Expert Witness Testimony in Ophthalmology Malpractice Litigation

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• PURPOSE: To examine the relative qualifications of expert witnesses testifying on behalf of plaintiffs vs defendants in ophthalmology malpractice litigation.
• DESIGN: Correlational and descriptive study; analysis of expert witness and physician demographic data available on several databases.
• METHODS: The Westlaw legal database was searched for ophthalmologist expert witness testimony from January 2006 to June 2014. Physician demographic data were used as the main outcome measures, including length of experience, scholarly impact (as measured by the h-index), practice setting, and fellowship training status and were obtained from state medical licensing board sites and online medical facility and practice sites. H-indices were obtained from the Scopus database.
• RESULTS: Defendant and plaintiff expert witnesses had comparable mean years of experience (32.9 and 35.7, respectively) ($P = .12$) and scholarly impact (h-index = 8.6 and 8.3, respectively) ($P = .42$). Cases tended to resolve on the side of the expert witness with the higher h-index ($P = .04$). Significantly higher proportions of defendant witnesses were in academic practice ($P < .05$) and underwent fellowship training ($P < .001$).
• CONCLUSION: Ophthalmologist expert witnesses testifying for both plaintiffs and defendants had over 30 years of experience and high scholarly impact. Practitioners testifying on behalf of plaintiffs were statistically less likely to work in an academic setting and have subspecialty training. Scholarly impact of expert witnesses appeared to affect trial outcomes. Surgical societies should stringently police for appropriate expert witness testimony given by both plaintiff and defense experts in malpractice litigation. (Am J Ophthalmol 2015;159:584–589. © 2015 by Elsevier Inc. All rights reserved.)

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MEDICAL MALPRACTICE LITIGATION CONTRIBUTES to rising health care costs in the United States (US).[1] The US Department of Health and Human Services (HHS) reports that Americans spend far more per person on the costs of litigation than any other country in the world.[2] The growing threat of malpractice litigation continues to add to malpractice premiums and the practice of defensive medicine—tests or procedures ordered by physicians to protect against the risk of being sued.[3]

The jury is the trier of fact in the courtroom, deciding the facts of a case, the issue of malpractice, and the monetary amount awarded.[4] The expert witness is typically the neutral character whose testimony is provided to help the jury make those decisions. Many jurisdictions require that if the subject in question is so distinctly related to a science or profession that the information relating to the issues at hand are beyond the knowledge of the average layperson, then expert testimony will be required to establish the standard of care and issues relating to causation.[5]

In the US, virtually all medical liability litigation involves the testimony of medical experts, chosen by the plaintiff and defendant to explain their interpretation of facts and the application of those facts to the standard of care.[6] The roles of the expert witness include interpreting the medical terminology and testimony for the jury, providing an opinion on the standard of care, and offering an explanation of the injury sustained in terms of such factors as severity, permanency, and ramifications. The most important role of the expert witness is to provide an honest opinion as to whether the breach of duty was the direct or proximate cause of the plaintiff's injury.[4]

The Federal Rules of Evidence on Expert Testimony state that "if scientific, technical, or other specialized knowledge will assist the trier of fact to understand the evidence or to determine a fact in issue, a witness qualified as an expert by knowledge, skill, experience, training, or education, may testify thereto in the form of an opinion or otherwise."[7] The general qualifications of an expert witness are defined similarly in every state—the physician should possess a requisite amount of skill, knowledge, experience, and expertise.[4] However, because these qualities are difficult characteristics to measure directly and objectively, this definition has led to some skepticism about expert testimony.

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The topic of expert witness testimony has been a contentious subject for many years. In an 1893 address, Professor Charles Himes noted that expert witnesses "are selected on account of their ability to express a favorable opinion, which, there is great reason to believe, is in many instances the result alone of employment and the bias growing out of it."[8] Other proponents of this opinion who wish to expose such bias believe that professional experts need to be vigorously cross-examined about such things as the amount of fees they are receiving for their service, how often they provide testimony in similar cases, and how much income per year is derived from providing testimony.[9]

According to the American Academy of Ophthalmology (AAO) Expert Witness Testimony Guidelines, the expert's testimony is often the pivotal factor in the medical tort process.[6] The purpose of this study is to compare the relative qualifications of plaintiff and defendant expert witnesses involved in malpractice litigation in ophthalmology. Information regarding years of physician experience, scholarly impact, fellowship training status, and involvement in medical education were used to assess potential quality differences in the expert witnesses. To our knowledge, this is the first published study analyzing expert witness testimony in ophthalmology malpractice litigation.

