Neurosurgery patients’ feelings about the role of residents in their care: a qualitative case study

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Object. The role of residents in surgery is not clearly explained to patients. The authors undertook a study to explore the level of knowledge and anxiety in patients regarding residents’ involvement in their surgery.

Methods. Qualitative case study methodology was used. Thirty face-to-face interviews of patients were conducted prior to elective neurosurgery. Interviews were transcribed and subjected to modified thematic analysis by 4 reviewers. The majority of patients had a postsecondary education, and there was substantial religious and ethnic diversity among them. Most underwent craniotomy for brain tumor.

Results. Six prominent themes arose from the analysis: 1) the level of knowledge about residents is low; 2) the level of anxiety about residents is low; 3) it is desirable for patients to meet the residents before surgery; 4) residents’ educational needs are understood and supported; 5) anxiety was not increased by the interview; and 6) patients trust in the medical system.

Conclusions. Patients appear to be unaware of the role of residents in their surgical care but do not seem anxious about it. Trust in the medical system helps patients proceed with risky operations. Surgeons could be more forthcoming with patients about the role of residents. (DOI: 10.3171/JNS/2008/108/2/0287)

Key Words • education • full disclosure • resident • trust
because authors of similar qualitative studies have found it sufficient\(^5,14,17\) and because it was believed that saturation would be reached. “Saturation” is a term used in qualitative methodology to denote the point at which no new themes are expected to arise during subsequent interviews.\(^19\)

**Data Collection**

Open-ended face-to-face interviews with patients were conducted within 2 weeks of their scheduled surgery. Preoperative interviews were performed to avoid any bias that might arise from interaction with the residents intra- or postoperatively and surgical outcome. Interviews were based on a guide (Appendix) containing very explicit scenarios (for example, Question 8), although various ideas were discussed as a patient introduced them. All interviews were audiotaped and transcribed. Demographic data were collected on each patient.

**Data Analysis**

A modified thematic analysis was undertaken by 4 reviewers.\(^5\) The interview transcripts were read and analyzed, and overarching themes were extracted.

**Research Ethics**

This study was approved by the Research Ethics Board at the University Health Network, and written informed consent was obtained from each participant.

**Results**

**Patient Information**

Thirty patients were interviewed in a 3-month period between August 2006 and November 2006 (Table 1). Forty elective operations were scheduled for ambulatory clinic patients during this period. Thus, 30 (75%) of 40 consecutively scheduled surgical patients participated. Of the 10 patients who did not participate, 3 were eligible but declined, 1 was dysphasic due to a brain tumor, 1 did not speak English well, 2 were judged to be too psychologically fragile for the study, and 3 were missed for logistical reasons.

**Thematic Analysis**

Analysis of the interviews yielded 6 overarching themes, which are described briefly below and illustrated with verbatim quotes from patients.

**Level of Knowledge About Residents.** The majority of patients (2/3) had very little to no knowledge about residents and their role. Most were unaware that the residents had obtained a medical degree. One patient asserted that “a resident is somebody who is doing a medical degree or whatever and they train in the hospital.” Of those who had some basic knowledge about residents (that is, knew that they had graduated medical school), very few were aware that there were junior and senior residents. No patient knew anything about clinical fellows.

**Anxiety About Residents.** Most patients were aware that residents would be present in the operating room, and this fact did not cause them anxiety. “I don’t have a problem with it. I . . . I just know that I’m going to be in good hands—I doctor or 5—doesn’t matter. I know they’re gonna do the right thing.” Many patients were unaware of the extent to which residents are involved in operations, however. They believed that it was acceptable for residents to do “small” parts of the surgery, but they thought that the “tricky” bits would be done by the staff neurosurgeon. These patients still did not feel anxious once it was explained to them that residents are trained and supervised by the staff neurosurgeon. The majority of patients did feel uneasy about the possibility of residents being left alone in the operating room: “The fact is when I go into surgery, I expect that my doctor would be there.”

**Meeting Residents Before Surgery.** Most patients thought that it is the surgeon’s responsibility to inform them about resident involvement in their operation. “I think that the role of the resident should be explained explicitly before the surgery.” Many patients noted that they would feel more comfortable and less nervous about their operation if they could meet the residents prior to the surgery. “I think initially if he’s told me, ‘you’re having surgery and this fellow will be there with us,’ it would be nice to know who it is. There’s always your level of ease when you’re going into any surgery if you know who’s there and who’s doing what; you’re going to feel better about it and not be so nervous.” A few patients felt that meeting the residents was of no value at all because they couldn’t form an opinion about them in just a few short minutes. “I don’t know how I could

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**TABLE 1**

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tell the quality of what they do by meeting them, and that’s really the essence.”

