

Publishing during a Pandemic: Analyzing Recent Publication Times in Hand Surgery

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Background: Timely distribution of research is crucial for improving treatments and patient care; however, the publication process is historically unhurried. The primary goal of this study was to analyze the time to publication in hand surgery for 5 years and to examine potential factors affecting publication speed.

Methods: A 5-year review (2017–2021) was performed on 4 major hand surgery journals. The *Journal of Hand Surgery American Volume*, *Journal of Hand Surgery European Volume*, *Journal of Plastic Surgery and Hand Surgery*, and *Plastic and Reconstructive Surgery* were included in the review. Differences were assessed using analysis of variance or 2-sided independent *t* tests for continuous variables.

Results: There was a significant difference in submission-to-publication time between journals ($P < 0.001$). This differed by year ($P < 0.001$), with a significant increase in time from submission to publication after 2019, during the COVID-19 pandemic (447 ± 198 versus 406 ± 169 d, $P < 0.001$). Geographic region of the primary institution did affect submission-to-publication time ($P < 0.001$). No significant difference was seen in submission-to-publication time based on the number of institutions contributing, article type, or first author or corresponding author surgical specialty ($P > 0.05$).

Conclusions: Time to publication in hand surgery varies by hand surgery journal and significantly increased during the COVID-19 pandemic. New research reflects work done over a year ago at least. Participation in the peer-review process should be encouraged and bolstered within the hand surgery community to improve research dissemination times within the field. (*Plast Reconstr Surg Glob Open* 2024; 12:e6303; doi: [10.1097/GOX.0000000000006303](https://doi.org/10.1097/GOX.0000000000006303); Published online 12 November 2024.)

INTRODUCTION

Timely distribution of research is crucial for improving and refining treatments as well as patient care. That said, getting scientific articles accepted and published is not a quick process, and many authors often bemoan the final hurdle in the process that can at times stretch from weeks to years to complete across all biomedical fields.^{1–3} This editorial process was placed under further duress at the onset of the COVID-19 pandemic, as

journals announced publication delays due to reduced editorial capacity.⁴

In plastic surgery, a 2020 study that examined 1141 articles found that the median time to publication from submission was 10.3 months. They also found that the time taken for resultant publication was related to differences between plastic surgery journals and study specific characteristics.⁵ Although once thought to be a slow process due to the esoteric nature of plastic surgery and the more limited number of readers,⁶ it was recently found that most journals have demonstrated a quicker turnaround time during the last 13 years, and that online publication decreased the time between acceptance and in-print publication.⁵ Likewise in orthopedic surgery, a 2022 study by Chopra et al⁷ found, after examining the 14 high impact factor (IF) orthopedic surgery journals (1040 articles), that the received-to-print time was a mean of 291 days across all 14 journals. Given that hand surgery belongs to both the plastic surgery and orthopedic surgery domains, the primary goals of this study were to analyze the time to publication of well-known hand surgery journals during the last 5 years, and to examine potential

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factors playing a role in publication speed, including the COVID-19 pandemic.

METHODS

A review of 5 years of hand surgery journal content from 2017 to 2021 was performed in 4 major hand surgery-related journals. Utilizing the PubMed.gov website and respective journal websites, all articles were downloaded and analyzed during this period. Editorials, case reports, and nonpeer-reviewed special pieces were excluded. Hand surgery journals included in analysis and their IF were *Journal of Hand Surgery American Volume* (JHS Am, IF 1.9), *Journal of Hand Surgery European Volume* (JHS Eur, IF 1.8), *Journal of Plastic Surgery and Hand Surgery* (JPSHS, IF 1.35), and the Hand section of *Plastic and Reconstructive Surgery* (PRS, IF 5.1). Data collected included journal name, year and month of publication, volume, issue, and number of pages as well as study design type (review, retrospective, prospective, anatomic study, meta-analysis, and randomized control). Geographic region and country of origin of corresponding author along with number of institutions, number of authors, and corresponding author's primary training specialty (plastic, general, orthopedic surgery, engineer, and other) were also obtained. Date of submission, date of acceptance, and date of online or print publication were collected and used to calculate submission-to-publication (STP) time and acceptance to publication time variables.