SUBJECTS AND METHODS

THIS STUDY DESIGN WAS A CORRELATIONAL AND DESCRIPtive study. The study adheres to the tenets of the Declaration of Helsinki and qualifies as exempt status per the "nonhuman subject research" protocol established by the Rutgers New Jersey Medical School Institutional Review Board, New Jersey Medical School, Newark, New Jersey, USA.

The Westlaw legal database (Thomson Reuters, New York, New York, USA) is a search engine often used by lawyers to obtain access to primary publications, including both federal and state cases. It has also been used to conduct analyses of medical malpractice lawsuits pertaining, but not limited, to otolaryngology,[1] urology,[10] psychiatry,[11] oculoplastic surgery,[12] and plastic surgery.[13] In this study, the database was searched for malpractice lawsuits from January 2006 to June 2014 in which ophthalmologists served as expert witnesses. Owing to the ever-changing state of malpractice litigation secondary to ophthalmologic technical advances and relatively frequent amendments to malpractice law, only recent cases tried within the last 8 years were used. The terms *medical malpractice* AND *ophthalmology* OR *ophthalmologist* were used in a Boolean search to derive a preliminary case list. All search results that referenced malpractice litigations but that were not themselves malpractice lawsuits were excluded. Duplicate lawsuits were also excluded. The names of ophthalmologists providing expert testimony were recorded from the remainder of cases.

A Google search was conducted for each expert witness, using his or her name and specialty as Boolean search terms (ie, *Dr Jane Doe Ophthalmology*). Information regarding graduation date from medical school, fellowship training status, and position as a faculty member at an academic university was obtained from private practice websites, staff listings on medical facility and hospital websites, and faculty listings on academic departmental websites. Medical school graduation date was more readily available than residency or fellowship graduation date on these websites; thus, graduation date from medical school was used in this study as a measure of experience.

The *h-index* calculator from the Scopus database (www.scopus.com) was used to evaluate the scholarly impact that each expert witness had within ophthalmology. The h-index uses both works published by a particular author and publications that cite said author's work to determine his or her productivity and academic contribution. Scopus takes into account all article citations made after 1995 when calculating an author's h-index. For the experts who had no publications after 1995, they were assigned an h-index of 0 to be consistent with the method used to calculate all other expert h-indices. When search results yielded multiple authors with the same name (owing to common last names, ie, *Smith* or *Brown*), practice location, association with a particular department, and publications in ophthalmology journals were used to certify selection of the proper physician for analysis. All data were collected in June 2014.

• **STATISTICAL ANALYSIS:** A Student t test was used for comparison of normally (symmetric) distributed continuous variables. Mann-Whitney U tests were used for comparison of asymmetric (nonparametric) continuous data. The threshold for statistical significance was set at $P < .05$. Pearson χ^2 analysis was used for comparison of categorical data. Microsoft Excel (Redmond, Washington, USA) was used for statistical calculation.

RESULTS

INITIAL RESULTS FROM THE WESTLAW DATABASE USING the search terminology described above produced 438 unique malpractice jury verdict reports since January 2006. Of these, 98 cases involved ophthalmologist expert witnesses. From these trials, there were 70 ophthalmologist defense expert witnesses and 74 plaintiff expert witnesses. There were several ophthalmologists that served as expert witnesses in multiple trials, so overall there were 66 unique ophthalmologist defense expert witnesses and 66 unique plaintiff expert witnesses. Defense expert witnesses had fewer years of experience (mean ± SD, 32.9 ± 10.1 years;

range, 13–51 years) than the plaintiff expert witnesses (mean ± SD, 35.7 ± 11.2 years; range, 10–58 years). This difference was not significant ($P = .12$) (Table 1). Amount of experience did not affect trial outcome; cases in which a defendant ophthalmologist expert had more experience than his or her plaintiff counterpart were resolved in the defendant's favor 66.7% of the time, whereas cases in which a plaintiff ophthalmologist expert witness had more experience was resolved with a plaintiff verdict 64.3% of the time (Pearson χ^2 test, $P = .90$).

