



# Confidence of ophthalmology residents in obtaining informed consent

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Ophthalmology residents often obtain informed consent for common procedures. In this study, we set out to determine the confidence levels among ophthalmology residents who obtain informed consent. An anonymous online survey was distributed to United States ophthalmology residents across the country. Ninety-five residents participated, evenly distributed geographically and by postgraduate year (PGY). Residents were frequently obtaining consent for procedures despite not being comfortable doing so. Only 18% of residents reported that they always felt comfortable with the informed consent process. Comfort level increased significantly with PGY ( $P < .001$ ) and prior training in informed consent ( $P = .032$ ). Of the residents surveyed, 76% indicated a desire for more formal training in the consent process. Most residents would welcome an informed-consent formal training curriculum, which would address 5 of the 6 Accreditation Council for Graduate Medical Education core competencies and meet resident milestones in the Next Accreditation System.

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Ophthalmologists perform a variety of office-based and surgical procedures. Informed consent is a critical part of patient care. The informed consent process requires a careful conversation between physician and patient regarding the risks, benefits, and alternatives for the procedure and the best course of action for the condition. While elective cataract surgery is the most common surgical procedure performed by

ophthalmologists,<sup>1</sup> there are numerous other procedures both elective and emergent, each of which requires a different conversation regarding informed consent. Caring for patients with a variety of surgical needs requires a sound understanding of the principles of the specialty, as well as the skills required to obtain informed consent.

In the modern practice of ophthalmology, the informed consent discussion has become more complex as the development of new surgical technologies for cataract extraction and other procedures accelerates. Studies have shown that cataract surgery patients do not retain information regarding the procedure and its risks, despite a monitored conversation with the ophthalmologist.<sup>2,3</sup> Some investigators have used brochures at a lower reading level, computer-based tutorials, or videotaped material to optimize patient understanding of informed consent for cataract surgery.<sup>4–6</sup> Regardless of the intervention, it is imperative that the ophthalmologist make the best effort at this discussion to preserve shared decision making and patient autonomy. In addition, there are potential medicolegal consequences if adequate informed consent is not obtained. The Ophthalmic Mutual Insurance Company estimates that over a 35-year career,

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95% of ophthalmologists will be sued,<sup>A</sup> and the Canadian Medical Protective Agency<sup>2</sup> estimates that one-third of patients might not have initiated litigation had they received better informed consent.

To our knowledge, no prior studies have explored whether ophthalmology residents receive adequate training in informed consent. Investigators in emergency medicine have examined whether their residents are comfortable obtaining informed consent for procedures. They found that most residents had not received formal training in informed consent and that residents were not comfortable in their ability to obtain consent for common procedures.<sup>7</sup> We sought to assess the informed consent training for ophthalmology residents, resident comfort with obtaining consent for common ophthalmic procedures, and resident desire for more formal training within the ophthalmology residency curriculum.

## MATERIALS AND METHODS

A cross-sectional ophthalmology resident survey was conducted in April 2013 at training programs in the United States. The study received institutional review board approval from the University of Pennsylvania. The 11-question survey was first pilot tested on 5 ophthalmology fellows at our institution who had completed training within the previous year to gauge face validity prior to use. The survey was edited based on their feedback. The web-based survey was then distributed by email invitation to 24 residency directors of Accreditation Council for Graduate Medical Education (ACGME)-accredited ophthalmology residency programs. The email included a web link to the survey, which was implemented using SurveyMonkey<sup>B</sup> and clearly stated that the survey was anonymous, voluntary, and for research purposes. A second reminder email was sent 1 week before the survey period closed.

The survey questions asked (1) basic demographic information, including region of the country, postgraduate year (PGY), and sex; (2) whether residents had received prior informed consent training; (3) how frequently they obtained consent in different practice settings; (4) ratings of their comfort level in obtaining consent for 5 procedures (laser peripheral iridotomy [LPI], eyelid laceration repair, strabismus surgery, open-globe repair, and cataract surgery); (5) reasons for discomfort with obtaining consent; (6) content items consistently mentioned during consent for cataract surgery; and (7) desire to receive formal training in how to obtain informed consent and the preferred modality for that instruction. The full survey is available online (Supplement A, available at: <http://jcrsjournal.org>).

