Career Trajectory After Hand Fellowship: Do Academic Program Graduates Pursue Academic Hand Surgery?

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INTRODUCTION:

Academic hand fellowship programs aim to produce highly skilled, knowledgeable, and well-rounded hand surgeons who can contribute to the field through clinical practice, research, and education. Long-term outcomes following hand fellowship remain poorly characterized, and the proportion of graduates who ultimately pursue academic careers is unclear. We aimed to quantify the contemporary prevalence of United States hand surgery fellowship graduates who become academic surgeons and elucidate factors associated with pursuing a career in academic hand surgery.

METHODS:

We identified graduates between 2010 and 2019 from 13 American Society for Surgery of the Hand-accredited fellowship programs. We extracted program and individual-level data using publicly available Doximity, PubMed, training program websites, and faculty profiles. Fellowship graduates with no online information or who were deceased were excluded. We defined academic surgeons as current faculty within university-affiliated surgery departments at the time of data collection. We employed univariate and multivariate logistic regression to evaluate associations between program and individual-level factors and a career in academic surgery. The threshold for statistical significance was p <0.05.

RESULTS:

Among 384 hand surgery fellowship graduates, most graduates were male (79%) and graduated from an orthopaedic surgery residency program (67%) (Table 1). Of these 384, 97 (29%) were academic hand surgeons. Academic hand surgeons had a higher number of publications than their non-academic counterparts at the end of residency, end of fellowship, and five years post-fellowship (Figure 1). Publishing peer-reviewed manuscripts by the end of fellowship (OR 1.03, 95% CI 1.00-1.07, p=0.038), graduating from a plastic surgery residency program (OR 2.08, 95% CI 1.07-4.03, p=0.030), and completing multiple fellowships (OR 2.29, 95% CI 1.09-4.78, p=0.026) were all associated with increased odds of pursuing academic surgery in our multivariate analysis (Table 2). In contrast, graduating from general surgery or orthopaedic surgery residency programs were not associated with pursuing academic surgery.

DISCUSSION AND CONCLUSION:

Hand fellowship graduates who completed multiple fellowships, trained in plastic surgery, or had a greater number of publications by the end of fellowship were more likely to remain in academia. Understanding the outcomes of academic hand surgery fellowships and the factors that influence them will allow fellowship programs to adjust their recruitment, structure, and support for their fellows to better align with their academic mission. Further investigation using publicly available data from additional programs is needed to validate these findings. Future studies may compare the outcomes of academic hand surgery programs and other orthopaedic subspecialties.

Figure 1. Number of Publications by Practice Setting Over Time

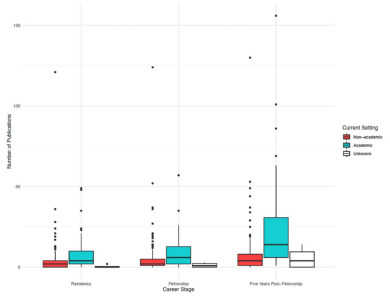

Table 1. Baseline Characteristics for Hand Fellowship Graduates by Current Practice Setting

Characteristic	Overall N = 384[1]	Non-academic N = 241[1]	Academic N = 97[1]	Unknown N = 46[1]	p-value[2]
Gender					0.3
Man	267 (79%)	192 (81%)	73 (76%)	2 (40%)	
Woman	70 (21%)	44 (19%)	23 (24%)	3 (60%)	
Unknown	47	5	1	41	
Residency Region					0.11
Midwest	81 (22%)	55 (24%)	12 (14%)	14 (33%)	
Northeast	98 (27%)	60 (26%)	32 (37%)	6 (14%)	
South	98 (27%)	66 (28%)	26 (30%)	6 (14%)	
West	85 (23%)	52 (22%)	16 (19%)	17 (40%)	
Unknown	22	8	11	3	
Fellowship Region					0.6
Midwest	64 (17%)	48 (20%)	15 (15%)	1 (2.2%)	
Northeast	60 (16%)	41 (17%)	18 (19%)	1 (2.2%)	
South	172 (45%)	116 (48%)	53 (55%)	3 (6.5%)	
West	88 (23%)	36 (15%)	11 (11%)	41 (89%)	
Multiple Fellowships					0.011*
No	280 (85%)	203 (88%)	74 (76%)	3 (75%)	
Yes	51 (15%)	27 (12%)	23 (24%)	1 (25%)	
Unknown	53	11	0	42	
International Medical Graduate					0.059
No	321 (95%)	229 (96%)	88 (91%)	4 (100%)	
Yes	18 (5.3%)	9 (3.8%)	9 (9.3%)	0 (0%)	
Unknown	45	3	0	42	
Orthopaedic Surgery Training Path					0.3
No	128 (33%)	57 (24%)	29 (30%)	42 (91%)	
Yes	256 (67%)	184 (76%)	68 (70%)	4 (8.7%)	
Plastic Surgery Training Path					0.008*
No	312 (81%)	199 (83%)	67 (69%)	46 (100%)	
Yes	72 (19%)	42 (17%)	30 (31%)	0 (0%)	
General Surgery Training Path					0.1
No	351 (91%)	213 (88%)	92 (95%)	46 (100%)	
Yes	33 (8.6%)	28 (12%)	5 (5.2%)	0 (0%)	
Other Training Path					0.073
No	379 (99%)	240 (100%)	94 (97%)	45 (98%)	
Yes	5 (1.3%)	1 (0.4%)	3 (3.1%)	1 (2.2%)	

[1]n (%)
[2]Fisher's exact test
*p <0.05

Table 2. Multivariate Predictors of Staying in Academia among Graduates

Variable	OR (95% CI, p-value)
Multiple Fellowships	2.29 (1.09-4.78, p=0.026)*
Plastic Surgery Training Path	2.08 (1.07-4.03, p=0.030)*
Fellowship Publications	1.03 (1.00-1.07, p=0.038)*
General Surgery Training Path	0.29 (0.09-0.80, p=0.026)*
Other Training Path	3.63 (0.37-81.05, p=0.301)
International Medical School Graduate	1.32 (0.17-8.46, p=0.771)
Residency Region	
Northeast	1.82 (0.82-4.17, p=0.147)
South	1.65 (0.73-3.83, p=0.234)
West	1.29 (0.53-3.15, p=0.577)

*p<0.05, OR = Odds Ratio, CI = Confidence Interval