

LuAnn Heinen ([00:03](#)):

If we're at war with COVID-19 at a personal and societal level, what's our best defense? Without a vaccine or herd immunity, how can we as individuals improve our odds that the virus leaves us and our loved ones unscathed? The answer may lie in how we nurture our minds and bodies, a topic studied extensively by Dr. Amit Sood. Born in Bhopal, India. Dr. Sood came to the U S in 1995 intending to become a cancer specialist. Instead, he grew fascinated with the human brain and its impact on our health and well-being. As he has said, the brain evolved for safety and survival, and now we want it to deliver peace and happiness. Today in the middle of a pandemic, more than ever, we need to overcome our brain's negativity bias and harness its strengths, our strength, to protect our health and well-being. I'm LuAnn Heinen. And this is the Business Group on Health Podcast, conversations with experts on the most relevant health and well-being issues facing employers today. In this episode of the Business Group on Health Podcast, I talked to Dr. Amit Sood about his evidence-based work on immune resilience and how each of us can improve our body's defense system. Welcome Amit, as always. It is so good to speak with you.

Dr. Amit Sood ([01:15](#)):

It's lovely to speak with you LuAnn and thank you for having me

LuAnn Heinen ([01:20](#)):

You recently coined the term immune resilience. Now that sounds like something we want and need right now. We don't have a vaccine. We don't have any treatment for COVID, but what exactly does immune resilience mean?

Dr. Amit Sood ([01:31](#)):

So a resilient immune system is one that does its job, with minimal collateral damage. So what do I mean by that? So there is three kinds of responses and immune system can have when it is facing an external threat. One is a weak response. This is an immune system that is not able to eliminate the threat. And when that happens, the virus or the bacteria just multiplies and overwhelms the system, the second kind of immune response is a very strong immune response, stronger than needed. And that often can eliminate the threat potentially, but can create a lot of inflammation and damage to the body cells. We don't want either of the two. And unfortunately, with COVID-19 what's happening is we have combination of a weak immune system with a very inflammatory immune system. What we really want is a resilient immune system. A resilient immune system eliminates the virus without causing much damage to the whole cells or too much inflammation. And so that's the kind of immune system we want.

LuAnn Heinen ([02:39](#)):

So are you saying that we as individuals can do something to calibrate our own immune response?

Dr. Amit Sood ([02:45](#)):

Absolutely. And that is the most exciting part. This is all actionable. We can take charge. There's simple things you can do such as you can just choose to allow yourself to laugh twice a day, to upregulate your immune system. Basically, the idea is you want to tell the immune system that look, I want to spend more time on this planet. Can you please invest your resources to protect me and take care of me? So when your immune system senses that you're giving up, you're not taking care of yourself, your immune system also gives up,

LuAnn Heinen ([03:20](#)):

You know, you're saying it can be almost underactive or overactive. I mean, the inflammatory responses, like an excessive response, or there's just not enough defense. So is this kind of like a sweet spot in the middle? Or is this a just different you're building up your immune power, your white cells or whatever, to fight infection.

Dr. Amit Sood ([03:39](#)):

Yeah. So, so that is why that's a good thought. That is where we do not have the term, you know, just Jack up your immune system or make your immune system stronger. And that's why we call it a resilient immune system. It's the image I have is of a, of a lion when she picks up her Cub in her mouth. So she is very strong to any external threat, but she's very gentle to her Cub. So, so the immune system can, or another idea is the difference between a precision bomb and a carpet bomb. You know, precision bomb goes, gets the target, but doesn't damage the area. Well, carpet bomb just damages the whole place. So you want an immune system that is like precision ball. I mean, we don't want any bomb, but if you have to deploy the precision bomb that gets the target without causing damage to the body cells.

LuAnn Heinen ([04:36](#)):

Okay. So I know you're a former Mayo Clinic professor of medicine, a very credentialed physician. Can we go back to talking about how belly laughs are going to strengthen the immune system and the evidence for that?

