Virtual mentorship

- The impact of a neurosurgical boot camp upon medical student preparedness for sub-internships
- The Co-Pilot Project in wartime: lessons from Lviv, Ukraine
- Implementing a global mentoring program: A call to action for mentorship in surgery
- Non-technical skills for neurosurgeons: An international survey
- Augmented Reality (AR) in Surgery in Low- and Middle-Income Countries (LMICs): A Scoping Review
- Surgical mentorship in low-resource environments: Opportunities and challenges, a perspective
- International Hackathon as a Tool to Augment Education, Collaboration, and Innovation in Global Neurosurgery
- Strengthening neurosurgical training programs in Sub-saharan Africa: a medical student's perspective

---

Virtual mentorship and research programs are becoming increasingly popular to facilitate education and career development for students and residents.

Charles et al. developed a virtual educational event for undergraduate students entitled “Future Leaders in Neurosurgery Symposium for Underrepresented Students'' (FLNSUS). The primary objectives of the FLNSUS were to expose attendees to 1) neurosurgeons from diverse gender, racial, and ethnic backgrounds; 2) neurosurgical research; 3) opportunities for neurosurgical mentorship; and 4) information about life as a neurosurgeon. The authors hypothesized that the FLNSUS would increase student self-confidence, provide exposure to the specialty, and reduce perceived barriers to a neurosurgical career.

To measure the change in participant perceptions of neurosurgery, pre- and postsymposium surveys were administered to attendees. Of the 269 participants who completed the presymposium survey, 250 participated in the virtual event and 124 completed the postsymposium survey. Paired pre- and postsurvey responses were used for analysis, yielding a response rate of 46%. To assess the impact of participant perceptions of neurosurgery as a field, pre- and postsurvey responses to questions were compared. The change in response was analyzed, and a nonparametric sign test was performed to check for significant differences.

According to the sign test, applicants showed increased familiarity with the field ($p < 0.001$), increased confidence in their abilities to become neurosurgeons ($p = 0.014$), and increased exposure to neurosurgeons from diverse gender, racial, and ethnic backgrounds ($p < 0.001$ for all categories).

These results reflect a significant improvement in student perceptions of neurosurgery and suggest that symposiums like the FLNSUS may promote further diversification of the field. The authors anticipate that events promoting diversity in neurosurgery will lead to a more equitable workforce that will ultimately translate to enhanced research productivity, cultural humility, and patient-centered care in neurosurgery [1)].

Koller et al. reviewed virtual research initiatives for early trainees in neurosurgery and describe the effort to expand access to resources and shared objective mentorship (SOM) via the novelNeurosurgery Education and Research Virtual Group (NERVE).

A systematic review of neurosurgical programming delivered via a virtual platform was conducted using PubMed, Embase, and Scopus databases. Identified articles were screened. Those meeting prespecified inclusion criteria were reviewed in full and examined for relevant data. Data analysis was performed using Microsoft Excel, and means and standard deviations were calculated. Descriptive analysis of NERVE characteristics was also performed.

Of the 2438 identified articles, 10 were included. The most common (70%) implementation style was a webinar-based lecture series. The least common (10%) was a longitudinal curricular interest group. Of the total NERVE cohort, 90% were first generation medical students and 82% attended institutions without home programs. Survey results indicated 73.8% had contributed to at least 2 research projects throughout the year.

There is a scarcity of virtual neurosurgical resources which facilitate SOM opportunities for trainees. In the systematic review, NERVE is the only multi-institutional virtual initiative aimed at increasing access to neurosurgical education and research opportunities for the purpose of SOM among early trainees from disadvantaged backgrounds. This highlights the group's niche and potential impact on increasing diversity in neurosurgery, improving trainees' career development, and facilitating future resident research productivity [2)]

1)
Charles AJ, Seas A, Corley J, Duvall JB, Owolo E, Abu-Bonsrah N, Elsamadicy AA, Simpson V, Sanusi O, Holly LT, Rodriguez A, Nduom EK, Levi AD, Liau LM, Quiñones-Hinojosa A, Karikari I, Grant G, Fuller AT, Goodwin CR. Promoting diversity in neurosurgery through a virtual symposium. J Neurosurg. 2023 Mar 10:1-8. doi: 10.3171/2023.1.JNS221743. Epub ahead of print. PMID: 36905659.
2)
Koller GM, Reardon T, Kortz MW, Shlobin NA, Guadix SW, McCray E, Radwanski RE, Snyder HM, DiGiorgio AM, Hersh DS, Pannullo SC. Shared Objective Mentorship via Virtual Research and Education Initiatives for Medical Students and Residents in Neurosurgery: A Systematic Review and Methodological Discussion of the Neurosurgery Education and Research Virtual Group Experience. World Neurosurg. 2023 Jan 13;172:20-33. doi: 10.1016/j.wneu.2023.01.035. Epub ahead of print. PMID: 36646418.