



# Plastic Surgery Training During Coronavirus Disease 2019 Pandemic: A Quantitative Study on Trainees' Wellness and Education

Sinan Kallo Jabori, MD, Anabel Epstein, BA, Luccie M. Wo, MD, Georges J. Samaha, MD, Mahmood Al Bayati, BS, Steven Ovadia, MD, and Seth R. Thaller, MD, DMD, FACS

**Purpose:** Coronavirus disease 2019 (COVID-19) pandemic has had far reaching impacts on all aspects of the healthcare system, including plastic surgery training. Due to reduction in the number of elective surgery cases and need for social distancing, plastic surgery education has shifted from the operating room to the virtual learning environment. Although these changes have been qualitatively described, the authors present a quantitative analysis of plastic surgery training changes due to the COVID-19 pandemic. Our study has identified residents' greatest impediments and inquired about suggestions for further improvements. Our goal is to help residency programs through the COVID-19 pandemic era and contribute to future guidelines when residency education encounters additional unexpected changes.

**Methods:** An institutional review board approved anonymous survey using Qualtrics was forwarded on April 23, 2020 to US plastic surgery program directors to be distributed to plastic surgery residents and fellows. Questions centered on the impact of COVID-19 on residents' well-being, education and career plans results were collected for data analysis. Residents were given the option to be in a raffle to win a \$50 amazon gift card. Completion of the survey was both anonymous and voluntary.

**Results:** A total of 69 trainees responded (52 integrated residents and 17 independent fellows) from 18 states. Fifty-one percent were male and 49% were female. Fifty-six percent of trainees plan to complete a fellowship program after graduation, 31% will join private practice. Nine percent of trainees reported changes in their postgraduation plans due to the pandemic, 67% were senior trainees. Of those whose goals were affected by COVID-19 pandemic, 56% opted to pursue additional fellowship training. They described reduced operative exposure and cancellations of elective surgeries (50%), the limited availability

of private practice jobs (37.5%), and financial reasons (12.5%) for their decision. Twelve percent reported being concerned about not meeting the necessary requirements to finish their residency and graduate on time. Seventy-six percent of trainees expressed concerns about the health and safety of themselves, family and loved ones. Forty-nine percent of trainees reported increased levels of stress since the onset of the pandemic. Ninety-seven percent of trainees reported having reduction in their operative time during the COVID-19 pandemic. They utilized their nonoperative time for online education modules (84%), educational readings (82%), and research (80%). Plastic surgery trainees learned about national webinars through emails from professional society (83%), co-resident/fellow (77%), program director emails (74%), and social media (22%). Webinars attended were mostly through virtual platform modalities, among which Zoom and Webex were the most preferred. Less interactions with colleagues and faculty was the biggest barrier to adopting virtual conferences. Despite this, 72% agreed that having grand rounds, didactics and journal clubs online increased attendance. Additionally, 88% of respondents expressed interests in attending professional society sponsored virtual grand rounds in the future.

**Conclusions:** Results from our survey demonstrated that the overwhelming majority of plastic surgery residents have had reductions in operative times and widespread curriculum changes during the COVID-19 pandemic. These recent changes have increased residents' stress levels and adversity affected their future career plans. Additionally, COVID-19 has heralded an increase in virtual conferences and learning modules. Plastic surgery trainees expressed a preference for virtual educational platforms and interest in continuing virtual didactics in the future. This may irreversibly change the landscape of future plastic surgery training.

From the University of Miami, Miller School of Medicine, Division of Plastic, Aesthetic, and Reconstructive Surgery, Miami, FL.  
Received April 8, 2021.

Accepted for publication November 25, 2021.

Address correspondence and reprint requests to Sinan Kallo Jabori, MD, University of Miami Miller School of Medicine, Division of Plastic, Aesthetic, and Reconstructive Surgery, 1295 NW 14th St, Miami, FL 33136; E-mail: sinanjabori@med.miami.edu

Supplemental Digital Content is available for this article. Direct URL citations appear in the printed text and are provided in the HTML and PDF versions of this article on the journal's website, www.jcraniofacialsurgery.com.

