Academic Productivity of Neurosurgery Residents: An Analysis and Ranking Based on Research Publications

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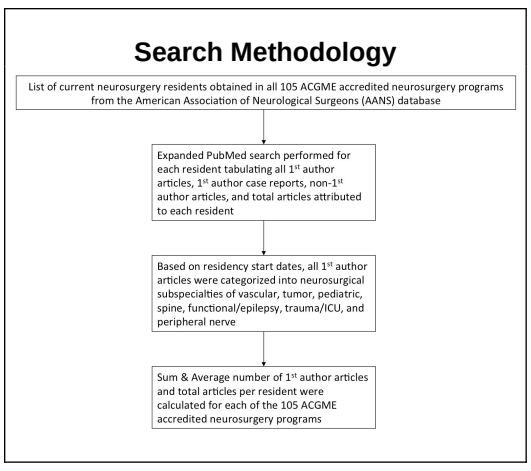
Introduction

Research publications are an essential component for any academic neurosurgeon. This process typically begins in residency. In this study, we analyze individual resident productivity as it correlated to publications across all ACGME accredited neurosurgery training programs.

Methods

We obtained a list of current neurosurgery residents in ACGME accredited programs from the American Association of Neurological Surgeons (AANS) database. An expanded PubMed search was conducted for each resident through the present time. We tabulated all articles attributed to each resident. We then categorized the publications based on each neurosurgical subspecialty while in residency. A spreadsheet-based statistical analysis was performed. This formulated the average number of resident first-author articles and most common subspecialty categories by training program.

Search Methodology



Results

We analyzed 1,352 current neurosurgery residents in 105 programs. There were a total of 10,645 publications, of which 3,985 were resident first author publications during the period of study. The average neurosurgery resident has published 2.9 first author papers. There is an average of 38.0 first author publications by total residents at each program (range 0-241). The top 5 most prolific programs had total first author resident publications of 241, 186, 156, 153, and 144 publications, respectively. The average number of individual first author resident publications was 13.4, 10.3, 9.8, 7.4, and 7.0 for the top 5 programs, respectively. The most common subspecialties among all resident publications were vascular (24.9%), spine (16.9%), oncology (16.1%), pediatric (5.6%), functional (4.9%), and trauma (3.8%).

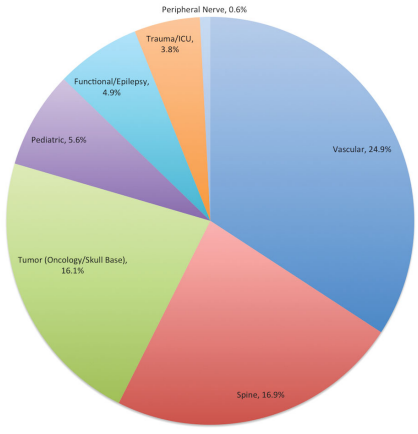
Conclusions

Resident first author publications correlated with recently described academic departmental productivity. Subspecialty resident publications are highest in cerebrovascular surgery. Resident publications are a crucial factor in academic productivity and ranking. Fostering a program of resident research and publication is imperative in developing an academic neurosurgeon.

