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 2022 Annual Meeting Pre-Course on Diversity, Equity, and Inclusion

The Current State of Diversity in Orthopaedics

Monica Payares, MD, FAAOS, FAAP

Nicklaus Children's Hospital, Miami, FL

Correspondence: Monica Payares, MD, FAAOS, FAAP, Nicklaus Children's Hospital, 3100 SW 62nd Ave., Miami, FL 33155.
 E-mail: Monica.Payares-Lizano@nicklaushealth.org

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Abstract

The 2022 POSNA Annual Meeting Pre-course, the last of its kind, was dedicated to “Improving Patient care through Diversity, Equity and Inclusion,” showing the continued commitment of the organization to these vital topics in the continued growth of our field. Orthopaedic surgery remains the least diverse subspecialty. Although studies show the representation of women and underrepresented minorities (URM) is increasing in orthopaedics, it is increasing at a slower rate than in other surgical subspecialties. These issues were thought to stem from a lack of pathway (pipeline) programs. Recent data, however, reveal that rates of attrition during residency (defined as either withdrawal or dismissal), are disproportionately higher for underrepresented groups. In addition, rates at which URM and women hold leadership positions in organizational and society boards are lower. The lack of diversity in orthopaedics cannot be explained solely by a lack of matching residents. Mentorship, sponsorship, and allyship are necessary for URM and women to succeed throughout training and their careers.

Key Concepts

- Orthopaedic surgery remains the least diverse specialty in medicine.
- Academic orthopaedic surgery does not resemble the United States. Residency, fellowship, and professional organization committees, executive boards, and organizational leadership.
- Increased URM representation among the orthopaedic faculty and residents is associated with a greater likelihood that URM medical students at that institution would apply in orthopaedics.
- While pathway (pipeline) programs may help increase number applicants, attrition rate are high. Support must continue throughout their training and career with mentorship, sponsorship, and allyship: From Match to Hire to Promotion and Beyond.

Introduction

It has been 2 decades since Dr. Augustus White III, stood in front of hundreds of colleagues and, for what was likely the first time in orthopaedic history, used the largest platform to give a lecture on race and diversity. Since then, it may seem to some that we hear about diversity, equity, and inclusion on a daily basis. At this point, some individuals in orthopaedics may even be experiencing “diversity fatigue.” Taking this into consideration, this brief article seeks not to lay blame, shame, or guilt but only to highlight more recent data and shine a light on factors that could be causing insufficient pathway (pipelines) and increasing attrition rates among URM and women residents.

Body

In many industries, a culture of diversity leads to better outcomes.¹ This is no different in healthcare. Many studies have shown that diversity amongst physicians enhances the quality of care, improves the patient-doctor relationship, increases the likelihood of adhering to treatment plans, and ultimately improves outcomes. It is also true that minority physicians currently provide a disproportionate amount of care to medically underserved areas, especially uninsured and Medicaid patients.²

How are we doing in orthopaedics? Since 1985, the American Academy of Orthopaedic Surgeons (AAOS) conducted a biannual census to update surgeon and practice information. The latest available census was in 2018 and reports data on 30,141 orthopaedic surgeons.³ The following section highlights relevant data from this last report.

Gender

AAOS membership is 92.2% male and 5.8% female. Of note, 2.0% did not indicate their gender. A more recent report, based on a 2021 analysis from the National Provider Identifier Registry by Acuña et al.,⁴ found approximately 6.5% of orthopaedic surgeons to be female. It has been estimated, based on a stable trajectory, that it would take 217 years to reach gender parity in orthopaedic surgery.

Race/Ethnicity

White Americans comprise 76.3% of the U.S. population; however, they comprise 84.7% of the AAOS membership (Figure 1). While the Asian membership is more closely matched to the general population,

RACE REPRESENTATION OF US POPULATION VS AAOS MEMBERS

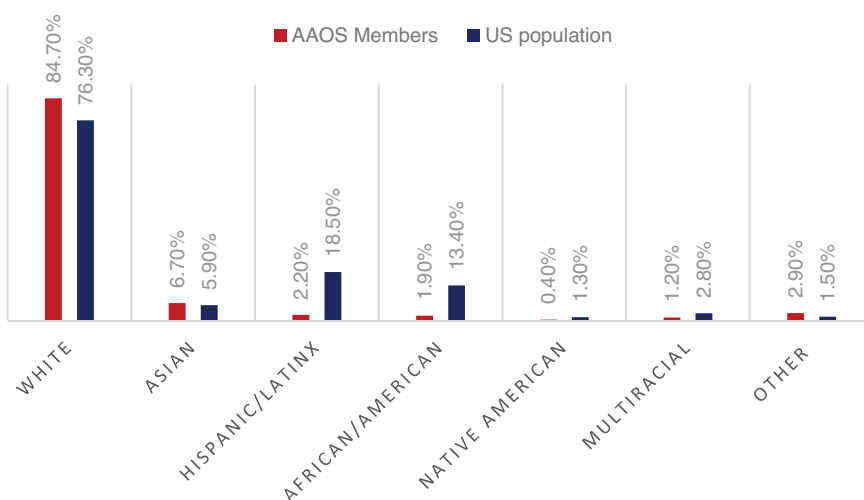


Figure 1. Race/ethnic representation of U.S. population vs. AAOS membership based on 2018 census.