Scholarly impact was determined using the h-index. The h-index was obtained for 98 of the ophthalmologists (49 defense and 49 plaintiff expert witnesses) included in this study. The remaining ophthalmology expert witnesses did not have publications after 1995. The h-index of defense expert witnesses was only slightly higher (mean ± SD, 8.6 ± 10.3; median, 5.5) than that of plaintiff expert witnesses (mean ± SD, 8.3 ± 10.3; median, 3). This difference was not significant (Mann-Whitney U test, $P = .42$) (Table 1). Cases in which the defendant expert witnesses had a higher h-index than their plaintiff counterparts were resolved in the defendant's favor 72.7% of the time. Similarly, cases in which the plaintiff ophthalmologist expert witnesses had a higher scholarly impact than their respective defendant witnesses were resolved in the plaintiff's favor 75% of the time (Pearson χ^2 test, $P = .04$).

Of the ophthalmologists serving as defendant expert witnesses, 75.7% are full-time faculty in an academic ophthalmology department. This proportion was significantly higher than the 56.8% of plaintiff expert witnesses serving in such a capacity (Pearson χ^2 test, $P < .05$) (Table 1). Evaluation of fellowship training status revealed that 85.7% of the defense expert witnesses had confirmed postresidency fellowship training, a statistically significant higher proportion than the 60.8% of the plaintiff expert witnesses (Pearson χ^2 test, $P < .001$) (Table 1).

The number of ophthalmologists testifying in multiple cases on behalf of the same side was analyzed. The number of experts testifying on behalf of plaintiffs in 2 cases was 7; the number testifying in 3 cases was 2. The number of experts testifying on behalf of defendants in 2 cases was 6; the number testifying in 3 cases was 2.

TABLE 1. Comparison of Plaintiff and Defendant Expert Witness Ophthalmologists in Malpractice Litigation

	Plaintiff	Defendant	*P* Value
Mean experience, y	35.7	32.9	.12
Mean h-index	8.3	8.6	.42
Academic practice, %	56.8	75.7	.01[a]
Fellowship trained, %	60.8	85.7	<.001[a]

[a]Statistically significant.

DISCUSSION

ONE OF 6 PRACTICING PHYSICIANS IS ESTIMATED TO FACE A malpractice claim every year.[14] In a *New England Journal of Medicine* study analyzing malpractice risk according to physician specialty, it was determined that the greatest number of physicians projected to face a malpractice claim was in surgical specialties.[15] In the courtroom, expert testimony plays an essential role in establishing whether or not there was medical negligence. In the initial proceedings of the case, the expert witness can also play a crucial role with an honest review. If there is compelling evidence for either the plaintiff's or defendant's case, discussing an early settlement or dismissal of the case, respectively, may save time, money, and energy for all parties involved before entering the court. The integrity of the judicial process depends to a great degree on the truthfulness, objectivity, and avoidance of undue bias in the expert testimony.[6]

Expert witness testimony guidelines in medical liability cases have been set forth by the legal community as well as by medical organizations, such as the American College of Surgeons (ACS) and the AAO.[6,16] *Daubert v. Merrell Dow Pharmaceuticals* was a landmark case in 1993 regarding expert testimony. The US Supreme Court set forth a nonexclusive checklist for trial courts to use in assessing the reliability of scientific expert testimony. The Court charged trial judges with the responsibility of acting as gatekeepers to exclude unreliable testimony, a function that applies to all expert testimony, not just testimony based on science.[7] The important factors, which are considered in this standard, are whether the expert has the expertise and sufficient experience in the case at hand.[1]

