Natalie Scanlon, Ph.D.

How does chronic stress impact the immune system, and what are some of the long-term health consequences?
0:06

When we experience stress and anxiety, many people have heard of the fight, flight or freeze response, which is really the body and the brain's way of kicking on what we call the sympathetic nervous system in our body when that happens, in order to prepare the body to fight or flight, we have the energy and the blood flow in the body go to the major muscle groups, so really getting ready to run away or to fight the danger. And so, when that happens, energy and blood flow leaves other areas of the body. Many people with stress experience dry mouth because, literally, energy blood flow is leaving the mouth to go to the biceps and major muscles of the legs. A lot of people will experience gastrointestinal distress when they're stressed or anxious because of the same phenomenon that energy and blood flow is leaving that area. So that's a very normal adaptive response when people are acutely stressed. But the problem really becomes when people are stressed long term that fight flight or freeze response, the anxiety switch, if you will, gets flipped on for too long, which then can have these really deleterious bad effects on the immune system and the body as a whole. We know that for kids who experience ACES, adverse childhood events, many of them, if those ACES are really profound and significant, those kids will often go on to develop pretty major medical conditions later in life, things like diabetes, heart disease, and so we really begin making these connections between stress and trauma and then physical effects on the body.

What are some science-backed strategies for managing chronic stress?
1:59

So, as we talk about the sympathetic and parasympathetic nervous system in therapy, we'll often teach skills and strategies that will flip off that anxiety switch and flip on the parasympathetic nervous system, which is the system of the brain and the body that is responsible for regulating, calming down, Chilling out. And so, we'll often talk about breath work. There's a type of breath work called the 478, method, which is breathing in for a count of four, holding it for a count of seven, exhaling for a count of eight. And that's actually showing quite a bit of empirical support for helping people calm down. We will also use skills such as a body scan and muscle relaxation to kick on that parasympathetic nervous system. When I

think about therapies for stress and anxiety, I think about cognitive behavioral therapy, and then a lot of mindfulness-based intervention, so really helping people to center in the here and now, as opposed to being worried about the future or ruminative about the past.

Are there certain lifestyle changes—like diet or exercise—that can help mitigate the effects of chronic stress?
3:13

Absolutely so oftentimes in therapy, I'll start with the basics before we even get into a therapy approach, I'll ask people about I have a six-point intervention. So, I'll ask about sleep, nutrition, hydration, electronics, social media and just connection with people. And oftentimes I find that when people can pay attention to some of those more basic areas, their brain, their body, their emotions, can regulate much better. I think a good example of that is with exercise. That's a really healthy way to channel cortisol, which is a stress hormone in the body. So, when people have an outlet like exercise to get some of that cortisol out, to regulate that hormone, it can result in sleeping much better at night and feeling much more relaxed during the day. I think another example with regard to nutrition is caffeine, right? So oftentimes, people with anxiety and stress will have difficulty sleeping at night. They'll feel the need to caffeinate during the day, and then that caffeine actually mimics many of the physiological symptoms of anxiety. So, heart rate goes up, blood pressure goes up, and then they feel even more anxious because their body is having those physical signs of anxiety. So, I like to pay attention to a lot of lifestyle changes, because they can be paramount in helping people really manage some of that stress.

What role does sleep play in stress regulation, and how can people improve their sleep quality?
4:48

Sleep is really crucial. I think about sleep as sort of our brain's way of defragging from all of the experiences, all of the information that we've taken in during the day. So, when we don't sleep enough, or we don't sleep regularly, or we don't sleep deep enough, our brains don't have a chance to defrag and hold on to what we need to get rid of what we don't and when it doesn't have that opportunity to rest and defrag, that's really the epicenter of dysregulation for many of the other systems of the body. So, hormones can become dysregulated, neurotransmitters

can become dysregulated, and we can even have more physical symptoms and health concerns, getting sick more often, and then that has a downstream effect on missing work or school, and then we're even more stressed. So sleep, I think, is one of those basic lifestyle changes that really maybe is at the epicenter of everything else, and is so so key for people to be able to manage stress.

How can employers create a healthier work environment that reduces stress and prevents burnout?

5:56

I think there are two strategies that may be somewhat feasible for employers, so encouraging breaks throughout the day, almost giving our brains a chance to defrag, or for employees to have a mindful moment during the day where they take a break from their desk or the clinic or wherever they are, do some breath work, do a body scan to kind of check in with themselves.

How to add mindful moments throughout your day?

6:22

I think, a tangible one for me is just taking a mindful break over lunch. So, I really try not to multitask at lunch, which is the opposite of mindfulness. When we're mindful, we focus on one thing at a time, right? So, eating, eating mindfully, focusing on the taste and texture of food, that I think can be really important.

What does your company do to help with stress and burnout?

6:44

Some departments, including our own, have a wellness initiative, so we are strategically scheduling speakers to come in, curricula that is centered around compassion fatigue and stress and burnout, so that we're hopefully getting ahead of the issue until employees are burned out and quitting their job, and at that point, it's sort of the point of no return.

What are some signs that an individual should seek professional help for stress-related issues?

7:08

As a clinician, when we think about people who come into our clinic feeling stressed versus people who we diagnose with an anxiety disorder, whether that's

Generalized Anxiety Disorder, Social Anxiety Disorder, Panic Disorder, we really think about how, how functionally impairing is there stress or anxiety? Right? We all experience stress and anxiety to different levels. We wouldn't be human if we were void of stress and anxiety. Oftentimes, those emotions help propel us forward, help us focus on the things that's important, but when that stress and anxiety prevents us from going to school or going to work, or it's so high that we can't go to a social function that we really want to go to because we're so nervous about what, what is going to happen there, that's when we really think about it being a diagnosable disorder, and then really encouraging people to seek treatment for that.