Dr. Amit Sood ([04:49](#)):

Sure. A very interesting study was done and I would like to laugh while talking about it. A very interesting study it was done. And this is a slightly older study about 15 years ago when they had people sit and watch a funny video and their blood parameters were measured over next 12 hours. And one of the chemical measured was interferon, which is a very strong antiviral compound. And researchers found that, for up to 12 hours after a good belly laugh, the interferon level was significantly elevated. So when a virus enters your system, it faces this innate immune system that immediately puts up a fight and interferon is a significant part of it. Now, if your interferon levels are upregulated, then it is easier for you to eliminate that virus. You see, we all are going to face this virus at some point or the other, the key is, are we going to face this with a weak or an inflammatory immune system or relief? Will we face it with a resilient, strong immune system? So, so that's what that is, what this study showed that you can, upregulate your antiviral immune response to just laughing twice a day

LuAnn Heinen ([06:05](#)):

As you've got my attention. Are there other changes we can implement to improve our immune resilience?

Dr. Amit Sood ([06:11](#)):

Oh, absolutely. I think the core idea is the, if you consider your immune system as an intelligent organ, you know, the two most intelligent organs in the body are the brain and heart, very responsive to what you need. When you tell your immune system that I am going to take good care of myself, then your immune system responds. For example, micronutrients. Now immune system is one of the most metabolically active organ. It needs vitamins and minerals, which are micronutrients to generate all the cells in the body. And if you are depleted in micronutrients, you don't have the raw material to generate those cells and those cells metabolize and they die and become alive very, very quickly. You know, so

making sure your micronutrient replete is an important part. Having affiliative relationships is important. Being happy is important. Managing stress is very important. Sleeping enough is important when you are not sleeping enough, your body is inflamed. You know, sometimes you don't sleep well at night. You wake up, you're just achy it's because your body's inflamed. Exercising is important, but running marathons every other day is not a good idea because that will hurt your immune system. So there's a lot you can do to help your immune system do its job.

LuAnn Heinen ([07:36](#)):

Can you talk a little bit more about micronutrients and potential deficiency and how does that connect to the gut biome we hear so much about?

Dr. Amit Sood ([07:44](#)):

So, some micronutrients, which is vitamins and minerals, and mostly vitamin A, B2, B6, B12, folic acid, and vitamin C, D, and E, and also zinc copper, iron and selenium. These are the core micronutrients. They are cofactors in many of the enzymatic processes in the body. And each cell in the body has over a thousand enzymes. And so these micronutrients are needed to generate those body cells. And when you are deficient in those micronutrients, then the cells are depleted. You know, we obviously know an anemia where, you know, we are low on iron. We can have anemia your immune cells, when your micronutrients depleted, they do not develop well, they do not multiply well. So your immune system, you can get immune suppression, you have predisposed to inflammation and you do not respond well to the vaccine.

Dr. Amit Sood ([08:52](#)):

Your vaccination response is suboptimal- see, the last thing you would want is when the vaccine arrives and we are getting the vaccine, sleep deprived, a micronutrient depleted, you know, angry, frustrated, then our vaccine response is going to be lower and, you know, but good microbiome is a very strong immune organ. We do not exactly know how that interplays with the vaccination response. But overall I think, coming back to micronutrients, which is something that we can fix very quickly, I think correcting micronutrient deficiencies is key to having a healthy immune system.

LuAnn Heinen ([09:37](#)):

And do you recommend that through vitamins and supplements or dietary changes?

Dr. Amit Sood ([09:42](#)):

I would say both. So ideally we would like to start with a healthy diet. So nature has packed a lot of micronutrients in fruits and vegetables and, and anything that is nature made is likely to have more micronutrients, most things that are manmade with high shelf life, because what happens is even if we fortify them with micronutrients, they tend to lose potency over a period of time. That's one, two is the more calorie dense food we take, the higher micronutrient requirement because these micronutrients are needed for metabolism of the food. Three is anytime we have high levels of stress, chronic infection, any high metabolic state or micronutrient requirement goes up. So step one obviously is to have higher amount of higher proportion of fruits and vegetables, preferably fresh cut down on calorie-dense food, but for many people that may not be enough.