Survey data were exported as an Excel spreadsheet (Microsoft Corp.) from the SurveyMonkey web site. Stata 12 (Statacorp LP) software was used to perform chi-squared analysis to compare proportions of categorical variables. Results of the analyses were considered statistically significant when a *P* value was less than 0.05. Resident comfort level with obtaining consent for the 5 mentioned procedures was assessed on a 5-point Likert scale from 1 = very comfortable to 5 = not comfortable at all. Residents were categorized as comfortable obtaining consent for a procedure if, on average, they rated it between

**Table 1.** Demographic characteristics of survey participants.

Characteristic	Number (%)
Sex	
Male	45 (52.6)
Female	50 (47.4)
Postgraduate year	
2	36 (37.9)
3	32 (33.7)
4	27 (28.4)
Region	
Midwest	31 (32.6)
Northeast	37 (38.9)
South	13 (13.7)
West	14 (14.7)
Prior informed consent training	
Yes	53 (55.8)
No	38 (40.0)
Not sure	4 (4.2)

1 and 2 on the Likert scale. If their average score was greater than 2—indicating lower confidence obtaining consenting—residents were categorized as not comfortable obtaining consent for the procedures.

## RESULTS

Twenty-four ophthalmology residency programs were contacted, and 17 distributed the survey to their residents. A total of 95 residents completed the survey, representing 41.9% of potential residents from the programs who agreed to participate. The demographic characteristics of participating residents, including geographic region, sex, and PGY, appear in Table 1.

Only 17 respondents (18%) said they always felt comfortable providing informed consent to patients. The comfort level varied based on the surgical procedure. Most respondents were comfortable obtaining consent for eyelid laceration repair (73 residents, 77%) and LPI (67 residents, 71%), but few respondents were comfortable obtaining consent for strabismus surgery (32 residents, 34%). Slightly more than half the respondents were comfortable obtaining consent for open-globe repair (51 residents, 54%) and cataract surgery (58 residents, 61%). Increasing PGY level was associated with comfort obtaining informed consent ( $P < .001$ ), as was having prior informed consent training ( $P = .032$ ). The other demographic variables were not associated with increasing confidence in obtaining consent (Table 2). About half the respondents stated they had received prior informed consent training (53 residents, 56%); of the 27 who indicated when the training had occurred, 22 (81%) said it had taken place during medical school.

**Table 2.** Confidence obtaining consent associated with postgraduate year and prior training.

Characteristic	Confident Obtaining Consent	
	N (%)	P Value
Sex		
Male	37 (82)	.381
Female	34 (68)	
Postgraduate Year		
2	15 (42)	<.001
3	29 (90)	
4	27 (100)	
Region		
West	26 (84)	.111
Northeast	26 (70)	
Midwest	8 (62)	
South	11 (79)	
Prior training		
Yes	44 (83)	.032
No	24 (63)	

Practice location was also associated with comfort in obtaining informed consent. Few residents (15 residents, 16%) stated they routinely obtained consent in an attending-based clinic, but in resident-based clinics, a higher number (82 residents, 86%) stated they routinely obtained consent. Obtaining consent in a resident-based clinic was associated with being comfortable obtaining informed consent ( $P = .016$ ) for all 5 procedures, but obtaining consent in an emergency room ( $P = .266$ ) or faculty-based clinic ( $P = .970$ ) was not associated with this. A majority of respondents indicated they rotated through a Veterans Health Administration (VHA) hospital clinic during residency (64 of 95 or 67%), and this activity was almost statistically significantly associated with comfort obtaining consent ( $P = .057$ ).

Reasons cited for discomfort during the informed consent process included insufficient knowledge of procedure details (47 residents, 49%), inability to properly explain the risks (40 residents, 42%), lack of patient ability to comprehend the material (35 residents, 37%), inability to explain alternative therapeutic options (19 residents, 19%), insufficient time (12 residents, 12%), inability to explain the benefits (6 residents, 6%), uncooperative patient (5 residents, 5%), or the resident did not think the procedure was indicated (2 residents, 2%).

