

What is the fate of scientific abstracts presented at the International Society for Hip Arthroscopy meetings?

Benedict U. Nwachukwu^{1*}, Venkat Boddapati¹, Michael C. Fu¹,
Brian J. Rebolledo², Anil S. Ranawat¹ and Marc R. Safran³

¹Department of Orthopaedic Surgery, Hospital for Special Surgery, 535 East 70th Street, New York, NY 10021, USA,

²Division of Orthopedics Surgery, Scripps Clinic, La Jolla, 92037, USA and

³Department of Orthopaedic Surgery, Stanford University School of Medicine, 450 Broadway Street, Pavilion C, 4th Floor, Mail Code 6342, Redwood City, CA 94063, USA

*Correspondence to: B. U. Nwachukwu. E-mail: nwachukwub@hss.edu

This investigation was performed at the Hospital for Special Surgery.

Submitted 7 August 2017; Revised 24 December 2017; revised version accepted 11 February 2018

ABSTRACT

Publication rates for general sports medicine society meetings have been studied but little is known about the publication rate for subspecialty sports medicine meetings. The purpose of this study was to determine the publication rates of abstracts presented at the annual meeting of the International Society for Hip Arthroscopy (ISHA) from 2011 to 2014. A database of abstracts presented at the annual meetings of ISHA was compiled. Abstracts that reached manuscript publication were determined using a PubMed search of the Medline database and Google Scholar. Statistical analyses were primarily descriptive. A total of 220 podium abstracts and 454 posters were presented at ISHA annual meetings from 2011 to 2014. Of the 220 podium presentations, 118 (53.6%) were eventually published with 91.5% of these being published within 3 years. Of the 454 posters, 182 (40.1%) were published with 95.6% being published in 3 years. Podium presentations had a significantly higher publication rate ($P < 0.001$). Published podium and poster presentations were most frequently published in the *Journal of Arthroscopy and Related Research* (podium: 24.6%; poster: 28.6%). The overall publication rate of scientific abstracts presented at the Annual ISHA meeting approximates that of general sports medicine society meetings. Podium presentations are significantly more likely to be published than scientific research presented as poster. These findings may highlight the scientific and educational merit of content presented. Continued attention is needed to maintain and improve the quality of abstracts presented at ISHA meetings.

INTRODUCTION

The International Society for Hip Arthroscopy (ISHA) is a subspecialty organization within sports medicine dedicated to disseminating knowledge, highlighting technical advances and improving the quality of care provided to patients undergoing hip arthroscopy. ISHA's founding members consisted of international leaders in hip arthroscopy and in 2008 ISHA was formed out of a desire by these founding members to provide a community where concepts and issues specific to hip arthroscopy could be discussed, as no such forum existed at that time.

As such, compared with other subspecialty organizations within sports medicine and orthopedic surgery, ISHA is relatively new. Since ISHA was founded, hip arthroscopy has become well established and the number of publications related to hip arthroscopy has grown quickly. As such, the ISHA annual meetings are now a focal point for international education and research in arthroscopic hip surgery. Annually, these meetings are hosted in different international locations and are attended by leaders in hip arthroscopy from all over the world.

Abstracts presented at ISHA scientific meetings either in poster or in podium format are ideally used to disseminate current research that may influence clinical practice. Similar to other scientific meetings within orthopaedic surgery and musculoskeletal medicine, the scientific merit of professional society or subspecialty meetings is gauged by the eventual publication rate of abstracts presented at these meetings. The publication rates for scientific abstracts presented at general orthopedic meetings [1, 2], general sports medicine society meetings [3] and sports medicine subspecialty meetings [1, 4, 5] have been reported previously. However these prior studies report on annual meetings for societies and technical procedures that have been well established. Less is known about the scientific and publication rates of less well-established societies like ISHA and relatively new procedures like hip arthroscopy.

The purpose of this study was to investigate the publication rates of poster and podium presentations at ISHA annual meetings from 2011 to 2014. We hypothesized that podium presentations would be published at a higher rate than poster presentations and that the majority of podium presentations would reach eventual publication.