One factor that contributes to physician expertise is number of years of experience. In our study, expert witnesses on both sides averaged more than 30 years of experience, defined as the length of time since graduation from medical school. Defense expert witnesses had slightly fewer years of experience than plaintiff expert witnesses (32.9 vs 35.7 years, $P = .12$), which is consistent with results from an expert witness study in neurological surgery.[17] This level of experience follows the explicitly mentioned "sufficient experience" qualification for expert testimony set forth by the *Daubert v. Merrell Dow Pharmaceuticals* case.[18] A factor that may explain why such extensive experience is found in the study population is that older surgeons tend to operate less, affording them more time to participate in court proceedings.[19] Additionally, these witnesses may appear more credible as experts to juries and the judge, who, as stated in the *Daubert* standard, acts as gatekeeper of the courtroom and may disqualify less experienced witnesses.[1]

Another measure to assess individual expertise is scholarly impact, as measured by the h-index. The h-index is a bibliometric first described by Dr J.E. Hirsch in 2005, which

TABLE 2. Expert Witnesses Testifying Multiple Times for the Same Side in Ophthalmology Malpractice Litigation

No. of Times Testifying	No. of Plaintiff Experts	No. of Defendant Experts
Two cases	7	6
Three cases	2	2

gives an estimate of the importance, significance, and broad impact of a scholar's cumulative research contributions.[20] As an example, an individual with an h-index of 5 has published 5 papers that have been cited at least 5 times in the literature. If the individual with an h-index of 5 has published 15 papers overall, this means that his other 10 papers have been cited less than *h* (5) times in peer-reviewed journals.

Our study revealed no significant difference between h-indices in defendant and plaintiff witnesses (h-index = 8.6 and 8.3, respectively; $P = .42$). A prior study looking at the relationship between the h-index and surgical subspecialties reported that an h-index between 8 and 9 usually corresponds to an academic rank between associate professor and professor.[21] In this study, scholarly impact of expert witnesses correlated with trial outcomes. Cases in which the defendant expert witnesses had a higher h-index were resolved in their favor 72.7% of the time. Cases in which the plaintiff expert witnesses had a higher h-index were resolved in their favor 75% of the time. These trends were statistically significant ($P = .04$). A higher h-index has been associated with academic advancement and greater procurement of funding from the National Institutes of Health (NIH) in many fields, including otolaryngology, radiology, urology, neurosurgery, and anesthesiology.[22–27] The jury may view expert witnesses with a significant publication history as more credible, which can affect their decisions in litigation proceedings.

The practice setting of physicians may also contribute to expertise and provide insight into the level of experience. Seventy-five percent of ophthalmologists serving as defendant expert witnesses are full-time faculty in an academic ophthalmology department, compared to 56.8% of plaintiff expert witnesses ($P < .05$). This result is consistent with data from other fields, including otolaryngology, neurosurgery, and urology.[1,10,17] Ophthalmology has become much stronger in academic medical centers in the last 30 years.[28] Surgeons practicing as full-time faculty in an academic medical center see greater numbers of patients and more complicated pathologies.[29,30] Research funding in academic ophthalmology from the National Eye Institute has grown substantially, surpassing funding from that of most other NIH institutes.[28] An expert practicing in an academic setting with greater number of years of professional experience, higher *h-index*, and fellowship training is more likely to be recruited by defendant attorneys. Conversely, experts in community practice with experience dealing with the particular processes of the case and greater awareness of community standards of care and practice patterns are more likely to be recruited by plaintiff attorneys.

Eighty-five percent of defendant expert witnesses had been trained in a postresidency fellowship, compared to 60.8% of plaintiff expert witnesses ($P < .001$). A survey analyzing the factors that influence the pursuit of subspecialty training revealed that the physicians who undergo postresidency training had a greater desire to acquire special skills and to enter a (perceived) prestigious field.[31] Subspecialty training has also been linked with higher research productivity throughout many fields.[22,23,32] These factors may all contribute to an increased level of expertise of the expert witness.