Dr. Amit Sood ([10:41](#)):

For example, if you do not absorb vitamin B12, well, if you're taking antacids and you know, stuff like that, then you are likely to need supplements. But when you're taking supplements important to remember that do not take high dose of micronutrients, do not take more than a hundred percent of recommended daily intake and preferably do not take it every day of the week. So I take a micronutrient supplement a couple of times a week to do it. It's a supplement. I'm not replacing it with, with my food or, you know, stuff like that. So, so a combination of healthy food and an occasional supplement is ideal.

LuAnn Heinen ([11:21](#)):

Now you've mentioned stress. Um, how do our emotions, stress or state of mind influence immunity,

Dr. Amit Sood ([11:28](#)):

Emotions have a lot, a significant role to play. So when you are feeling vulnerable, then the brain being the biggest endocrine organ, all that input through amygdala goes to your pituitary and your pituitary then sends downstream signal to your adrenals. And it says, adrenal glands, you know, there is crisis. My owner needs to survive. Let's focus all on the short term. So adrenals start pumping adrenaline and steroids, and they are both inflammatory and immune suppressive and they are in high levels in the blood. So basically our body shifts into survival, short term mode. And over a period of time, our genetic expression starts switching, so that our body, because of our immune system senses that we're going to make sure that our blood clots quickly, because I could be hurt by a predator given that I'm feeling threatened. And, by the way, all this threat is happening because someone is tailgating you, or because you didn't get the coffee that you really liked, or someone, you know, a telemarketer called and you were really busy, didn't want to talk to them, right? So this system was designed for major threats to shift our blood into clotting quickly, our immune system to separate it, get surprised, but now it is deployed for very minor emotional insults. And that is what gets us over a period of time, an occasional insult like that is okay. But if any event, when it continues over a period of time, then it leads to a lot of wear and tear and leads to immune suppression, inflammation, poor vaccination response, the three things that that hurt us.

LuAnn Heinen ([13:17](#)):

So can we just talk for a second about recommendations, how to mitigate that, especially in the time of COVID when people's baseline stress levels are probably higher than ever or anxiety levels.

Dr. Amit Sood ([13:30](#)):

Sure. There's just so many things we can do to help our stress. Step one always is to recognize that it is very natural for us to feel stressed during these times. The amount of demand resource imbalance, the amount of cognitive and emotional load that our brains are facing is unprecedented. We've never faced a threat like this, so it's okay to feel upset. It's okay to shout in a pillow once in a while. So with that recognition, the simplest things we can do are basically lifestyle issues like diet and exercise and sleep, sleeping enough, workout, healthy diet, they all help with stress. And then there are some life enhancing activities such as adding music or massage, or, some of the other personal hobbies, such as painting, pottery, sewing, you know, writing poetry and, and stuff like that.

Dr. Amit Sood ([14:32](#)):

So those are some simple things you can do. Beyond that then it is cultivating personal resilience. It is developing an attitude of gratitude. It is having self-compassion. It is bringing forgiveness to your mindset. It is cultivating practices, meditation, yoga, mindfulness, um, and, and these are all dependent

on you. Everything that we've talked so far beyond that then, our activities like connection, which is so important connection with others, but now you depend on others to help your stress, nurturing relationships, something, you know, I like to call '2:00 AM test'. How many people can you call it? 2:00 AM in the morning, knowing they will not be judgemental about you. And they'll say, you know, you say, "LuAnn, hi", you call me at 2:00 AM and say, "Amit, I want to talk to you". I said, "Oh, sure. Tell me, what is it? How can I help?" is sort of saying, hey, you're waking me up at 2:00 AM in the morning. You know, so how many people you have, you can call connect with those people. And finally coaching can also help. So that is the broad portfolio of things we can do to help or who are stressed. The one thing that I have I failed to mention was addressing the stressor itself. So if you have something that is, if you have a thorn in your finger, you know, you don't have to worry about why did nature create thorns? You just take the thorn out. So if there is something actionable, of course you address that.

