

Since January 2020 Elsevier has created a COVID-19 resource centre with free information in English and Mandarin on the novel coronavirus COVID-19. The COVID-19 resource centre is hosted on Elsevier Connect, the company's public news and information website.

Elsevier hereby grants permission to make all its COVID-19-related research that is available on the COVID-19 resource centre - including this research content - immediately available in PubMed Central and other publicly funded repositories, such as the WHO COVID database with rights for unrestricted research re-use and analyses in any form or by any means with acknowledgement of the original source. These permissions are granted for free by Elsevier for as long as the COVID-19 resource centre remains active.

LETTER TO THE EDITOR

Letter to the Editor Regarding "Early Changes to Neurosurgery Resident Training During the COVID-19 Pandemic at a Large U.S. Academic Medical Center"



LETTER:

have read with interest the recently published paper "Early Changes to Neurosurgery Resident Training During the COVID-19 Pandemic at a Large U.S. Academic Medical Center" by Burks et al. In the article, the authors shared their experience during the COVID-19 pandemic on neurosurgery resident training.

Since China reported the first cases to date, COVID-19 has spread across all continents, causing an international health crisis. In Cuba, the first cases of COVID-19 appeared late in relation to other countries in the region. The first infected person was confirmed on March 11, 2020. The first imported case died on March 18, and on March 26 the first Cuban.²

Various restrictive measures have been taken to limit the spread of the disease, mainly social distancing, but despite this, medical specialists and residents in general have continued to treat patients with a progressive increase in the use of personal protection elements. However, not all medical specialties have been lucky enough to be able to continue working on a regular basis, as is the case with neurosurgery, in which the volume of patients has decreased. There are even centers where residents were reassigned to deal directly with COVID-19—positive patients. Likewise, there was a significant reduction in surgical procedures, limiting care only for surgeries that could not be deferred.

The current situation presents a great challenge for medical-surgical training. Neurosurgery residents have found it necessary to look for tools to continue with our training. We have continued to use technology in patient analysis, decision making, and surgical planning in order to make the most of the time during our residency.

The follow-up of patients in their late postoperative period is carried out by telemedicine, with e-mail and instant messaging containing photographs to allow for evaluation and follow-up as detailed as possible. The surgical part of resident training has been affected by the decrease in elective surgeries.

Surgeries, outpatient consultation, and daily rounds are carried out with the least number of residents possible with all recommended security measures. However, residents have shown concern because the clinical and surgical experience is not the same; interpersonal relationships between doctors-patients and residents-teachers in the outpatient clinic have been affected.

Despite the impact that this pandemic is having on our surgical training, we residents have benefited, at least academically, because we have been able to dedicate time to research and scientific publication. We have also noticed an increase in teaching activity in a virtual way and have seen how our teachers can offer us more time and dedication.

The Cuban medical education of neurosurgery residents will surely face changes because of the social, political, economic and epidemiologic events triggered by the COVID-19 pandemic.

The transformation of educational systems and the incorporation of techniques and resources that allow greater versatility, without the need to be anchored in a system lacking technology, should be a priority. Likewise, it is necessary to continue with the extension of accessible resources to students and the constant updating of teachers.³

The arrival of the coronavirus requires the adaptation of neurosurgery training programs so that residents receive the required training without compromising the continuity and quality of the graduate specialist.

Leonel Gustavo Céspedes-Tamayo

Hospital Surgical Clinic "Lucía Íñiguez Landín," Holguín, PC, Cuba To whom correspondence should be addressed: Leonel Gustavo Céspedes-Tamayo, M.D. [E-mail: leonelitocuba@outlook.com]

Conflict of interest statement: The authors declare that the article content was composed in the absence of any commercial or financial relationships that could be construed as a potential conflict of interest.

https://doi.org/10.1016/j.wneu.2021.06.057.

REFERENCES

- I. Burks JD, Luther EM, Govindarajan V, Shah AH, Levi AD, Komotar RJ. Early changes to neurosurgery resident training during the COVID-19 pandemic at a large U.S. academic medical center. World Neurosurg. 2021;144:e926-e933.
- Céspedes-Tamayo LG, Ulloa-Cedeño HA. Cuban medical residents during COVID-19 [e-pub ahead of print]. Educación Médica. Available at: https://doi.org/10. 1016/j.edumed.2020.10.001, accessed June 10, 2021.
- Céspedes-Tamayo LG, Salomón-Vila AM, Augello-Díaz SA. Challenges and opportunities for Cuban medical education during COVID-19 [e-pub ahead of print]. Educación Médica. Available at: https://doi.org/10.1016/j.edumed.2021.01.006, accessed June 10, 2021.