Statistical analysis was performed utilizing IBM SPSS statistics, version 29.0. Categorical variables were summarized as percentages and proportions, and continuous data were presented as mean and SD. Differences were assessed using analysis of variance (ANOVA) or 2-sided independent *t* tests for continuous variables. Post hoc Turkey tests were used with ANOVA to assess differences between pairs in each group; only significant findings were reported. A Pearson correlation was performed to evaluate the relationship between the number of institutions involved per project, and STP time and acceptance-to-publication (ATP) time; a Pearson correlation was also used to look at the relationship between year of publication and STP time.

RESULTS

A total of 1474 articles from the 4 selected hand journals were included in the study. The mean STP time and ATP time for the selected journals together were 429 (SD 187.5) days and 181 (SD 81.5) days, respectively. The JHS Am had the longest STP time 471.2 (SD 165.5) days, whereas the JHS Eur had the shortest STP time of 381.4

Takeaways

Question: What factors influence recent hand surgery time to publication?

Findings: Submission-to-publication time varies by journal and was significantly longer during and immediately after the COVID-19 pandemic; although other factors were not found to contribute, geographic location of the article origin did.

Meaning: Time from submission to publication is very long, regardless of the pandemic effect. This should be accounted for when considering article writing and research dissemination timing in the hand surgery literature.

(SD 222.8) days (Table 1). Regarding ATP time, JPSHS had the longest at 217.6 (SD 85.7) days, whereas JHS Am had the shortest ATP time at 172.4 (SD 84.2) days.

After analyzing the qualifying publications, there was a significant difference in STP time and ATP time between journals ($P < 0.001$). Regarding STP time, a post hoc Turkey test showed a significant difference between JHS Am and JHS Eur, as well as JHS Am and PRS ($P < 0.001$). When looking at ATP time, significant differences were found between JHS Am and all 3 journals ($P < 0.05$) as well as JHS Eur and JPSHS ($P = 0.006$) on post hoc. Overall STP time differed by year ($P < 0.001$) (Fig. 1), and there was a very weak, positive correlation between year and STP time ($r_{1466} = 0.10$, $P < 0.001$). There was a significant increase in STP time after 2019, during the COVID-19 pandemic (446.8 ± 197.9 versus 405.5 ± 168.5 d, $P < 0.001$).

Region of the primary institution of an article did not affect STP time ($P = 0.07$), but there was a significant difference in ATP time based on the primary institution region ($P < 0.001$). In particular, North America was found to have a significantly shorter ATP time than Asia (172.8 ± 80.1 versus 197.6 ± 73.0 , $P < 0.001$). When looking at where the primary institution was located (US versus other), we see that those submissions with institutions located in the US had a significantly longer STP time when compared with the rest of the world (443.9 ± 164.6 versus 418.8 ± 202.4 , $P = 0.01$). That said, those submission with institutions located in the US had significantly shorter ATP times (171.9 ± 80.8 versus 188.4 ± 81.4 , $P < 0.001$).

There was no significant correlation between the number of institutions involved in a submission and the ATP time ($r_{1465} = 0.038$, $P = 0.149$) or STP time ($r_{1468} = -0.022$, $P = 0.409$). There was no significant difference seen in STP time based on article type ($P = 0.461$), first author surgical specialty ($P = 0.233$), or corresponding author surgical specialty ($P = 0.274$).

