



## Impact of Neurosurgery Medical Student Research Grants on Neurosurgery Residency Choice

Ahmed J. Awad, Christopher A. Sarkiss, Christopher P. Kellner, Jeremy Steinberger, Justin R. Mascitelli, Eric K. Oermann, Margaret Pain, Reade De Leacy, Raj Shrivastava, Joshua B. Bederson, J Mocco

■ **BACKGROUND:** Recent decades have seen a rapid expansion of involvement of medical students in biomedical research during medical school training. Research within medical school has been shown to influence medical students with regard to medical knowledge, career development, and residency specialty choice. The objective of this study was to evaluate the impact of neurosurgery medical student research grants on neurosurgery residency choice and provide an insight on the demographics of grant awardees.

■ **METHODS:** In this retrospective study, a search of award recipients was performed using data available on the American Association of Neurological Surgeons, Congress of Neurological Surgeons, and Neurosurgery Research and Education Foundation websites. Searched years included the first cycle of American Association of Neurological Surgeons/Neurosurgery Research and Education Foundation (2007) and Council of State Neurosurgical Societies/Congress of Neurological Surgeons (2008–2009) grant awards until the 2015–2016 cycle, which is the latest award cycle to date.

■ **RESULTS:** The initial search yielded 163 research grants that were awarded to 158 students between the years of 2007 and 2016. Among the 163 grant recipients, 126 (77.3%) were men. Among the 88 recipients who entered post-graduate residency programs, 51% (45 of 88) matched into neurosurgery residency. When considering both

neurosurgery and neurology residency programs, the percentage increased to 59.1% (52 of 88).

■ **CONCLUSIONS:** Neurosurgery grants for medical students are highly successful in producing future neurosurgeons with >50% of grant recipients matched into neurosurgery. Women are underrepresented in neurosurgery grants and neurosurgery residency programs. This situation can be improved by providing insight about the field early in medical school, perhaps through increased use of neurosurgery medical student grants.

### INTRODUCTION

Recent decades have seen a rapid expansion of involvement of medical students in biomedical research during medical school training.<sup>1</sup> This growth has included the expansion of M.D./Ph.D. programs, national and regional research grants and fellowships, and home medical school institutional funding. The National Institutes of Health—sponsored Medical Student Research Fellowship Programs,<sup>1</sup> the Howard Hughes Medical Institute research training programs,<sup>2</sup> and the Doris Duke clinical research fellowship program are 3 large programs in the United States that have sought to involve students within medical school training.<sup>3</sup>

Research within medical school has been shown to influence medical students with regard to medical knowledge, career

#### Key words

- AANS
- Awards
- CNS
- CSNS
- Neurologic surgery
- NREF

#### Abbreviations and Acronyms

**AANS:** American Association of Neurological Surgeons  
**CSNS:** Council of State Neurosurgical Societies  
**MSSRF:** Medical Student Summer Research Fellowship  
**NREF:** Neurosurgery Research and Education Foundation

Department of Neurosurgery, Icahn School of Medicine at Mount Sinai, Mount Sinai Health System, New York, New York, USA

To whom correspondence should be addressed: J Mocco, M.D., M.S.  
 [E-mail: [j.mocco@mountsinai.org](mailto:j.mocco@mountsinai.org)]

Citation: *World Neurosurg.* (2016) 92:349–352.  
<http://dx.doi.org/10.1016/j.wneu.2016.05.029>

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

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

1878-8750/\$ - see front matter © 2016 Elsevier Inc. All rights reserved.

development, and residency specialty choice. Several studies have looked at the impact of medical student research on specialty choice,<sup>1,4-6</sup> but none were specific to neurosurgery residency. The 2 main neurosurgery medical student grants sponsored by neurosurgical societies are the Medical Student Summer Research Fellowship (MSSRF) sponsored by the American Association of Neurological Surgeons (AANS) in conjunction with the Neurosurgery Research and Education Foundation (NREF), and the CSNS/CNS Medical Student Summer Fellowship in Socioeconomic Research sponsored by the Council of State Neurosurgical Societies (CSNS) in conjunction with the Congress of Neurological Surgeons (CNS). In this article, we evaluate the impact of neurosurgery medical student research grants on neurosurgery residency choice and provide insight on the demographics of grant awardees.

