

---

Division of Cardiology Faculty Papers

Division of Cardiology

---

12-1-2021

## Commentary: Zoom into the coronary anastomosis during coronavirus disease 2019 (COVID-19)

Danial Ahmad

Vakhtang Tchantchaleishvili

Follow this and additional works at: <https://jdc.jefferson.edu/cardiologyp>

 Part of the [Cardiology Commons](#)

[Let us know how access to this document benefits you](#)

---

This Article is brought to you for free and open access by the Jefferson Digital Commons. The Jefferson Digital Commons is a service of Thomas Jefferson University's [Center for Teaching and Learning \(CTL\)](#). The Commons is a showcase for Jefferson books and journals, peer-reviewed scholarly publications, unique historical collections from the University archives, and teaching tools. The Jefferson Digital Commons allows researchers and interested readers anywhere in the world to learn about and keep up to date with Jefferson scholarship. This article has been accepted for inclusion in Division of Cardiology Faculty Papers by an authorized administrator of the Jefferson Digital Commons. For more information, please contact: [JeffersonDigitalCommons@jefferson.edu](mailto:JeffersonDigitalCommons@jefferson.edu).



See Article page 524.

## Commentary: Zoom into the coronary anastomosis during coronavirus disease 2019 (COVID-19)

Danial Ahmad, MD, and Vakhtang Tchantchaleishvili, MD

Cardiothoracic surgery (CTS) training has been dramatically affected by the coronavirus disease 2019 (COVID-19) pandemic. Hospitals and residents have had to adapt to rapidly changing circumstances in which the focus has shifted from residents' participation in elective procedures, which form the bulk of their training, to using their services in dealing with the massive influx of patients with COVID-19.<sup>1,2</sup> Added to this has been the cancellation or reduction of simulation training workshops or classes.<sup>3</sup> At particular risk are the residents in their final years of training who are expected to perform the bulk of their solo cases toward the end of their training. Although program directors have not been worried about delaying the graduations of such residents, some residents still feel unprepared for the post-residency world, given current trends.<sup>1,4</sup>

In response to these events, there has been a lot of development in adapting to remote learning methods. Conference, didactics, meeting, and lecture attendance has gone up in some cases due to the virtual format.<sup>4</sup> Use of video-conferencing software such as Zoom (Zoom Video Communications, Inc, San Jose, Calif) has exponentially grown during this period as well. Although some institutions are currently adopting hybrid formats for these events, it is still unlikely that the virtual format will go away any time soon due to the unpredictable and evolving nature of COVID-19. Needless to say, development of virtual learning tools for residents is and will be direly needed.<sup>3</sup>

From the Division of Cardiac Surgery, Thomas Jefferson University, Philadelphia, Pa. Disclosures: The authors reported no conflicts of interest.

The *Journal* policy requires editors and reviewers to disclose conflicts of interest and to decline handling or reviewing manuscripts for which they may have a conflict of interest. The editors and reviewers of this article have no conflicts of interest.

Received for publication Aug 23, 2021; revisions received Aug 23, 2021; accepted for publication Aug 26, 2021; available ahead of print Sept 7, 2021.

Address for reprints: Vakhtang Tchantchaleishvili, MD, Division of Cardiac Surgery, Thomas Jefferson University, 1025 Walnut St, Suite 607, Philadelphia, PA 19107 (E-mail: [Vakhtang.Tchantchaleishvili@jefferson.edu](mailto:Vakhtang.Tchantchaleishvili@jefferson.edu)).

JTCVS Open 2021;8:536-7  
2666-2736

Copyright © 2021 The Author(s). Published by Elsevier Inc. on behalf of The American Association for Thoracic Surgery. This is an open access article under the CC BY-NC-ND license (<http://creativecommons.org/licenses/by-nc-nd/4.0/>).  
<https://doi.org/10.1016/j.jxjon.2021.08.037>

	PRE-COVID	DURING COVID
OR TIME	ADEQUATE	INADEQUATE
CLINICAL EXPOSURE	ADEQUATE	INADEQUATE
EDUCATIONAL ACTIVITIES	IN-PERSON	ONLINE

Changes in CTS training due to the COVID-19 pandemic.

### CENTRAL MESSAGE

Remote surgical simulation is a newer paradigm in cardiothoracic surgery training that needs further development and refinement for broader application.

There is no substitute for practice in the operating room<sup>5</sup>; however, given the nature of things, we have to learn to adapt as best as possible.

In this paper, Takahashi and colleagues<sup>6</sup> demonstrated the feasibility of remote simulation training for CTS trainees. Trainees, especially those participating consistently, showed improvement in most of the assessed metrics for coronary anastomosis. The authors concluded that such faculty-supervised remote surgical training sessions helped trainees to achieve significant performance improvement and that it has wider implications for surgical training especially in light of the ongoing pandemic-related restrictions.

As the authors indicated, the raters (faculty) were not blinded with respect to trainee participation, which should be considered a limitation. Both organizers and participants of the simulation sessions want it to be successful, and there is a possible subconscious bias to score the final sessions greater just because they are final. While these remote sessions could be equivalent to conventional on-site simulation training, it is hard to predict whether/how this will translate into actual operative skills. In summary, the results are interesting and encouraging.

There is no substitute for hands-on training with human tissue in the operating room. However, we have to find the “next best” way to teach residents the essential skills they need to have as surgeons. This is a step forward in adapting CTS training to less-than-ideal training circumstances, for which the authors deserve credit. While this remote simulation exercise was undertaken for a very specific skill—coronary anastomosis, future sessions could

look at incorporating a broader range of technical skills needed in CTS.

### References

1. Smood B, Spratt JR, Mehaffey JH, Luc JGY, Vinck EE, Lehtinen ML, et al. COVID-19 and cardiothoracic surgery: effects on training and workforce utilization in a global pandemic. *J Card Surg.* 2021;36:3296-305.
2. Olive JK, Luc JGY, Cerqueira RJ, Eulert-Grehn JJ, Han JJ, Phan K, et al. The cardiothoracic surgery trainee experience during the coronavirus disease 2019 (COVID-19) pandemic: global insights and opportunities for ongoing engagement. *J Thorac Cardiovasc Surg.* 2021;161:178-83.
3. Chick RC, Clifton GT, Peace KM, Propper BW, Hale DF, Alseidi AA, et al. Using technology to maintain the education of residents during the COVID-19 pandemic. *J Surg Educ.* 2020;77:729-32.
4. Coyan GN, Aranda-Michel E, Kilic A, Luketich JD, Okusanya O, Chu D, et al. The impact of COVID-19 on thoracic surgery residency programs in the US: a program director survey. *J Card Surg.* 2020;35:3443-8.
5. Villamizar N, Nguyen DM. Enhancement in virtual learning cannot substitute for hands-on training in cardiothoracic surgery. *J Card Surg.* 2020;35:3449-50.
6. Takahashi K, Tanaka C, Numaguchi R, Kuroda Y, Nemoto H, Yoshino K, et al. Remote simulator training of coronary artery bypass grafting during the coronavirus disease 2019 pandemic. *J Thorac Cardiovasc Surg Open.* 2021;8:524-33.