DISCUSSION

A hallmark of the scientific process is the final step to sharing newly conjured or discovered opinion and knowledge, peer review. However, this step can sometimes be subjected to delays or sitting in a reviewing cycle

Table 1. Publication Speed Stratified by Journal

Journal Name	STP Time	ATP Time
JHS Am	471.2 (165.5)	172.4 (84.2)
JHS Eur	381.4 (222.8)	184.4 (82.8)
JPSHS	419.3 (148.5)	217.6 (85.7)
PRS (Hand Section)	401.7 (117.3)	196.4 (47.3)

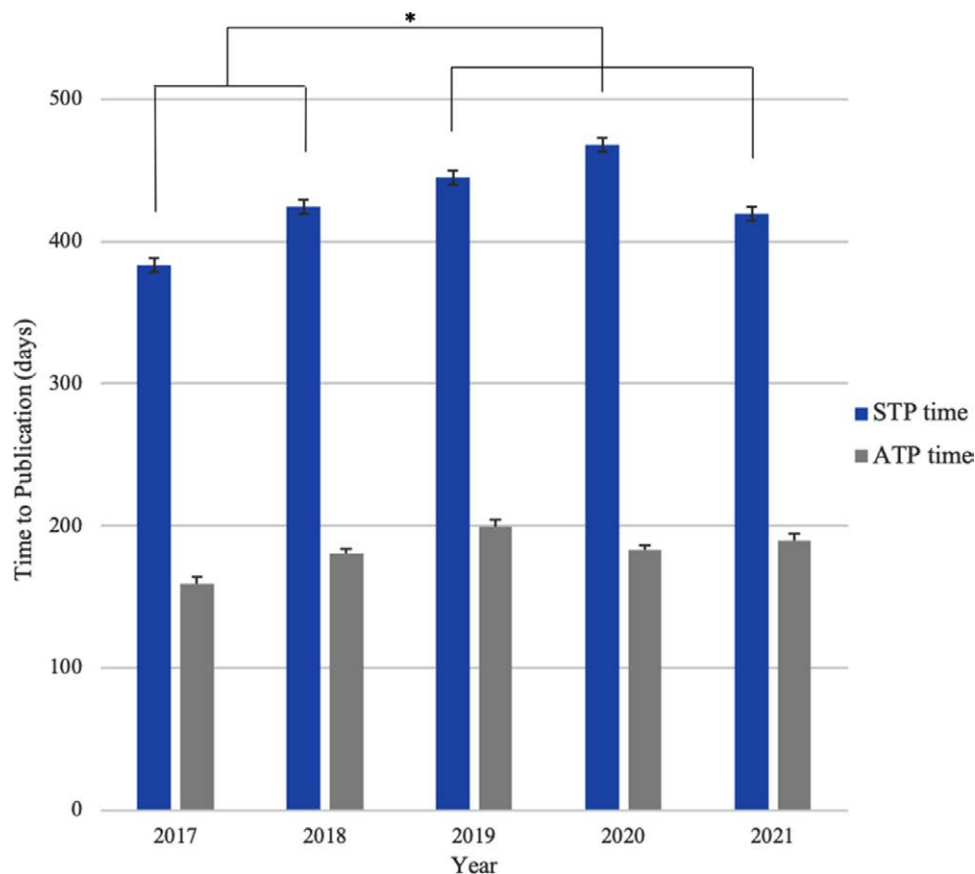


Fig. 1. Average 5-year STP time from 2017 to 2021, showing significant increase in STP time after 2019.

queue for extended periods of time.^{1,3} Unfortunately, the evidence over the last decades suggests that academic time from submission to publication is only increasing.³ Looking at the editorial side and the reviewer experience in this process, a 2017 study examined 3500 reviewer experiences in all disciplines between 2013 and 2016. Here, they found overall immediate rejection time in all fields to be 12 days on average, with 83% of submissions informed of the primary rejection within 4 weeks.³ When narrowed down to respondents working in the field of medicine, the total review duration of accepted articles was 12 weeks on average with 71% of reviews completed at 3 months and 92% at 6 months. This at-times lengthy review period, combined with an average of 2.05 review rounds in the medicine field, can result in time for some authors to achieve success to be upward of 2 years or greater to achieve publication acceptance and print.^{2,3,8}