## MATERIALS AND METHODS

### Data Search

A retrospective study was performed using data available on the AANS, CNS, and NREF websites. The publicly available data include the name of the grant awardee, the name of the hosting institution, and the grant cycle. Searched years included the first cycle of AANS/NREF (2007) and CSNS/CNS (2008–2009) grant awards until the 2015–2016 cycle, which is the latest award cycle to date. For determining home medical school and postgraduate residency education, names of grant awardees were searched in home medical school match lists, neurosurgery residency program websites, Doximity ([www.doximity.com](http://www.doximity.com)), LinkedIn ([www.linkedin.com](http://www.linkedin.com)), and Google. In addition, grant coordinators were contacted for further information when specific data were missing.

### Data Extraction

Data extraction was performed by one of the authors (A.J.A.). The author extracted demographic and outcome data, including the awardee's name, sex, hosting institution, home medical school, and postgraduate residency education. The percentage of neurosurgery residency choice was calculated by dividing the number of research grant awards over the number of students who pursued postgraduate residency education. Students who were still in medical school, students who dropped out of medical school or did not pursue postgraduate residency programs, and students with indeterminate outcome were excluded from the percentage calculations but included in the demographic data.

## RESULTS

### Study Selection

The initial search yielded 163 research grants that were awarded to 158 students between the years of 2007 and 2016. There were 5 students who were awarded both the AANS/NREF and the CSNS/CNS grants. Of the 163 grants, 88 (53.9%) were received by students who matriculated in postgraduate residency programs. Of the remaining 75 grant recipients, 66 were still enrolled in medical school, 2 dropped out of medical school, 2 did not pursue postgraduate residency education, and 5 had indeterminate outcome.

### Demographics

There were 126 (77.3%) men among the 163 grant recipients. The institutions that most frequently hosted students included University of Toronto, Harvard University, Stanford University, and University of Rochester. Home medical schools that most frequently had research grant recipients included University of Toronto, Harvard University, University of Rochester, and Columbia University. **Tables 1** and **2** list hosting and home institutions of the grant recipients.

### Outcome

Among the 88 recipients who entered postgraduate residency programs, 51% (45 of 88) matched into neurosurgery residency. The next top residency program matches were neurology, internal medicine, and orthopedics. **Table 3** lists the specialty choice of residency programs among the 88 recipients. When considering both neurosurgery and neurology residency programs, the percentage increased to 59.1% (52 of 88). When considering sex of recipients in postgraduate residency education, 57.6% of male recipients entered into neurosurgery residency compared with 31.8% of female recipients.

## DISCUSSION

### MSSRF and CSNS/CNS Grants

Among the several neurosurgery grants and fellowships offered by neurosurgical societies, there are only 2 research grants available for medical students. The MSSRF is a research program sponsored by AANS/NREF that provides the opportunity to participate in neurosurgical research for 8 weeks over the summer within an academic department of neurosurgery in the United States or Canada. The program was launched in 2007 with 10 awards and is currently funding >20 awards. The MSSRF amount is \$2500 and requires an AANS member as a project mentor. Similarly, the Medical Student Summer Fellowship in Socioeconomic Research is a program sponsored by CSNS/CNS that supports a U.S. or a Canadian medical student conducting research on a

**Table 1.** Housing Institutions of Grant Recipients\*

Institution	Frequency
University of Toronto	9
Harvard University	8
Stanford University	8
University of Rochester	8
Columbia University	6
Duke University	5
New York University	5
University of Pennsylvania	5
University of California, San Francisco	5
University of Utah	5

\*Hosting institutions with  $\geq 5$  grant recipients are listed.

Download English Version:

<https://daneshyari.com/en/article/3094737>

Download Persian Version:

<https://daneshyari.com/article/3094737>

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