Understanding and Supporting Residents’ Educational Needs. All patients understood and accepted that hands-on training was essential for residents to become competent surgeons. “I already know that they’re qualified, and I figured it’s better for them and just for the future of medical practice that they’re in surgery. I’d rather have someone who’s had professional experience, has seen it, and like . . . it’s like surgery with training wheels.” Some patients did point out that there is disparity between their cognitive understanding and support of resident education and their comfort level about residents performing surgery on them. “It’s kind of a trade off in a sense around, you know, what is the best way to teach our future, . . . um, . . . you know, medical professions how to best succeed and excel in the world that they’re passionate about, and the patient who, on the other hand, who always has, or at least in my case, trepidation and a little bit of anxiety over, . . . um, . . . you know, operations.”

Overall, regardless of their level of anxiety about residents or operations in general, all patients agreed that residents must be present in the operating room to ensure high-quality education of future surgeons.

Anxiety Over the Interview Itself. The majority of patients did not report increased anxiety as a result of the questions asked of them or the information disclosed to them in the interview. In fact, most believed that the process was beneficial to them. “Knowledge is power. Information is power for people, particularly when you go into a very stressful event like surgery; and to the extent that you have a greater knowledge of what’s being done to you and who’s doing it, you have a greater sense of control.”

Patients Trust the Medical System. Despite their concerns and any anxiety they had, patients explained that it was their trust in the medical system and ultimately in their surgeon that allowed them to overcome any anxiety about resident involvement in the operation and to go ahead with the surgery. “I think the concern is the apprehension, ‘Is this guy learning on me?’ But presumably you trust these doctors, that they wouldn’t allow somebody to take on something that they weren’t ready for.” Many patients placed all trust in their surgeon and thus dispelled any worries from their minds. “I totally trust the doctor and I feel that he’s giving me the best care that I need.”

Discussion

In the current study we investigated patients’ knowledge of, and attitude toward, resident involvement in their surgery. To our knowledge, only 2 studies have been focused on this question in a surgical setting.\(^7,11\) The authors of both studies gathered their data postoperatively. Cowles and colleagues’ surveyed general surgery patients on the day of discharge. They found that patients generally responded favorably to the presence of residents provided that the staff surgeon was present and in charge. These authors did not inquire into patients’ knowledge about residents, and given the nature of their studies, doing so would have been difficult.

The present study is unique in that it reveals both patients’ level of knowledge about who residents are and their feelings about having them as part of their surgical team. It is also distinguished by the following factors: 1) the use of open-ended interviews, which allowed patients to explain and elaborate on their thoughts, as opposed to a finite-choice questionnaire; 2) participants were real patients no more than 2 weeks prior to a neurological procedure rather than at discharge when the outcome of their operation could affect their views; 3) patients were about to undergo a major neurological procedure; and 4) a focus on the patients’ level of knowledge and their comfort with various surgical situations involving residents.

The main findings of the study were that although most patients have little knowledge of who residents are and what their roles are in the hospital, they do not experience much anxiety over this situation because they trust the system to provide them with the best care. Trust has emerged as the most important component of many clinical interactions between surgeons and their patients, including attitude toward error\(^6\) and consent for invasive operative treatments.\(^13,14\) In all cases, it was trust in their surgeon that allowed patients to make the leap of faith toward accepting major surgery.

Patients’ lack of knowledge about residents has been demonstrated. For example, in one study in which women who had undergone elective hysterectomy were evaluated,\(^15\) 37% reported not knowing that a resident had been involved in their operation; 90% asserted that they would like to have known if and how a resident would be involved. We found similar results in the present preoperative study. Most patients prefer to know exactly what a resident’s role is as it pertains to their specific case, and they rely on the staff surgeon to tell them.

From an ethical perspective, resident education has traditionally presented an ambiguous case for the surgeon. On the one hand, informed consent does not require them to verbally inform patients about the role of residents. Moreover, the surgeon may believe that he or she is protecting the psychological fragility of a patient by not exposing them to undue worry about a trainee performing surgery. On the other hand, when patients are informed, they state that they would want to know and they believe that their doctor would tell them that a resident will be involved in their case. As Newton\(^15\) pointed out, there really is no simple solution to such ethically ambiguous cases. In the current study, however, we showed that patients are not likely to experience excessive anxiety about residents’ intraoperative care, and they clearly believe that such knowledge could indeed be beneficial.

Perhaps knowing about the residents—who they are, what they do—helps give patients a sense of control over at least 1 component of an unnerving situation. It offers an understanding of exactly what is going on and full participation in the decision-making process.\(^12\) Psychological studies have shown that when patients have an increased sense of control, their recovery is improved.\(^5,20\) Trummer and colleagues\(^20\) examined the outcomes of cardiovascular surgery in a group of patients enrolled in a special program designed to empower them to become more involved in their treatment. The authors found that these patients had shorter hospital stays and fewer postoperative complications, and they reported greater satisfaction with the surgery. Therefore, informing patients not only covers legal and ethical grounds, but also aids patient recovery.
Limitations of this Study

There are limitations in this study. Qualitative research is subjective both in the way the interviews are structured and conducted and in how they are interpreted and analyzed. This type of research is uncommon in the surgical literature. It may be considered less rigorous than quantitative research methodology, but it is valuable in answering questions quantitative methods cannot.

