Patient Attitudes Toward Resident Involvement in Cataract Surgery

Douglas M. Wisner, BS; David A. Quillen, MD; David M. Benderson, MD; Michael J. Green, MD, MS

Objective: To assess how patients in an academic ophthalmology practice feel regarding the involvement of residents in their cataract surgery.

Methods: Using an anonymous survey, we asked patients with cataracts about issues related to resident involvement in cataract surgery, including informed consent, how likely they were to agree to resident involvement in their surgery, and the likelihood that they would seek care elsewhere if residents were to be involved in their surgery.

Results: Participants indicated they should be asked in advance if a resident may assist in (83%) or perform (96%) their surgery. The person asking permission should be the attending surgeon. Most participants would agree to resident assistance (83%), and nearly half would agree to resident performance (49%) of their cataract surgery. Participants indicated that they would be upset if the resident assisted in (45%) or performed (74%) their surgery without their expressed permission. Few would seek treatment in a setting without residents if a resident were to assist in (7%) or perform (26%) their cataract surgery.

Conclusions: Most individuals would accept resident involvement in their cataract surgery provided full disclosure was provided by their attending surgeon.

Arch Ophthalmol. 2008;126(9):1235-1239

CATARACTS ARE A LEADING cause of vision loss in the United States.1,2 The Eye Diseases Prevalence Research Group has projected that the number of persons in the United States with cataracts will increase dramatically by 2020 with the aging of the baby boomer population.3 Correspondingly, the number of procedures performed by ophthalmologists will increase.4 This may have important implications for the surgical training of ophthalmology residents.

For as long as surgery has been performed, there has been a need to train surgeons. This training is largely experiential, and responsibilities increase as trainees advance.5,6 In ophthalmology, as in other surgical specialties, a surgeon must perform a specified number of procedures to fulfill graduation requirements. In recent years, the Accreditation Council for Graduate Medical Education has nearly doubled the number of cataract surgeries required of ophthalmology residents.7 This need for residents to perform cataract surgeries inevitably competes with other legitimate goals and objectives of academic ophthalmology departments, which include satisfying patients, treating underserved populations, providing the highest quality eye care, and maintaining financial viability. These competing goals are complicated by concern that patients (if they fully understood) may resist having residents participate in their surgical care because of the residents’ lesser experience and the additional complexity of having multiple caregivers involved in a delicate operation.5,8-11 Because cataract surgery is generally an elective procedure, it is conceivable that, if patients were aware of the extent of resident involvement in their surgical care, they may choose to have surgery in another setting in which residents are not involved.

The question of whether patients would go elsewhere if they truly understood the extent of resident involvement is empirically testable and, in the present study, we sought to explore this issue by addressing the following questions: (1) How do patients feel about informed consent issues regarding resident involvement in cataract surgery? (2) How do patients view their role in the context of a teaching institution? (3) How likely are patients to agree to have residents involved in their cataract surgery? (4) How likely are patients to go elsewhere if residents were to be involved in their surgery? (5) Do certain subsets of patients think differently?
METHODS

We developed an anonymous survey to address patients’ knowledge of and attitudes toward resident participation in cataract surgery. The survey was created after discussing the issue of resident involvement in cataract surgery during a quarterly ophthalmology ethics case conference with residents and faculty at Penn State Hershey Medical Center, Hershey, Pennsylvania. To develop the survey, we reviewed the literature on informed consent for resident or student involvement in medical care and then modified existing measures from other contexts to address our specific concerns. The survey was tested for face and content validity with a small group that included cataract surgeons, resident physicians, and bioethicists and was modified accordingly. After several meetings and iterations of the survey, we performed a pilot test in a sample of patients with cataracts for clarity and consistency, and further modifications to the survey were made. The final version was reviewed and approved by the Human Subjects Protection Office at Penn State Hershey Medical Center. In fall 2002 and again in summer 2007, we conducted face-to-face interviews with consecutive samples of 106 individuals receiving eye care from the attending and resident staff in the Penn State Hershey Eye Center at Penn State Hershey Medical Center, an academic health center located in central Pennsylvania. Potential participants were identified consecutively by attending physicians or clinic technicians and were referred to surveyors if they fulfilled eligibility criteria. Patients were eligible to participate if they were older than 18 years, had cataracts documented in their medical record, were aware of the diagnosis of cataracts, and had an appointment to see a faculty member in our outpatient ophthalmology clinic. Patients were excluded from participation if cataracts were not documented in their medical record and if they were unaware of their diagnosis. Patients were also excluded if they had previously undergone the informed-consent process for cataract surgery, were scheduled for cataract surgery, or had previously undergone cataract surgery. Incomplete surveys were excluded from the data analysis. A fourth-year medical student performed all patient interviews (D.M.W. and D.M.B.). Data about monocular vision, defined as “vision less than 20/200 (Snellen chart) in 1 eye,” were collected only in 2007.

