

JPOSNA[®] Special Edition
2022 Annual Meeting Pre-Course on Diversity, Equity, and Inclusion

The Effect of Implicit Bias and Current Culture in Orthopaedic Surgery

Selina C. Poon, MD, MPH

Shriners Children's Southern California, Pasadena, CA

Correspondence: Selina C. Poon, MD, MPH, Shriners Children's Southern California, 909 Fair Oaks Ave., Pasadena, CA 91105. E-mail: selinacpoon@yahoo.com

Received: October 20, 2022; Accepted: November 3, 2022; Published: February 15, 2023

DOI: 10.55275/JPOSNA-2023-606

Abstract

Orthopaedic surgery continues to be the least diverse subspecialty in medicine. The current culture and implicit bias contribute to the difficulty in recruiting qualified individuals who do not fit the stereotypical orthopaedic surgeon mold. Bullying, discrimination, and sexual harassment persist in our specialty, creating an unwelcoming environment for diverse students considering orthopaedics. Active effort must be employed to create a more welcoming culture.

Key Concepts

- Culture and stereotypes influence students' choice of specialties.
- Current culture in orthopaedic surgery is unfavorable for recruitment from diverse student populations.
- Bias, discrimination, and harassment continue to hinder the progress of diversity initiatives.
- More work is necessary to alter the culture in orthopaedic surgery.

Implicit Bias

Implicit bias is a bias or prejudice that is present but not consciously held or recognized. The literature shows that female surgeons are perceived to be less competent or inferior to male counterparts by colleagues and staff, have a harder time commanding authority, are dismissed more often, and receive differential treatment when compared to their male

counterparts.¹ In addition, female surgeons often experience additional microaggressions from patients and their families, other surgeons, and support staff.² The impact of these microaggressions and implicit bias faced by female surgeons leads to feelings of exclusion, isolation, devaluation, and disrespect. These biases and microaggressions are often observed by

medical students as they consider whether a career in orthopaedic surgery is the right “fit” for them.

Current Culture in Orthopaedics

Stereotypes are socially and culturally derived figures which signal what is “normal” and what is not.³ As orthopaedic surgery continues to grapple with the continued failure to recruit women and underrepresented minorities compared to other surgical subspecialties,⁴ it is important to consider how the culture within orthopaedic surgery and the stereotypes portrayed within may have contributed to this problem. To understand the current culture and stereotypes in orthopaedics, we can look to Dr. Glaucomflecken,⁵ a comedian who creates personas honing in on the idiosyncrasies of each medical subspecialty on social media. His portrayal of the orthopaedic surgeon is aptly named “Ortho Bro.” Ortho Bro is an unintelligent but physically strong man who only cares about bones. In addition, the subspecialty is often perceived as an old boys’ club, where sexism is prevalent and women are disadvantaged.^{3,6} Whether or not these stereotypes are based in truth, it is often the perception of orthopaedic surgeons to those outside the specialty, including medical students who have yet to decide their career path.³

The importance of role models cannot be over emphasized in the recruitment of future orthopaedic surgeons. The lack of women and minorities in the field, the scarcity of these groups in substantial leadership positions,⁷ and the delayed progression through the academic ranks⁸ sends a message to underrepresented groups that their opportunity to advance and succeed may be limited. In addition, the “manels” that often dominate our educational courses and society meetings add to the sense of estrangement which may discourage potential qualified applicants from applying to orthopaedics. The lack of visible leaders and role models contribute to the difficulty underrepresented candidates have in identifying mentors as well.⁹ These unintended signals keep qualified students from considering orthopaedic surgery as a viable career choice.

There are other unintended signals that females do not belong in orthopaedic surgery. In the operating room, the typical instruments and tools are designed for and by a “typical” orthopaedic surgeon, which is traditionally a man. This includes simple everyday tools, such as the lead worn for protection against radiation and the operating room tables. Since women are generally of smaller stature with smaller hands, the instruments are often not ergonomically compatible, and the oversized lead does not protect against radiation exposure to the outer quadrant of the breast tissue.¹⁰ Women surgeons must find different ways of adapting surgical techniques to accommodate the lack of appropriately designed tools. A student’s first exposure in the operating room makes a profound impact on whether they perceive themselves to be potential surgeons who are “good with their hands.” Trying to learn a new skill without proper instruments amplifies the difficulty of the task, making it challenging for more petite individuals to envision themselves as skillful surgeons. Compounding the issue, with the lack of female mentors and role models to demonstrate different techniques of adjusting to the inappropriately sized tools, the female student/trainee is often judged to be a less competent surgeon. Thus, adding to their feeling of not belonging in the specialty.