During the consent process for cataract surgery, residents most consistently discussed the risk for infection (75 residents, 79%), risk for vision loss (73 residents, 77%), reasons for performing the procedure (73 residents, 77%), expected benefits of cataract surgery (73 residents, 77%), possible need for further surgery (72 residents, 76%), a description of the procedure

(69 residents, 73%), and the risk for bleeding (68 residents, 72%). Residents infrequently discussed the risk for elevated intraocular pressure postoperatively (28 residents, 29%), possible opacification of the posterior capsule (41 residents, 29%), or the risk for macular edema (29 residents, 31%). Almost half the respondents discussed alternative refractive goals for the surgery such as monovision, astigmatism correction, or multifocal or pseudoaccommodating intraocular lenses (40 residents, 42%). Twenty respondents (21%), most of whom were PGY-2 residents (15 residents, 75%), said they had never obtained consent for cataract surgery.

Over three-quarters of respondents replied they either definitely (48 residents, 51%) or might (24 residents, 25%) desire formal training in the informed consent process. The methods of instruction preferred by the respondents were direct observation by faculty while providing informed consent (59, 62%), use of an online learning module (41, 43%), lectures (37, 39%), and required reading (6, 6%).

## DISCUSSION

We found that a majority of ophthalmology residents had at some point felt uncomfortable obtaining informed consent from patients. Ophthalmology is a procedure-based specialty in which good communication is a key component of ensuring patient safety and delivering quality care. The informed consent process is a conversation that every ophthalmologist undertakes frequently, yet there is scant literature on how best to train residents in this important skill. Moreover, there is no prior literature describing ophthalmology residents' comfort level with obtaining informed consent. Most residents admitted to being uncomfortable obtaining informed consent for common procedures and desired an interactive formal training program to improve their consenting skills.

Prior training in informed consent was significantly associated with resident comfort obtaining consent for the procedures listed in our survey. Surprisingly, most residents who had received prior training said it had occurred during medical school. This training was unlikely to have been ophthalmology specific, suggesting that training in the general concepts of providing informed consent may be as important as a specific knowledge base of ophthalmic procedures. Comfort with obtaining informed consent increased with PGY level, which was not surprising as we hypothesized that upper-level residents would be more comfortable obtaining consent as they developed familiarity with the procedures.

We were concerned that residents candidly admitted they did not feel comfortable obtaining

consent for certain common ophthalmic procedures. Across all clinical settings, between 21% and 25% of the respondents who stated that they frequently obtained consent also stated that they were not comfortable obtaining consent for common procedures. We did find an association between frequently obtaining consent in a resident-based clinic or VHA clinic and resident comfort with obtaining consent—as defined by our metric. A similar association did not exist when consents were being frequently obtained in attending-based clinics or the emergency department. One possible explanation for these findings is that when residents feel ownership of their patients, whom they have followed in their own continuity clinics, they may invest more effort in understanding and explaining the risks and benefits of these common procedures. Residents may also explain common complications better since they may encounter these complications more frequently, commensurate with their level of training.

In 2002, the ACGME mandated 6 core competencies for residency education: patient care, medical knowledge, practice-based learning and improvement, interpersonal and communication skills, professionalism, and systems-based practice.<sup>8</sup> A well-designed curriculum to train residents in obtaining informed consent would address at least the first 5 of these competencies. The ability to obtain informed consent is part of patient care and having knowledge of the procedure and its complications is a core component of medical knowledge required for clinical practice. Patient education is an important aspect of practice-based learning and improvement, and the informed consent process fundamentally involves interpersonal and communication skills. Finally, professionalism involves many facets including respecting patient autonomy while helping the patient weigh the benefits and potential complications of surgery. This is especially true in ophthalmology, a field in which many procedures are elective and patients have high expectations. As ophthalmology residency programs move on to the Milestones Project in the Next Accreditation System, having efficient tools to assess resident competence will become more valuable. If residents obtain consent under the supervision of an attending physician, it would provide an opportunity for programs to assess competence in performing this important task. Successful demonstration of a tool to train ophthalmology residents in obtaining informed consent may also prove useful in other surgical specialties as there is equally scant literature on this topic across all surgical fields.