The authors report no conflicts of interest.

Copyright © 2022 by Mutaz B. Habal, MD

ISSN: 1049-2275

DOI: 10.1097/SCS.00000000000008419

**Key Words:** COVID-19, pandemic, plastic surgery, surgical education, wellness

(*J Craniofac Surg* 2022;33: 1679–1683)

Coronavirus disease 2019 (COVID-19) pandemic has dramatic implications for the global healthcare system. Although certain essential hospital functions expanded (infectious disease and critical care), elective procedures experienced a steady decline. This was precipitated by a realization that (1) hospital resources could be subject to critical shortages,<sup>1</sup> and (2) nonurgent procedures would expose vulnerable patients to unnecessary risks. Specifically, The American College of Surgeons,

The American Society of Plastic Surgeons (ASPS), The Center for Medicare and Medicaid Services, and the American Medical Association recommended that elective, nonessential surgeries and procedures be delayed and postponed during the COVID-19 outbreak.<sup>2-5</sup> Although critically important to assist in “flattening the curve,” this poses significant challenge to traditional trainee education models. Resultant reductions in operative time and face-to-face clinical learning may affect trainees’ academic and professional development. Adaptive measures threaten trainee’s preparedness and paralyze their innovative leadership during future pandemics as they are involved in the decision-making process. The effect of delayed plastic surgery training will uncover with time.

Although elective surgeries were delayed, both trauma and craniofacial surgeries were sustained through the onset of the pandemic. The University of Washington piloted navigating OMS service guidelines to maintain the health of patients and protect providers and staff from unnecessary risk. All operative procedures were limited to urgent or emergent cases, also requiring a negative PCR test 72 hours before surgery.<sup>31</sup> Concurrently, UW defined “urgency”, those in which the patient’s health outcome would be adversely affected within a 2- to 4-week timeline. Telehealth consults were implemented to determine degree of urgency and for postoperative appointments. The pediatric surgical population is most notably tied to heightened urgency, especially with craniofacial surgery.<sup>33</sup> State guidelines were sparse, but hospitals managed to implement their respective protocols to preserve health and safety of patients and providers, as much as possible.

In response to these challenges, the Accreditation Council for Graduate Medical Education urged that the unnecessary transmission risks associated with educational activities should be avoided and advocated the adoption of remote learning educational activities.<sup>9</sup> These virtual learning activities represent a paradigm shift in surgical training, designed to mitigate the loss of “hands-on” training that require in-person presence and learning opportunities to thereby supplement resident learning.<sup>10,11</sup> Surgical trainees are facing many difficulties in regards to increasing demand for managing workload and providing additional support to their healthcare colleagues, whereas navigating the impact of COVID-19 on their wellbeing, family, community, and patients. To our knowledge, there is no current literature to suggest how this abrupt shift in training, schedule, and professional expectations will impact plastic surgery trainees and their well-being. This study attempts to capture the impact of these changes on the overall plastic surgery resident experience.

**METHODS**

An institutional review board application was requested and approved from the University of Miami. A 35-question survey was prepared and distributed using the University of Miami Qualtrics online interface. Survey was subdivided into 2 separate surveys: the first 1 was focused on Resident Exposure and Telemedicine and was followed by the second survey on Resident Wellness and Education. This paper reports only the survey on Resident Wellness and Education. Seventeen questions centered on the impact of COVID-19 on residents’ well-being, education and career plans. Results were collected for data analysis as shown in Supplementary Digital Content, Table 1, <http://links.lww.com/SCS/D620>. Survey included a consent script, which included the purpose of the study and an agree button to indicate participation in the study. Failure to complete the consent script terminated participation.

Link to the survey was sent via email on April 23, 2020 to all US accredited plastic surgery program directors (Integrated = 64 and Independent = 35) to be forwarded to plastic surgery residents and fellows at their institutions. A reminder email was sent on April 27, 2020 to program directors and coordinators. Email addresses of program directors and coordinators were obtained from the Accreditation Council for Graduate Medical Education website using the public programs search function.<sup>12,13</sup> Email included a link to the survey and contact information of the Principal Investigator. Responses to the survey were completely anonymous. Completion was voluntary. Residents were given the option to participate in a raffle to win a \$50 amazon gift card through submitting their email address on a separate Google Form. Results were collected for 3 weeks from the initial date of the delivery.

