



Publication Trends of Integrated Plastic Surgery Residency Applicants without Numeric Step 1 Scores

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Introduction

Integrated Plastic Surgery (IPS) is one of the most competitive specialties, with a match rate of 58.8% in 2024.

The transition of USMLE Step 1 to pass/fail (P/F) scoring in 2022 has shifted emphasis toward other applicant metrics, particularly research output (RO).

This study aims to:

- Characterize publication behaviors of matched IPS applicants before and after the Step 1 scoring change.
- Evaluate publication quality (e.g., journal impact factor).
- Analyze trends among international medical graduates (IMGs) and residents at Top 20 Programs.

Results

- Publication Trends:
 - Average publications per resident: 7.33 (range: 0–116), consistent across cohorts.
 - Applicants matching without any publications decreased from 16.9% (PGY-3) to 9.3% (PGY-1).
 - Applicants matching without any first-author publication decreased: only 29.5% of PGY-1 residents matched without one vs. ~37% in earlier cohorts.
 - Applicants matching without any plastic surgery-specific publications decreased by ~8% each year.
- Publication Quality:
 - Average journal impact factor: 3.6 (2-year) and 4.13 (5-year), consistent across cohorts.
 - Plastic and Reconstructive Surgery* was the most common journal for matched applicants.
- Subgroup Trends:
 - IMGs authored more publications on average (22.2 vs. U.S. graduates’ mean of ~6–7).
 - Residents at Top 20 programs had ~30% more publications than those at non-Top 20 programs.
 - Men published ~27% more than women; however, women published in journals with slightly higher impact factors.
- Article Types:
 - Clinical research dominated (33.8%), followed by systematic reviews/meta-analyses (22.6%) and narrative reviews (11.7%).
 - Case series were the least common article type (<1%).

Discussion

- The Step 1 P/F transition **has not significantly increased total publication output** but has emphasized specific types of research:
 - Having at least one publication
 - First-author publications
 - Plastic surgery-specific publications
- Disparities in Research Production:
 - IMGs and Top 20 program residents have significantly higher publication counts.
 - Socioeconomic barriers may limit access to research opportunities, disproportionately affecting underrepresented minorities and students from lower-funded institutions.
- Implications for Residency Selection:
 - Research output appears to be a growing "soft requirement" for IPS residency matching.
 - Program directors may prioritize first-author and specialty-specific publications as key metrics.

Methods

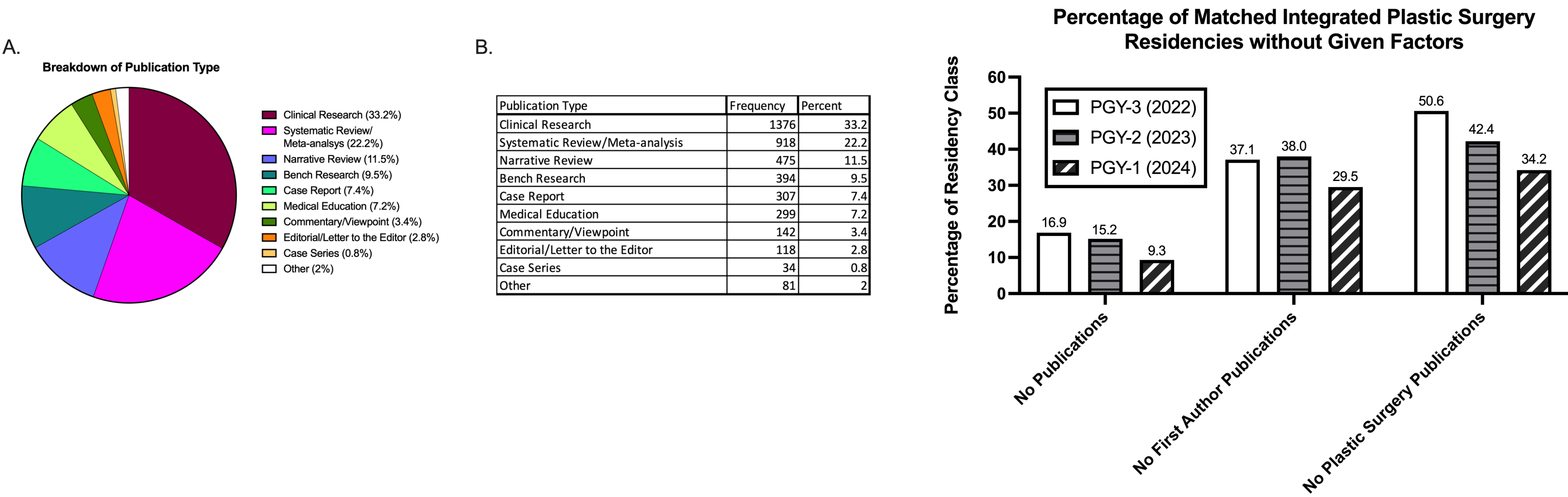
Study Design: Bibliometric analysis of 555 IPS residents from three cohorts (PGY-1 to PGY-3)

Data Collection:

- Residents identified on program websites.
- Publication data retrieved from PubMed, including total publications, authorship status, article type, and journal impact factor.

Analysis:

- Articles categorized by type: clinical research, reviews, case reports, etc.
- Journal impact factors recorded using Clarivate Journal Citation Reports.



	Resident Class			Additional Demographics (Resident Classes Combined)				
Mean (SD)	PGY-1	PGY-2	PGY-3	Men	Women	International Medical Graduates	Top-20 Program	Non Top-20 Program
Total Publications	7.8 (8.8)	6.6 (10.6)	7.6 (12.1)	8.4 (11.1)	6.4 (10.0)	22.2 (34.5)	9.2 (12.1)	6.4 (9.6)
First-Author Publications	2.4 (3.0)	2.0 (3.3)	2.4 (4.1)	2.7 (3.7)	1.9 (3.3)	6.0 (9.5)	2.9 (4.4)	1.9 (3.0)
Second-Author Publications	1.8 (2.4)	1.7 (3.3)	1.9 (3.6)	2.1 (3.3)	1.6 (3.0)	5.8 (10.3)	2.4 (3.7)	1.5 (2.8)
Publications in Plastic Surgery Journal	3.2 (4.4)	2.6 (4.4)	2.9 (6.3)	3.4 (5.6)	2.5 (4.5)	8.5 (13.2)	3.8 (5.3)	2.5 (4.9)
2-Year Impact Factor	3.5 (3.0)	3.7 (3.6)	3.7 (2.8)	3.4 (2.5)	3.8 (3.6)	2.9 (1.6)	3.7 (3.1)	3.6 (3.2)
5-Year Impact Factor	4.0 (3.2)	4.2 (4.2)	4.2 (3.1)	3.9 (2.6)	4.4 (4.2)	3.4 (1.7)	4.1 (3.3)	4.1 (3.7)

Conclusion

The transition to P/F Step 1 scoring has shifted emphasis toward research output but has not dramatically increased total publication counts.

First-author and plastic surgery-specific publications are becoming critical for successful matching.

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