

Diversity, Equity, and Inclusion in Orthopaedic Surgery: Local and National Efforts

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ABSTRACT

Orthopaedic surgery has not experienced the same increase in diversity as other surgical subspecialties over time. Professional orthopaedic societies across the nation, including the American Academy of Orthopaedic Surgeons, are now making sincere efforts to improve diversity, equity, and inclusion (DEI) within the field. Several national groups provide funding to support DEI-related research as well as scholarships to national meetings. Others are more focused on mentorship and mitigation of residency attrition amongst underrepresented minorities (URMs). Individual residency programs, including the Department of Orthopaedics at Brown University, are engaging in community outreach to attract more diverse candidates to orthopaedics and providing away rotation scholarship support for medical students that identify as female or URMs. These local and national efforts will hopefully lead to a more inclusive environment for all trainees and practitioners within orthopaedics and ultimately improved orthopaedic care for all patients.

KEYWORDS: orthopaedics, residency education, diversity, equity, inclusion

INTRODUCTION

Despite continued improvements in diversity in surgical disciplines, orthopaedic surgery has not experienced improvements on par with its peers. The most recent American Academy of Orthopaedic Surgeons (AAOS) census in 2018 found that only 5.8% of practicing orthopaedists identified as female and only 15.3% of practitioners were non-White. Although gender and ethnic diversity was better amongst younger surgeons, large disparities remained across all age groups.¹

This is in stark contrast to the improvements made in the past decades for medical education as a whole. Based on the most recent Association of American Medical Colleges (AAMC) data for matriculants to US medical schools in 2022, 10% of first-year medical students were Black or African American, 12% were Hispanic or Latino, and 56% identified as female.⁸ While there is still much room for improvement in diversity in medical education in order to

match racial distribution amongst the US population (14.2% Black or African American, 18.7% Hispanic or Latino), it is clear that medical education as a whole is far ahead of orthopaedics in terms of overall diversity.⁹

Encouraging diversity and inclusivity within the field of orthopaedics is important for a myriad of reasons. First, orthopaedics may be losing some of the best future physicians to other specialties that better demonstrate a commitment to diversity. In addition, patients who desire care from a provider from a similar background may struggle to find a doctor or fail to seek care given the current demographics of orthopaedic surgeons. Moreover, prior research has shown that diverse healthcare teams improve both patient outcomes and financial success in medicine.² Educating aspiring physicians about orthopaedics will encourage those with less access and exposure to consider it as a career and will also benefit the field as a whole. The obvious way to bridge the existing gap is to recruit and retain a wider range of orthopaedic trainees through diversity, equity, and inclusion (DEI) efforts, but this has proven to be a challenge.

CURRENT MAKE-UP OF ORTHOPAEDIC TRAINEES

Lack of diversity in orthopaedics is not limited to those in practice, as orthopaedic surgery remains the surgical subspecialty with the fewest women and underrepresented minorities (URMs) as residents. In 2019, Poon et al showed that while the number of female orthopaedic residents increased from 10.9% to 14.4% between 2006–2015, it did so at a slower rate than all other surgical subspecialties save for urology. They also found that the number of White residents increased and there was actually a decrease in URMs during that time.³ Another recent study found that URMs had a lower likelihood of matching into an orthopaedic residency when compared to their peers when controlling for academic performance. Interestingly, this effect was not observed amongst female applicants, suggesting that different strategies may be required to recruit URMs versus women as trainees.⁴

There is a dearth of research regarding the prevalence of LGBTQ+ or sexual and gender minorities (SGMs) amongst orthopaedic residents and attendings. Given the field's otherwise homogeneous demographics, it is conceivable that this is another area in which orthopaedics lags behind. In fact, a

study of graduating medical students from 2016–2019 found that the specialty with the lowest percentage of self-identifying SGMs (1.8%) matriculating into residency was orthopaedics.⁵ Importantly, AAOS and the Pediatric Orthopaedic Society of North America (POSNA) have recently published articles drawing awareness to this issue, calling for improved training regarding LGBTQ+ patient care as well as education about bias and allyship.^{6,7}

ONGOING DEI EFFORTS NATIONALLY

There are several groups working to promote diversity in orthopaedics at the national level. The AAOS now has a Diversity Advisory Board (DAB) with the stated goal of educating the orthopaedic community about the importance of diversity and culturally competent care as well as increasing the diversity within the field. They do this through outreach efforts to promote AAOS membership among women and URMs as well as to increase representation from these groups on AAOS committees. In addition, in 2022, the DAB awarded \$300,000 to 20 programs focused on DEI initiatives and published more than 30 articles related to diversity in the AAOS publication *AAOS NOW*.¹⁰

The Ruth Jackson Orthopaedic Society (RJOS) is the most active group focused on sex and gender diversity. It is a professional society for women and offers support and programming for female medical students, trainees, and practicing surgeons. They award scholarships for research and traveling fellowships as well as fund attendance at the RJOS national meeting. In addition, they have a mentorship program that connects trainees with attending surgeons across the country. Furthermore, they offer resources and webinars focused on sex-specific issues such as pregnancy, infertility, and how to navigate training and practicing in a male-dominated field, as well as more generalized topics including career advancement, leadership, combating harassment and microaggressions, care for the transgender patient, and DEI in orthopaedics.

