Surgeon-Reported Conflict With Intensivists About Postoperative Goals of Care

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Objective: To examine surgeons’ experiences of conflict with intensivists and nurses about goals of care for their postoperative patients.

Design: Cross-sectional incentivized US mail-based survey.

Setting: Private and academic surgical practices.

Participants: A total of 2100 vascular, neurologic, and cardiothoracic surgeons.

Main Outcome Measures: Surgeon-reported rates of conflict with intensivists and nurses about goals of care for patients with poor postsurgical outcomes.

Results: The adjusted response rate was 55.6%. Forty-three percent of surgeons reported sometimes or always experiencing conflict about postoperative goals of care with intensivists, and 43% reported conflict with nurses. Younger surgeons reported higher rates of conflict than older surgeons with both intensivists (57% vs 32%; P = .001) and nurses (48% vs 33%; P = .001). Surgeons practicing in closed intensive care units reported more frequent conflict than those practicing in open intensive care units (60% vs 41%; P = .005). On multivariate analysis, the odds of reporting conflict with intensivists were 2.5 times higher for surgeons with fewer years of experience compared with their older colleagues (odds ratio, 2.5; 95% CI, 1.6-3.8) and 70% higher for reporting conflict with nurses (odds ratio, 1.7; 95% CI, 1.1-2.6). The odds of reporting conflict with intensivists about goals of postoperative care were 40% lower for surgeons who primarily managed their intensive care unit patients than for those who worked in a closed unit (odds ratio, 0.60; 95% CI, 0.40-0.96).

Conclusions: Surgeons regularly experience conflict with critical care clinicians about goals of care for patients with poor postoperative outcomes. Higher rates of conflict are associated with less experience and working in a closed intensive care unit.


Conflict in the intensive care unit (ICU) is a significant public health problem, as more than 70% of ICU clinicians report experiencing conflict weekly. The combination of caring for acutely ill patients, end-of-life decision making, and coordination of large multidisciplinary teams can lead to frustration, communication breakdown, and discord among members of a health care team. The epidemiology of ICU conflict is well described. This conflict has been associated with lower-quality patient care, higher rates of medical error, higher levels of staff burnout, and greater direct and indirect costs of care. Intensive care unit conflict can occur between the health care team and patients’ families; among members of the intensive care team (intra-team conflict); and between different groups of clinicians caring for the same patient (inter-team conflict), most notably between surgeons and intensivists.

See Invited Critique at end of article

Two primary contributors to ICU conflict are particularly relevant to surgeons: patient-doctor relationships formed prior to the ICU admission and discussions of end-of-life care. Others have shown that surgeons have a strong sense of personal responsibility for patient outcomes that may influence surgeons’ interactions with critical care clinicians as well as discussions about end-of-life care. Surgeons are often reluctant to switch goals of care from cure to comfort, particularly in the postoperative period. Although these sources of conflict have been
well described by intensivists, it is unknown whether surgeons appreciate these conflicts.

We examined whether surgeons recognized and reported conflict with intensivists and nurses about goals of care for their patients, specifically in the setting of a poor postoperative outcome. In addition, we explored how often surgeons reported conflict with ICU clinicians as well as surgeon factors associated with such conflict.

METHODS

PARTICIPANTS

We selected a random sample of neurologic, vascular, and cardiothoracic surgeons. We chose these specialties because they were likely to perform high-risk operations and have patients who frequently require intensive care postoperatively. We excluded other surgeons who routinely care for patients in the ICU to avoid specific confounding issues. Trauma surgeons were excluded owing to the routine performance of emergency surgery; transplant surgeons were excluded owing to their concern for resource allocation, and surgical oncologists were excluded owing to the heterogeneous nature of surgical oncology whereby surgical oncologists who specialize in breast or endocrine surgery would be unlikely to care for patients in the ICU. We randomly selected participants from the membership lists of the American Association for Neurological Surgery Cerebrovascular Division, regional vascular surgery societies (Midwestern, New England, Eastern, and Western societies), and the Society for Thoracic Surgery.

We mailed a total of 2100 surveys, 700 to each specialty, via the US Postal Service. The survey packet also contained a stamped address return envelope and a laser-pointer pen valued at $2.85 as an incentive to complete the survey. In March 2010, we mailed the first round of surveys. We sent a second mailing (including a return envelope but no pen incentive) to nonrespondents. Finally, because of a high proportion of nonrespondents from the neurosurgical group owing to incorrect addresses, we mailed a third survey with an additional laser-pointer pen as well as a letter of support from a key neurosurgical opinion leader. Prior to this third mailing, we validated the addresses of 180 members of the original neurosurgical cohort; therefore, we replaced these members with 180 randomly selected new participants. The survey was completed in August 2010.

