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Managing Stress In Crisis Critical to Performing Emergency Airway Management Techniques

By Richard M. Levitan, MD, FACEP, and Michael Asken, PhD | on June 10, 2014 | 0 Comment

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Too much time is dedicated to the acquisition of technique and too little to the preparation of the individual for participation.
–Bruce Lee, martial artist, actor, director

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> *The probability that the total system will perform correctly is the probability that the hardware/ software will perform correctly, times the probability that the operating environment will not degrade the system operation, times the probability that the user will perform correctly. By defining total system this way, human performance is identified as a component of the system.*
> *–FAA System Safety Handbook, Chapter 17: Human Factors Principles & Practices (2000)*

In many instances, the "difficult airway" is a relative term—relative to the operator. Early in my career, I recall missing an intubation. I panicked and called an anesthesiologist. Picking up the same instrument, she inserted the tracheal tube without difficulty. It would have made me feel much better if she struggled with the tube, but alas, she made it look easy. For some time, I wondered what I did wrong and what she did right.

Twenty years later, I was able to successfully intubate a patient in whom anesthesia missed the tube. The patient was shot in the central box; anesthesia had placed a tube, but by direct visualization of the lungs (thoracotomy in progress), it was clear the tube was not in the trachea. I picked up the same laryngoscope, came down the tongue, suctioned the mouth, identified the epiglottis, and intubated the patient as if it were easy.

Looking back on my multidecade obsession with the techniques of airway management, I realize in hindsight how much the individual's mindset is critical to successful performance in crisis.

Proper techniques are essential: patient positioning, the mechanics of mouth opening, epiglottoscopy (finding the epiglottis before making any attempt to expose the larynx), understanding the subtleties of epiglottis elevation, knowing laryngeal anatomy (even when partially viewed), and the nuances of tube insertion.

The operator's mindset, however, is what allows for the proper application of techniques in the moment of crisis. It is one thing to know how something should be done but quite another to actually then pull it off in the real life-and-death, high-pressure situation. Related to the ultimate stress—fear—the Spartan commander Brasidas observed: "Fear makes men forget, and skill which cannot fight is useless."

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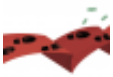
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We each have a genetic disposition to handle stress. Looking back at my initial years in emergency medicine, I now understand that my inherent adrenaline response made it very difficult for me to perform well. I got too stressed, and the adrenaline dump that ensued made it very difficult for me.

Like everyone I know in EM, I was never given psychological performance skills to maximize my response in crisis situations. I just assumed, and was led to believe by my teachers, that through some kind of desensitization, I would just get better. Over decades of practice I did improve, but recent interactions I have had with military personnel have now convinced me that we can train to do better by directly confronting the gorilla in the room and addressing the psychological aspects of procedural performance.

I am so convinced of this that I have added a psychologist, Michael Asken, PhD, my co-author on this article, to the faculty of my airway course in Baltimore. I now view every component of airway management with a different perspective. I think about how stress conspires to make us fail and how it must be handled at each step in the process.

> *Fear is like fire. It can cook for you. It can heat your house. Or it can burn you down.*
> *—Cus D'Amato, boxing manager, trainer*

Adrenaline increases our heart rate, dilates our blood vessels, and widens our pupils; it gets us ready for the increased physical demands of a fight-or-flight situation. Excess adrenaline, however, becomes very dangerous, especially when we are required to perform complex tasks (as opposed to just running away from a predator). In the procedural performance situation, the mismatch between the perceived demands of a task and one's perceived abilities creates "performance stress." When the mismatch is dramatic, the adrenal dump that occurs becomes detrimental. Above 115 heartbeats per minute, fine motor control is compromised. Above 145, gross motor control is affected. Time perception gets altered. Our ability to appreciate external cues (ie, listening, accurately observing the situation) becomes limited. Frozen by the stress, operators become "stuck on stupid," repeating the same response over and over (even though it's not working). The Brits jokingly refer to this as "wearing brown trousers" because in superstressful situations bowel control is compromised. Tactical operators emphasize the importance of the "battle crap" before beginning a mission. At a recent conference in Australia, I heard an EM doc refer to using bike clips with their brown trousers—now that's stressed!

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While it was once believed that crisis functioning or mental toughness (the right stuff) was something that you either had or did not have, we now know this is not the case. The military, professional and Olympic athletes, and police agencies have all recognized this and created psychological training programs to maximize performance in high-stress and life-threatening situations. Emergency medicine has lagged far behind in this critical area.

In the procedural performance challenge of emergency airway management, what can we do to manage our stress appropriately? We need to have the right mindset. By adjusting our perceptions (perceived demands versus abilities), we can reduce our overall performance stress. We need to consider and design our procedural (and team) processes in ways that recognize operator stress as a risk factor for error. When actually performing the procedures, we should factor in mechanics, ergonomics, lighting, and other environmental variables so we can do our best. We will address these solutions in future columns.

Dr. Levitan is an adjunct professor of emergency medicine at Dartmouth's Geisel School of Medicine in Hanover, N.H., and a visiting professor of emergency medicine at the University of Maryland in Baltimore. He works clinically at a critical care access hospital in rural New Hampshire and teaches cadaveric and fiber-optic airway courses.

Dr. Asken is a clinical, health, and performance psychologist in Pennsylvania, and serves as an instructor and consultant for several national and regional organizations. He is a fellow of the Division of Health Psychology of the American Psychological Association.

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