



Since January 2020 Elsevier has created a COVID-19 resource centre with free information in English and Mandarin on the novel coronavirus COVID-19. The COVID-19 resource centre is hosted on Elsevier Connect, the company's public news and information website.

Elsevier hereby grants permission to make all its COVID-19-related research that is available on the COVID-19 resource centre - including this research content - immediately available in PubMed Central and other publicly funded repositories, such as the WHO COVID database with rights for unrestricted research re-use and analyses in any form or by any means with acknowledgement of the original source. These permissions are granted for free by Elsevier for as long as the COVID-19 resource centre remains active.

Contents lists available at [ScienceDirect](https://www.sciencedirect.com)

The American Journal of Surgery

journal homepage: www.elsevier.com/locate/amjsurg

Invited Commentary



When the trauma never ends: (Post)-Traumatic Stress Disorder after COVID-19 amongst trauma and acute care surgeons

Dr. Melissa James and her group at Jamaica Hospital Medical Center reported their results of a web-based survey examining COVID-19 induced Post-Traumatic Stress Disorder (PTSD) amongst trauma and acute care surgeons from the Eastern Association for the Surgery of Trauma (EAST).¹ They found that the COVID-19 pandemic had a psychological impact on surgeons surveyed, and they identified several personal and professional stressors that contributed to increased PTSD amongst surgeons.

Among the 393 surgeons surveyed, the incidence of PTSD was 16.3%, using an instrument that was validated amongst civilian healthcare professionals. Several risk factors were associated with having PTSD, including a range of personal and professional factors. This study exemplifies the psychological toll that the COVID-19 pandemic has had on the emergency general, trauma, and critical care surgeons that make up the EAST community and suggests some potential directions for intervention. These data are intriguing and consistent with previous studies measuring PTSD and moral injury amongst surgeons and healthcare workers.^{2,3} Interestingly, there did not appear to be an increase in self-reported PTSD compared with historical data. This highlights the demanding nature of a surgeon's day-to-day life beyond a pandemic. The authors report qualitative findings and PTSD risk factors that may be unique to COVID-19, as well as many factors that remain troublesome.

Influential studies, such as this one, are often hypothesis-generating and give nuanced insight into meaningful interventions. Further research might examine longitudinal data amongst surgeons to determine if the severity of their PTSD changes over time or in response to major world events. As the authors note, acute care and trauma surgeons are constantly bombarded with stress, does adding on one more variable change this? The authors also compare their work to historical baselines,

suggesting that a similar proportion of surgeons have PTSD. Are these the same individuals impacted more severely by COVID, or does the combination of stressors change? As this study was distributed to the EAST members, a similar survey distributed more broadly may address this potential source of selection bias. Also, it would be interesting to note if the PTSD rates were different amongst EAST trauma and EAST non-trauma surgeons. With myriad institution-level interventions to help surgeons self-actualize and retain a very talented and specialized workforce, this manuscript highlights the importance of consistent and individualized factors.

In summary, the authors should be congratulated for their thought-provoking investigation and contribution to the field.

References

1. James MKRR, McKenzie K, Valenzuela JY, Esposito TJ. COVID-19 induced PTSD: stressors for trauma and acute care surgeons. S0002-9610(22)00140-4 *Am J Surg*. 2022 Mar 4;2022. <https://doi.org/10.1016/j.amjsurg.2022.02.060>. Epub ahead of print. PMID: 35277241; PMCID: PMC8896861.
2. Nieuwsma JA, O'Brien EC, Xu H, Smigelsky MA, Meador KG. Patterns of potential moral injury in post-9/11 combat veterans and COVID-19 healthcare workers. *J Gen Intern Med*. 2022;1–8.
3. Joseph B, Pandit V, Hadeed G, et al. Unveiling posttraumatic stress disorder in trauma surgeons: a national survey. *J Trauma Acute Care Surg*. 2014;77(1):148–154.

Stephanie Lumpkin, Krista Haines*

Division of Trauma and Critical Care and Acute Care Surgery, Department of Surgery, Duke University Medical Center, Durham, NC, USA

* Corresponding author.

E-mail address: krista.haines@duke.edu (K. Haines).

<https://doi.org/10.1016/j.amjsurg.2022.05.012>

Received 10 May 2022; Received in revised form 13 May 2022; Accepted 14 May 2022

Available online 17 May 2022

0002-9610/© 2022 Elsevier Inc. All rights reserved.