This study was approved as exempt, including a waiver of written consent, by the institutional review boards of the University of Wisconsin and University of Chicago.

SURVEY

We designed a survey to assess surgeon attitudes and practices regarding advanced directives, withdrawal of life-supporting therapies, and decision making surrounding high-risk operations. First, we performed a qualitative study using semistructured interviews of surgeons and other physicians involved in perioperative care to examine surgeons’ attitudes and routines surrounding the use of advanced directives and withdrawal of life-supporting therapies postoperatively. In addition to work by others, this study identified conflict between surgeons and ICU clinicians that stems from decisions about the use or withdrawal of life-supporting therapies in postoperative patients. Using these results, we designed survey questions to explore the validity and generalizability of our qualitative findings to a larger group of surgeons.

To assess the face validity of the survey questions, we performed cognitive interviews with 10 surgeons. To avoid interviewing actual survey recipients, the surgeons who were interviewed performed high-risk operations routinely (transplant, surgical oncology, and trauma) but were not members of the subspecialties included in the study target population. To inform questionnaire design, we asked respondents to think aloud as they read survey items and explain their interpretation of each item to ensure that the intended focus of the question was clearly understood. We incorporated each respondent’s input in a stepwise fashion.

Our final survey included items about the surgeons’ experiences with conflict during the care of patients who had poor postoperative outcomes. Using a 4-point Likert scale of never, rarely, sometimes, or always, respondents were asked to rate how often they experienced conflict about the goals of care for their postoperative patients with poor outcomes with critical care physicians, nursing staff, and other groups. In addition, we gathered data on surgeon sex, specialty, number of years in practice, practice setting (academic vs private practice), number of high-risk procedures performed per month (defined as procedures having >1% operative mortality or significant morbidity), percentage of patients routinely requiring ICU care postoperatively, and the administrative model for the main ICU where the surgeon practices (open, closed, mixed, or other). We defined a closed ICU as a unit where an intensive care physician was primarily responsible for all patients and an open ICU as a unit where the operative surgeon was primarily responsible for his or her patients. A mixed ICU combines elements of both open and closed units.

STATISTICAL ANALYSIS

After removing all surveys that were returned to sender and surveys completed by ineligible respondents (junior residents and nonphysicians), an Internet search was used to estimate the percentage of nonrespondents owing to inaccurate contact information. We used a sample of 60 nonrespondents (20 from each specialty) and 60 nonrespondents to estimate the percentage of nonrespondents owing to faulty contact information. Using the American Association for Public Opinion Research guidelines, we calculated the adjusted response rate with the following formula: response rate = R/([R] + e[T − R − NE]), where R=eligible respondents, e=proportion of nonrespondents estimated to be ineligible, T=total number of surveys, and NE=ineligible respondents (including return to sender).

As a surrogate marker for nonresponse bias, we looked for evidence of forward response wave bias. To do this, we calculated response time for each survey and identified clusters of early and late respondents. Rates of surgeon-reported conflict were compared between the early and late respondents.

We defined our primary outcome as surgeon-reported conflict with critical care physicians and nursing staff. We collapsed the response frame for conflict into dichotomous variables (never/rarely vs sometimes/always). On sensitivity analysis, we found no difference in our outcomes between the collapsed responses and the 4-point response frame. We performed bivariate analyses using the χ² test. We next developed a multivariate logistic regression model including basic demographic characteristics, such as sex and surgical subspecialty (vascular, cardiothoracic, or neurologic surgery); variables that were significant on bivariate analysis at P=.10 included years in clinical practice, practice type (private, academic, or private with academic affiliation), and ICU administrative model (closed, open, or mixed). Of note, we did not find that the ICU administrative model was a statistically significant variable for conflict with nursing staff on bivariate analysis (P=.83), but we included it in our multivariate model of conflict with...
nursing staff because this was a variable of considerable interest for our explanatory model of ICU conflict. All statistical analyses were performed using SAS version 9.1 (SAS Institute Inc).

RESULTS

We received completed surveys from 912 respondents, and 203 were returned to sender. The adjusted response rate as calculated by the American Association for Public Opinion Research guidelines was 55.6%. There was no significant difference in the rates of reported conflict between early and late respondents, suggesting no evidence for forward response wave bias, our surrogate measure for nonresponse bias.

