It All Depends on Who Does What: A Survey of Patient and Family Member Comfort With Surgical Trainees Operating

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OBJECTIVE: To measure patient and family member comfort with surgical trainees of varying levels performing different portions of surgery.

DESIGN, SETTING, AND PARTICIPANTS: An electronic survey dividing surgery into 6 steps (prepping and positioning, initial incision, deep dissection, critical portions, deep suturing, and closing incision), differentiating surgical trainees by 4 levels of experience (medical student, intern, resident, and fellow), and specifying whether or not an attending surgeon is in the operating room (OR) was given to 200 patients and family members in the surgical waiting area of a single academic medical center. Responses were on a 7-point Likert scale from "Not Comfortable at All" to "Completely Comfortable".

RESULTS: Patient and family member comfort significantly increased as trainee experience increased. It reached a nadir for all trainees performing "critical portions" of surgery. However, their average response was "Comfortable" for residents and fellows performing any surgical step when the attending surgeon is present in the OR. The percentage of "Comfortable" responses was significantly lower for all trainee levels performing any surgical step when the attending surgeon is absent from the OR.

CONCLUSIONS: Patient and family member comfort with surgical trainees operating varies based on the trainee's level of experience, the step the trainee performs, and whether or not the attending surgeon is present in the OR. Patients and family members are on average "Comfortable" with surgical residents and fellows performing any surgical step when the attending surgeon is present. (J Surg Ed ▮:▮▮▮-▮▮▮. © 2017 Published by Elsevier Inc. on behalf of the Association of Program Directors in Surgery)

KEY WORDS: surgical training, patient comfort, trainee independence, medical education

COMPETENCIES: Patient Care, Systems-Based Practice

INTRODUCTION

Teaching hospitals are entrusted with developing the physicians of tomorrow by educating medical students, interns, residents, and fellows and involving them in patient care under the supervision of an attending physician. Previous studies have found that patients are satisfied with the high quality of care they receive by trainees in ambulatory and inpatient settings.[1-6]

Patient feelings differ based on what such involvement requires, especially when patient care involves surgery. A total of 92% of patients in an orthopedic hand clinic in Singapore would agree having X-rays of their hands used for teaching purposes, but 68% would refuse to have a trainee perform any of their operations.[7] In a survey of 200 patients admitted to a gastrointestinal surgery service, 86% of the patients believed it was important to have residents involved in their care to train future surgeons. However, 32% would not want residents perform any of their operations, and 64% would only want the resident to perform some of their operations.[3] A study of 108 patients undergoing bariatric surgery found similar results with 56% of patients consenting to a surgery resident assisting in their operation, although the survey used did not define what "assisting" entails. A total of 86% of the patients would not consent to the resident performing the entire operation.[8] When a resident was to be involved in a patient's surgery, 81% of

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women undergoing an elective hysterectomy believed the attending surgeon should tell the patient what the resident would be doing during surgery.[9]

At times, surgeons run 2 operating rooms (ORs) in a practice known as overlapping surgery and concurrent surgery. Centers for Medicare & Medicaid Services require the attending surgeon "must be present for the critical or key portions of both operations".[10] This practice often results in surgical trainees operating during "noncritical" portions of surgery with the attending surgeon immediately available but not present in the OR. Further, it is common for attending surgeons to leave trainees in the OR to close incisions while the attending speaks with family members. While many patients are not aware of these practices, the same study of 200 patients admitted to a gastrointestinal surgery service found 97% of patients found it to be important for the "attending doctor [to be] 'right there' for every moment during [their] surgery"[3], suggesting patient comfort with trainee involvement during surgery may differ when the attending surgeon is not present in the OR. Of 73 patients undergoing urological surgery surveyed in the United Kingdom, only 15% said they would be "happy for a junior doctor, competent to perform the procedure, [operating] unsupervised."[11]

To date, no studies have focused on how patients or family members view trainee involvement in different surgical steps, either with or without the attending surgeon present in the OR. Instead, surveys frequently refer to surgery as a uniform entity or occasionally stratify it as "routine" or "complicated," with the patient being surveyed making the distinction. To measure these views, we surveyed patients and their family members about their comfort with trainees of varying levels performing different steps of operation both with and without the attending surgeon present in the OR. Based on prior literature, we intuitively hypothesized (1) patients and their family members would be more comfortable with experienced trainees operating, (2) patients and their family members would be least comfortable with trainees performing the "critical portions" of surgery, and (3) patients and family members would be less comfortable with trainees performing any surgical step when the attending surgeon is outside the OR compared to when he or she is inside the OR.

MATERIALS AND METHODS

An electronic questionnaire (Appendix 1) about patient and family members' ("participants") views on different surgical steps applicable to multiple surgical specialties (prepping and positioning of patient, making the initial incision, deep dissection, critical portions, deep suturing, and closing the incision) was developed by the research team. After responding to demographic questions, participants were asked to use a 7-point Likert scale (with responses ranging from 1 meaning "Not Comfortable at All" to 7 meaning "Completely Comfortable") to rate their comfort with a surgical trainee (medical student, intern, resident, and fellow) performing each step both when an attending surgeon is in the OR and when an attending surgeon is outside the OR but immediately available. Definitions about the experience level of each trainee were provided.

Potential participants were approached in the hospital and clinic lobbies of the University of Chicago by a member of the research team between November 2016 and December 2016 during normal business hours. There were no exclusion criteria as people were approached randomly based on their presence in the previously described locations. Those willing to complete the survey gave verbal consent based on a predefined script. There was no

TABLE 1. Study Participant Demographics. Patients and Their Family Members Were Recruited on the Morning of Surgery in Common Waiting Areas

Total responses (*n*)	200
Age (years)	
Mean ± SD	47.4 ± 16.3
18-35 (%)	59 (29.5%)
36-55 (%)	69 (34.5%)
56-75 (%)	66 (33.0%)
76+ (%)	3 (1.5%)
Sex	
Male (%)	97 (48.5%)
Female (%)	103 (51.5%)
Education	
Did not complete high school	6 (3.0%)
High school or GED	24 (12.0%)
Some college but no degree	35 (17.5%)
Vocational training post–high school	9 (4.5%)
Associate degree	14 (7.0%)
Bachelor degree	66 (33.0%)
Master's degree	37 (18.5%)
Doctorate	9 (4.5%)
Race	
African American/Caribbean (%)	46 (23%)
Asian/Pacific Islander (%)	5 (2.5%)
Caucasian/White (%)	128 (64%)
Hispanic/Latino (%)	17 (8.5%)
Native American (%)	1 (0.5%)
Prefer not to answer (%)	3 (1.5%)
Respondents who work in a health care field	
Yes (%)	45 (22.5%)
No (%)	155 (77.5%)
Respondents with a close family member in a health care field	
Yes (%)	66 (33.0%)
No (%)	134 (67.0%)
Number of surgeries respondent has had in the past 5 years	
0 (%)	131 (65.5%)
1 (%)	44 (22.0%)
2 (%)	14 (7.0%)
3 (%)	3 (1.5%)
4 (%)	4 (2.0%)
5 or more (%)	4 (2.0%)

SD, standard deviation.