In this survey, we first defined the following relevant terms: informed consent, cataract surgery, medical student, ophthalmology resident, attending physician, assisting in surgery, and performing surgery. Participants were then asked to imagine that they were scheduled to undergo cataract surgery and answer the following questions: (1) How important is it to be asked permission in advance for an ophthalmology resident to assist in or perform your surgery? (2) Who should ask permission for the ophthalmology resident to assist in or perform the cataract surgery; the attending surgeon, any licensed physician, the ophthalmology resident, a nurse, a standard written consent form, or no one? (3) If your permission had not been asked for, how upset would you be if you found out that an ophthalmology resident: (a) was in the operating room during your surgery; (b) assisted in your surgery; or (c) performed the cataract surgery? (4) How much do you agree or disagree that a resident was in the operating room during your surgery? (5) How likely would you be to seek treatment elsewhere, at a place where residents were not involved, if you found out that an ophthalmology resident would assist in or perform your cataract surgery? (6) If consent for residents to be in the operating room during your surgery is all that is needed to elicit informed consent of the surgery. The Fisher exact test was used to assess the association between the summed responses and the year of survey administration and also with binary demographic variables such as sex. The exact version of the Pearson χ² test was used to assess the association of race/ethnicity with the summed responses. The exact version of the Mantel-Haenszel χ² test was used to assess the association of educational achievement with the summed responses. An unpaired t test was used to assess differences between summed response levels for age. P < .05 was considered statistically significant. All analyses were performed by the Penn State Hershey Medical Center Department of Public Health Sciences using commercially available software (SAS version 9.1; SAS Institute, Inc., Cary, North Carolina).

RESULTS

One hundred six patients were invited to participate in the study. Six patients declined, 3 patients could not be surveyed because of time constraints or language barrier, and 1 patient reconsidered after the interview began, leaving a total of 96 respondents (91% response rate). Demographic characteristics of the 2002 and 2007 participants were not significantly different (Table). Responses were compared between 2002 and 2007 and were not significantly different. The first group of questions concerned expectations about resident involvement in cataract surgery. Eighty-three percent of patients indicated that it was extremely important or important to be asked permission in advance for a resident to assist in their surgery, and 96% believed it was extremely important or important to be asked permission in advance for a resident to perform their surgery. Insofar as who should ask permission for resident involvement, participants overwhelmingly indicated that the attending physician was the best choice to ask permission for the resident to assist in (90%) or to perform (92%) the surgery.

Participants were next questioned about their reaction to incomplete consent. Six percent indicated they would be moderately upset or extremely upset if a resident was in the operating room during their surgery without previous permission. However, with increasing resident involvement, a greater percentage of participants indicated they would be upset if their permission was not asked. Specifically, 45% said they would be moderately upset or extremely upset if a resident assisted in their surgery, and this increased to 74% if a resident performed their surgery without advance permission (Figure 1).
To gauge participants’ general attitudes about the role of resident physicians in teaching institutions, we asked them the extent to which they agreed that being a patient at a teaching hospital implies that resident physicians will be involved in all aspects of a patient’s medical care. Seventy-six percent agreed with such involvement. In addition, 92% agreed that signing a standard generic consent form was sufficient to authorize residents to be in the operating room during surgery; however, far fewer agreed that it was sufficient for resident assistance in (64%) or performance of (45%) surgery (Figure 2). We then asked participants about their willingness to have a resident participate in their cataract surgery. Overall, 83% said they would be somewhat likely or very likely to allow a resident to assist in their surgery, and 49% were somewhat likely or very likely to allow a resident to perform their cataract surgery (Figure 3). Only 7% said they would be somewhat likely or very likely to seek treatment elsewhere if they knew that a resident would assist in their surgery, and 26% said they might seek treatment elsewhere if the resident would be performing their surgery (Figure 4).

