



Men (and Women) in Academic Radiology: How Can We Reduce the Gender Discrepancy?

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OBJECTIVE. There is a chronic gender imbalance in academic radiology departments, which could limit our field's ability to foster creative, productive, and innovative environments. We recently reviewed 51 major academic radiology faculty rosters and discovered that 34% of academic radiologists are women, but only 25% of vice chairs and section chiefs and 9% of department chairs are women.

CONCLUSION. Active intervention is needed to correct this imbalance, which should start with awareness of the issue, exposing medical students to radiology early in their training, and implementing better mentorship programs for female radiologists.

There consistently has been male overrepresentation in diagnostic radiology residency programs, academic departments, and private practice groups over the last decade [1–3]. Women have consistently represented only 26–27% of residency spots, which limits the number of women available for future academic and leadership positions [1]. The underrepresentation of women creates three primary problems in the current medical environment and for the long-term future of radiology [2]. First, patients want to be able to connect with their doctors, and some female patients may feel that a female doctor is better able to address their needs [2]. Second, researchers are more likely to investigate topics of interest to them, and there is the risk that a lack of female radiology researchers may limit investigation into women's imaging [2]. Finally, research in multiple disciplines has shown that increased diversity helps to foster environments with more creativity, productivity, and innovation [2]. By failing to recruit female radiologists, we run the risk of limiting the future of our specialty. There are many factors that have contributed to this gender imbalance, which we will discuss along with the many opportunities to rebalance the discrepancy.

Current Status of Women in Academic Radiology Programs

To create a snapshot of the state of women in major academic radiology programs, we

reviewed the websites of 58 major academic radiology departments corresponding with the top 50 medical schools listed in the *U.S. News & World Report* plus Cleveland Clinic, which is a major medical center but does not have a medical school [4]. Of note, some medical schools have multiple affiliated hospitals and, therefore, multiple departments of radiology. The distribution of men and women and their distribution among leadership positions were tabulated. Our review showed that men outnumber women 2:1 as faculty at major academic radiology departments (Fig. 1). However, the gender discrepancy was more lopsided among leadership positions. Section heads or vice chairs were three times more likely to be male (75% vs 25%), which, when compared with the distribution of women in radiology as a whole, was statistically significant ($p < 0.01$). Among radiology department chairs, the ratio of men to women increased to 10:1 (91% vs 9%; $p < 0.01$). Only among radiology residency program directors did the distribution of men and women resemble that of the population of radiologists as a whole (63% vs 37%; $p = 0.65$).

Reducing the Gender Disparity

The lack of appreciable change in the gender disparity within diagnostic radiology over the last decade indicates that the imbalance will not passively self-correct. Instead, active steps are needed. We outline several practical solutions to addressing the gender discrepancy.

Keywords: academic radiology, female radiologists, gender, medical student training, mentorship

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Reducing Gender Disparities in Radiology

Radiologists See Patients Also

Among medical students there is a stereotype that those who chose radiology do so because they do not want to interact with patients. Consequently, prior work has found that a perceived lack of patient contact is a major reason women choose not to pursue radiology [5, 6]. In a recent study by Fielding et al. [5], 94.7% of women who chose not to pursue radiology indicated it was because of a perceived lack of patient contact. Although it is certainly true that radiology has less-consistent patient contact than does primary care, every field of radiology has some procedural or real-time imaging component, and many radiologists are responsible for sharing results directly with patients. Medical students may not appreciate that these can be very meaningful interactions that require excellent patient-centered skills. Medical students must be exposed early in their training to the depth and breadth of clinical contact within the field of radiology to overcome the false perception that radiology lacks patient contact.

The Early Bird Gets the Worm

In most medical schools, radiology is an elective that is pursued during the fourth year, when many students have already made up their minds about their specialty choice. The lack of direct exposure restricts medical students' opinions about radiology to stereotypes and the limited second-hand exposures that occur during core clinical rotations [6]. Because radiology is a male-dominated field, female radiology prospects may be inclined to look in other directions. It is only through first-hand experience that medical students can see for themselves that radiology is a great field for both genders. Work by Branstetter et al. [7] has shown that exposing students to radiology in the first year of medical school improves their impression of the specialty and increases interest in radiology as a career. Some medical schools, including Duke University's, have included radiology as a core clinical rotation during the second year. However, simpler steps, such as having radiologists take leadership roles in anatomy or pathology classes, as at the University of Massachusetts, are institutional steps that can introduce meaningful radiology exposure to medical students at an earlier stage in their training. In addition, female radiologists must take an active role in teaching medical students so that prospective female applicants can be exposed to potential role models.