**RESULTS**

Between April 23rd and May 10th, 103 survey responses were submitted. Of those, 69 were completed and included in the analysis. A total of 69 trainees (52 integrated residents and 17 independent fellows) from 18 states responded. Fifty-one percent were male, 49% were female. Fifty-six percent of trainees plan to complete a fellowship program after graduation. Thirty-one percent will join private practice. Fifty-six percent of integrated trainees planned to pursue fellowship programs. Sixty-three percent independent trainees reported pursuing private practice. Nine percent of trainees stated changes in post-graduation plans due to the pandemic, 67% were senior residents/fellows. Of those whose plans changed due to COVID-19 pandemic, 56% opted to pursue additional fellowship training because of reduced operative time and cancelations of elective surgeries (50%), the limited availability of private practice jobs (37.5%), and financial reasons (12.5%) shown in Figure 1. [MOU4] Ninety-seven percent of trainees reported having reduction in their operative time during the COVID-19 pandemic, utilizing the nonoperative time for online education modules (84%), educational readings (82%), research (80%), leisure activities (74%), self-care (meditation, exercise) (74%), home chores (71%), family (40%), and mentoring (17%) as displayed in Figure 2. [MOU5] Twelve percent reported being concerned about not meeting necessary requirements to finish their residency and graduate on time. Seventy-six of trainees expressed concerns about the health and safety of themselves,

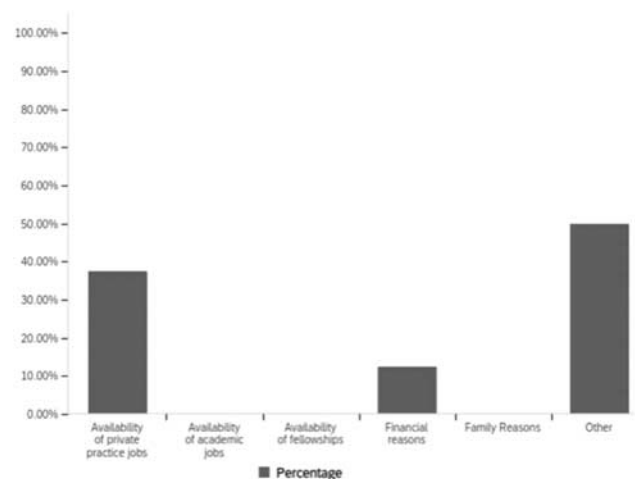


FIGURE 1. Factors that impacted residents’ decision to change their postgraduation plans.

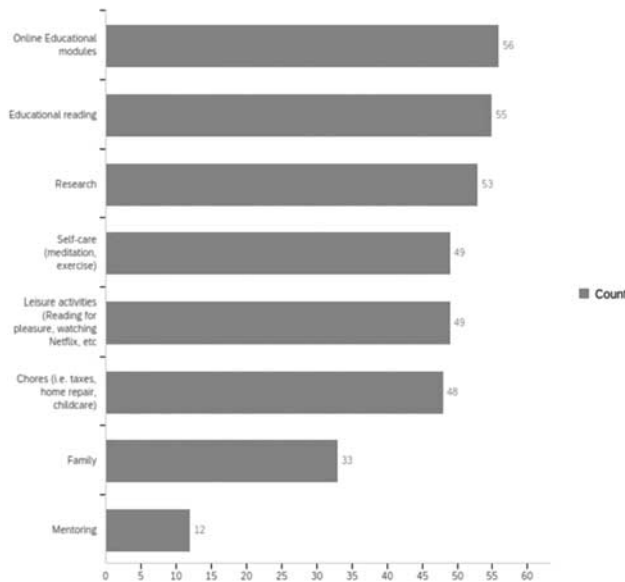


FIGURE 2. Activities performed by residents during nonoperative time.

family and loved ones. Forty-nine percent of trainees reported increased levels of stress since the onset of the pandemic as shown in Supplementary Digital Content, Table 2, <http://links.lww.com/SCS/D620>.