In contrast to other reports on expert witness testimony from otolaryngology, neurological surgery, and urology,[1,10,17] a trend did not exist of experts testifying multiple times in the time interval analyzed (Table 2). At most, 2 defendant and 2 plaintiff expert witnesses testified in 3 cases. The ACS states explicitly that physician expert witnesses should be willing to disclose the total number of times they have testified for the plaintiff or defendant.[16]

There are several limitations in this study. One limitation is the inherent difficulty to define and measure "expertise" of an expert witness. It may be helpful to obtain information regarding how many procedures relevant to the case the expert witness physician has performed; however, these data are not publicly available.[1] Qualitative data such as skill as a surgeon and clinician and overall quality of patient care are other factors that contribute to "expertise" that cannot be evaluated. We attempted to quantify expertise using a combination of years of experience, scholarly impact, practice setting, and subspecialty training status.

Another limitation is the use of the Westlaw database for legal information. Other authors have pointed out that the cases included in the database may be only those that are voluntarily reported by attorneys.[33,34] Some out-of-court settlements or those that are dismissed in summary judgment may not be included in the publicly available federal and state court records in the Westlaw database. Given this limitation, however, Westlaw has been used in many prior analyses of malpractice litigation.[1,10,12,17,35] The Westlaw database is a comprehensive legal research database that is well known and often used by legal professionals. The decision to use Westlaw over other online legal databases such as the Physicians Insurance Association of America and the National Practitioner's database was based on its user-friendly interface and its high-quality information, supported by the numerous accolades it has received. In the 2012 *New York Law Journal* Reader Rankings and the 2013 Best of *The National Law Journal*, Westlaw won in both Online Research Provider and Online Legal Research Vendor categories.[13]

The use of the Scopus database to obtain data regarding scholarly impact is another potential limitation. Scopus does not take into account article citations made before 1995 when calculating an author's *h-index*. This would have an effect on more senior expert witnesses, who may have had greater productivity prior to 1995. Another point to address is that experts with high *h-indices* owing to research in a specific field, such as glaucoma, may not be testifying solely in cases of their specialty. In the event that a glaucoma specialist was testifying in a retinal case, his or her opinion may not be of great value, despite having a high *h-index*.

Upon comparison of ophthalmologist expert witnesses, practitioners testifying on behalf of plaintiffs had a greater number of years of experience, had achieved a lower scholarly impact, were statistically less likely to work in an academic setting, and were less likely to have pursued subspecialty training than those who testified on behalf of defendants. One potential explanation for these findings is the stigma against physicians who choose to testify on behalf of plaintiffs. Plaintiff expert witnesses may face criticism or persecution by other members of their profession. This potential for professional ostracism may affect referral patterns. Physicians with greater expertise, whether through serving in an academic position or having subspecialty training, may thus be discouraged to testify against their colleagues.[1] This disincentive to testify in court leads to a "conspiracy of silence," which is the refusal of physicians to acknowledge publicly the negligence of another physician.[36] In general, there is still a great deal of skepticism involving the ethics of expert testimony.[4] Our study revealed that the scholarly impact of expert witnesses appears to correlate with trial outcomes. Stringent policing for appropriate expert witness testimony is necessary to ensure that the integrity of the judicial process remains intact.