LuAnn Heinen ([16:02](#)):

I love the 2:00 AM role. And I think that if you are feeling lonely and socially isolated, it's a great thing to remember. You've got a few people you could call it 2:00 AM if you need to.

Dr. Amit Sood ([16:11](#)):

Absolutely. And I actually, one of the practices I often suggest is to make a list of those 2:00 AM people and make sure you remain connected with them. You know, at least once a day or once every other, they connect with at least one person who fulfills that, who qualifies with that role. And if you don't have many, then, you know, if you are in people's 2:00 AM role, then you will find you will nurture those people in your life. Couple of ideas I did not mention one was, what I like to call, schedule worry time, because this is a time when you have a lot of relationships you have, you're perhaps a spouse. You are a parent, you are a child, you're a grandchild, or you're a grandparent, your colleague's sibling friend. And, and so it's natural for you to worry about these people.

Dr. Amit Sood ([17:04](#)):

So telling you not to worry, it's like asking fish to start breathing in air. It's just not possible. So accept that you will worry. And so what I, what I suggest is to schedule your worries from, let's say 10:00 to 10:15 in the morning. So I'm going to just worry about everything that is not fixable. It's important, but not fixable right away from in the morning. And when I'm done, it's the same way it comes at 5:00 PM. I'll say I have another appointment with me tomorrow morning, from 10:00 to 10:15. What it does is it frees up rest of your day. And from what I have learned about the brain through my research, if we let worry crowd our mind, it basically runs that program all day long, contaminating, every other thought and activity. So I want to assign it a certain time and just be done with it for the rest of the day.

LuAnn Heinen ([18:02](#)):

Well, I want to be sure that if I do that at 10:00 AM, it's not coming back at 10:00 PM when I'm trying to go to sleep, how do people manage sleep during this time? Any suggestions for that? And does this strategy help?

Dr. Amit Sood ([18:13](#)):

Yeah, it says there is no foolproof perfect strategy. We are humans, right? Our brain is imperfect, but you know, what I like to do is to keep a diary at 10:00 PM. And if the same part comes out, write it in a diary. Actually, interesting research shows that when you, when you have a completed task, it doesn't occupy as much headspace, but when you have a task that for which you have made a plan, it also starts

leaving your headspace and empties your headspace. So I would just write that down for my scheduled worry time in the morning, and certainly have somebody, you know, have somebody that you can chat with someone who is very, who's not judgmental about you about your work. Sometimes, it's good to convert a worry energy into action. Is it something that is actionable here that I can fix controlling?

Dr. Amit Sood ([19:05](#)):

The controllable is very, very important with respect to sleep. You know, the traditional sleep hygiene measures are important. Converting your bedroom into a Zen, peaceful place is important. Making sure you go to sleep with a lot of oxytocin in your system and not a lot of adrenaline. So avoiding coffee at the end of the day, avoiding too much exercise or heavy meal prior to eating and maybe watching an old family video, watching something that makes you feel comfortable, secure, because realistically, you're going to close your eyes and you'll disengage from the world for seven, eight hours or fully. So you want to feel safe when you are sleeping. And you feel safe when you have a lot of oxytocin in your system.

LuAnn Heinen ([19:53](#)):

So for something like sleep, we all are pretty good judges of how we did, and we're doing our best, getting a good night's sleep. What about for some of the other areas that boost our immune system? How can we know if it's working, if we're increasing our resilience?

Dr. Amit Sood ([20:08](#)):

So you develop, so brain and heart and immune system, those are the three most important organs in the body. You, the way, you know, this is working for you is, you have a sense of ease with which you flow through the day. You will look forward to life. You connect with people, you find yourself humming in the shower, you remain focused. You're not as tired at three o'clock in the afternoon. You don't start, you don't see people as problems. You just have more energy. You're not completely wiped out by 6:00 PM in the evening. So having that sense of energy, that, that hope, that can-do attitude. Those are some indirect clues that your strategy to help your immune system and your emotions is working. From a physical level, you have less aches and pains.