Plastic surgery trainees learned about national webinars through emails from professional society (83%), co-resident/fellow (77%), program director emails (74%) and social media (22%).

Participation was mostly through virtual platform modalities. Zoom and Webex were the most preferred. Less interactions with colleagues and faculty was the biggest barrier to adopting virtual conferences. Despite this, 72% agreed that having grand rounds, didactics and journal clubs online increased attendance. Even though 88% of respondents expressed interest in attending professional society sponsored virtual grand rounds in the future, only 12% reported that these grand rounds were made mandatory by their program.

## DISCUSSION

Coronavirus disease 2019 pandemic and its widespread impact on healthcare significantly impacted the training and well-being of plastic surgery trainees. In order to mitigate the effect of transmission of the virus among healthcare workers, multiple academic institutions restructured their clinical curriculum with the goal to minimize exposure to COVID-19 and protect both patients and the surgical resident workforce. Although these changes have been qualitatively described, our study reports (to our knowledge) the first quantitative analysis of plastic surgery training changes due to the COVID-19 pandemic.

### Consequences of Reducing Operative Time

Residents' operative experiences were curtailed due to wide cancellations of elective surgery cases. Ninety-seven percent of surveyed plastic surgery residents reported a significant reduction in operative experience, in accordance with guidance from ASPS, American College of Surgeons, American Medical Association, and Centers for Medicare & Medicaid Services.<sup>2-5</sup> These guidelines, although aimed to limit exposure of healthcare workers and mitigate acute PPE shortage, will irreversibly impact the landscape of surgical education.

Certification by the American Board of Plastic Surgery has rigorous standards.<sup>29</sup> Required prerequisite trainings for residents include abdominal, oncologic/breast, pediatric, transplant, and vascular surgery, surgical critical care, surgical oncology, and trauma management. Suggested prerequisite experiences include oculoplastic, orthopedic, and oral and maxillofacial surgery, acute burn management, anesthesia, and dermatology. Requisite training follows, including experience in congenital defects of the head and neck, head and neck surgery, craniomaxillofacial trauma, aesthetic surgery, plastic surgery of the breast, lower extremities, trunk, and genitalia, surgery of the hand/upper extremity, burn reconstruction, microsurgical techniques, reconstruction by tissue transfer, and surgery of benign and malignant lesions of skin and tissue. Trainees entering integrated training programs must complete all requisite trainings, and frequently are exposed to an array of prerequisite trainings, as well.

A significant question is how residents will respond to such decrease in surgical volume due to the pandemic. Notably, residents gained other valuable skills and experiences through navigating the COVID-19 pandemic. Responses from our survey showed that trainees invested their nonoperative time in educational reading, online modules, research, leisure and self-care activities.

Some (28%) residents expressed either agreement or an unknown sentiment about concerns of completing residency training. Surgical case numbers are not the sole determinant of physician competence or ability to graduate from training. Rather, fitness for graduation and practice is determined by competence in all the required realms of plastic surgery. Failure to achieve case minimums is a critical aspect when determining program accreditation.<sup>18</sup> Disruptions may impact case minimums or exposures, especially those more difficult to fulfill by residents. In response to such disruptions, the American Board of Medical Specialties declared necessity to provide flexibility with training and program adaptations.<sup>30</sup>

Consistent with results from an accompanying survey, trainees were asked to cover shifts outside the scope of their practice or join a COVID-19 team, such as assistance in ICU or patient admitting, possibly reducing operative time. Plastic surgeons widened their scope of practice to cover roles traditionally delegated to general surgery. This was necessary to allow ICU trained general surgeons focus attention on ICU care.

We cannot rule out possibility that some institutions ignored guidelines to reduce elective procedures. A study by Wang et al<sup>16</sup> at the Shanghai Jiao Tong University School of Medicine in China published their experiences with infection control measures, advocating for a careful balance between potential risk of infection and continuing medical service. Regardless, the nationwide halt on elective procedures raises questions about the adherence to national guidelines and which institutions allowed their residents to continue operating.