Average First Author Articles, Entire Career

University of Virginia (Training Program)	32.94
University of California (San Francisco) Program	24.56
Rush University Medical Center (Training Program)	18.31
Cedars-Sinai Medical Center (Training Program)	18.30
Massachusetts General Hospital (Training Program)	17.59
Johns Hopkins University (Training Program)	16.73
Thomas Jefferson University (Training Program)	16.00
Stanford University Medical Center (Training Program)	14.15
St. Joseph's Hospital & Medical Center (Barrow) (Training Program)	13.81
Vanderbilt University Medical Center (Training Program)	13.33
Brigham & Women's/Boston Children's Hospital (Training Program)	13.18
Dartmouth-Hitchcock Medical Center (Training Program)	13.00
University of Pittsburgh Medical Center (Training Program)	12.96
University of Arizona (Training Program)	12.71
New York Presbyterian Hospital/Columbia (Training Program)	11.87
Tufts Medical Center (Training Program)	11.29
University of Southern California (Training Program)	10.71
Duke University Hospital (Training Program)	10.61
University of Utah (Training Program)	10.29
New York University School of Medicine (Training Program)	9.73
University of Michigan Medical Center (Training Program)	9.53
University of Pennsylvania (Training Program)	9.50
Mayo School of Graduate Medical Education (Training Program)	9.29
Yale-New Haven Medical Center (Training Program)	9.08
Cleveland Clinic (Training Program)	9.00
University of Alabama Medical Center (Training Program)	9.00
Baylor College of Medicine (Training Program)	8.90
University of Kansas School of Medicine (Training Program)	8.44
Washington University School of Medicine (Training Program)	8.23
Mount Sinai School of Medicine (Training Program)	8.21
State University of New York - Buffalo (Training Program)	8.15
Brown University School of Medicine (Training Program)	8.14
University of California - Irvine (Training Program)	7.63
University of California - Los Angeles (Training Program)	7.45
University of Tennessee - Memphis (Training Program)	7.23
Ohio State University (Training Program)	7.21
University of Florida/Gainesville (Training Program)	7.21
Emory University (Training Program)	7.14
National Institutes of Health (Training Program)	7.00
University of New Mexico Hospital (Training Program)	6.67
New York Presbyterian Hospital/Cornell (Training Program)	6.57
Pennsylvania State University (Training Program)	6.50
University of Iowa Hospitals & Clinics (Training Program)	6.40
University of South Florida (Training Program)	6.33
Jackson Memorial Medical Center (Training Program)	6.30
Hofstra North Shore-LIJ Neurosurgery (Training Program)	6.14
University of Wisconsin - Madison (Training Program)	6.07
University of Texas - San Antonio (Training Program)	5.93
University of Illinois at Chicago (Training Program)	5.91
University of Texas - Dallas (Training Program)	5.80
Case Western Reserve University (Training Program)	5.76
University of Minnesota (Training Program)	5.64
University of Vermont (Training Program)	5.57
Medical College of Virginia (Training Program)	5.47
University of Cincinnati (Training Program)	5.44
University of Washington (Training Program)	5.37
Indiana Univ. Sch. of Med./Goodman Campbell Brain & Spine (Training Program)	5.36
Mayo Clinic Foundation - Jacksonville (Training Program)	5.33
Louisiana State University/Shreveport (Training Program)	5.31
University of Chicago (Training Program)	5.25
West Virginia University (Training Program)	5.14
University of California - Davis (Training Program)	5.13
George Washington University (Training Program)	5.11
Henry Ford Hospital (Training Program)	5.07
University of California - San Diego (Training Program)	5.00
McGaw Medical Center of Northwestern University (Training Program)	4.93
New York Medical College (Training Program)	4.88
Medical University of South Carolina (Training Program)	4.64
University of Texas - Galveston (Training Program)	4.57
Allegheny General Hospital (Training Program)	4.25
Albany Medical Center (Training Program)	4.18
New Jersey Medical School (Training Program)	4.14
Oregon Health & Science University (Training Program)	4.06
Albert Einstein College of Medicine (Training Program)	4.00
Wayne State University (Training Program)	4.00
University of Missouri - Columbia (Training Program)	3.86
Methodist Hospital (Training Program)	3.82
Wake Forest University School of Medicine (Training Program)	3.75
University of Rochester Medical Center (Training Program)	3.71
University of Texas - Houston (Training Program)	3.33
St. Louis University (Training Program)	3.00
Tulane University/Ochsner Clinic Foundation (Training Program)	3.00
University of Maryland (Training Program)	2.93
University of Arkansas for Medical Sciences (Training Program)	2.91
University of North Carolina Hospitals (Training Program)	2.91
Loyola University (Training Program)	2.64
Medical College of Wisconsin (Training Program)	2.60
Georgia Regents University (Training Program)	2.43
Georgetown University Hospital (Training Program)	2.38
University of Illinois College of Medicine at Peoria (Training Program)	2.11
State University of New York - Syracuse (Training Program)	2.09
University of Colorado (Training Program)	2.08
Loma Linda University (Training Program)	2.00
Temple University Hospital (Training Program)	2.00
University of Kentucky College of Medicine (Training Program)	2.00
University of Mississippi Medical Center (Training Program)	1.80
Geisinger Health System (Training Program)	1.50
University of Oklahoma Health Science Center (Training Program)	1.50
University of Louisville (Training Program)	1.43
Louisiana State University/New Orleans (Training Program)	1.22
University of Nebraska Medical Center (Training Program)	1.09
National Capital Consortium (Training Program)	1.00
University of Puerto Rico for Medical Sciences (Training Program)	0.18
Carolinas Medical Center (Training Program)	0.00
Southern Illinois University (Training Program)	0.00

Subspecialty Breakdown



Learning Objectives

By the conclusion of this session, participants should be able to: 1) appreciate the academic productivity of U.S. neurosurgery residents, 2) understand program variations in research, and 3) appreciate the most commonly researched subspecialties in neurosurgery.