Survey responses were also analyzed to determine whether responses varied by demographic characteristics. While we had no particular a priori hypotheses, we found a few significant differences: (1) female patients were more likely than male patients to seek treatment elsewhere if a resident were to assist in but not perform their surgery (P = .01); (2) participants who had a previous negative experience with a medical student or resident were less likely than those without a negative experience to consent to resident assistance in (P = .04) or performance of (P = .03) their cataract surgery and were more likely to seek treatment elsewhere (P = .05); and (3) patients with monocular vision were less concerned than those with binocular vision about their permission being asked for resident assistance in cataract surgery (P = .05). There were no significant differences in survey responses based on age, race/ethnicity, educational achievement level, or history of previous eye surgery.

Table. Patient Demographic Characteristics: 2002 and 2007

<table>
<thead>
<tr>
<th>Characteristic</th>
<th>Cumulative Data</th>
<th>2002 Data</th>
<th>2007 Data</th>
<th>P Value*</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>(N = 96)</td>
<td>(n = 46)</td>
<td>(n = 50)</td>
<td></td>
</tr>
<tr>
<td>Age, mean (range), y</td>
<td>69 (38-86)</td>
<td>67 (38-85)</td>
<td>70 (43-86)</td>
<td>.17</td>
</tr>
<tr>
<td>Male sex, No. (%)</td>
<td>45 (47)</td>
<td>23 (50)</td>
<td>22 (44)</td>
<td>.68</td>
</tr>
<tr>
<td>White race, No. (%)</td>
<td>89 (93)</td>
<td>43 (93)</td>
<td>46 (92)</td>
<td>.91</td>
</tr>
<tr>
<td>Educational achievement, No. (%)</td>
<td></td>
<td></td>
<td></td>
<td>.79</td>
</tr>
<tr>
<td>Less than high school</td>
<td>11 (11)</td>
<td>5 (11)</td>
<td>6 (12)</td>
<td></td>
</tr>
<tr>
<td>High school graduate or passed the GED Test</td>
<td>30 (31)</td>
<td>16 (35)</td>
<td>14 (28)</td>
<td></td>
</tr>
<tr>
<td>Some college</td>
<td>28 (29)</td>
<td>12 (26)</td>
<td>16 (32)</td>
<td></td>
</tr>
<tr>
<td>College graduate</td>
<td>15 (16)</td>
<td>8 (17)</td>
<td>7 (14)</td>
<td></td>
</tr>
<tr>
<td>Graduate degree</td>
<td>12 (13)</td>
<td>5 (11)</td>
<td>7 (14)</td>
<td></td>
</tr>
<tr>
<td>Previous eye surgery, No. (%)</td>
<td>22 (23)</td>
<td>11 (24)</td>
<td>11 (22)</td>
<td>&gt;.99</td>
</tr>
<tr>
<td>Previous negative experience with students or residents No. (%)</td>
<td>9 (9)</td>
<td>5 (11)</td>
<td>4 (8)</td>
<td>.73</td>
</tr>
<tr>
<td>Monocular vision, No. (%)</td>
<td>...</td>
<td>...</td>
<td>15 (30)</td>
<td>...</td>
</tr>
</tbody>
</table>

Abbreviations: GED, General Educational Development; ellipses, not applicable.

The effect of resident involvement in a patient’s decision to undergo cataract surgery in an academic setting has ethical, legal, medical, and economic implications. While several studies in other disciplines have addressed the issues of medical student and resident involvement in patient care, to our knowledge, no published studies have formally analyzed how patients feel about resident involvement in their cataract surgery and how this would affect their medical decision making.12-10 Some possible patient concerns have been previously delineated, but studies have demonstrated that patients are typically willing to have physicians-in-training participate in their care, a finding confirmed by our survey.14,18,20

While patients are typically willing to have trainees participate in their medical care, they desire explicit knowledge of the role that students and residents will have in that care.16,20,21 However, in ophthalmology, patients have limited knowledge of medical student and resident roles, and patient expectations of what occurs in the operating room in other surgical arenas are often incongruent with reality.20,22 There is a frequently expressed concern among ophthalmologists and other surgeons that full disclosure of resident involvement in surgery would increase patient fears and, thereby, reduce consent for trainee participation and decrease surgical training opportunities for residents.8,11,23 Our survey results suggest that this concern is only partly warranted because most patients would be willing to allow residents to participate in their cataract surgery and nearly half would agree to have residents perform the operation. Furthermore, relatively few patients said they would elect to receive treatment elsewhere if they knew a resident would be assisting in or performing their cataract operation. As the US population ages and the number of patients needing cataract surgery increases, these findings suggest that full and ethical disclosure of resident involvement in cataract surgery will not dramatically reduce attending physician surgical volume or resident training opportunities. We find it encouraging that half of all patients with cataracts in an attending physician–run academic clinic will allow resident surgeons to perform their operation.