The J. Robert Gladden Orthopaedic Society is another professional society that focuses on efforts to improve diversity in orthopaedics in relation to URMs. It is a pluralist multicultural organization, celebrating diversity in its ability to improve musculoskeletal care for all patients, especially those in underserved groups.¹¹ One area of recent focus is the disparate rates of attrition between resident URMs and their counterparts. In fact, a recent study funded by the Gladden Society showed that both female and URM residents are more likely to experience attrition than their male or White counterparts. Indeed, between 2001–2018, more than 19% of residents affected by attrition were URMs, but this group only accounted for roughly 10% of residents overall.¹² The society provides support and mentorship to URMs currently involved in the field by offering grants to residents, fellows, and practicing surgeons to encourage research on

diversity and inclusion, and has a strong mentorship program where medical students and residents are paired with a practicing surgeon.¹¹

Pride Ortho is a community of individuals involved in orthopaedic and musculoskeletal care who identify as LGBTQ+. The group was created both to foster supportive relationships between LGBTQ+ providers and to improve the orthopaedic care of patients who identify as LGBTQ+. Professional enrichment of LGBTQ+ providers is accomplished through meetings at national conventions, such as AAOS, online forums, newsletters, and even a book club. The community also offers scholarships for medical students in order to promote diversity of sexual and gender minorities in the field of orthopaedics, primarily in association with New York Medical Schools. Pride Ortho has an abundance of resources available online for education, as well as providing a list of LGBTQ+ friendly residencies and fellowships to support members applying into orthopaedic education.¹³

There are several organizations that are working to increase the diversity within the field through pipeline initiatives with outreach to those who may not otherwise consider orthopaedics as a career choice. Nth Dimension is a nonprofit organization that aims to decrease health disparities in communities by increasing the diversity of the physician workforce. This began specifically for the field of orthopaedic surgery, but now also includes other specialties as well. They aim to recruit URMs and women into the field by providing early exposure, hands-on experience, and mentorship to undergraduates, medical students and residents. Similarly, the Perry Initiative is an organization that has developed curriculum for programs targeted at high school and medical school students in order to promote the fields of orthopaedics and engineering to young women at key junctures in their education.

DEI EFFORTS AT BROWN UNIVERSITY

At Brown University, the Department of Orthopaedics has a Diversity, Equity, and Inclusion (DEI) Committee made up of clinical and research faculty, residents, and student researchers aimed at promoting diversity efforts within the department through outreach, scholarship, and recruitment. The DEI committee meets on a regular basis to discuss opportunities for DEI initiatives and community engagement, both within the Department of Orthopaedics and the wider community, and to coordinate strategies for matriculating and graduating a diverse residency class. The DEI Committee aims to cultivate racial, ethnic, gender, and sexuality diversity in the Brown Orthopaedics program in order to provide understanding and compassionate care to patients from a wide spectrum of backgrounds.

The Brown University Orthopaedic Department offers multiple scholarships to medical students for fourth-year rotations in efforts to support DEI initiatives as outlined

by the active DEI committee. Brown Orthopaedics and the Warren Alpert Medical School's Office of Diversity and Multicultural Affairs have joined many orthopaedic programs across the country in supporting a scholarship that provides housing and travel stipends in order to facilitate access to an away rotation. More unique to Brown is the scholarship it sponsors for women interested in fourth-year away rotations. The program leadership has made it clear that diversity is a priority in its approach to residency recruitment process. In the 2022-2023 cycle, the program leadership intentionally interviewed a higher proportion of women and URMs than in years past, which led to one of the most diverse classes of residents in recent history. In this new resident class, 3/6 identified as women and 1/6 identified as URM.

In addition, the Brown Orthopaedics Department has closely examined internal policies with an eye towards how they affect women and URMs who are a part of the program, or who may be considering Brown for their orthopaedic residency. Family planning and difficulties of childbearing during residency are often cited as a barrier to recruiting women into the field of orthopaedics. As discussed by Compton et al, lack of formalized parental leave policies, and even lack of awareness of such policies, can be associated with potential difficulties in retention of residents.¹⁴ In 2022, a new formalized Parental Leave policy for the Brown Orthopaedics Department was developed by residents in conjunction with program leadership that guarantees up to 13 weeks of parental, family or medical leave, six weeks of which are paid.¹⁵ Brown's policy ensures compliance with the graduation requirements set by the American Board of Orthopaedic Surgery (ABOS) while allowing the six weeks of paid parental, caregiver, or medical leave mandated by the Accreditation Council for Graduate Medical Education (ACGME) in 2022.^{16,17} At Brown, residents returning from leave are given six additional weeks without overnight call responsibilities to assist with transitioning back to work.¹⁵

Brown Orthopaedics has also partnered with two local high schools to expose young students to careers in orthopaedics. Orthopaedics in Action is a curriculum developed by the Perry Initiative designed to engage high school students in hands-on learning to increase their interest in orthopaedics and STEM fields. Brown successfully implemented Orthopaedics in Action in 2022 and will continue and expand the program in Providence.

CONCLUSION

Diversity amongst practicing orthopaedic surgeons and trainees is improving but remains suboptimal. This is problematic, as it may indicate a failure to create as welcoming of an environment as possible within the orthopaedic community at large. Furthermore, it may represent an inability to engage with well-qualified potential residency applicants that are dissimilar from the majority of current orthopaedic

surgeons. In light of this, the AAOS has demonstrated a commitment to DEI efforts over the past several years and there are multiple national organizations aimed at attracting trainees with a wide variety of backgrounds. Furthermore, residency programs, including the Department of Orthopaedics at Brown, have taken a more active role in the recruitment and retention of a diverse set of residents. Prior studies have demonstrated that the barriers to entry across various groups may differ, suggesting that strategies needed to attract candidates may need to vary accordingly. Continued research in this area is necessary to understand why diversity in orthopaedics has failed to improve in comparison to other fields, including competitive surgical subspecialties. We must discern if new DEI initiatives have any meaningful impact on the demographics of the field in the coming years. While the overall trend is positive, it is clear that more must be done to create a welcoming environment for all who wish to practice orthopaedics so that we may provide the best care for the diverse patients that we treat.

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