "What to do an interview?" I'm like, "For you I will do it." So yeah, yeah. Awesome, Chris. Well we will do.. Oh yeah.

**Chris:** I think these things bridge right together, because I think it was, what did... I think it was Justin Trudeau came out and said, "Well, we learned from COVID. Now we're going to apply that to climate change." So think I ESG which is, I guess a little bit more in what you've been focused on is COVID 2.0.

**Robb:** Yeah, yeah, the sacred cow poster over there is kind of my current snowball into hell trying to address any of that. But that's one of the fascinating things. And maybe we will circle back and we'll just do kind of like a big picture wrap session. Because when you start trying to draw parallels between COVID, food supplies, food security international food policy and whatnot, it starts sounding very conspiracy theory very quickly, it's very easy to kind of draw that parallel.

**Robb:** It's like, well, you're a biochemist, what do you have to say about regenerative agriculture and whatnot. But these things are really tightly woven together and they've been wedded together as a cudgel or a tool to some end. I have some speculation around what that end is, but the fact that a host of social justice issues, health issues, and then kind of global policy as it relates to climate change, they are absolutely

wedded together, and they're used interchangeably. kind of like a combination lock that is always changing when you start trying to engage it. It's like, "Oh, no social justice topic. No, COVID topic. Oh, no, no, no, now we're a climate change topic." So it's interesting trying to get out ahead of that, but there are good folks fighting the good fight. So yeah, thank you. Awesome, Chris, we will talk to you soon.

**Chris:** Awesome, Rob. Appreciate it.

**Nicki:** All right. That was a great little chat that y'all had.

**Robb:** Could have been three hours pretty easily. But Chris had a tight timeline today because he had a protest to go organize.

**Nicki:** All right, well maybe we can have him on again in the future.

**Robb:** I threw that out because I would like to just talk some big picture stuff like near the end, he actually alluded to some of the work I've been doing like sacred cow and the sustainability front. And just it's not a woe is me, like the end of the last episode that we did prior to this, it was kind of like, I don't know if anything we're doing matters.

**Robb:** And thank you to the folks who said it doesn't matter. We got emails, we got a lot of comments within the rebellion and just folks reaching out and said, "Hey, it really does matter." When you work from home that feedback loop is kind of oblique. But it's interesting that literally nothing we do. Not nothing but so little that we do is like mainstream. We're homeschooling, which has become way more fucking mainstream than it was.

**Nicki:** Twice as many, it's doubled in size.

**Robb:** So we're homeschooling, we eat in a somewhat non-traditional way, we have these views of animals that we should treat them better, they should be respected, our food system should be improved. But not of the opinion that they are going to cause an Armageddon feed forward mechanism in the climate change story, and that there are probably other places we should be looking to mitigate those things.

**Robb:** And then on this whole COVID topic writ large, we're in this kind of crazy spot where it's like there is risk, but there is risk with any decision, there is risk with indecision. And that is part of the story and that this is the stuff that we need to hash out. And God damn, it would be an easier world, if I could just pick one side of the world or the other and just camp out there. And it's all either gloom or doom or just listen to follow the science, whatever that means. Our lives to be easier in many regards, but I think much less rewarding and whoever you are that's listening to us, you probably wouldn't be listening to us. So I guess thank you on that. And it's interesting. Like it's just interesting trying to look back at oneself while doing all of this and have some perspective about the whole thing.

**Nicki:** All right, y'all, thank you for listening in. Remember to check out our show's sponsor LMNT for all of your electrolyte needs. You can grab your LMNT at [drinkLMNT.com/robb](https://drinkLMNT.com/robb). Again, that's drink [LMNT.com/R-O-B-B](https://LMNT.com/R-O-B-B). And we will see you next week. Have a great time now.

**Robb:** Take care everybody.