Across all academic specialties, the peer-review process and the “time-to-review” culture seem to be largely influenced by the set expectations of the authors within the field itself, with longer times seen as appropriate, or expected, in some fields compared with others.³ Furthermore, the data on decision times are usually not published and available, which perhaps relinquishes pressure on journals and editors to be expedient with decisions. Although editorial speed could be treated like IF and ranked, it would

then suggest that the speed of editorial decision become another indicator of journal quality.^{6,9} This would require journals to maintain a broad network of reviewers to guarantee availability and feasibility of prompt review of each submission when prompted. Of course, peer review is typically volunteered time, and reviewers are unpaid. This has been noted by editors as an obstacle to expedient decisions, and willing and qualified reviewers have been harder to find as years have pressed on.^{10,11} The influence of IF on acceptance rate may then be examined more easily, as a negative correlation is often assumed but has not been explicitly studied in all surgical or medical fields to be necessarily true.¹² Here, we found the average STP time in hand surgery to be well over 1 year (429 days), suggesting a continued imperative for the members of our hand surgery community to continue to volunteer their time to this review process.

Other fields have found submission factors such as author status on editorial boards, number of authors, country of origin, and number of citations within the article to influence publication times and success rates^{13,14}—here, we did not find this to be true for our data in hand surgery. One limitation was the inability to include h-index (number generated to represent both the productivity and the impact of an author or institution) in our analysis. Unfortunately, different databases will give different values for the h-index because each

database must calculate the value based on the citations it contains to analyze. Consideration of Google Scholar was also made; however, this indexes web pages, not organized collections, and tends to give the highest h-index compared with other sources because it includes books, all versions of a singular article it finds, and self-citations, and it even counts manual citations added by authors that cannot be verified. Therefore, due to these issues with validity of h-index being captured, we were not able to reliably collect and use this metric. We did find the ATP time to be faster for articles of North American origin, compared with the rest of the world; but without further information, cannot make conjectures or conclusions on the significance of this difference. It is also worth noting that prior rejection of an article from a journal could play a role in that article being subsequently accepted to a different journal in a more timely manner given potential feedback from reviewers. That said, there is no way to identify which, if any, articles were initially rejected from another journal and, in those articles that were rejected, if any revisions were suggested and/or acted on by the author before resubmission. Therefore, previous rejection rate is a variable that could not be controlled for in this study and, therefore, is a limitation of our review.

The impact of the COVID-19 pandemic on publication time has been varied during the pandemic.^{4,12} Although COVID-19-related articles experienced publication lag times shortened to accommodate increased interest and to quickly disseminate knowledge during the pandemic,^{15–18} little has been relayed as to how the pandemic itself affected publication times for unrelated general hand surgery article publication times in our field. Here, we found that the time to publication in hand surgery varied by journal and significantly increased after 2019, during the COVID-19 pandemic.¹⁹ This may reflect an overall increased volume of submissions to hand journals, as elective hand surgery and clinical work decreased and more research was able to be completed during this period, but without baseline yearly journal submission volume data, this can only be hypothesized.

Overall, the peer-review process is a critical piece in scientific review and ensuring quality academic publications are disseminated among readership. Continued participation within the hand community in this review process as well as streamlined editorial online software and deadlines undoubtedly help decrease process times. As we move away from the COVID-19 pandemic, appropriate academic planning with understanding of the process trends will allow authors to determine a target hand journal, and these data can be used to guide submission choices to share work.

CONCLUSIONS

Time to publication in hand surgery varies by hand surgery journal and significantly increased during the COVID-19 pandemic. New research reflects work done with a lag time of 1 year or more when published.

Continued participation in peer review and the revision process will expedite dissemination of research. Authors determining a target hand journal can use these data to guide their decision and make a more informed choice for dissemination of their study to target readership.