Our study has limitations relating to resident competency and generalizability. We did not assess resident competence, and there could be a gap

between residents' confidence and their actual ability to consent competently.<sup>9</sup> However, the need for formal resident education about informed consent is even greater if resident competency is less than resident confidence. Although we surveyed residents at a select number of residency programs and not all currently active programs, a wide geographic distribution of programs and a variety of practice settings were represented. Finally, our survey response rate was 41.9%. If residents who were concerned about this issue were more likely to choose to participate in the survey, the extent of the problem could be overrepresented by the study results. Nevertheless, a significant portion of residents do not feel comfortable providing consent at some point in their training and might benefit from formal education on the subject.

Our study results suggest that ophthalmology educators could add value to resident education by developing a formal training curriculum designed to assess and improve resident competence in obtaining informed consent. We assessed only resident comfort level with obtaining consent. Future studies are needed to determine the actual utility of a formal training program. However, our results demonstrate that residents desire this education and would prefer interactive live or web-based learning modalities to simple reading materials. As the general principles of informed consent are universal across surgical and medical fields, such a curriculum might easily be adapted to benefit other surgical specialties. Indeed, as the ACGME mandates for residency education move toward achieving milestones in the Next Accreditation System, having a tool to assess and document the ability to obtain consent will become more valuable.

## REFERENCES

1. Kraushar MF, Turner MF. Medical malpractice litigation in cataract surgery. *Arch Ophthalmol* 1987; 105:1339–1343
2. Scanlan D, Siddiqui F, Perry G, Hutnik CML. Informed consent for cataract surgery: what patients do and do not understand. *J Cataract Refract Surg* 2003; 29:1904–1912
3. Kiss CG, Richter-Mueksch S, Stifter E, Diendorfer-Radner G, Velikay-Parel M, Radner W. Informed consent and decision making by cataract patients. *Arch Ophthalmol* 2004; 122:94–98. Available at: <http://archophth.jamanetwork.com/data/Journals/OPHTH/9918/ESE30006.pdf>. Accessed July 22, 2014
4. Shukla AN, Daly MK, Legutko P. Informed consent for cataract surgery: patient understanding of verbal, written, and videotaped information. *J Cataract Refract Surg* 2012; 38:80–84
5. Wollinger C, Hirschschall N, Findl O. Computer-based tutorial to enhance the quality and efficiency of the informed-consent process for cataract surgery. *J Cataract Refract Surg* 2012; 38:655–659
6. Moseley TH, Wiggins MN, O'Sullivan P. Effect of presentation method on the understanding of informed consent. *Br J Ophthalmol* 2006; 90:990–993. Available at: <http://www.ncbi.nlm.nih>



- [gov/pmc/articles/PMC1857200/pdf/990.pdf](http://gov/pmc/articles/PMC1857200/pdf/990.pdf). Accessed July 22, 2014
7. Gaeta T, Torres R, Kotamraju R, Seidman C, Yarmush J. The need for emergency medicine resident training in informed consent for procedures. *Acad Emerg Med* 2007; 14:785–789. Available at: <http://onlinelibrary.wiley.com/doi/10.1111/j.1553-2712.2007.tb02352.x/pdf>. Accessed July 22, 2014
  8. Lee AG. The new competencies and their impact on resident training in ophthalmology. *Surv Ophthalmol* 2003; 48: 651–662
  9. Binenbaum G, Musick DW, Ross HM. The development of physician confidence during surgical and medical internship. *Am J Surg* 2007; 193:79–85

**OTHER CITED MATERIAL**

- A. Weber P. How to survive a malpractice suit. *Rev Ophthalmol* July 1997. Available at: <http://www.omic.com/how-to-survive-a-malpractice-suit>. Accessed July 22, 2014
- B. SurveyMonkey. Available at: <http://www.surveymonkey.com>. Accessed July 22, 2014