



## Fostering Student Interest in Neurologic Surgery: The University of Pittsburgh Experience

Ahmed Kashkoush, Rafeey Feroze, Stephanie Myal, Arpan V. Prabhu, Alexandra Sansosti, Daniel Tonetti, Nitin Agarwal

■ **INTRODUCTION:** Early involvement and research in neurosurgery can increase chances for medical students to matriculate successfully into residency. This study reports the creation of a Neurological Surgery Interest Group (NSIG) at the University of Pittsburgh School of Medicine and shares its activities over 2 academic years.

■ **METHODS:** In October 2014, the University of Pittsburgh School of Medicine's NSIG was created to augment medical student interest in neurosurgery. The group consisted of 4 appointed officers for a membership base of 100 students. In June 2015, a neurosurgery resident and faculty member joined as mentors. A research committee of 14 medical students was created to conduct collaborative research projects with the department. In August of 2015 and 2016, surveys were sent out to the research committee regarding research productivity.

■ **RESULTS:** The NSIG hosted 17 medical student-oriented events over 2 years, including didactic and suturing workshops, senior faculty panels, postmatch talks, and a neurosurgery networking dinner. A survey of students about scholarly achievement in neurosurgery reported 17 accepted publications in peer-reviewed journals with a mean impact factor of  $3.5 \pm 2.5$ . Ten abstracts were submitted to the 2015 and 2016 American Association of Neurological Surgeons Scientific Meetings, with a 100% acceptance rate. An increase in the number of students matching from our institution into neurosurgery residencies was observed following the group's inception.

■ **CONCLUSIONS:** An NSIG can be mutually beneficial to both medical students and an institution's neurosurgical department. This study's findings may be applied to

numerous specialties and across various academic institutions.

### INTRODUCTION

Neurosurgery is one of the most competitive medical specialties in the United States.<sup>1</sup> Students are encouraged to begin focused research, develop faculty connections, and gain operating room experience early in their medical school careers to be strong residency applicants. Neuroscience has been reported to be among the top 6 undergraduate majors before matriculation into medical school,<sup>2</sup> suggesting that many students begin with a high level of interest in neurologic disease and research. However, a much smaller fraction of medical students applies for neurosurgery residency. This may be in part due to inadequate or late exposure to neurosurgery during medical school.<sup>1</sup> A survey conducted of medical schools with affiliated neurosurgery programs revealed that 59% of medical school deans did not believe that neurosurgery needed to be a required clerkship, and only 33% of schools offered neurological surgery rotations to third-year students.<sup>3</sup>

Various methods have been used at medical schools to increase medical student exposure to neurosurgery. Vanderbilt Medical School has recently taken the initiative to offer a neurosurgery elective for first- and second-year medical students, consisting of journal club meetings, student presentations, and faculty lectures.<sup>4</sup> Similarly, Rutgers New Jersey Medical School provided the option of a 2-week neurosurgery experience during the third-year joint Neurology and Psychiatry clerkship, provided access to summer research opportunities, and started a Neurologic Surgery Interest Group (NSIG). A resultant increase from 0.6 to 2.8 successful neurosurgery residency matches per

#### Key words

- Education
- Interest groups
- Mentorship
- Neurosurgery
- Scholarly activity

#### Abbreviations and Acronyms

**AANS:** American Association of Neurological Surgeons  
**NSIG:** Neurologic Surgery Interest Group

Department of Neurological Surgery, University of Pittsburgh Medical Center, Pittsburgh, Pennsylvania, USA

To whom correspondence should be addressed: Nitin Agarwal, M.D.  
[E-mail: agarwaln@upmc.edu]

Citation: *World Neurosurg.* (2017) 108:101-106.  
<http://dx.doi.org/10.1016/j.wneu.2017.08.125>

Journal homepage: [www.WORLDNEUROSURGERY.org](http://www.WORLDNEUROSURGERY.org)

Available online: [www.sciencedirect.com](http://www.sciencedirect.com)

1878-8750/\$ - see front matter © 2017 Elsevier Inc. All rights reserved.

year was observed following these steps.<sup>1</sup> Herein we share the 2-year impact of starting a NSIG at the University of Pittsburgh School of Medicine.