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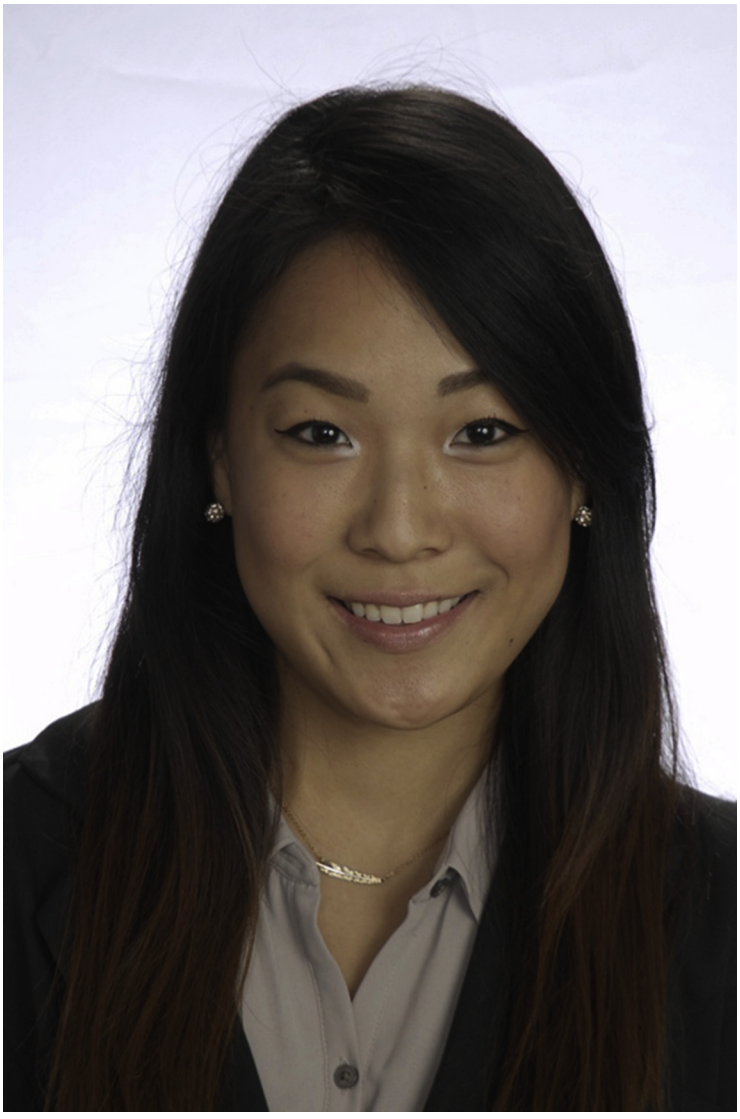
REFERENCES

1. Eloy JA, Svider PF, Patel D, Setzen M, Baredes S. Comparison of plaintiff and defendant expert witness qualification in malpractice litigation in otolaryngology. *Otolaryngol Head Neck Surg* 2013;148(5):764–769.
2. United States Department of Health and Human Services. Addressing the New Health Care Crisis. Washington: Office of the Assistant Secretary for Planning and Evaluation. Available at http://aspe.hhs.gov/daltcp/reports/medliab.htm. Accessed July 14, 2014.
3. Anderson GF, Hussey PS, Frogner BK, Waters HR. Health spending in the United States and the rest of the industrialized world. *Health Aff* 2005;24(4):903–914.
4. Jerrold L. The role of the expert witness. *Surg Clin North Am* 2007;87(4):889–901.
5. Plummer v. BD of Funeral Directors. May 20, 1999 (District of Columbia Court of Appeals 1999).
6. Ophthalmology AAO. Advisory Opinion of the Code of Ethics: Expert Witness Testimony. Available at http://www.aao.org/about/ethics/upload/AO-Expert-Witness-Testimony-2011.pdf. Accessed June 30, 2014.
7. Federal Rules of Evidence. Testimony by Expert Witnesses. Vol 702. Available at: http://federalevidence.com/rules-of-evidence. Accessed July 30, 2014.
8. Himes CF. The scientific expert in forensic procedure. *J Franklin Inst* 1983;135(6):407–436.
9. Wrobleski v. Lara. April 16, 1999 (Court of Appeals of Maryland 1999).
10. Sunaryo PL, Svider PF, Jackson-Rosario I, Eloy JA. Expert witness testimony in urology malpractice litigation. *Urology* 2014;83(4):704–708.
11. Lindor RA, Campbell RL, Pines JM, et al. EMTALA and patients with psychiatric emergencies: a review of relevant case law. *Ann Emerg Med* 2014;64(5):439–444.
12. Svider PF, Blake DM, Husain Q, et al. In the eyes of the law: malpractice litigation in oculoplastic surgery. *Ophthal Plast Reconstr Surg* 2014;30(2):119–123.
13. Paik AM, Mady LJ, Sood A, Eloy JA, Lee ES. A look inside the courtroom: an analysis of 292 cosmetic breast surgery medical malpractice cases. *Aesthet Surg J* 2014;34(1):79–86.
14. Abbott RL, Weber P, Kelley B. Medical professional liability insurance and its relation to medical error and healthcare risk management for the practicing physician. *Am J Ophthalmol* 2005;140(6):1106–1111.
15. Jena AB, Seabury S, Lakdawalla D, Chandra A. Malpractice risk according to physician specialty. *N Engl J Med* 2011;365(7):629–636.
16. Surgeons ACO. Statement on the physician acting as an expert witness. Available at: http://www.facs.org/fellows_info/statements/st-8.html. Accessed July 16, 2014.
17. Eloy JA, Svider PF, Folbe AJ, Couldwell WT, Liu JK. Comparison of plaintiff and defendant expert witness qualification in malpractice litigation in neurological surgery. *J Neurosurg* 2014;120(1):185–190.
18. Daubert v Merrell Dow Pharmaceuticals, Inc. (Supreme Court of the United States 1993).
19. Waljee JF, Greenfield LJ, Dimick JB, Birkmeyer JD. Surgeon age and operative mortality in the United States. *Ann Surg* 2006;244(3):353–362.
20. Hirsch JE. An index to quantify an individual's scientific research output. *Proc Natl Acad Sci U S A* 2005;102(46):16569–16572.

