Race, Ethnicity, and Gender Representation among U.S. Academic Spine Surgeons

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INTRODUCTION: Despite the benefits of having a diverse faculty in the workforce, orthopedic

surgery has historically lagged behind other medical specialties. While diversity has improved across certain orthopedic subspecialties, enhancing diversity within spine surgery has remained a challenge. We aimed to investigate the current state of gender, racial, and ethnic diversity among academic orthopedic spine surgeons in the United States.

METHODS: A cross-sectional analysis of orthopedic spine surgery faculty in the United States was conducted in January 2024 using the Doximity database to identify eligible surgeons. Fellowship-trained orthopedic spine surgeons (professor, associate professor, and assistant professor) who graduated residency between 1990 and 2022 were included. Race, gender, academic rank, residency year of graduation, and H-Index scores were recorded using publicly available information from faculty profile pages and the Doximity database.

RESULTS: A total of 452 spine faculty were included in the analysis. 95.1% were males and 4.84% were females. Across race and ethnicity, 315 surgeons (69.7%) were White, 111 (24.6%) were Asian, 15 (3.32%) were Black or African American, and 11 (2.43%) were Hispanic or Latino or of Spanish origin. Of the 101 surgeons at the professor level, 3 (2.97%) were Black males. Amongst female professors, none were Black, Asian, or Hispanic/Latino. There were no Hispanic or Latino female professors, associate professors, or assistant professors identified. White male faculty were consistently the highest percentage of represented faculty over time; however, this percentage has decreased from 81.7% to 59.1%, from 1990 to 2022. The gender and race/ethnicity demographics that have increased in percentage over time include White females (0.92% to 6.08%), Asian males (11.0% to 26.5%), Asian females (0% to 1.66%), and Hispanic/Latino males (1.83% to 3.87%), The surgeon demographic groups that demonstrated minimal fluctuations over time included Black males, Black females, and Hispanic/Latino females.

DISCUSSION AND CONCLUSION: Our findings demonstrate that underrepresentation among academic spine

surgeons remains an ongoing challenge that warrants increased attention. Enhancing representation of Black and Hispanic males, as well as Black, Asian, and Hispanic females in spine surgery requires a deliberate effort at every level of orthopedic training. Further research is needed to examine the challenges that these groups may encounter in obtaining these positions and strategies to improve their representation in academic spine surgery.

	Professor N=101	Associate Professor N=105	Assistant Professor N=246	P Value
Race:				0.534
White	73 (72.3%)	71 (67.6%)	171 (69.5%)	
Asian	23 (22.8%)	25 (23.8%)	63 (25.6%)	
Black	3 (2.97%)	7 (6.67%)	5 (2.03%)	
Hispanic or Latino	2 (1.98%)	2 (1.90%)	7 (2.85%)	
URIM*				0.367
No	96 (95.0%)	96 (91.4%)	234 (95.1%)	
Yes	5 (4.95%)	9 (8.57%)	12 (4.88%)	
H Index	28.1 (21.4)	10.6 (9.05)	7.74 (7.30)	<0.001
Residency Year of Graduation:				< 0.001
1990 - 2000	57 (56.4%)	20 (19.0%)	32 (13.0%)	
2001 - 2011	39 (38.6%)	60 (57.1%)	63 (25.6%)	
2012 - 2022	5 (4.95%)	25 (23.8%)	151 (61.4%)	
Gender, Race, and Ethnicity				0.345
White Male	71 (70.3%)	69 (65.7%)	160 (65.0%)	-
White Female	2 (1.98%)	2 (1.90%)	11 (4.47%)	
Black Male	3 (2.97%)	5 (4.76%)	5 (2.03%)	
Black Female	0 (0.00%)	2 (1.90%)	0 (0.00%)	
Asian Male	23 (22.8%)	23 (21.9%)	60 (24.4%)	
Asian Female	0 (0.00%)	2 (1.90%)	3 (1.22%)	
Hispanic or Latino Male	2 (1.98%)	2 (1.90%)	7 (2.85%)	
Hispanic or Latino Female	0 (0.00%)	0 (0.00%)	0 (0.00%)	
Specialty:				< 0.001
Spine	87 (86.1%)	75 (71.4%)	219 (89.0%)	
More than one	14 (13.9%)	30 (28.6%)	27 (11.0%)	

**URiM*- Underrepresented in medicine (According to AAMC, races other than Asians and whites are considered URiM)