## METHODS

### Inception

An NSIG was founded at the University of Pittsburgh School of Medicine by 4 students and approved by the student council in October 2014. The group received approval as an American Association of Neurological Surgeons (AANS) chapter in 2014. The purpose of the interest group was to increase exposure of students at all levels of medical school to neurosurgery, foster mentorship between faculty/residents and students, provide shadowing opportunities, and augment access to research projects.

### Organization

Four officers were appointed to lead the group under the advisement of a neurosurgical resident and faculty member in 2015. In year 1 (2014–2015), officers were appointed by the previous year's leadership based on participation in activities and demonstrated interest. In year 2 (2015–2016), members applied for leadership positions and were selected based on their intended plans for the group. Leadership positions were held by second-year medical students, who served for a year and then turned over responsibilities to the next group of students. Group officers were tasked with organizing activities including suturing workshops, faculty/resident panels, didactic lectures, and research update meetings. Officers coordinated events with administrative staff within the department, who assisted in room reservation, food orders, and scheduling. Faculty and residents who participated in events did so on a voluntary basis, with the goal of recruiting ambitious students to research projects and potentially later as residents. Thus far, a group of 3–5 faculty members have been involved actively with the group in delivering didactic lunch talks. The University of Pittsburgh Department of Neurological Surgery and the American Academy of Neurology provided funding for activities. Medical students were recruited to the group's membership by attending and signing into group events, which were advertised via email to the student body. Membership continued into the subsequent year automatically, unless students explicitly requested discontinuation.

### Research Committee

In addition to regular membership, a subset of students began actively participating in collaborative projects as part of a research committee. This was initiated under the supervision of a resident mentor, who connected research ideas and students to the appropriate neurosurgery faculty. Students signed up for projects based on interest and were held accountable for completing projects from start to completion (data collection, analysis, manuscript generation, submission, and revision) by other members and the resident mentor. Importantly, projects were completed with a student-led approach, in which student autonomy and independence were stressed. Weekly meetings were held to update the group on progress and to formulate new ideas for publications.

## Data Collection and Analysis

Records of student participation in neurosurgical events, conference presentations, and research publications were maintained to evaluate the group's productivity. In addition, students completed a survey annually regarding their involvement and scholarly accomplishments during the previous school year. The number of students matching into neurologic surgery residency each year following the group's inception also was recorded. Statistical analysis was used to compare research productivity of NSIG and non-NSIG members who matched successfully into a neurosurgical program. A Wilcoxon rank-sum test was used to compare continuous variables and a Fisher exact test for categorical variables.

## RESULTS

An exclusive Web site was created by NSIG officers, which featured alumni who had matched into neurosurgery, links to resources for watching surgical videos, and information regarding the residency application process. On-call schedules also were added so that medical students could shadow, or observe, neurosurgical practice with the residents. To our knowledge, this was the first NSIG at the University of Pittsburgh School of Medicine that was formally recognized by AANS.

Eighty-nine student members (56 male, 33 female) were recruited to NSIG in year 1, which represented approximately 15% of the total student body (Table 1). Ninety-seven percent (97%) of members were either first- ( $n = 64$ ) or second-year ( $n = 22$ ) medical students. Membership grew to 145 NSIG members (90 male, 55 female) during year 2, which was 23% of the student body. The distribution of students consisted of 37% first-, 45% second-, 13% third-, and 3% fourth-year medical students. Five students revoked their membership between years 1 and 2. There were sixty new members (41%) during year 2.

NSIG hosted 17 medical student-oriented events over the course of Years 1 and 2 (Table 2). To provide students with an introduction to a diverse array of topics in neurosurgery, didactic workshops on

**Table 1.** Summary of NSIG Membership

Variable	Year 1 ( $n = 89$ )	Year 2 ( $n = 145$ )
Class		
MS-1	64 (71%)	54 (37%)
MS-2	22 (26%)	65 (45%)
MS-3	3 (3%)	19 (13%)
MS-4	0 (0%)	4 (3%)
Leave of absence	0 (0%)	3 (2%)
Sex		
Male	57 (63%)	90 (62%)
Female	33 (37%)	55 (38%)
New members	89 (100%)	60 (41%)
Total student body	596	630
NSIG, Neurosurgery Interest Group; MS, medical student-year.		

Download English Version:

<https://daneshyari.com/en/article/5633762>

Download Persian Version:

<https://daneshyari.com/article/5633762>

[Daneshyari.com](https://daneshyari.com)