The Perfect Orthopaedic Surgery Applicant?: Exploring Trends in the National Resident Matching Program “Charting Outcomes in the Match” Reports

Cameron Julia Gerhold, Pavlo Kravchuk, Rushabh S Shah, Lisa K Cannada

INTRODUCTION:

This study examines trends in applicant characteristics for orthopaedic surgery residency from 2016 to 2024, focusing on changes in match rates, academic performance, and research productivity. It highlights the impact of key shifts such as the transition to pass/fail grading for USMLE Step 1 and the MD-DO residency merger. The study aims to provide insights into how selection criteria have evolved and what future applicants, medical schools, and residency programs should consider when navigating the competitive field of orthopaedic surgery. The purpose of this study is to examine the landscape of orthopaedic surgery residency applications from 2016 to 2024, and analyze key trends in applicant characteristics, academic performance, and match rates.

METHODS:

This was a retrospective review of objective characteristics of both matched and unmatched applicants to orthopaedic surgery. Data was sourced from *NRMP, Charting Outcomes in the Match* and was inclusive of years 2016 to 2024 with every other application cycle. All collected data was separated based on applicant type, divided between U.S. allopathic and U.S osteopathic.

RESULTS:

Between 2016 and 2024, U.S. allopathic seniors consistently had the highest match rates for orthopaedic surgery residency, with 74.3% matching in 2024, though unmatched applicants also increased over time, reflecting growing competition (Table 1). U.S. osteopathic seniors showed improvements in their match rates, rising from just 4 matches in 2018 to 93 in 2024, while unmatched applicants also grew. Academic performance metrics, including USMLE Step 1 and Step 2 CK scores, revealed a rising emphasis on Step 2 CK post-Step 1's transition to pass/fail reporting (Tables 2 and 3). Research productivity notably increased across all applicant groups (Figure 1), but was not the sole determinant of success in matching. Applicants with AOA membership and those from Top 40 NIH-funded medical schools had higher match rates, with AOA membership providing a particularly significant advantage.

DISCUSSION AND CONCLUSION:

This analysis of orthopaedic surgery residency match data from 2016 to 2024 reveals increasing competitiveness, with a shift in focus from Step 1 scores to Step 2 CK and research productivity. U.S. osteopathic applicants continue to face challenges, but with strong academic performance and strategic applications, success remains attainable, prompting the need for further research into selection criteria and long-term outcomes.

Figure 1. Mean number of research experiences for both matched and unmatched applicants to orthopaedic surgery from 2015 to 2024. (Data for U.S. Osteopathic applicants was not provided in the 2016 *Charting Outcomes in the Match* report.)

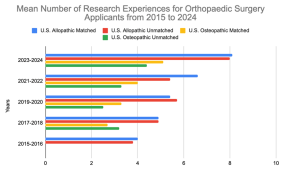

Table 3. Mean United States Medical Licensing Exam Step 2 Clinical Knowledge (USMLE Step 2 CK) Scores from 2015-2024.

Year	U.S. Allopathic		U.S. Osteopathic	
	Matched	*Unmatched*	*Matched*	*Unmatched*
2024	257	246	251	241
2022	256	249	250	244
2020	255	246	250	243
2018	255	246	249	240
2016	253	245	-	-

Legend. -, not reported

Table 1. Number of Applicants to Orthopaedic Surgery from 2016-2024.

Year	U.S. Allopathic		U.S. Osteopathic	
	Matched (%)	*Unmatched (%)*	*Matched (%)*	*Unmatched (%)*
2024	587 (74.3)	203 (25.7)	93 (45.4)	112 (54.6)
2022	574 (65.9)	297 (34.1)	96 (59.3)	66 (40.7)
2020	645 (81.2)	149 (18.8)	109 (66.9)	54 (33.1)
2018	678 (83.7)	132 (16.3)	4 (23.5)	13 (76.5)
2016	622 (76.8)	188 (23.2)	-	-

Legend. -, not reported

Table 2. Mean United States Medical Licensing Exam Step 1 (USMLE Step 1) Scores from 2016-2024

Year	U.S. Allopathic		U.S. Osteopathic	
	Matched	*Unmatched*	*Matched*	*Unmatched*
2024	244*	234*	239*	218*
2022	248	241	243	236
2020	248	239	242	238
2018	248	240	252	232
2016	247	238	-	-

Legend. -, not reported; *Only includes individuals who took the USMLE Step 1 exam when it had a numeric scoring system.