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# Letter to the Editor. A UK perspective on gender diversity in American neurosurgery training programs

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## Neurosurgical Forum LETTERS TO THE EDITOR

### A UK perspective on gender diversity in American neurosurgery training programs

TO THE EDITOR: For some time there has been no gender gap among students graduating from medical school, putting in sharp relief how far behind we are regarding gender equality in neurosurgery. We read with interest the article by Donaldson et al.,<sup>1</sup> in which the authors identified the large gender gap between men (82%) and women (18%) in US neurosurgical residency programs (Donaldson K, Callahan KE, Gelinne A, et al. Gender diversity in United States neurosurgery training programs. *J Neurosurg*. Published online January 29, 2021. DOI: 10.3171/2020.7.JNS192647). Most discouraging was the disparity seen in more senior and academic positions, with women representing only 8.7% of faculty, 6.4% of program directors, and 4.7% of full professors (or 9.9% of associate professors).

The authors highlight the fact that there has been a gradual growth in women entering neurosurgical training in the US. This is mirrored in the UK, with an increase in trainee numbers of 4% (from 20% to 24%) from 2015 to 2020, and of specialist-registered neurosurgeons by 2% (from 9% to 11%) over the same time period.<sup>2</sup>

We agree with the authors that there is an inevitable lag between recruiting more women into neurosurgery and seeing women reach higher academic and leadership roles. However, an increase of 3.7% in female faculty members over more than 20 years is dwarfed by the progress made in business in much shorter time periods. A recent UK report showed a 50% increase over the last 5 years in women on boards of the top 350 Financial Times Stock Exchange (FTSE) companies, with more than one-third of positions now held by women.<sup>3</sup> Critically, research has suggested that increased gender diversity on boards improves overall company performance.<sup>4</sup>

Although improving recruitment and tackling attrition are important, the bigger concern is the lack of timely progress into senior and leadership roles. Underrepresentation of women as chairs and invited speakers at an international European neurosurgical conference has been identified.<sup>5</sup> Measures such as improving female representation on organizing committees have been shown to improve female speaker proportions in other scientific disciplines.<sup>6</sup> The American Association of Neurological Surgeons

(AANS) Women In Neurosurgery (WINS) group and the European Association of Neurosurgeons (EANS) diversity task force are focused on tackling these challenges, and the WINS 2008 white paper recommends promotion of women into leadership positions.<sup>7</sup>

We believe that there are women with equal years of training and experience available, and that greater encouragement for societies and committee boards to increase minority representation will lead to improved leadership opportunities, provision of role models, and more rapid academic growth for women in neurosurgery. It may be that collaborative policies from the US, the UK, and other countries across the world are necessary to drive this change forward more rapidly.

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## Disclosures

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## Response

We thank Edlmann et al. for their thoughtful response and insight into the ongoing gender gap in neurosurgery.

We are encouraged by the current study, which indicates no significant difference in academic rank between male and female neurosurgical faculty when adjusting for time since residency graduation. In other words, male and female neurosurgeons graduating from residency at the same time are equally likely to hold similar academic positions. That said, we did find that women in neurosurgery are significantly younger, less likely to be board certified, and have lower H-indices. Of course, the latter can be attributed at least partially to their younger age and fewer years in practice. The key factor moving forward will be how these statistics change in the next 1–2 decades as more women enter into the middle and late portions of their academic careers.

Edlmann et al. highlighted the lack of women in European neurosurgical conferences and committees. There is a corresponding paucity of female representation in US organized neurosurgery. In a study by Silva et al. during 2014–2018, women were the minority (< 15%) of speakers and moderators at the Congress of Neurological Surgeons

and AANS conferences and conference panels, and there were no female presidents or honored guests during the study period.<sup>1</sup> Over the past several years, our national neurosurgical organizations have strived to be more inclusive and representative of the neurosurgical workforce. In recent years we have witnessed the first female presidents of the Society of Neurological Surgeons and the AANS. At present, there are more women in organized neurosurgery leadership positions than in any previous time period.

We further agree that women with equal years of training and experience to their male counterparts are available and should be nominated to societies and committee boards to increase female representation. This role of sponsorship—not just mentorship—of female neurosurgeons is critical to improving leadership opportunities and more rapid academic growth for women in neurosurgery.

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