Although urgent procedures, such as pediatric craniofacial and trauma procedures, continued, further research suggests that healthcare providers who work in the head and neck region are disproportionately impacted by severe respiratory infection caused by COVID-19.<sup>32</sup> Though long-term implications of deterring surgical procedures have not been reported, it is probable that this tactic preserved the safety of healthcare providers.

### New Models of Learning

Traditional in-person conferences and learning sessions transitioned to remote through the use of new electronic virtual platforms.<sup>11</sup> Previously reported benefits to virtual learning in-

clude capacity to revisit recorded sessions, user-friendly accessibility to both clinical material and key articles, and the ability to interact with learners globally.<sup>20</sup> Plastic surgeons are seen by other specialties as imaginative, original, and inventive, seen in complexity and diversity of procedures and less-frequent standardized protocols. In fact, national virtual grand rounds may lend benefit to standardize procedures with experts sharing knowledge on a global level. In response to the COVID-19 pandemic, majority of residents (>80%) reported attending virtual grand rounds from ASPS, Aesthetic Surgery Journal, and their home institution. Additionally, most residents reported either virtual attendance or recommendation of the Aesthetic Society Traveling Professor webinar series, shown in Supplementary Digital Content, Table 3, <http://links.lww.com/SCS/D620>. This reflects effort to supplement education despite minimized opportunities to gain equal exposure to in-person surgical training. Despite difficulties, half of trainees preferred these sessions over in-person. It appears to increase attendance.

Attempts to increase virtual exposure included Aesthetic Surgery Journal with the Division of Plastic and Reconstructive Surgery at Emory University School of Medicine hosting weekly Virtual Grand Rounds via Zoom and the ASPS and the International Microsurgery presented multiple Grand Round Series with attendance reaching up to 520 participants from all over the world.<sup>23</sup> These platforms may provide learning opportunities for educators to adapt when formal traditional education is disrupted.

## RESIDENTS' WELLBEING

It is imperative for leaders to be mindful of the impact of COVID-19 pandemic on residents' wellbeing. Reported increasing stress levels of residents (76% report increased concern) shed light on the wide scope of effect. Surgical educators should provide residents with the resources, time and space to acclimate to this rapidly evolving new environment. Finding a balance between setting productivity goals and allowing time for processing is essential for wellbeing.

Our study has several limitations. Most obvious was non-responding bias. This contributed to our small sample size of 69 respondents. Low response rate likely resulted from overload of surveys, stress from the pandemic, resume academics duties amidst changing schedules, and voluntariness of completion. Additionally, some program directors might not have distributed the survey to their residents. Second, the survey was written based on the authors consensus and was not validated. Third, our results reflect responses from residents during a particular time of the pandemic. As the situation continues to evolve, it is possible that residents' perceptions and concerns have changed. Fourth, the data are based on residents' self-reports. Percentages may be an overreported or underreported attributing to differing perceptions of the changes according to the geographic region and the level of trainees' education. Because most of the respondents were integrated residents, our study may represent the perceptions and experiences of integrated plastic surgery residents. Study participation by independent residents was low compared to integrated residents, presumably because the number of independent programs compared to the integrated programs.

## CONCLUSIONS

Results from our survey demonstrated that the overwhelming majority of plastic surgery residents have had reductions in operative times and experienced widespread curriculum changes during the COVID-19 pandemic. These recent events have

increased residents' stress levels and affected their future career plans. Additionally, COVID-19 has heralded an increase in virtual conferences and learning modules. Plastic surgery trainees expressed a preference for virtual educational platforms and interest in continuing such didactic activities in the future. This may irreversibly change the landscape of plastic surgery training. Further research is needed to determine the long-term effect of the pandemic on surgical education and residents' health.