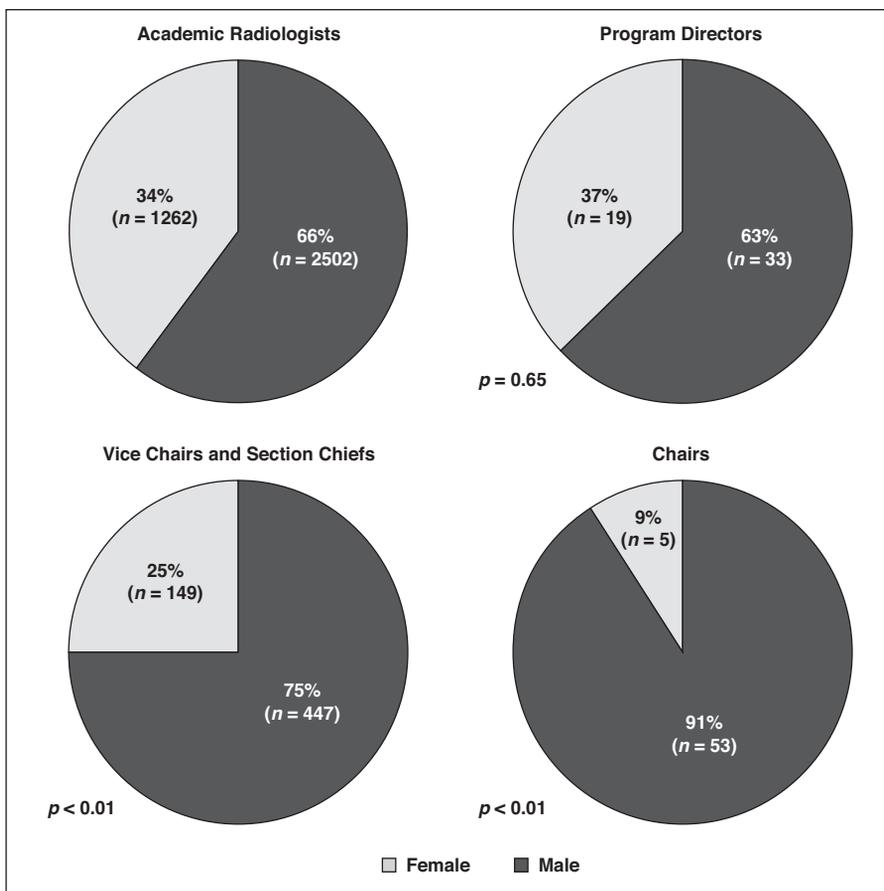


Fig. 1—Distribution of male and female academic radiologists by leadership positions; p values were calculated by use of chi-square analysis between group and all academic radiologists.

Break the Glass Ceiling

The gender discrepancy is even greater for leadership roles within radiology programs [3] (Fig. 1). The root cause of this discrepancy is multifactorial and may include the increased part-time status of some female radiologists, which limits the time available for research and committee work. To combat this, there must be active encouragement of current female radiologists and recognition of the inherent conflicts (i.e., child rearing) of professional women. Repeated studies in many disciplines have found that one of the most important factors in professional development is strong mentorship [2]. Specifically, individuals want a senior partner who can provide advice and guidance while showing a potential path for advancement. Departmental leadership must make a pointed effort to promote and provide role models because a lack of women in senior leadership positions makes it harder for other women to assume leadership roles. Diversity among those in leader-

ship should be a goal for department leaders in appointing division chiefs, program directors, and departmental vice chairs.

Radiology Is Family Friendly

Survey data have shown that job flexibility is one of the most important factors in choosing a specialty [5, 6]. The development of PACS has allowed many radiologists the flexibility of working remotely or taking calls from home with residents or fellows in house. In addition, the interchangeability of radiologists allows more accommodation for flexible schedules, including part-time work. Finally, radiologists are often able to compartmentalize their clinical duties to the work day because they less frequently have to follow up on clinical notes, patient telephone calls, or laboratory results as their colleagues in family medicine or pediatrics do. Female medical students who are exposed to the family-friendly nature of radiology may be more inclined to pursue the field.

Don't Let the Fear of Physics or Competition Scare You

Two surprising themes that emerged in surveys of women who chose not to pursue radiology are the competitiveness of the specialty and the fear of physics, which both appear misguided [5, 6]. There are plenty of women willing to compete for places in dermatology and ophthalmology, so we can do more to motivate women by showing how much radiology has to offer [1]. Regarding the fear of physics, any new radiology graduate can attest that the amount of physics needed in college to even get into medical school far outweighs the effort required to pass the new Diagnostic Radiology Core Examination. Practicing radiologists should directly address this concern when meeting with prospective radiology applicants to give them a real-world assessment of the physics requirements.

Conclusion

The lack of women in radiology is a problem that will not be resolved by passive intervention. Instead, the field as a whole must introduce active changes to ensure equal representation. First and foremost, ra-

diologists must actively engage with medical students early in their training to provide a real-world view of the specialty. Too many medical students make a final decision about their lifelong career pursuit before they have ever had a chance to see what radiology has to offer. Second, the lack of women in leadership positions within radiology departments is limiting and can be discouraging to young female faculty who are looking down a career path to nowhere. Programs should identify promising young female radiologists and ensure they receive the mentorship needed to reach their full potential. By increasing the representation of women in vice chair and division chief roles, there will almost certainly be a downstream effect on the diversity of department chairs. These two relatively simple changes would go a long way toward addressing the root causes behind gender imbalance and help to provide for a more promising future for diagnostic radiology.

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