Optimizing the Impact of Your Foot and Ankle Research: Publication Trends in the Orthopedic Literature

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Introduction/Purpose: Research plays a central role in advancing orthopedic medicine. Not only do high publication volumes encourage greater transparency and evidence-based practice, early-career physicians are also often evaluated by the number and impact of their publications. According to 2020 NRMP match data, 81% of medical students who successfully matched into orthopedics have five or more publications. With the expanded number and variety of journals available today, however, it can be burdensome for authors to effectively determine the journal that is most suitable for a given project. This study aims to provide a comprehensive guide to the current foot and ankle orthopedic literature and to help physicians quickly identify where they may have the greatest impact.

Methods: We examined 61 orthopedic journals, including both general orthopedic and foot and ankle (FA) specialty journals. We applied the National Library of Medicine’s MEDLINE database for keyword searches, and Web of Science’s (WOS) Journal Citation Report for citation data. Journals were excluded from this study if they were not indexed in both MEDLINE and WOS over the last five years (2016-2020). As a measure of relevance, we used a keyword search to determine the number of articles that are foot and ankle specific for each journal (FA %). We calculated the five-year impact factor for both the total journal (Total IF) and specifically for foot and ankle articles in the journal (FA IF). Impact factors were calculated following standard Journal Citation Reports methods. Other variables, such as publishing nationality, number of authors, and article type were also collected to identify variables that may be associated with higher impact.

Results: 43/61 journals met the indexing inclusion criteria and 47,680 publications were thereafter analyzed (Table 1). Foot and ankle articles make up less than 20% of all non-FA journals, with KSSTA (17% FA) and JOT (15% FA) publishing the most. While there is a fair correlation between the impact factor of a journal and the impact factor of FA articles (R²=0.89), journal-wide impact factors do not always predict success. KSSTA, for example, has a high FA article impact factor of 4.11 despite a journal-wide impact factor of 3.74. Author demographics also vary widely depending on the journal publishing country. While 42.4% of all articles feature an author from the US, the number of US authors in American and international journal articles is 64.3% and 20.3%, respectively.

Conclusion: There are few tools specific to foot and ankle topics that authors can use to assess journals appropriate for a given project. Bibliometric analyses offer an efficient and objective method for authors to identify relevant journals, and readerships, they may not have otherwise considered. While some non-FA journals offer a higher average impact for FA articles, FA articles compose a small percentage of the journal portfolio. Journals vary in acceptance of review articles and case reports versus original research. A better understanding of journal publication trends may facilitate optimal journal selection, and improve publication efficiency and impact.

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Table 1. Bibliometric analysis of foot and ankle articles in 43 orthopedic journals

| Journal Title (NLM Abbreviation) | Publications (2020-2016) | FA Publications (2020-2016) | Percent FA (%) | Total Impact Factor (5-year) | FA-Specific Impact Factor (5-year) |
|----------------------------------|--------------------------|-----------------------------|----------------|-----------------------------|----------------------------------|
| Foot Ankle Clin                  | 276                      | 273                         | 99%            | 1.64                        | 1.64                              |
| Foot Ankle Surg                  | 592                      | 582                         | 98%            | 1.84                        | 1.86                              |
| Foot Ankle Int                   | 1125                     | 1069                        | 95%            | 2.64                        | 2.77                              |
| J Foot Ankle Res                 | 294                      | 274                         | 93%            | 2.31                        | 2.37                              |
| J Foot Ankle Surg                | 1335                     | 1236                        | 93%            | 1.37                        | 1.38                              |
| Clin Podiatr Med Surg            | 270                      | 227                         | 84%            | 1.08                        | 1.08                              |
| Knee Surg Sports Traum Arthro    | 2627                     | 453                         | 17%            | 3.74                        | 4.11                              |
| J Orthop Trauma                  | 1431                     | 213                         | 15%            | 2.36                        | 2.60                              |
| Scand J Med Sci Sports           | 1166                     | 168                         | 14%            | 4.36                        | 4.13                              |
| J Orthop Sports Phys Ther Injury | 739                      | 105                         | 14%            | 3.10                        | 3.29                              |
| J Orthop Clin North Am           | 307                      | 44                          | 14%            | 2.88                        | 2.03                              |
| J Orthop Res                     | 1524                     | 191                         | 13%            | 3.41                        | 3.10                              |
| J Pediatr Orthop                 | 1211                     | 153                         | 13%            | 2.20                        | 1.79                              |
| Res Sports Med                   | 244                      | 31                          | 13%            | 2.95                        | 1.71                              |
| Int J Sports Med                 | 748                      | 88                          | 12%            | 2.97                        | 1.88                              |
| Am J Sports Med                  | 2202                     | 247                         | 11%            | 6.20                        | 6.32                              |
| BMC Musculoskeletal Disorders    | 2997                     | 333                         | 11%            | 2.87                        | 2.65                              |
| Skelet Muscle                    | 181                      | 18                          | 10%            | 5.12                        | 4.44                              |
| Bone Joint J                     | 1444                     | 138                         | 10%            | 4.57                        | 3.49                              |
| J Am Acad Orthop Surg            | 1037                     | 100                         | 10%            | 3.26                        | 2.96                              |
| Clin J Sport Med                 | 551                      | 57                          | 10%            | 2.72                        | 2.31                              |
| J Orthop Traumatol               | 178                      | 17                          | 10%            | 3.11                        | 2.23                              |
| Orthopedics                      | 1034                     | 107                         | 10%            | 1.63                        | 1.50                              |
| Clin Sports Med                  | 267                      | 25                          | 9%             | 2.43                        | 2.86                              |
| Clin Orthop Surg                 | 381                      | 33                          | 9%             | 2.45                        | 2.13                              |
| J Sports Med Phys Fitness        | 1225                     | 104                         | 9%             | 1.60                        | 1.23                              |
| J Bone Joint Surg Am             | 2074                     | 174                         | 8%             | 4.57                        | 3.51                              |
| Acta Orthop                      | 646                      | 43                          | 7%             | 3.84                        | 3.27                              |
| J Anat                           | 796                      | 55                          | 7%             | 2.88                        | 3.02                              |
| Br J Sports Med                  | 1775                     | 110                         | 6%             | 7.57                        | 7.59                              |
| Osteoarthritis Cartilage         | 1105                     | 71                          | 6%             | 5.99                        | 3.90                              |
| Arthroscopy                      | 2602                     | 160                         | 6%             | 2.98                        | 2.93                              |
| Curr Sports Med Rep              | 506                      | 29                          | 6%             | 1.40                        | 1.20                              |
| Sports Med                       | 917                      | 48                          | 5%             | 9.76                        | 11.36                             |
| J Bone Miner Res                 | 1306                     | 70                          | 5%             | 5.66                        | 6.20                              |
| Clin Orthop Relat Res            | 2496                     | 129                         | 5%             | 2.61                        | 3.20                              |
| J Morphol                        | 604                      | 31                          | 5%             | 1.75                        | 2.28                              |
| Curr Rheumatol Rev               | 195                      | 9                           | 5%             | 2.37                        | 1.25                              |
| Phys Med Rehabil Clin N Am       | 306                      | 13                          | 4%             | 2.72                        | 2.09                              |
| J Arthroplasty                   | 3604                     | 95                          | 3%             | 4.24                        | 3.80                              |
| Exerc Sport Sci Rev              | 167                      | 4                           | 2%             | 5.46                        | 4.60                              |
| J Physiother                     | 424                      | 8                           | 2%             | 3.29                        | 2.43                              |
| Average                          | 1109                     | 180                         | 21%            | 3.36                        | 3.09                              |