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DISCLOSURE

The authors have no financial interest to declare in relation to the content of this article.

ETHICAL APPROVAL

This study was exempt from institutional review board review, and all authors complied with institutional research ethical guidelines and certifications.

REFERENCES

1. Nguyen VM, Haddaway NR, Gutowsky LF, et al. How long is too long in contemporary peer review? Perspectives from authors publishing in conservation biology journals. *PLoS One*. 2015;10:e0132557.
2. Andersen MZ, Fonnes S, Rosenberg J. Time from submission to publication varied widely for biomedical journals: a systematic review. *Curr Med Res Opin*. 2021;37:985–993.
3. Huisman J, Smits J. Duration and quality of the peer review process: the author's perspective. *Scientometrics*. 2017;113:633–650.
4. Forti LR, Solino LA, Szabo JK. Trade-off between urgency and reduced editorial capacity affect publication speed in ecological and medical journals during 2020. *Humanit Soc Sci Commun*. 2021;8:234.
5. Asaad M, Rajesh A, Banuelos J, et al. Time from submission to publication in plastic surgery journals: the story of accepted manuscripts. *J Plast Reconstr Aesthet Surg*. 2020;73:383–390.
6. Labanaris AP, Vassiliadu AP, Polykandriotis E, et al. Impact factors and publication times for plastic surgery journals. *Plast Reconstr Surg*. 2007;120:2076–2081.
7. Chopra A, Shapiro LM, Klifto KM, et al. Time to publication for orthopaedic surgery peer-reviewed journals: a cross-sectional bibliometric analysis. *J Clin Orthop Trauma*. 2022;35:102018.
8. Ross JS, Mocanu M, Lampropoulos JF, et al. Time to publication among completed clinical trials. *JAMA Intern Med*. 2013;173:825–828.
9. Paulus W. Why are the acta neuropathologica so fast, with a mean time from submission to first decision of 16 days? *Acta Neuropathol*. 2008;115:371–372.
10. Fox CW, Albert AYK, Vines TH. Recruitment of reviewers is becoming harder at some journals: a test of the influence of reviewer fatigue at six journals in ecology and evolution. *Res Integr Peer Rev*. 2017;2:3.
11. Baveye PC, Trevors JT. How can we encourage peer-reviewing? *Water Air Soil Pollut*. 2011;214:1–3.
12. Runde BJ. Time to publish? Turnaround times, acceptance rates, and impact factors of journals in fisheries science. *PLoS One*. 2021;16:e0257841.
13. Zimmer RL, Mancuso ACB, Matte U, et al. Analysis of the interval between submission and publication in genetics journals. *PLoS One*. 2023;18:e0284866.

14. Taskin Z, Taskin A, Dogan G, et al. Factors affecting time to publication in information science. *Scientometrics*. 2022;127:7499–7515.
15. Carvalho CJ, Fuller MP, Quaidoo EA, et al. A review of COVID-19-related publications and lag times during the first six months of the year 2020. *West J Emerg Med*. 2021;22:958–962.
16. Egbaria JK, Kofskey AM, Boyd CJ, et al. Anesthesiology articles published in 2020: a review and characterization of COVID-19 versus Non-COVID-19 publications in top anesthesiology journals. *Cureus*. 2022;14:e23943.
17. Aviv-Reuven S, Rosenfeld A. Publication patterns' changes due to the COVID-19 pandemic: a longitudinal and short-term scientometric analysis. *Scientometrics*. 2021;126:6761–6784.
18. Horbach SPJM. Pandemic publishing: medical journals strongly speed up their publication process for COVID-19. *Quant Sci Stud*. 2020;1:1056–1067.
19. Harlianto NI, Harlianto ZN. Time from submission to publication in urology journals: a look at publication times before and during Covid-19. *Heliyon*. 2023;9:e14233.