



Sharona Ben-Haim, MD



Julie Pilitsis, MD, PhD

WOMEN IN NEUROSURGERY: PAST, PRESENT, AND FUTURE

During the 1960s, a time of overt gender inequality in the United States, women earned just 59 cents to the male dollar, and pregnancy was a potentially fireable offense. While the feminist movement was beginning to gain traction, women were still systematically excluded from many Ivy League institutions and, in most states, could not serve on juries. In 1965 females represented only 9 percent of U.S. medical school enrollment, and only 7 percent of medical school graduates.¹ Not surprisingly, only two women were board certified in neurosurgery between 1960 and 1969.

While immense strides have been made by women during the past 50 years e.g., laws are now in place to prevent gross gender discrimination, inequality in the workplace still exists. Women now represent nearly half of the U.S. workforce, but still make only 78 cents to the male dollar.² They represent 46 percent of all U.S. medical residents, yet only comprise 15.8 percent of all neurosurgical residents and 6 percent of all board-certified neurosurgeons.³ Recent analysis demonstrates that female residents graduating from 1990 to 1999 were significantly less likely to become board certified than their male colleagues.⁴ Along with orthopedics and thoracic surgery, neurosurgery currently trails behind all other specialties, including general surgery, in attracting, retaining, and promoting accomplished women.

This disparity continues at all levels of academic medicine with respect to faculty appointments, promotions, and tenure. There is a striking lack of women in positions of leadership, and women remain underrepresented in

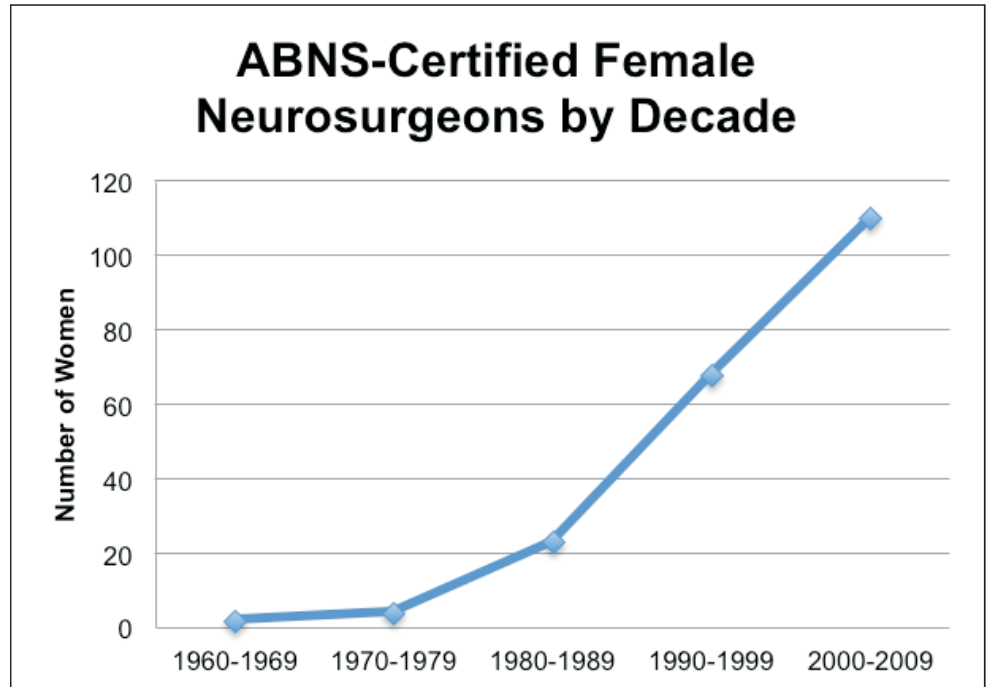


Figure 1: Board-certified female neurosurgeons by decade

professional societies and on editorial boards.⁵ There is currently only one female chair of a neurosurgical department, and approximately ten female professors of neurosurgery. Not one of our three major national organizations has had a female neurosurgeon serve as president.

Though we have a significant way to go, neurosurgery has seen an exponential growth in the numbers of board-certified female neurosurgeons over the past 50 years (**Figure 1**). We will continue to see the advancement of women in our field, and in society in general, concurrent with changes

in the post-industrial workforce during the information age. The future economy will be dependent on knowledge, innovation, and ideas grounded in technological platforms. Social intelligence, communication, team building, and management skills will become increasingly vital to success—traits in which women have traditionally excelled.⁶ A new paradigm of thought will emerge, one in which diverse thinking is mandatory for success.

By 2065, with increasingly more successful women in the general workforce, there will be an attendant change in family dynamics



and a resultant transformation of the global workplace culture. We will see a transition to an outcome-oriented rather than a face-time-driven model of success. High-functioning workplaces will emphasize an environment that promotes optimal employee performance. Leaders will require a tailored understanding of how best to motivate and reward their employees, and the social intelligence to understand gender differences in motivation strategies. For example, while men often strive to achieve success through rank and position, women may view success based on the development of meaningful achievements.⁷ The leaders of the future will understand how to create workplace value systems that transcend the current “one-size-fits-all” model to effectively stimulate the entire workforce.

Similarly, by 2065 we predict that the neurosurgical training paradigm will shift to a goal-oriented, outcomes-based model, resulting in a more effective and resourceful preparation for neurosurgical practice. Teaching strategies will be tailored to individual learning styles and take place in environments conducive to learning. These strategies will account for potential gender differences in learning as well as differences in the way men and women tend to perceive their performances—with men traditionally overestimating and women underestimating how well they do.⁸

The most successful training programs in 2065 will be the ones that focus on fostering the consistent development of competent, compassionate, and innovative neurosurgeons. Residents trained in these flexible, forward-thinking workplaces will go

on to foster similar environments in their careers, thus propagating the cultivation and maintenance of a diverse workforce.

Outside the workplace in 2065, society will look quite different. With the increased workplace flexibility that equality demands, caregiving for children and the elderly will be far more gender neutral. As the societal value placed on care of the family increases over the next 50 years, the 20-hours-per-week discrepancy between the current number of hours academic men and women dedicate to work in the home⁹ will be greatly diminished. With the increased number of women in the workforce and a decrease in gender disparity in caregiving and household responsibilities, American society will begin to value the caregiving of family to an equal extent as career success, further propagating gender equality in the home and, subsequently, the workplace.

By 2065, 50 percent of neurosurgical residents will be female, and neurosurgical departments will be well on their way to achieving equality in gender distribution. With an increased number of female mentors and residency programs focused on targeted learning, we will attract the best and brightest individuals, regardless of gender.

The result will be a more balanced and effective workforce, working together to ensure the successful future of our field. With these advances, the next 50 years will see a burst of growth and ideas, allowing for more precisely targeted, safer, and efficient surgical practices. Combined with a greater understanding of the functional circuitry of the

human brain, we will set the stage for the rise of a new era of neurosurgical interventions. ❖

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