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See Article page 980.



Commentary: COVID-19: “There is no education like adversity”

Elizabeth H. Stephens, MD, PhD

*“There is no education like adversity.”
Disraeli*

COVID-19 has drastically impacted every part of our world as we once knew it. Cardiothoracic surgery training is no exception, and in fact has faced distinct challenges during the pandemic. Hands-on experience in the operating room on actual patients is fundamental to training in surgery, yet during this pandemic, the health and safety of trainees, patients, and staff must be considered. In response to staffing shortages, the broad scope of skill sets of cardiothoracic surgical trainees have been required in capacities outside of our specialty to care for patients with COVID. This is not to mention the far-reaching impact of COVID on the entire clinical care team, including trainees.

Caruana and colleagues¹ are to be congratulated on their study that surveyed cardiothoracic surgery trainees in the United Kingdom. Almost two-thirds of trainees (64%; 76 of 118) responded between April 12 and 15, 2020, and their responses quantify many of the concerns anecdotally expressed by trainees worldwide. It is clear that trainees are a critical part of the front line, with 86% having cared for COVID-positive or suspected-positive patients, including

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CENTRAL MESSAGE

The trainee experience has been drastically impacted by COVID. Learning from these experiences as institutions enter reactivation and beyond will be critical for the improvement of surgical training.

33% who have operated on such patients. The respondents raised some glaring safety concerns, with only 55% reporting having adequate personal protective equipment (PPE) during encounters with COVID-positive or suspected-positive patients, 24% feeling they had not received suitable training on PPE when treating COVID-positive patients, 30% not having been fitted with an appropriate mask at the time of the survey, and >50% concerned about the availability of PPE.

In terms of the direct impact of COVID on postgraduate surgical training, respondents reported a cumulative 78% reduction in operating room time and a 44% reduction in outpatient clinics. In addition, 55% had been deployed to other specialties, and 33% had been quarantined. As a result, 71% were concerned that they may require extended time in residency training. Interestingly, there was a substantial diminishment of the trainee's role as “primary surgeon” when surgical opportunities were present, with

13% of cases being performed by the trainee during the pandemic, versus 26% before the pandemic.

The experience described in these survey results is sobering but provides knowledge and motivation moving forward as many institutions enter a reactivation phase. We have an obligation to protect our trainees.² Adequate PPE is not sufficient; without proper training and fitting, they will not be protected. Optimization of trainees' role on the care team must also take into consideration both service obligation and education. Time in the operating room must be capitalized on and strategically planned, weighing the risks of exposure versus the educational opportunity. For a trainee lacking experience in a certain procedure, those particular operations should be prioritized. In contrast, procedures that a trainee has demonstrated sufficient competence and may be observing the case, consideration should be given as to whether that additional exposure is warranted. With regard to clinical service staffing, when trainees are duplicating the clinical care of other providers, consideration should be given to the educational value of that care and which one person should assume that critical role. Optimization of web-based learning and simulation as an adjunct to training will be essential, as desired by virtually all of the surveyed trainees, and this will be an important component in the post-COVID era.

Despite the many challenges that have occurred with the COVID pandemic, there are opportunities for the specialty

to emerge improved, more resilient, and capable of providing better care in a more flexible, efficient, and convenient manner. Similarly, this also presents an opportunity for postgraduate surgical education to emerge improved for those who have the courage to grapple with these challenges.³ It forces surgeon educators to become better teachers, to evaluate their trainees' skills and individually tailor and optimize their operative experience, as well as educational opportunities outside of the operating room. This experience forces us to examine how we will determine whether trainees should be deemed competent and graduate, when and how to remediate, and how to handle interruptions in training for a variety of reasons. Improvements in adjuncts to surgical training will also be important moving forward. We as a specialty will never be the same following the COVID pandemic, but we do have an opportunity to be better, to be safer, to be more efficient—and all of these opportunities are also present for postgraduate surgical training.

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