Survey respondents were evenly distributed with respect to years in practice (Table 1). There were approximately equal proportions of respondents who practiced in an academic vs a private setting. Most respondents (57%) described the administrative model for their main ICU as mixed. About one-third of respondents practiced primarily with an open ICU model (32%), whereas a smaller proportion worked in hospitals with a closed ICU model (11%).

SURGEON-REPORTED CONFLICT

Forty-three percent of surgeons reported sometimes or always experiencing conflict with critical care physicians, and a similar percentage (43%) reported sometimes or always experiencing conflict with nursing staff about the goals of postoperative care (Table 2).

Although 50% of our respondents felt that the emphasis on outcome measures such as physician profiling was a challenging aspect of surgical practice, a greater number of surgeons identified the difficulty of managing clinical aspects related to poor outcomes or communicating with patients and their families as a somewhat or very challenging aspect of surgical practice. Moreover, 73% of respondents noted that managing their own discomfort about poor outcomes was a significant challenge (Table 2).

CONFLICT WITH CRITICAL CARE PHYSICIANS

On bivariate analysis (Table 3), surgeons with less than 10 years of experience were significantly more likely than surgeons with more than 30 years of experience to report conflict with critical care physicians (57% vs 32%; \( P = .001 \)). In addition, surgeons in academic practices reported significantly more conflict compared with those in private practice (52% vs 36%; \( P < .001 \)). Forty-one percent of surgeons practicing in an open ICU and 42% practicing in a mixed ICU reported conflict with critical care doctors, whereas 60% of surgeons practicing within a closed ICU model reported conflict with critical care doctors (\( P = .005 \)).

On multivariate logistic regression, a strong and statistically significant association persisted between surgeon experience and surgeon-reported conflict with critical care physicians. The odds of surgeons reporting conflict with critical care physicians were 2.5 times higher for surgeons with less than 10 years of experience than for those with more than 30 years of experience (odds ratio, 2.5;
95% CI, 1.6-3.8). In addition, the odds of surgeons reporting conflict with critical care physicians was 40% lower for surgeons practicing within a mixed or open model of ICU administration compared with those practicing in a closed ICU (mixed: odds ratio, 0.60; 95% CI, 0.40-0.96; open: odds ratio, 0.6; 95% CI, 0.4-1.0).

### CONFLICT WITH NURSING STAFF

On bivariate analysis (Table 4), an association between surgeon experience and reported conflict with nurses was demonstrated. Surgeons with less than 10 years of experience were significantly more likely than...
surgeons who had been in practice for more than 30 years to report conflict with nursing staff regarding goals of care for postoperative patients who had poor postsurgical outcomes (48% vs 33%; P = .001). Surgeons in academic settings reported more conflict with ICU nurses than their counterparts in private practice (50% vs 39%; P = .02). In contrast to the experience of conflict with critical care physicians, the model of ICU administration was not associated with significantly higher rates of conflict with nurses (open: 44%, mixed: 43%, closed: 45%; P = .85).

On multivariate analysis, a statistically significant association was found between surgeons’ experiences and reported rates of conflict with nursing staff. The odds of surgeons reporting conflict with nursing staff was 70% greater in surgeons with less than 10 years of experience compared with surgeons with more than 30 years in practice (odds ratio, 1.7; 95% CI, 1.1-2.6). The administrative model of ICU care was not associated with increased rates of conflict reported by surgeons with nurses.

**COMMENT**

More than 40% of surgeons who routinely perform high-risk operations reported conflict with critical care physicians and nurses regarding the goals of care for their patients with poor postoperative outcomes. Surgeons who reported higher rates of conflict had fewer years in practice and worked in an academic setting. Additionally, surgeons who practiced in a closed ICU reported higher rates of conflict about the goals of care with critical care physicians, but not with critical care nurses. These findings have important implications for surgeons, critical care clinicians, and their patients.

For surgeons, these findings suggest that learning how to manage personal discomfort in the setting of a poor postoperative outcome may take time and experience. Prior work by our group and others has shown that surgeons have a particularly difficult time switching goals of care from cure to comfort postoperatively, especially given the perception of a direct link between the surgeon’s performance and the patient’s outcome. When critical care clinicians who have had no direct role in the patient’s operation suggest a change in the goals of care from survival to comfort, conflict may ensue. Surgeons with more experience may be more accepting of the limits of surgical therapy and may have developed more robust coping strategies for the inevitable unwanted outcome.