MATERIALS AND METHODS

The official final programs for the 2011 through 2014 ISHA annual meetings were reviewed in April 2017 and all podium and poster presentation abstracts were collected and compiled into a database for analysis. These years were selected based on the earliest available complete program packet and 2014 was selected as the most recent year in order to provide at least a 36-month window for manuscript preparation, peer review and publication from initial abstract presentation. A 36-month window from abstract presentation is an accepted time frame to minimize lead-time bias in these types of studies [3, 6].

We searched for abstracts reaching publication by searching the Medline database using the PubMed interface. Studies not found on PubMed were secondarily searched by using the Google Scholar engine to identify non-Medline publications. This search strategy has been demonstrated to be comprehensive and is similar to methodologies applied in prior such studies [1, 3, 7–9]. One of the authors (VB) conducted searches in both databases using abstract titles and author names. A search of author publications was also performed before any publication was considered unpublished. For studies identified as unpublished, a second author (BN) repeated the search on each database to verify lack of publication. For studies where the title of the publication was reworded or altered, it was included as published if it retained the same focus as the presented abstract.

Table I. Total number of presented and published podiums and presentations at ISHA meetings from 2011 to 2014

	2011	2012	2013	2014
Podium presentations	47	45	67	61
Published podiums (%)	28 (59.6)	27 (60.0)	32 (47.8)	31 (50.8)
Poster presentations	75	129	130	120
Published posters (%)	29 (38.7)	52 (40.3)	50 (38.5)	51 (42.5)

Data extracted for each abstract included date of publication and journal of publication. From these data points time to publication was calculated as well as percentage of abstracts published and percentage published within 3 years of presentation at the ISHA meeting. Data were collected and analysed in Microsoft Excel 2013 (Microsoft, Redmond, WA). Statistical analysis was primarily descriptive. Chi-square analysis was used to compare the publication rates of podium and poster presentations.

RESULTS

A total of 674 unique scientific abstracts were presented at ISHA annual meetings between 2011 and 2014. Of these, 220 abstracts were presented in podium format and 454 abstracts were presented as posters (Table I).

Podium presentations

Of the 220 podium presentations, 102 (53.6%) went on to eventual publication. Of those reaching publication, the mean time to publication was 14.1 months (SD \pm 17.2) and 108 (91.5%) were published within 3 years. Podium presentations were most commonly published in the *Journal of Arthroscopy and Related Research* ($N=29$, 24.6%) followed by the *American Journal of Sports Medicine* ($N=21$, 17.8%).

Poster presentations

Of the 454 poster presentations, 272 (40.1%) went on to eventual publication. Of those reaching publication, the mean time to publication was 14.0 months (SD \pm 14.4) and 174 (95.6%) were published within 3 years. Poster presentations were most commonly published in the *Journal of Arthroscopy and Related Research* ($N=52$, 28.6%)

Table II. Characteristics of podiums and posters presented at ISHA from 2011 to 2014

	Podium	Poster
Total podium presentations	220	454
Never published (%)	102 (46.4)	272 (59.9)
Published (%)	118 (53.6)	182 (40.1)
# Published within 3 years (%)	108 (91.5)	174 (95.6)
Mean months to publication (SD)	14.1 (17.2)	14.0 (14.4)
Journals (%) ^a		
<i>Arthroscopy</i>	29 (24.6)	52 (28.6)
<i>AJSM</i>	21 (17.8)	27 (14.8)
<i>J Hip Preservation</i> ^b	6 (5.1)	15 (8.2)
<i>KSSTA</i>	6 (5.1)	11 (6.0)
<i>JBJS</i>	4 (3.4)	2 (1.1)
Other	52 (44.1)	72 (39.6)

^aThese journals are the most representative sample of journals where abstracts are published.

^b*Journal of Hip Preservation Surgery* started in 2014.

followed by the *American Journal of Sports Medicine* ($N = 27$, 14.8%) (Table II).

Overall, podium presentations had a significantly higher publication rate when compared with poster presentations (53.6% versus 40.1%; $P < 0.001$).

