

# Low Sex Diversity of Academic Orthopaedic Surgery Faculty Among all Subspecialties

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**INTRODUCTION:** The historic gap in sex diversity within orthopaedic surgery is widely acknowledged and continues to persist. The lack of female representation in orthopaedic surgery has been attributed to a variety of factors, including the absence of female mentors and leaders within the field. Research regarding sex diversity specifically among orthopaedic subspecialties is limited. As such, the purpose of this study was to examine the sex diversity among orthopaedic surgeons in various subspecialties at academic institutions.

## **METHODS:**

The American Medical Association (AMA) Fellowship and Residency Electronic Interactive Database (FREIDA) was used to identify all allopathic orthopaedic surgery residency programs during the 2022 to 2023 academic year. All data for this study were collected from residency programs and hospital websites, social media, and reaching out to programs when data could not be found online. The total number of faculty, number of women faculty, and distribution of women faculty by subspecialty were collected. The mean and percentage of women faculty in each subspecialty per program was calculated. Continuous data were analyzed with independent t-tests. For all statistical tests, significance was set at  $p < 0.05$ .

## **RESULTS:**

The total number of orthopaedic women faculty identified was 511: 148 pediatric (29%), 113 hand (22%), 83 sports medicine (16%), 46 trauma (9%), 40 foot and ankle (8%), 38 oncology (7%), 24 adult reconstruction (5%), 21 spine (4%), 11 shoulder and elbow (2%). The subspecialty with the highest percentage of women faculty per program was pediatrics with an average of 26% of the faculty at any given program identifying as a woman. Other subspecialties including hand, oncology, and foot and ankle also had higher percent averages of women faculty per program at 21%, 19%, and 13% respectively. An average of 4% of orthopaedic adult reconstruction faculty at any given program were women. Adult reconstruction was found to have the least gender diversity of all orthopaedic subspecialty faculty as shown in Table 1. Spine and shoulder and elbow also had lower percentages of women faculty per program at 4% and 7% respectively.

## **DISCUSSION AND CONCLUSION:**

The sex diversity of faculty is low among all orthopaedic subspecialties and the degree of sex imbalance varies significantly among orthopaedic subspecialties. Our results demonstrated that adult reconstruction, spine, and shoulder and elbow are among the lowest percentages of women faculty. Advocacy for female representation within faculty leadership will universally balance sex diversity among all orthopaedic subspecialties and further contribute to narrowing the gap in orthopaedic sex diversity.

Total Hand Faculty	606
Total Women Hand Faculty	113
Percent Women Hand Faculty per Program	21.8%
Total Spine Faculty	530
Total Women Spine Faculty	21
Percent Women Spine Faculty per Program	4.5%
Total Sports Medicine Faculty	805
Total Women Sports Medicine Faculty	83
Percent Women Sports Medicine Faculty per Program	10.3%
Total Adult Reconstruction Faculty	648
Total Women Adult Reconstruction Faculty	24
Percent Women Adult Reconstruction Faculty per Program	3.9%
Total Trauma Faculty	467
Total Women Trauma Faculty	46
Percent Women Trauma Faculty per Program	9.4%
Total Foot & Ankle Faculty	294
Total Women Foot & Ankle Faculty	40
Percent Women Foot & Ankle Faculty per Program	13.6%
Total Oncology Faculty	198
Total Women Oncology Faculty	38
Percent Women Oncology Faculty per Program	19.2%
Total Pediatric Faculty	565
Total Women Pediatric Faculty	148
Percent Women Pediatric Faculty per Program	26.1%
Total Shoulder and Elbow Faculty	147
Total Women Shoulder and Elbow Faculty	11
Percent Women Shoulder and Elbow Faculty per Program	7.0%