## REFERENCES

1. Ranney ML, Griffeth V, Jha AK. Critical supply shortages – the need for ventilators and personal protective equipment during the COVID-19 pandemic. *N Engl J Med* 2020;382:e41
2. American Society of Plastic Surgeons. ASPS Guidance Regarding Elective and NonEssential Patient Care. Available at: <http://email.plasticsurgery.org/q/12EC50dbrptNnCCaBimf8m0W/wv>. Accessed April 24, 2020
3. American College of Surgeons. COVID-19: Elective Case Triage Guidelines for Surgical Care. Available at: <https://www.facs.org/covid-19/clinical-guidance/elective-case>. Accessed April 24, 2020.
26. Centers for Medicare & Medicaid Services. Non-Emergent, Elective Medical Services, and Treatment Recommendations Available at: <https://www.cms.gov/files/document/cms-nonemergent-elective-medical-recommendations.pdf>. Accessed April 24, 2020.
27. American Medical Association. AMA Praises Government on Elective Surgery Guidelines During Pandemic. Available at: <https://www.ama-assn.org/press-center/ama-statements/ama-praisesgovernment-elective-surgery-guidelines-during-pandemic>. Accessed April 24, 2020
5. American Medical Association. AMA Praises Government on Elective Surgery Guidelines During Pandemic. Available at: <https://www.ama-assn.org/press-center/ama-statements/ama-praisesgovernment-elective-surgery-guidelines-during-pandemic>. Accessed April 24, 2020
6. Halsted WS. The training of the surgeon. *Medicine A Treasury of Art and Literature* New York, NY: Harkavy Publishing Service; 1991:267–271
7. 2018 Plastic Surgery Statistics Report. (2018). Retrieved June 13, 2020. Available at: <https://www.plasticsurgery.org/documents/News/Statistics/2018/plastic-surgery-statistics-full-report-2018.pdf>
8. World Health Organization. Rational Use of Personal Protective Equipment for Coronavirus Disease (COVID-19) and Considerations During Severe Shortages. Interim Guidance: 6 April 2020. Geneva: WHO, 2020. Available at: [www.http://WHO-2019-nCov-IPC\\_PPE\\_use-2010.3-eng.pdf](http://WHO-2019-nCov-IPC_PPE_use-2010.3-eng.pdf). Accessed April 24, 2020
9. Accreditation Council for Graduate Medical Education. "ACGME Response to Coronavirus (COVID19)." Last Updated, March 18, 2020. Available at: <https://acgme.org/Newsroom/NewsroomDetails/ArticleID/10111/ACGME-Response-to-the-Coronavirus-COVID-19>. Accessed March 20, 2020
10. APA Cho, Min-Jeong MD\*; Hong, Joon Pio MD, PhD, MMM† Plastic Surgery Education during the COVID-19 Disease 2019 Outbreak, Plastic and Reconstructive Surgery - Global Open: May 13, 2020 - Volume Latest Articles - Issue - doi: 10.1097/GOX.0000000000002925
11. Chick RC, Clifton GT, Peace KM, et al. Using Technology to Maintain the Education of Residents during the COVID-Pandemic. *J Surg Educ* 2020;77:729–732
12. American Council of Academic Plastic Surgeons. Plastic Surgery - Integrated Programs. Available at: [acaplasticsurgeons.org/multimedia/files/ACGME/Integrated-Plastic-Surgery-Programs.pdf](http://acaplasticsurgeons.org/multimedia/files/ACGME/Integrated-Plastic-Surgery-Programs.pdf). Accessed August 28, 2018
13. American Council of Academic Plastic Surgeons Plastic Surgery Programs. Available at: [acaplasticsurgeons.org/multimedia/files/ACGME/IndependentResidency-Programs.pdf](http://acaplasticsurgeons.org/multimedia/files/ACGME/IndependentResidency-Programs.pdf). Accessed August 28, 2018
14. Daniel Y. Cho MD PhD, Jenny L. Yu MD, Grace T. Um MD, Christina M. Beck MD PhD, Nicholas B. Vedder MD, Jeffrey B. Friedrich MD MC. The Early Effects of COVID-19 on Plastic