All patients were selected from the practice of one neurosurgeon with a teaching hospital practice focused on brain tumors. This factor introduces a selection bias ab initio. Furthermore, the 10 patients (25%) who were not interviewed may have had different perspectives than those who consented and were actually interviewed.

Given the relative urgency of brain tumor surgery, little time elapsed between the initial consultations, consent for surgery, and the study interview. Perhaps patients were overwhelmed by the news that they required serious neurological surgery, and they may have been preoccupied with issues other than those addressed in the study. If more time had been allowed between the scheduling of surgery and the interview, then perhaps different results would have emerged.

Despite having a general guide, the interviews were open-ended, and the interviewer followed avenues of discussion introduced by the patient. This conduct may have resulted in the right questions not being asked or explored adequately.

Furthermore, given the affiliation of the interviewer (E.K.) with the neurosurgeon (M.B.; the former worked under that latter’s supervision), patients may have felt a need to please and may not have expressed their thoughts completely honestly. Subtle influence cannot be discounted as a factor in essentially all qualitative studies.

Finally, the results of this study may not be generalizable to other neurosurgical patients. We interviewed 30 patients from the practice of one university-based neurosurgeon with a focused surgical neurooncology practice in one large urban center in Canada. There may be regional differences in patients’ views throughout Canada or in other countries like the US and in surgeons’ practices, which are either more general or more focused on other specialty areas (for example, functional, spinal, vascular, and so forth). The goal of this study and all qualitative case studies is to explore the views of the participants, not to generalize to all patients.

Conclusions

Our data have a few practical implications. Patients trust their surgeon, and this trust allows them to overlook ambiguities and gaps in their knowledge about the complex hospital microcosm and to accept invasive, serious operations. Surgeons must respect and appreciate this trust. Patients are not knowledgeable about the role of residents but do not seem to be anxious about it. Surgeons should inform patients about who residents are and how they can be involved in their surgery without worrying about causing excessive concern. They should ensure that residents introduce themselves to patients prior to surgery, which can be a challenge as essentially every elective surgical patient arrives at the hospital the day of surgery. Most patients find knowledge empowering rather than anxiety provoking. Implementing these simple changes could make the patient feel more comfortable and further improve the valuable doctor–patient relationship, while truly honoring the intent of fully informed consent, especially as it pertains to the unique world of surgical care in a teaching hospital. There are numerous areas of exploration in qualitative case study research for neurosurgeons to study within their own population of patients.

Appendix

Thank you for agreeing to participate in this study. This is a study regarding your perceptions of the role of residents in your care. The purpose of the study is to see how much you understand about the residents’ role in your care and how you feel about it. Doctors in teaching hospitals such as this one have a dual responsibility of giving the best care to their patients while training new doctors. By participating in this study you will help to clarify how patients feel about this system, what they understand about it, and what they’d like to change about. We will now begin the interview.

1. Do you know what a resident is?
2. Are you aware that residents work in a teaching hospital such as The Toronto Western Hospital?
3. Are you aware that residents have obtained a medical degree, that is, that they are doctors?
4. Are you aware that there are different levels of residents (for example, junior and senior)?
5. Did you know that residents will likely be in the operating room during your case?
6. Are you aware that most operations require 2 surgeons (that is, 4 hands)?
7. Are you aware that residents often perform parts of the operation with the staff surgeon acting as a guide? How does that make you feel?
8. Are you aware that at times the staff surgeon may be guiding the operation from an unscrubbed position, particularly if it is a senior resident? How do you feel about that?
9. Do you know what a clinical fellow is?
10. Are you aware that clinical fellows are considered to still be “trainees” even though they have completed their residency training?
11. Are you aware that at times a fellow and a resident may perform your operation with the staff checking on them throughout the case? How does that make you feel?
12. Do you feel that resident training for residents is important for them to become competent surgeons?
13. Do you feel that you may receive inadequate care as a result of the residents’ direct involvement in your case?
14. Would you like and/or expect to meet the residents if they are going to be involved in your surgery?
15. Were you told that a resident might be involved in your operation? If yes, did this make you feel anxious? If no, would you have liked to be informed?
16. Do you think it is the surgeon’s responsibility to inform you of this whether you ask him directly?
17. If you had a choice, keeping in mind what has been disclosed to you via this interview, would you prefer to have your operation done at a nonteaching hospital by a staff surgeon and a professional assistant only or would you still prefer to have it done at a teaching hospital with residents and a staff guiding them?
18. If you were presented with this scenario, what would you do? You specifically request that only the staff neurosurgeon operates on you. The staff neurosurgeon courteously informs you that this request is impossible to honor in a teaching hospital but assures you that he will be scrubbed for your operation. Does this satisfy you or do you feel that your request was not honored? Would you then ask to be referred to a surgeon at a nonteaching hospital who might do most of your operation?
19. Has any of this new knowledge raised anxiety or concerns?
20. Is there anything that we have not discussed that you would like to mention?
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References


This work was supported by the Canadian Institute of Health Research Grant No. MOP 77670, Therapeutic Hopes and Ethical Concerns: Clinical Research in the Neurosciences (M.B.).

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