DISCUSSION

This study investigated the publication rate of scientific abstracts presented at the annual meeting of the ISHA from 2011 to 2014. We found that approximately half of abstracts presented as podium presentations (53.6%) go on to publication in a peer-reviewed journal while 40.1% of poster presentations progress to publication within a minimum 3 years of presentation. Podium presentations were significantly more likely to be published than poster presentations. Additionally, the vast majority of scientific abstracts reach publication within 3 years of presentation and those reaching publication are most commonly published in the *Journal of Arthroscopy and Related Research*, and secondarily the *American Journal of Sports Medicine*. As such we accept our study hypotheses. It should be noted that the *Journal of Hip Preservation Surgery* (JHPS), dedicated to hip preservation, similar to the purpose of ISHA, did not begin to publish until 2014, the last year of ISHA

meetings in this study. In a short time, JHPS has published a significant number of these papers as well.

The identified rate of publication for scientific abstracts presented at ISHA meetings is comparable with rates of publication for general orthopaedic and subspecialty sports medicine meetings and is actually higher than other orthopaedic meetings with an international focus. Frank et al. [4] analysed the publication rate of poster and podium presentations at the Arthroscopy Association of North American (AANA) annual meetings from 2008 to 2012. The authors used similar search strategies to the present study and found that for podium presentations there was a 59% rate of publication while for poster presentations there was a 44% rate of publication. The respective podium and poster presentation publication rates presented by Frank et al. are comparable with the findings of the present study (59% versus 54% for podiums and 44% versus 40% for posters). The publication rate for scientific abstracts presented at ISHA is also similar to that of abstracts presented at the annual meeting of the American Academy of Orthopaedic Surgery (AAOS). Donnegan et al. [2] reported the 5-year publication rate of scientific abstracts presented at the 2001 AAOS annual meeting. The authors reported 52% and 47% publication rates for podium presentations and poster presentations, respectively. Notably, Kinsella et al. [3] similarly analysed the publication rates for podium and poster presentations at the American Orthopaedic Society for Sports Medicine Meetings from 2006 to 2010. The authors reported a publication rate of 73.3% for podium presentations and a 56.9% publication rate for posters.

The publication rates for international orthopaedic society meetings have also been published. Eck et al. [5] evaluated the publication rate for abstracts presented at the meetings of the International Society of Arthroscopy, Knee Surgery and Orthopaedic Sports Medicine (ISAKOS). The author reported that the overall rate of publication from the 1997 and 1999 meetings were 34.6% and 39.3%, respectively. More recently, Al-Hourani et al. [10] reported on the publication rate for podium presentations at SICOT (International Society of Orthopaedic Surgery and Traumatology) annual conferences. The authors found that there was a 5-year rate (31.3%) of publication for podium presentations. International meetings and societies seek to attract a global diversity of scientific input and conceivably with travel limitations there may a dilution of scientific impact—with a resultant decrease in the rate of scientific abstract publication. The rate of scientific abstract publication from ISHA meetings is higher than what has been reported for other international meetings and is comparable with US and general sports medicine meetings.

There has been a paucity of evidence on the publication rate for hip-focused scientific abstracts. In 2009, Whitehouse et al. [9] evaluated the publication rates for hip surgery-related podium presentations presented at the British and European Hip Society, British Orthopaedic Association and European Federation of Orthopaedics and Traumatology between 2003 and 2006. The authors found a mean publication rate of 23.4%. As such the authors counseled for cautious interpretation of the findings for hip-related abstracts presented at scientific meetings. The findings and conclusions by Whitehouse et al. underscore the rationale and founding principle for the formation of ISHA. Prior to the founding of ISHA and the widespread acceptance of hip preservation techniques, hip-related research was met with a degree of skepticism and resistance from within the academic orthopaedic community. The countenance of the orthopaedic community toward hip preservation surgery at that time likely underscored the low publication rate reported by Whitehouse et al. As hip arthroscopy and hip preservation techniques became increasingly established within the orthopaedic community, the founding members of ISHA sought to encourage the highest level of scientific rigor for hip-related research and to provide a forum wherein these studies could be presented and discussed. The authors of this study believe that the high publication rate of scientific poster and podium presentations reported in this study confirms not only the scientific merit of ISHA meetings but also the academic rigor with which abstracts are selected for presentation at these meetings. The high publication rate for scientific abstracts presented at ISHA is all the more remarkable given that during the years under investigation ISHA did not have a reciprocal journal relationship whereas other society meetings such as AANA have their corresponding journal (*Journal of Arthroscopy and Related Surgery*) and AOSSM (*American Journal of Sports Medicine*). Beginning in 2014, ISHA developed a reciprocal relationship with the *JHPS* and it is possible that scientific abstracts presented in more recent meetings will have an even higher rate of publication given a suitable target journal.