21. Svider PF, Pashkova AA, Choudhry Z, et al. Comparison of scholarly impact among surgical specialties: an examination of 2429 academic surgeons. *Laryngoscope* 2013;123(4):884–889.
22. Eloy JA, Svider PF, Mauro KM, Setzen M, Baredes S. Impact of fellowship training on research productivity in academic otolaryngology. *Laryngoscope* 2012;122(12):2690–2694.
23. Kasabwala K, Morton CM, Svider PF, Nahass TA, Eloy JA, Jackson-Rosario I. Factors influencing scholarly impact: does urology fellowship training affect research output? *J Surg Educ* 2014;71(3):345–352.
24. Svider PF, Choudhry ZA, Choudhry OJ, Baredes S, Liu JK, Eloy JA. The use of the h-index in academic otolaryngology. *Laryngoscope* 2013;123(1):103–106.
25. Svider PF, Lopez SA, Husain Q, Bhagat N, Eloy JA, Langer PD. The association between scholarly impact and National Institutes of Health funding in ophthalmology. *Ophthalmology* 2014;121(1):423–428.
26. Lee J, Kraus KL, Couldwell WT. Use of the h index in neurosurgery. Clinical article. *J Neurosurg* 2009;111(2):387–392.
27. Rad AE, Brinjikji W, Cloft HJ, Kallmes DF. The H-index in academic radiology. *Acad Radiol* 2010;17(7):817–821.
28. Meredith TA. Ophthalmology in the Academic Medical Center. Association of Univeristy Professors of Ophthalmology News and Views. Available at http://www.aupo.org/news/files/AUPONews04-10_WEB.pdf. Accessed July 15, 2014.
29. Pardes H. The perilous state of academic medicine. *JAMA* 2000;283(18):2427–2429.
30. Guglielmo WJ. Private practice or academia? *Med Econ* 2007; 84(12):50–54. 56.
31. Gedde SJ, Budenz DL, Haft P, Tielsch JM, Lee Y, Quigley HA. Factors influencing career choices among graduating ophthalmology residents. *Ophthalmology* 2005;112(7): 1247–1254.
32. Agarwal N, Clark S, Svider PF, Couldwell WT, Eloy JA, Liu JK. Impact of fellowship training on research productivity in academic neurological surgery. *World Neurosurg* 2013; 80(6):738–744.
33. Reilly BK, Horn GM, Sewell RK. Hearing loss resulting in malpractice litigation: what physicians need to know. *Laryngoscope* 2013;123(1):112–117.
34. Nash JJ, Nash AG, Leach ME, Poetker DM. Medical malpractice and corticosteroid use. *Otolaryngol Head Neck Surg* 2011; 144(1):10–15.
35. Lydiatt DD. Medical malpractice and facial nerve paralysis. *Arch Otolaryngol* 2003;129(1):50–53.
36. Cohen S. The conspiracy of silence. *Can Fam Physician* 1980; 26:847–849.



Biosketch

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Biosketch

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