

**Disclosures:** No author disclosures relevant to this study

**INTRODUCTION:** Spine complaints are amongst the most common reasons for seeking medical care. A number of sub-specialties are involved in providing care for spine patients, including both surgical and non-surgical practitioners. Appropriate referrals to operative or non-operative practitioners, as well as accurate patient education on surgical versus non-surgical outcomes for spine conditions may be highly dependent on evidence published in the literature within sub-specialty journals. The purpose of this study was to examine the frequency of studies comparing surgical and non-surgical modalities for spine pathology in the literature based on journal subspecialty, as well as author subspecialty.

**METHODS:** Three journals in each of four specialty affiliations (i.e. Physical Medicine and Rehabilitation (PM&R), Anesthesia Pain, Orthopaedic Spine, and Neurosurgery) were selected for review over a 15-year time span (2008-2023) based on 2021 journal impact factor and acceptance of spine-related original research. Articles directly comparing surgical to non-surgical modalities for the treatment of any spine pathology were selected for review. Data regarding journal specialty, number of authors, author specialty, level of evidence, study design, outcome measures, number of patients, time of follow-up, and study conclusions were obtained. Descriptive statistics were performed, and journal and author subspecialty were compared to determine whether surgical or non-surgical outcomes are favored.

**RESULTS SECTION:** Approximately 41,069 articles were screened in 12 journals over a 15-year period. 152 articles were initially included based on review of title alone, of which 53 met inclusion criteria after careful review of the abstract and paper. The following distribution of papers was found: 0 papers from PM&R journals, 1 paper from Anesthesia journals (1.9%), 38 papers from Orthopaedic journals (71.7%), and 14 papers from Neurosurgical journals (26.4%). The majority of both first and senior authors were Orthopaedic surgeons. 39.6% of studies were non-collaborative, single specialty studies, while 60.4% were multi-specialty collaborative studies. Studies with level 2 evidence were most common, with prospective, cohort studies being the most prevalent study design. Studies favoring surgical outcomes were the most common, with studies finding equivalent outcomes or nonsurgical outcomes being less common. There was a statistically significant association between senior author specialty and study outcome, while first author specialty or authorship category (surgical, non-surgical, or mixed) did not have a statistically significant effect on study outcome.

**DISCUSSION:** There is a paucity of publications comparing surgical and non-surgical modalities for spine pathology in the non-surgical literature. Non-surgical practitioners play a pivotal role in providing surgical referrals and educating patients on treatment options. Therefore, the lack of evidence in non-surgical literature may adversely impact patients' perception of surgical outcomes. Senior author specialty is shown to have a significant effect on study conclusions, potentially leading to a bias in patient education resources and spine literature. There is low representation of non-surgical authors in studies comparing surgical and non-surgical modalities, and the majority of studies are found to favor surgical outcomes.

**SIGNIFICANCE/CLINICAL RELEVANCE:** Publications with surgical practitioners often favor surgical outcomes. These results underscore potential bias in patient education regarding spine pathology treatment modalities.

#### IMAGES AND TABLES:

**Table 1. Bivariate analyses of factors associated with study outcome (N = 52)**

Variable	Study outcome, n (%)			P-value*
	Surgical	Nonsurgical	Equivocal	
Journal category				0.123
Ortho	24 (63.2)	2 (5.3)	12 (31.6)	
Neurosurgery	11 (78.6)	2 (14.3)	1 (7.1)	
First author specialty				0.499
Ortho	21 (70.0)	1 (3.3)	8 (26.7)	
Neurosurgery	5 (55.6)	2 (22.2)	2 (22.2)	
Miscellaneous	9 (69.2)	1 (7.7)	3 (23.1)	
Senior author specialty				0.034**
Ortho	23 (67.6)	1 (2.9)	10 (29.4)	
Neurosurgery	5 (62.5)	3 (37.5)	0 (0.0)	
Miscellaneous	7 (70.0)	0 (0.0)	3 (30.0)	
Author specialty				0.356
single	14 (66.7)	3 (14.3)	4 (19.0)	
mixed	22 (68.8)	1 (3.1)	9 (28.1)	
Author category				0.468
Surgical	17 (70.8)	3 (12.5)	4 (16.7)	
Nonsurgical	1 (50.0)	0 (0.0)	1 (50.0)	
Mixed	17 (65.4)	1 (3.8)	8 (30.8)	

\*P-value from Fisher's exact test

\*\*Statistical significance