most of the discrepancy is seen in Hispanic/Latino, African American, and Native Americans with numbers represented in Figure 1. Hispanic/Latino make up 18.5% of the general U.S. population vs. 2.2% in orthopaedic surgery, followed by Blacks 13.4% vs. 1.9%, and Native American 0.4% vs. 1.3%.

Trainees and Pathway Programs

In 2019, Poon and colleagues⁵ published a study examining trends in the representation of orthopaedic residents over a decade from 2006 to 2015 based on data from the American Association of Medical Colleges (AAMC). They found that minority representation in orthopaedic surgery averaged approximately 25%, lower than in any other surgical field. In their study, the representation of Asian American and African American residents remained unchanged, whereas the representation of Hispanic/Latino residents increased and that of Native Hawaiian residents decreased. Female representation in orthopaedic programs increased from 10.9% to 14.4% between 2006 and 2015. However, the rate of increase was significantly lower compared with other specialties, except for urology. Orthopaedics has the lowest representation of women and minorities among the residencies studied. In another article from 2022, Poon et al.⁶ also found that minority applicants (excluding women) have lower odds of admission into orthopaedic residency, even when accounting for academic performance metrics.

The Sexual Minority

While most of the underrepresented identities previously discussed are quite visible, the sexual minority can be more challenging to determine and few data have been collected. In a recent study by Mori et al.,⁷ which surveyed graduating medical students using data from 2016 to 2019 from the AAMC Graduation Questionnaires, orthopaedic surgery had the lowest percentage of SM-identified students intending to pursue the specialty.

Disability in Orthopaedics

Disability among orthopaedic surgeons has not been studied. This can most likely be explained by very few physicians being drawn to our specialty due to potential

concerns about meeting physical demands. Recent efforts by POSNA, RJOS, and AAOS utilizing webinars on how to navigate disabilities and medical conditions throughout orthopaedic training and beyond are at least starting the conversation and showing that it is possible to be in this field with various medical conditions and disabilities.

Attrition

While Hispanic/Latino and Black residents represent only 4% of orthopaedic residents, they are dismissed at 14.75 and 31.25-fold higher rates than white residents, according to ACGME reports from 2015-2016. The explanation of this phenomenon can be quite complex and may stem from root issues which are strongly associated with social determinants of health and unconscious biases. Far more important is recognizing that while pathways (pipelines) are making a slight difference, we need to continue supporting trainees after the match. Women and URM need to be supported throughout residency and fellowship, into their academic appointments and committee positions, all the way to leadership roles in major organizations.

Mentorship, Sponsorship, and Allyship: From Match to Hire to Promotion and Beyond

There are several groups and societies within orthopaedics that are joining efforts to increase, maintain, and support diversity and inclusion. We can support/ collaborate with one or several of these organizations and programs in addition to the work we must continue to do within our departments and committees.



Figure 2. American Association of Latino Orthopaedic Surgeons <https://www.aalos.org>.

“An organization dedicated to promoting the care of Hispanic and Latino patients by Orthopaedic Surgeons and to promote greater diversity of professionals in our field. Somewhat contrary to what our name connotes,

we aim to support both Latino Orthopaedic Surgeons and those Orthopaedic Surgeons who care for the ever-expanding Latino population.”



Figure 3. Black Woman Orthopaedic Surgeons <https://bwos.org>.

“This non-profit was created to support the 0.6% Black female orthopaedic surgeons currently practicing in the U.S. Created in July 2020, the organization’s mission is to Support and Empower Black Women Orthopaedic Surgeons through Mentoring, Activism, and Education while Advocating for Health Equity.”



Figure 4. J. Robert Gladden Orthopaedic Society <https://www.gladdensociety.org>.

“The mission of the J. Robert Gladden Orthopaedic Society (JRGOS) is to increase diversity within the orthopaedic profession and promote the highest quality musculoskeletal care for all people. The JRGOS is a pluralist multicultural organization designed to meet the needs of underrepresented minority orthopaedic surgeons and to advance the ideals of excellent musculoskeletal care for all patients with particular attention to underserved groups.”