- Surgery Residency Training: The University of Washington Experience. *Plastic and Reconstructive Surgery Advance Online Article*. DOI: 10.1097/PRS.0000000000007072
15. Hoinig, Leonard J. In memoriam: physicians who have died of COVID-19 in the United States. *Clin Dermatol* 2020;38:771–772
  16. Wang Z, Wang W, Bai T. Our experiences with plastic and reconstructive surgery procedures during coronavirus disease 2019 pandemic. *Plast Reconstr Surg Glob Open* 2020;8:e2868
  17. Zhang Y, Ma ZF. Impact of the COVID-19 pandemic on mental health and quality of life among local residents in Liaoning Province, China: a cross-sectional study. *Int J Environ Res Public Health* 2020;17:2381
  18. Knox AD, Gilardino MS, Kasten SJ, et al. Competency-based medical education for plastic surgery: where do we begin? *Plast Reconstr Surg* 2014;133:702e–710e
  19. Accreditation Council for Graduate Medical Education. Defined Category Minimum Numbers for General Surgery Residents and Credit Role Review Committee for Surgery Available at: <https://www.acgme.org/Portals/0/DefinedCategoryMinimumNumbersforGeneralSurgeryResidentsandCreditRole.pdf> 05/2019
  20. Palan J, Roberts V, Bloch B, et al. The use of a virtual learning environment in promoting virtual journal clubs and case-based discussions in trauma and orthopaedic postgraduate medical education: the leicester experience. *J Bone Joint Surg Br* 2012;94:1170–1175
  21. American College of Surgeons. (2020, March 30). Deployment of Surgeons for Out-of-Specialty Patient Care. Available at: <https://www.facs.org/covid-19/clinical-guidance/workforce-deployment>
  22. Foad Nahai, MD, Jeffrey Kenkel, MD, Accelerating Education During COVID-19 Through Virtual Learning, *Aesthetic Surgery Journal Open Forum*, ojaa023, Available at: <https://doi.org/10.1093/asjof/ojaa023>
  23. Kwon SH, Goh R, Wang ZT, et al. Tips for making a successful online microsurgery educational platform: the experience of international microsurgery club. *Plast Reconstr Surg* 2019;143:221e–233e
  24. Laurance J. Surgeons should train on simulators like pilots. *The Independent* London, UK: Independent News and Media, Ltd; 2009
  25. Sonnadara RR, Van Vliet A, Safir O, et al. Orthopedic boot camp: examining the effectiveness of an intensive surgical skills course. *Surgery* 2011;149:745–749
  26. Holland JP, Waugh L, Horgan A, et al. Cadaveric hands-on training for surgical specialties: is this back to the future for surgical skills development? *J Surg Educ* 2011;68:110–116
  27. Blyth P, Stott NS, Anderson IA. A simulation-based training system for hip fracture fixation for use within the hospital
  28. Ishak WW, Lederer S, Mandili C, et al. Burnout during residency training: a literature review. *J Grad Med Educ* 2009;1:236–242
  29. ACGME. (n.d.). ACGME Residency Requirements. Available at: <https://www.abplasticsurgery.org/media/18332/2020-21-BOI-Training-Section.pdf>
  30. ABMS Member Boards Allow Flexibility During COVID-19 Pandemic (2020, November 19). Retrieved January 02, 2021. Available at: <https://www.abms.org/news-events/abms-member-boards-allow-flexibility-during-covid-19-pandemic/>
  31. Panesar K, Dodson T, Lynch J, et al. Evolution of covid-19 guidelines for University of Washington oral and maxillofacial surgery patient care. *J Oral Maxillofac Surg* 2020;78:1136–1146
  32. Andrews BT, Garg R, Przylecki W, et al. COVID-19 pandemic and its impact on craniofacial surgery. *J Craniofac Surg* 2020;31:e620–e622
  33. Schoenbrunner A, Sarac B, Gosman A, et al. Considerations for pediatric craniofacial surgeons during the covid-19 outbreak. *J Craniofac Surg* 2020;31:e618–e620



*The Journal of Craniofacial Surgery is presented to the outstanding teacher in plastic surgery at the University of Miami by Dr. Thaller, a member of the journal board.*