Ophthalmologists have moral and legal obligations to inform their patients about who will be involved in their operative care. The President’s Advisory Commission on Consumer Protection and Quality in the Health Care Industry guidelines require that patients be informed of the identity and professional status of those providing treatment.24 The American Academy of Ophthalmology Ethics Committee states: “An ophthalmologist must not misrepresent credentials, training, experience, ability or results.”25 Yet, resident involvement in cataract surgery is often glossed over in the informed consent process, couched in generalities such as “I agree that [name of attending physician] and/or any such other parties as he or she may designate may perform upon me the following procedure . . .” or statements such as “The team will be performing your surgery.” We found that a substantial percentage of patients believe the standard consent form is an inadequate way to obtain meaningful informed consent for resident assistance in or performance of cataract surgery. Many respondents commented that such a consent form would be adequate only if it was accompanied by an open discussion of resident involvement with the attending surgeon. This is consistent with our finding that patients desire advance permission, obtained by their attending surgeon, for residents to be involved in their cataract surgery. The need for open and explicit consent of resident involvement in cataract surgery is further highlighted by the finding that most patients would be upset if they found out that a resident was involved in their surgery without previous expressed permission.

We found that patients who have had a previous negative experience with a medical student or resident are more likely to refuse resident involvement in their cataract surgery and are more likely to seek treatment elsewhere if a resident were scheduled to perform their surgery. Patients with monocular vision are no less likely than pa-
patients with binocular vision to reject resident involvement in their care.

There are several important limitations and possible confounding factors in this study. There may be a selection bias among study participants, perhaps favoring those patients more amenable to resident involvement. Our study population consists mainly of long-term patients of the faculty at our academic institution. This group is familiar with resident involvement in the ophthalmology clinic and may be more likely to have residents involved in surgery than patients in a community practice. Some participants may have felt compelled to give answers they judged pleasing to the surveyor, thereby overestimating positive patient attitudes toward resident participation in surgery. Our patient population is mostly composed of white suburban-dwelling persons and is not necessarily representative of patient populations at other academic centers in more urban or diverse areas. Our study was performed at an academic tertiary care center in which the ophthalmology clinic is largely run by attending physicians. Patient perceptions about residents may differ at a county or Veterans Affairs hospital, where residents, rather than attending physicians, are often perceived as the primary caregivers. The applicability of these results to other academic institutions, surgical procedures, or other demographic groups is limited, and further investigation in other settings is necessary. Further investigation would also be required to elucidate the reasons for the differences of opinion we found in our patient population because our study was not designed to evaluate it. Some participants commented that the resident’s level of surgical experience would influence their decision. This qualifier was not included in the survey, and responses may have been different if this information had been provided.

CONCLUSIONS

In our survey of individuals with cataracts, most participants would be willing to accept resident involvement in their cataract surgery. However, they desire full disclosure of the level of resident involvement beyond that described in a general surgical consent form. Further, participants would be upset if they found out that residents were involved without their having given previous consent. The only subset of participants who would be less likely to include residents in their cataract surgery are those who had a previous negative experience with a medical student or resident. Full disclosure of resident level of involvement in cataract surgery likely would not adversely affect resident surgical training or attending surgeon volume.

Submitted for Publication: December 7, 2007; final revision received February 4, 2008; accepted February 12, 2008.

Correspondence: David A. Quillen, MD, Department of Ophthalmology, Penn State College of Medicine, 500 University Dr, HU19, Hershey, PA 17033 (dquillen@psu.edu).

Author Contributions: Dr Quillen had full access to all of the data in the study and takes responsibility for the integrity of the data and the accuracy of the data analysis.

Financial Disclosure: None reported.

Additional Contributions: Allen Kunselman, MA, Department of Public Health Sciences, Penn State Hershey Medical Center, assisted with the statistical analysis.

REFERENCES


©2008 American Medical Association. All rights reserved.