Figure 5. International Orthopaedic Diversity Alliance (IODA) <https://www.orthopaedicdiversity.org>.

“The International Orthopaedic Diversity Alliance is a worldwide collaboration with a vision to unite leaders in orthopaedic surgery and industry to promote diversity, equity, and inclusion. IODA aims to provide a global forum to promote diversity in orthopaedics through wide engagement, development of resources, support of diversity efforts, and research. Membership is free and open to all in the healthcare sector.”



movement is life™
Catalyst for Change

Figure 6. Movement is Life <https://www.movementislifecaucus.com>.

“Movement is Life is a multi-disciplinary coalition seeking to eliminate racial, ethnic, and gender disparities in muscle and joint health by promoting physical mobility to improve quality of life among women who are African American, Hispanic/Latino, or live in rural communities.”



Figure 7. Nth Dimensions <http://www.nthdimensions.org/about-nthdimensions>.

“Nth Dimensions was founded in 2004 by orthopaedic surgeons working collaboratively with academic institutions, community surgeons, and industry to address the dearth of women and underrepresented minorities (URMs) in orthopaedic surgery. The overarching goal of Nth Dimensions is to address and eliminate healthcare disparities for all communities. The primary mission is to provide resources, expertise, and experience, through developing and implementing strategic pipeline initiatives.”



Figure 8. Orthopaedic Diversity Leadership Consortium <https://orthodiversity.org/about-odlc/mission/>.

“To optimize the effectiveness and sustainability of diversity efforts in academic departments and healthcare organizations through the professional development and advancement of orthopaedic surgery diversity, equity, and inclusion leaders.”



Figure 9. The Perry Initiative <https://perryinitiative.org/mission-history>.

“At The Perry Initiative, we are committed to inspiring young women to be leaders in the fields of orthopaedic surgery and engineering, two fields in which women are drastically underrepresented. We advance our mission by targeting women in high school and medical school through our outreach programs, providing them with hands-on exposure to these fields and mentoring support to pursue careers in orthopaedic surgery and engineering. Our in-classroom curriculum presents STEM concepts through real-world orthopaedics challenges, introducing orthopaedics and engineering to middle and high school students and sparking early career interest.”



Figure 10. Pride Ortho <https://prideortho.org/Mission>.

“Pride Ortho is a community of proactive lesbian, gay, bisexual, transgender, queer (LGBTQ+) individuals and their allies with a mission to provide mentorship, networking in a safe space, and a sense of belonging for members of our orthopaedic community. We focus on education and research and promote diversity, equity, and inclusivity to improve quality of care for LGBTQ+ orthopaedic patients. We aim to increase diversity and inclusivity of the orthopaedic LGBTQ+ community and promote professional development of LGBTQ+ people of all backgrounds to succeed throughout all stages of their career.”



Figure 11. Ruth Jackson Orthopaedic Society <http://www.rjos.org/>.

“Founded in 1983 and named after Dr. Ruth Jackson, the first practicing female orthopaedist in the United States, with the purpose to advance females in orthopaedic surgery. It provides mentorships, scholarships, educational opportunities, and research grants. The mission of the RJOS is to ‘promote professional developments of and for women in Orthopaedics throughout all stages of their careers.’ It continues to serve as one of the major organizations to promote diversity within the Orthopaedic community.”

Summary

While change does not happen overnight and the task may seem far too great, every single student, resident, fellow, and attending can contribute (Figure 12). Mentor, sponsor, and be an ally, not just to get the student in the field, but also to support them all the way to retirement. Be open to different perspectives. Our world is changing, and the faces of orthopaedics are changing as well. We, as leaders in our field, have shown the world how to care for children’s musculoskeletal health, which will require a diverse set of clinicians to provide equitable care for all. It is time to care for each other in this field as well, by keeping the doors open, saving a seat at the table, sharing a spot at the podium, and inviting participation on the board, not just for those who look and are like us—but for ALL.

Disclaimer

The author is a member of the Diversity Advisory Board for the American Academy of Orthopaedic Surgeons (AAOS) and Chair of POSNA’s Justice, Equity, Diversity, and Inclusion Committee (JEDI).



Figure 12. Pediatric orthopaedic team at Nicklaus Children’s Hospital, Miami, FL, moving the needle! Left to right: Margaret Wright, MD; Avi Baitner, MD; Kevin Horowitz, MD; Verena Schreiber, MD; Monica Payares, MD; Craig Spurdle, MD; Stephen George, MD; Thomas Errico, MD; Daniel Ruggles, DO; Roger Saldana, MD.

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