How do social media and societal expectations contribute to stress, particularly among younger generations?

8:06

There has been a lot of literature that's come out recently that really shows us that social media and electronics can be deleterious in multiple ways, even to the point of rewiring the brain and certain neural circuits when we think about youth and even adults who are on social media, much of the time, they're exposed to really unrealistic expectations of what they should look like, how much they should be doing during the day, how they should be parenting. Social media really encourages us to compare ourselves constantly with other people, and all of that contributes to significant amounts of stress and anxiety.

How can we help to avoid stress and anxiety in our youth?

8:48

If we look at what we expect of our youth, and we compare that to normal developmental checkpoints we expect when kids graduate high school, that they know exactly what their next step is going to be and what they're going to do for a career. For a career and for the developing brain and body of an 18-year-old, that is oftentimes not realistic. And so, I think meeting kids and teens where they're at scaling back some of those expectations to encourage just as much rest and relaxation and time at home with their family as they are out in the world, is a much more homeostatic balance, right? Encourages balance of doing and being, and can really help lessen those stress levels.

Could you speak more about how social media effects younger generations specifically?

9:39

The literature that's coming out now really sees a stark trend in mental health for different generations. If we look at the millennial generation, most, most millennials, all millennials, grew up and had adolescence before the onset of social media and before we had smartphones in our pockets. And so, you really don't see the rates of depression, anxiety, eating disorders, suicidality in the millennial generation, as you do with the Gen Z or now the Gen Alpha generations. And that is because in 2012 which is when we see rates of mental illness really skyrocket, you had youth and people entering puberty and adolescence with a smartphone in their pocket and immediate access to social media, and so all of these things are at their fingertips, and they didn't necessarily need to go interact in the world anymore and develop those social relationships. Fast forward to 2020, where we were all on lockdown, and that really became people's way of connection. The problem with social media and being on one's personal device is that it can feel like you're connected in the moment, but it's really a false sense of connection. You're not sharing energy with somebody, you're not looking into somebody's eyes, you're not doing an activity together. And so that has really resulted in people feeling isolated and alone and stressed and confused in life.

How is fragmented attention affecting our youth?

11:10

In addition to some of those mental health isolation challenges, what we also find with TikTok and YouTube and these different platforms is an increase in what we call fragmented attention, right? You're watching one thing. It's not interesting enough. You just click on something else. Your brain learns to expect that. You can do that with almost everything in your environment. We're seeing it with game-based learning in schools, and that can feel like a great way for kids to learn. But what it's doing is, when you teach content in a game based electronic way, it's giving kids a quick hit of dopamine, and it makes it exciting, then their brains want that quick hit of dopamine again and again. And so, some people are really connecting that with leading to addiction, substance use, addiction, gambling addictions later in life, and so I feel really strongly that we need to go back to the basics in terms of allowing kids to play outside, allowing kids to play with their peers, and even as adults doing the same thing, being IRL with each other, and

being in a space where we can share that Energy and share that connection in a true form.

How can we prevent those behaviors from leading to issues with addiction later in life? Would removing electronics entirely help?

12:28

With having technology and having game-based learning, I don't know that I would say all of it is bad. I do think it's important to balance those methods of teaching with in person teaching and discussion based teaching, where kids and teens are able to bounce ideas off of each other, make eye contact with each other, learn social skills when they have those conversations, and then if we, if we do, see deleterious effects of maybe game based learning or fragmented attention that youth are exposed to early on, I think we can incorporate mindfulness strategies as a remedy for some of those attention difficulties or stress difficulties, and you don't need a therapist for that. If you're a caregiver of a child, you can do some breath work at home. You can do a body scan before bed at night. You can take a mindful moment at the dinner table when you're gathering with your family, and so I think it's sort of a tipping scale, right? If we're doing a lot of electronics during the day, how do we do more real world, mindful moments at night?

What are some of the latest advancements in technology designed to help people manage stress?

13:36

I think one of the advancements in our field that's really interesting, and it's been around for a while, but it's gaining more interest now is the notion of biofeedback, so people can see in real time, especially if they're not believers in breath work or meditation or body relaxation, they can if they're hooked up to different machines and ways of measuring blood pressure, heart rate, perspiration, rate of breathing, they can see in real time that when they go from baseline to doing maybe a breath work, meditation or a body scan meditation, the heart rate comes down, the blood pressure comes down, and they might feel that subjectively, but biofeedback is able to give us, in real time, objective measures of the body really responding to those strategies. So that's one advancement that we're feeling really excited about. Another advancement is virtual reality. And so, we've been

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using virtual reality in the field of therapy and psychology for a little while, mostly in the context of exposures. So, when we need to expose somebody with a phobia of spiders to spiders, we don't always have a ton of access to spiders. We can do that with VR technology. And what we're really excited about is purchasing some of that, not only for exposures, but now VR platforms for health have a lot. Of mindfulness-based interventions that the providers can use. So, you can put on a VR headset and be on a beach doing some deep breathing, or be in your favorite location anywhere in the world and do a body scan relaxation. And so, I think you don't need major advancements in technology in order to be mindful. And some of these, these ideas are really cool and really new.