Dr. Amit Sood ([21:09](#)):

Your appetite is healthy, you drink plenty of water and, you just generally feel good. I think if I asked you that question, and this is such an important question in general, how would you rate your health overall? And on a scale of one to 10, and if you said my health is one being not very good and 10 being excellent. So let's say, if you say, if you say four, versus you say nine now for the same level of risk factors, if you felt that your health was nine, excellent, your survival is much higher compared to you if you felt your health was at four. So perception is very important, how you perceive you are. And a simple way you can perceive yourself to be better is by doing something, anything, something very, very small. The moment you start taking care of yourself, let's say you decide to correct your micronutrient deficiency, or you're decided to forgive somebody, even if, just for the sake of the immune system, you will start feeling better and your self perception will start improving. And that will start shifting your we'll put you in the upward spiral of life.

LuAnn Heinen ([22:31](#)):

That's, that's fantastic advice. And it does dovetail with research. I've read on, yeah. The power of the mind, what you think about yourself, whether how strong you are, how healthy you are, has a big impact on your reality.

Dr. Amit Sood ([22:45](#)):

Absolutely. It gives you hope and courage. Those are the two things it gives you. When you look at, when you choose to look at things in a positive light. Sometimes I look at the trees in my neighborhood and trees always bend towards the light. You know, if you block light from one direction, trees will bend towards wherever the light is coming from, but we don't tend to bend towards light. We focus on, okay, where is the darkness coming from? So learning from the trees, I think we bend towards the light. We focus on what is right, because what is right overwhelms what is less than right. Certainly we need to fix what is not right, but that positivity, pragmatic positivity changes our bodies milieu, it changes the way we perceive the future and it instills hope and courage, which are wonderful to engage with what is, and only when we engage with what is, can we change what it will be tomorrow?

LuAnn Heinen ([23:44](#)):

So reminds me a little bit Of the discussion about lifestyle, gene expression and immunity, all being connected. Could you, could you, could you comment on that?

Dr. Amit Sood ([23:55](#)):

Oh, you, you bring a fascinating topic. And I think I had alluded to this earlier that your immune system is an intelligent network in your body that is forever preparing for a future microbial threat. So for example, if you're living in a tribe of 150 people and you feel nurtured and loved and cared for, then your immune system says that my owner is not likely to face a predator threat. My owner is likely to face viral infections from other members and, you know, smallpox and measles and, you know, influenza. These are the most infectious agents. So let me prepare my user, my owner for future viral infection. So your antiviral response goes up and there's something called Sittera or conserve transcriptional response to adversity. So that shifts to create more antiviral immunity. On the other hand, if you are at the periphery of the tribe, you're being disregarded, you are alone.

Dr. Amit Sood ([24:56](#)):

Then your immune system says my owner is likely to be hurt by a predator. So let me make sure her blood clots quickly. If she is attacked, let me show you a strong antibiotic antibacterial response. She has strong inflammatory response. Then your immune system shifts to create more inflammatory response. So it's either a good antiviral response when you are integrated versus a good inflammatory response when you feel isolated. Guess where we entered this pandemic, we were talking about loneliness. We were talking about burnout. We were talking about high level of stress in our society, right? That that's what we've been talking about for the last couple of years, at least. So I think we got into this with our genetic expression, which was favoring, inflammatory state and which was not favoring, a strong antiviral response, you know, with, with high fear in the society, high prevalence of diabetes and metabolic syndrome and so on.

Dr. Amit Sood ([25:59](#)):

So we were caught into this in a very inflamed state, and that's how our lifestyle or our immune system, our genetic expression, all these connect. So what this is calling us to do is to shift our way of living so that, uh, we feel nurtured so that we feel loved so that we feel connected. And that is when your immune system will start programming us for a good antiviral response. And that will not only impact our present threat. It will impact how well we respond to the vaccine when we get it, because if we remain inflamed, then we will have poor vaccine response, and it will impact many other downstream conditions that are hosted by excessive inflammation, such as heart disease, risk of stroke, cancer,

autoimmune conditions, and so on. So I feel this is such an important topic and such an important area for us to understand. And that is where I find meaning in this, that if we collectively understand what nature is telling us, then this can be one reason, one solid reason for us to really rise and become better patients collectively. Oh, that realization I wish everybody had today, I am sure we will. We'll learn it over a period of time.