This study has certain limitations that are worth noting. We limited our search to PubMed and Google Scholar and may have missed publications indexed through other databases. Additionally, because study titles and author ordering may change it is possible that we may have missed publications that changed these variables; however, we attempted to attenuate the risk of this error by recruiting a second author to verify studies that were excluded. Comparative analysis between published and unpublished abstracts was prohibited by a lack of access to abstract content for the majority of studies that did not reach eventual

publication. Finally, we allowed a minimum 3-year window for publication; however, prior evidence on academic orthopedic publishing has demonstrated that it can take up to 5 years for scientific data to reach eventual publication [11].

CONCLUSIONS

Approximately half of scientific abstracts presented in podium format at ISHA meetings (53.6%) go on to publication in a peer-reviewed journal while 40.1% of poster presentations progress to publication. Podium presentations are significantly more likely to be published than poster presentations. Additionally, the vast majority of scientific abstracts reach publication within 3 years of presentation. The identified rate of publication for ISHA scientific abstracts is comparable with other annual sports medicine meetings and is higher than orthopaedic meetings with an international focus.

FUNDING

No external funding was used to conduct this study.

CONFLICT OF INTEREST STATEMENT

None declared.

REFERENCES

1. Bhandari M, Devereaux PJ, Guyatt GH *et al.* An observational study of orthopaedic abstracts and subsequent full-text publications. *The Journal of Bone and Joint Surgery. American Volume* 2002; **84-a**: 615–21.
2. Donegan DJ, Kim TW, Lee GC. Publication rates of presentations at an annual meeting of the American Academy of Orthopaedic Surgeons. *Clinical Orthopaedics and Related Research* 2010; **468**: 1428–35.
3. Kinsella SD, Menge TJ, Anderson AF *et al.* Publication rates of podium versus poster presentations at the American Orthopaedic Society for Sports Medicine meetings: 2006–2010. *The American Journal of Sports Medicine* May 2015; **43**: 1255–9.
4. Frank RM, Cvetanovich GL, Collins MJ *et al.* Publication rates of podium versus poster Presentations at the Arthroscopy Association of North America Meetings 2008–2012. *Arthroscopy: The Journal of Arthroscopic & Related Surgery: official Publication of the Arthroscopy Association of North America and the International Arthroscopy Association* Jan 2017; **33**: 6–11.
5. Eck JC. Publication rates of abstracts presented at Biennial Meetings of the International Society of Arthroscopy, Knee Surgery and Orthopaedic Sports Medicine. *Knee Surgery, Sports Traumatology, Arthroscopy: Official Journal of the ESSKA* 2005; **13**: 426–9.
6. Lehman JD, Nwachukwu BU, Ferraro R *et al.* Publication rates of podium presentation abstracts at the Arthroscopy Association of

- North America Annual meetings 2004–2012. *Arthroscopy: The Journal of Arthroscopic & Related Surgery: official Publication of the Arthroscopy Association of North America and the International Arthroscopy Association* 2017; **33**: 835–39.
7. DeMola PM, Hill DL, Rogers K *et al.* Publication rate of abstracts presented at the shoulder and elbow session of the American Academy of Orthopaedic Surgery. *Clinical Orthopaedics and Related Research* 2009; **467**: 1629–33.
 8. Gavazza JB, Foulkes GD, Meals RA. Publication pattern of papers presented at the American Society for Surgery of the Hand annual meeting. *The Journal of Hand Surgery* Sep 1996; **21**: 742–5.
 9. Whitehouse MR, Atwal NS, Blom AW. Publication rates for hip surgery-related abstracts presented at national and international meetings. *Orthopedics* Jun 2009; **32**: 407.
 10. Al-Hourani K, Al-Aref R, Ley-Greaves R *et al.* Five-year publication rate of podium presentations at SICOT Annual Conference: an observational study and new objective proposal of conference power. *SICOT J* 2017; **3**: 36.
 11. Okike K, Kocher MS, Nwachukwu BU *et al.* The fate of manuscripts rejected by *The Journal of Bone and Joint Surgery* (American volume). *The Journal of Bone and Joint Surgery. American Volume* 2012; **94**: e130.