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Commentary: A new “lost” generation

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It has been 549 days since the Centers for Disease Control and Prevention reported the first US coronavirus case and 489 days since the World Health Organization declared coronavirus disease 2019 (COVID-19) a worldwide pandemic.¹ At this point, I find it hard to imagine the “before-times,” and what practicing medicine was like without the aura of COVID-19 all around us. While many surgeons had to put their medical practices on hold during the height(s) of the outbreak, trainees were also drafted into the fire. The main difference, however, is that surgical training already occurs on a time-constrained schedule, and this time away from standard rotations and surgical experience could drastically affect the quality of education being delivered by graduation. Many decisions were made in the spur of the moment, and now we must look back and see how our trainees’ education was truly affected.

Shafi and colleagues² dove into the UK trainee experience and went right to the source; the trainees themselves. By using a retrospective online survey, the authors attempted to assess the true impact to cardiothoracic surgery trainees. The survey was 2 parts; they focused on training-life before the pandemic (January 1 to March 20, 2020) and during the first surge (March 21 to June 7, 2020). Two hundred surveys were sent out, and 83 were returned (41.5%). They described some sobering, but not surprising, statistics. Nearly one half (45.8%) had their job role changed during COVID-19, and almost one third (30.1%) were redeployed to an entirely different specialty. The

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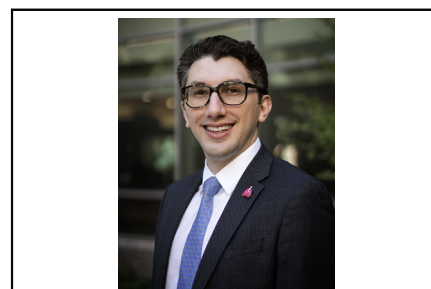
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CENTRAL MESSAGE

The education of cardiothoracic trainees has been drastically impacted by the COVID-19 pandemic. We must assess their current skillset and supplement missing experiences with increased simulation.

most important finding in my mind was that the number of operative cases trainees saw was cut in half, from 3.1 to 1.7 per week. On top of that, three quarters of respondents noted that they were primary operator on <25% of cases during COVID-19.

For those more familiar with the US Accreditation Council for Graduate Medical Education 80 hour/week cap, UK trainees are limited to 48 hours/week. As you can imagine, this does not leave a lot of room for cardiothoracic training on top of mandatory COVID-19–related duties. Couple that with the shuttering of many cardiac centers during the pandemic, and our trainees are in trouble. The UK experience can be generalized to most other training paradigms around the world. How do we make up multiple lost months of robust cardiothoracic experience? We can’t just fold our arms and hope that trainees make up the experience down the road. It isn’t realistic—we must act now. Detailed assessment of trainees technical and nontechnical skills is essential³ and the development and use of in-depth simulation should be used as an adjunct to fill in gaps. Simulation has already been extensively studied for surgical training,⁴⁻⁶ and Shafi and colleagues² show us that trainees are all-in. The vast majority surveyed felt more simulation would be beneficial. Our trainees sacrificed their health and education to fight COVID-19. It is up to the major cardiothoracic

societies and educational leaders to make sure that no trainee is left behind.

References

1. A timeline of COVID-19 developments in 2020. AJMC. Available at: <https://www.ajmc.com/view/a-timeline-of-covid19-developments-in-2020>. Accessed July 21, 2021.
2. Shafi AM, Sheikh AM, Awad WI. Comparison of cardiothoracic surgical training before and during the COVID-19 pandemic in the United Kingdom. *J Thorac Cardiovasc Surg Open*. 2021;7:394-410.
3. Thoracic Surgery Independent Milestones (Version 2.0). The Accreditation Council for Graduate Medical Education. Available at: <https://www.acgme.org/Portals/0/PDFs/Milestones/ThoracicSurgeryIndependentMilestones2.0.pdf?ver=2021-04-14-103410-687>. Accessed July 21, 2021.
4. Fann JI, Feins RH, Hicks GL, Nesbitt JC, Hammon JW, Crawford FA Jr. Senior Tour in Cardiothoracic Surgery. Evaluation of simulation training in cardiothoracic surgery: the Senior Tour Perspective. *J Thorac Cardiovasc Surg*. 2012; 143:264-72.e9.
5. Sadeghi AH, Mathari S, Abjigitova D, Maat APWM, Taverne YJHJ, Bogers AJJC, et al. Current and future applications of virtual, augmented, and mixed reality in cardiothoracic surgery. *Ann Thorac Surg*. December 18, 2020 [Epub ahead of print].
6. Kim JS, Hernandez RA, Smink DS, Yule S, Jackson NJ, Shemin RJ, et al. Nontechnical skills training in cardiothoracic surgery: a pilot study. *J Thorac Cardiovasc Surg*. February 4, 2021 [Epub ahead of print].