

Letter: COVID-19 Impact on the Medical Student Path to Neurosurgery

To the Editor:

In the wake of the coronavirus disease 2019 (COVID-19) pandemic, medical education has undergone a rapid fundamental, albeit temporary, change. New obstacles have arisen for medical educators in the process of ensuring continued learning for medical students during a time when students have been removed from clinical work and relegated to virtual learning platforms. For medical students interested in pursuing neurosurgery as a subspecialty, educational policies surrounding COVID-19 present unique challenges.

To combat limitations in opportunities for observation and participation in clinical and operative neurosurgery, it is essential to strategize methods to keep students engaged with the field.¹ In the following discussion, we highlight specific obstacles faced by neurosurgery-bound medical students during the COVID-19 pandemic. Additionally, we highlight ways in which students are being proactive during this time and offer solutions for medical educators and neurosurgical organizations.

INSTITUTIONAL CHANGES

In early March 2020, Weill Cornell Medicine suspended all medical student teaching in clinical care settings amidst the continued rise in COVID-19 cases in New York City. This ushered in a transformation of the core clinical curriculum to a remote, online platform for students of all years. Institutional policies also mandated a halt of basic and translational science research in laboratories for experiments considered “nonessential.” Virtual clinical electives within different medical specialties became available for students currently in their clerkship year to participate in the care of COVID-19 patients and remain clinically engaged. These were coupled with independent research electives for students already working on clinical research projects with faculty mentors.

IMPACT ON CLINICAL EXPERIENCES

For preclinical medical students interested in neurosurgery, COVID-19 policies have restricted opportunities to interact with the department in an effort to seek out potential mentors and to explore neurosurgical interests in the operating room, clinic, and the research space. However, neuroanatomy learning modules, which traditionally have been offered virtually at our institution, remain relatively unaffected.

The clerkship year is crucial for accruing clinical experience and testing interests in various clinical subspecialties.^{2,3} Students in their clinical year have had surgery, neurology, and other

clerkships either short-ended or postponed indefinitely, limiting vital clinical experience. Replacement with virtual clinical electives understandably cannot fully help students acquire surgical skills or neurosurgery-specific clinical skills.

In light of these new policies, there have been discussions towards changing clerkship grading. In particular, the National Board of Medical Examiners shelf exams, which make up a large component of overall clerkship grades, will now be administered remotely on an honor system. With potential limitations on accountability during this process, there is uncertainty surrounding the validity of exam scores and, consequently, clerkship grades. Some institutions have also begun implementing a pass/fail grading system for these shelf exams.

IMPACT ON NEUROSURGICAL RESEARCH PRODUCTIVITY

The pause on basic and translational science for medical students at our institution has resulted in a shift towards clinical research. In response, many postclerkship, third-year medical students currently conducting wet-lab research have had to modify their projects or adapt entirely new ones that can be completed remotely. Additionally, the curricular changes created uncertainty for first-year students surrounding neurosurgical research opportunities for the summer between first and second years. These restrictions might act to halt the momentum that students might otherwise be able to build early on in their academic careers. Alternatively, an increasing number of students might feel pressured to undertake a research year to make up for the lost opportunities during these times. If such is the case, a potentially disrupting rise in the number of residency applications may follow in next year's residency application cycle.

By contrast, there has been a surge of research questions and projects specifically related to COVID-19. As a natural consequence of the increased amount of COVID-19-related research, students wishing to propose non-COVID research projects are facing dramatically increased processing times by the Institutional Review Board (IRB). Hence, those without an existing IRB approval might feel more inclined to pursue projects that can proceed without such approval, such as meta-analyses and literature review.

IMPACT ON PREPARATION FOR NEUROSURGICAL RESIDENCY

Subinternship rotations and the interview trail are both threatened by the current COVID-19 landscape. In addition to the lost letters of recommendation, cancellation of subinternships removes the opportunity for medical students to impress in a clinical environment. Elimination of subinternships from the


application process can thus be expected to be advantageous to those with “numerical” advantages, which may prove problematic in a field where the intangibles are so valuable.

ADAPTING TO CHANGING CIRCUMSTANCES

We conclude with potential solutions to issues being exposed by COVID-19 in neurosurgical education, some of which are already being implemented at our institution. First, it is important for academic institutions and neurosurgical organizations to understand the impact that this pandemic is having on students in real-time to help make effective policy changes. Second, we encourage medical student neurosurgery interest groups to capitalize on increased availability of now-remote students to form collaborative research groups. Third, neurosurgical communities should utilize virtual platforms to offer educational and mentorship opportunities for medical students. Inclusion of neurosurgery-minded students in virtual department educational meetings would enhance student learning and ensure accessibility of the department to students. Lastly, many elements of preparedness programs⁴ could be converted into virtual webinars. For example, webinars on neurosurgical residency application and subinternship preparation strategies by program directors could offer key insights to medical students of all years.

Disclosures

The authors have no personal, financial, or institutional interest in any of the drugs, materials, or devices described in this article.

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