For critical care clinicians, it is important to note that the ICU administrative model can contribute to conflict with surgeons. Surgeons typically have a relationship with their patient that begins preoperatively and extends throughout the patient’s recovery. Because of this longitudinal relationship, surgeons see themselves as the primary decision makers for their postoperative patients. The structure of a closed ICU likely poses a barrier to the continuity of the surgeon-patient relationship and contributes to conflict when the surgeon is replaced as the primary decision maker for his or her patient by an intensivist. As Cassell and colleagues noted, intensivists working in a closed ICU are charged with allocation of scarce resources for the good of the entire unit, while surgeons focus primarily on their covenantal responsibilities to individual patients. The administrative model of a closed ICU thus promotes conflict with its juxtaposition of clinicians with competing viewpoints.

Patients and their families are likely affected by the conflict that surgeons report with critical care clinicians. This can impact the overall experience of patients and their families in the ICU, with perceived conflict leading to decreased satisfaction with care and increased stress for families. Changing the goals of care postoperatively may trigger conflict when those caring for the patient try to determine what is most in line with the patient’s preferences. Our findings about surgeon-reported conflict with intensivists underscore how important it is for patients to discuss their goals and values with their surgeon and surrogate decision makers preoperatively to inform postoperative decisions in the event of an undesired outcome. Patients and their surrogates can be referred to other available resources for conflict adjudication to help guide treatment decisions such as a second opinion from a panel of senior clinicians or the hospital ethics committee.

Our study has several limitations. Survey-based research can be subject to nonresponse bias, where nonrespondents differ systematically from respondents. However, our response rate was robust, and there was no evidence of forward response wave bias, making the possibility of nonresponse bias low. Because conflict is not considered acceptable behavior, questions about conflict are subject to social desirability bias. As such, the true rate of conflict might be higher than our respondents reported. This survey also targeted 3 surgical subspecialties (vascular, cardiothoracic, and neurologic surgery) to ensure the respondents routinely care for critically ill patients. It is unclear whether our results are generalizable to other surgical subspecialties.

Our survey did not specifically define the parameters of a poor postoperative outcome, thus we cannot specify a clinical threshold that may prompt such conflicts. Also, we did not distinguish between closed ICUs run by surgeons vs closed ICUs managed by nonsurgeons, although this may prove to be an important determinant in rates of surgeon-reported conflict. Finally, although we noted a high rate of surgeon-reported conflict between surgeons and patients’ family members, we chose not to focus on this finding here. The primary focus of our survey was physician practices and, as such, we did not generate enough information for a complete discussion of this important topic.

Surgeons frequently experience conflict with critical care physicians and nurses about the goals of care for their postoperative patients with poor outcomes. Higher rates of conflict are reported by surgeons with fewer years of experience and those working in institutions with a closed model of ICU administration. This conflict is a significant public health problem that diminishes quality of care for critically ill patients and their families. Given the myriad challenges inherent in delivering the highest qual-
ity of care in these settings, clinicians from all backgrounds should focus on eliminating these interteam conflicts to allow energies to be spent more productively on other clinical issues affecting safety and quality. Interventions directed at the individual level as well as the system level will be important to mitigate conflict to provide better care for our critically ill postoperative patients.

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REFERENCES


INVITED CRITIQUE

Patient Ownership and Conflict in the Intensive Care Unit

Mine, Yours, or Ours?

Paul Olson and colleagues1 attempt to answer the question of patient ownership with a survey of surgeons who frequently have patients in the intensive care unit. In view of the increased prevalence of hospitalists—whether they be intensivists, trauma surgeons, anesthesiologists, or internists—and the current resident work-hour restrictions, the issue of continuity of care is an increasingly important one. In the first few sentences of their article, the authors set the stage, citing recent critical care publications in which 70% of intensive care unit clinicians reported experiencing conflict on a weekly basis!

This subject is an important one, particularly as it pertains to surgeons’ difficulty accepting bad outcomes in their patients and de-escalating care. No event in the life of a surgeon surpasses the physical and emotional impact of a bad surgical outcome. We are, by training, taught to help others. When as a consequence of our direct action (an operation or treatment) an adverse outcome ensues, there is often difficulty in giving up—a difficulty in admitting that this situation cannot be salvaged. The article by Paul Olson et al1 provides valuable insight. One of the better messages in this article is the no doubt guilt-accentuated concerns about the patient with a less-than-desired outcome; predictably, the operating surgeon is less prompt to move toward palliative care.

Just who is the more consistent and ethical conservator of resources varies widely in the hospitals in our university medical center. I do not believe intensivists are more protective of those resources; more likely, the opposite is true. The reader must also be wondering how intensive care unit nurses view these complex and intense interactions. These kinds of questions are hard to pose meaningfully and even more difficult to answer.

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