Finally, our specialty continues to struggle with discrimination, bullying, and sexual harassment (DBSH). In a survey through the AAOS (the largest orthopaedic society), 66% of respondents reported experiencing DBSH behavior.¹¹ Not surprisingly, women were more likely than men to have experienced these behaviors. Whicker et al. showed 68% of women reported having experienced sexual harassment during their orthopaedic training.¹² Unfortunately, this is not a historical problem. The authors have found no differences between current and past trainees in terms of the proportion of female residents who reported having experienced sexual harassment during training. While much of the research has been focused on gender disparities, it is important to note that racial and ethnic discrimination is also prevalent in our specialty. In a survey of black orthopaedic

surgeons in practice by Ode et al., 97% of respondents believed that black orthopaedic surgeons in the United States face workplace discrimination.¹³ In addition, black female orthopaedic surgeons reported lower occupational opportunity and higher discrimination than black male orthopaedic surgeons across all survey items, due to the intersectionality of being both black and female. The founding principal of the organization #SpeakUpOrtho is to bring awareness of continued bullying and sexual/racial harassment in orthopaedic surgery.¹⁴ Some of the stories shared on the platform are disturbing and demonstrate the sizeable amount of work necessary to create an inclusive environment for all potential students who want to pursue a career in orthopaedic surgery.

Medical Students derive their sense of belonging in orthopaedics based on how closely their identity aligns with stereotypes (white, male, and athletic) about the field. Not falling within these stereotypes as a trainee requires displaying exceptional skills that may be too great for most students to overcome; therefore, they do not believe orthopaedic surgery could be a realistic career choice.³ It has been shown that students who do not identify with the above stereotypes tend not to choose orthopaedic surgery careers.¹⁵ These stereotypes exert their influence even before medical students encounter a surgical rotation, making it an imperative that we work hard to dispel these myths early in the training pipeline. The current culture in orthopaedic surgery needs to be carefully re-evaluated. To continue to inspire the most qualified candidates to join our specialty, it is important to create an inclusive culture where those who are currently underrepresented can feel like they belong.

Disclaimer

The author has no conflicts of interest to report.

References

1. Lim WH, Wong C, Jain SR, et al. The unspoken reality of gender bias in surgery: a qualitative systematic review. *PLoS One*. 2021;16(2):e0246420.
2. Samora JB, Denning J, Haralabatos S, et al. Do women experience microaggressions in orthopaedic surgery? Current state and future directions from a survey of women orthopaedists. *Curr Orthop Pract*. 2020;31(5):503-507.
3. Hill EJR, Bowman KA, Stalmeijer RE, et al. Can I cut it? Medical students' perceptions of surgeons and surgical careers. *Am J Surg*. 2014;208(5):860-867.
4. Poon S, Kiridly D, Mutawakkil M, et al. Current trends in sex, race, and ethnic diversity in orthopaedic surgery residency. *J Am Acad Orthop Surg*. 2019;27(16):e725-e733.
5. Cummins Eleanor. How Dr Glaucomflecken Overcame Death to Get Internet Laughs. Published March 10, 2021. Available at: https://www.medscape.com/viewarticle/947199#vp_3. Accessed October 4, 2022.
6. Curlewis K, Thornhill C, Leung B, et al. The effects of sex, race and the hidden curriculum on medical students' career choices: lessons for orthopaedics. *Bull R Coll Surg Engl*. 2020;102(6):e7-e11.
7. Bi AS, Fisher ND, Bletnitsky N, et al. Representation of women in academic orthopaedic leadership: where are we now? *Clin Orthop*. 2022;480(1):45-56.
8. Scerpella TA, Spiker AM, Lee CA, et al. Next steps: advocating for women in orthopaedic surgery. *J Am Acad Orthop Surg*. 2022;30(8):377-386.
9. Gofton W, Regehr G. What we don't know we are teaching: unveiling the hidden curriculum. *Clin Orthop*. 2006;449:20-27.
10. Valone LC, Chambers M, Lattanza L, et al. Breast radiation exposure in female orthopaedic surgeons. *J Bone Joint Surg Am*. 2016;98(21):1808-1813.
11. Balch Samora J, Van Heest A, Weber K, et al. Harassment, discrimination, and bullying in orthopaedics: a work environment and culture survey. *J Am Acad Orthop Surg*. 2020;28(24):e1097-e1104.
12. Whicker E, Williams C, Kirchner G, et al. What proportion of women orthopaedic surgeons report having been sexually harassed during residency training? A survey study. *Clin Orthop*. 2020;478(11):2598-2606.
13. Ode GE, Brooks JT, Middleton KK, et al. Perception of racial and intersectional discrimination in the workplace is high among black orthopaedic surgeons: results of a survey of 274 black orthopaedic surgeons in practice. *J Am Acad Orthop Surg*. 2022;30(1):7-18.
14. Gianakos AL, Mulcahey MK, Weiss JM, et al. #SpeakUpOrtho: Narratives of women in orthopaedic surgery-invited manuscript. *J Am Acad Orthop Surg*. 2022;30(8):369-376.
15. Gerull KM, Parameswaran P, Jeffe DB, et al. Does medical students' sense of belonging affect their interest in orthopaedic surgery careers? A qualitative investigation. *Clin Orthop*. 2021;479(10):2239-2252.