LuAnn Heinen ([27:24](#)):

I love that. I love the vision, hope and courage, bend toward the light, take care of your tribe. Do you believe that immune resilience and overall resilience are linked?

Dr. Amit Sood ([27:36](#)):

Oh yeah. Yeah. I mean, immune resilience.

LuAnn Heinen ([27:38](#)):

It sounds as though you're making that case as well.

Dr. Amit Sood ([27:41](#)):

Yeah. Immune resilience contributes to overall resilience and overall resilience supports immune resilience, you know, because they are part of an integrated whole, they contribute to each other and, you know, brain, heart endocrine system, immune system, autonomic nervous system. These are, and genetic expression. These are like the core, if you will, the, the, the senior leadership team in our body that they host us and they make sure that we're making the right decisions. And we are deploying our energy where it is most useful. But I think, it is really up to us to direct them in the right way. So your overall resilience, which is basically your ability to withstand adversity, bounce back from adversity and grow despite life's downturns, that is the sum total of impact or effect of a healthy collaboration of all the different body parts and your mind when, when all that is humming together, the surface, you see the person as resilient, the person doing well when they shouldn't be doing well, bouncing back quickly, carrying others with them, fulfilling life's meaning, so that is an immune risk resilience, you know, say six months ago, we were not talking about it because we were not facing a threat like this, but now at this point, it is a very, very, very strong contributor to overall resilience.

LuAnn Heinen ([29:20](#)):

Amit, so many wise words. I feel that we should end on if not a belly laugh for our audience, maybe a meditative experience. How should we end this?

Dr. Amit Sood ([29:32](#)):

Oh, sure. Well, there is a personal practice I like to do, and it's called gratitude practice, which combines, um, positive emotions, connection, feeling nurtured, feeling a member of a caring community. It's about two and a half minutes long. If I could indulge you, would you mind if I take you through that?

LuAnn Heinen ([29:57](#)):

Not at all.

Dr. Amit Sood ([29:58](#)):

Alright. So I'm assuming you are in a safe place. I invite you to close your eyes and I'll take it through this practice. Please. Don't practice this while driving with your eyes closed, obviously. So imagine you're waking up in the morning, Try to recall the color of the floor, where you woke up. Now think about one person in your life who matters the most to you. You really care about this person. This person cares about you. They could be your partner, your spouse, your child, your parents, your nephew, friend, just one person. Now recall this person's face. Look at the eyes of this person and notice the color of the eyes.

Dr. Amit Sood ([31:15](#)):

Go back in time and try to recollect the first memory of this person. The first time you saw him or her. Recall their hairstyle at that time. Think about the earliest picture of this person. Now think about one good thing. This person has done to you in the last few days, few weeks, something they did, something they said. Maybe they load a dishwasher exactly as you like. Send this person as silent gratitude for being in your life. Give them a virtual hug and when you're ready, you can open your eyes.

LuAnn Heinen ([32:42](#)):

Thank you Amit for sharing your wisdom and knowledge with us today. I have to say to the audience, I leave any interaction with Amit feeling a little bit smarter and a little bit happier. So thanks for sharing that with us today.

Dr. Amit Sood ([32:55](#)):

Oh, thank you. Thank you for having me. I'm grateful to you for your interest. And I leave our interaction, always feeling grateful and inspired. So thank you.

LuAnn Heinen ([33:07](#)):

We've been speaking with Dr. Amit Sood, former professor of medicine at Mayo Clinic. His new app launches in June. It's called Zizo, which stands for zoom in zoom out. And it's a free personal resilience assistant. Also check out the website, [immuneresilience.com](http://immuneresilience.com). You can take a short quiz and see personal recommendations. I'm LuAnn Heinen. And this is the Business Group on Health Podcast: conversations with experts on the most relevant health and well-being issues facing employers today.