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The Biology Of Bedside Manner: Why Warmth Is Incompatible With Stress.



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Science

I write about the science of performance.

In times of sickness and suffering, people look to their doctors and nurses for comfort. Yet, under the extreme stresses of the coronavirus pandemic, healthcare workers may be unable to provide that empathy. It's biology: a switch in the state of regulation which makes social engagement nearly impossible.

The autonomic nervous system is our body's internal regulator, capable of inducing different biological states depending on the level of safety or threat in the environment. These states have profound effects on what range of thought, emotion and behavior is prioritized in the brain. But when fight or flight is dominant, the social engagement system turns off as “[physiological state](#)” limits the range of behavior and psychological experience.”



Bedside manner depends on how safe the healthcare workers feels. LOS ANGELES TIMES VIA GETTY IMAGES

As COVID-19 swept toward us, I lost my voice.

So close to O'Hare airport, doctors in Chicagoland watched the rapid approach of COVID-19 with anxiety. Although community spread had been documented in Seattle, we had no ability to test even the patients coming off flights from hot zones. Were those patients we were seeing with flu-like illnesses actually sick with COVID-19? Were our surgical masks going to protect us when at that time the WHO was saying only N95 masks would do?

The situation triggered a new fear. My own asthma had never felt like a liability before. Never before had I been afraid that my work as a doctor might leave my children without a mother.

In interactions with patients, I noticed something odd. The soothing, sing-song voice I had mastered as a pediatrician was simply gone. Instead, I heard myself sounding stern and urgent. "We are all stressed out right now," I explained to the parents, "I hear myself talking and I sound very serious. But that doesn't mean you need to worry more about your child, it just

means I'm feeling the stress we are all feeling." They understood; they were worried too.

Defense strategies in the nervous system.

In order to have life, animals must first survive. One of the primary roles of the nervous system is to continually scan the environment for threat. If a threat is detected, the nervous system rapidly initiates a **defense response**. Mammals default to the fight or flight response mediated by the sympathetic nerve. Now, mammals who detect threat have an immediate metabolic boost that prepares them for action.

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If we want to enjoy social interaction, the ventral vagus nerve must turn down the fight or flight response. When that happens, the **social engagement system** comes online. Eyes open and look around, facial muscles move more and express emotion, the stapedius muscle in the middle ear tenses, making it easier to hear the human voice, and the head turns more to allow social gestures. Most importantly, the muscles around the pharynx and larynx produce vocal prosody.

Vocal prosody, the musicality of the voice, is how humans understand much of the meaning behind words. It's why text messages are so often misunderstood, when the same message would be fine on the phone. But prosody is only expressed in the voice when the social engagement system is active; the voice flattens under the fight or flight system. So does the face, for that matter.

Good bedside manner may not be possible during COVID-19.

Healthcare teams who are seeing possible COVID-19 patients need to function in a state of sympathetic mobilization. That readiness for action is a crucial tool in the busy and often chaotic scenes we hear of at the pandemic's epicenters. Not only do teams need it, they have no choice about it. The fear prompted by the lack protective equipment they need for themselves and the supplies they need to care for patients is inevitable. Biology comes to the rescue with fight or flight, helping them face down that fear and do their jobs.

But the fight or flight mobilization is largely incompatible with the social engagement system. According to a [paper by Dr. Stephen Porges](#), "states of mobilization would compromise our ability to detect positive social cues... If the individual is in a state of mobilization, the same engaging response might be responded to with the asocial features of withdrawal or aggression. In such a state, it might be very difficult to dampen the mobilization circuit and enable the social engagement system to come back on line."

So at a time when we are facing the prospect of death and suffering, we want our doctors and nurses to soothe us. They simply may not be able to, not and be able to do the medical work we need from them.

Consider the alternative: a calm and comforting ER team that moves with a slow and social rhythm, speaking in a singsong voice and telling you not to worry. Meanwhile, your loved one gasps for breath and the triage room overflows with backed up patients. You see the issue. Fast, effective and efficient is what is needed in the face of COVID-19.

Can healthcare teams switch off fight or flight?

To switch from the fight or flight response to social engagement, our nervous system [requires safety](#). "To effectively switch from defensive to

social engagement strategies, the mammalian nervous system needs to perform two important adaptive tasks: (1) assess risk, and (2) if the environment is perceived as safe, inhibit the more primitive limbic structures that control fight, flight, or freeze behaviors.” To find the environment safe may be impossible right now for healthcare workers, while they are at work.

But later, “in the absence of threat, the appearance of a friend or mate would subdue the limbic activation with the biobehavioral consequences of allowing proximity, physical contact, and other social engagement behaviors.”

So it is possible for healthcare workers to reactivate the social systems, and they often do that already though built in social behaviors at work, i.e. [camaraderie](#). That’s good for their stress management and wellbeing. But it may be unfair for us to expect them to be able to do it at the bedside of patients in this time of crisis.

This is the second in a series on healthcare workers performance under extreme stress. Read the [first article here](#).

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