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Surgeons managing conflict in the operating room: defining the educational need and identifying effective behaviors

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Abstract

BACKGROUND: Developing an operating room conflict management educational program for surgeons requires a formal needs assessment and information about behaviors that represent effective conflict management.

METHODS: Focus groups of circulating room nurses and surgeons were conducted at 5 participating centers. Participants responded to queries about conflict management training, conflict consequences, and effective conflict management behaviors. Transcripts of these sessions served as the data for this study.

RESULTS: Educational preparation for conflict management was inadequate consisting of trial and error with observed behaviors. Conflict and conflict mismanagement had negative consequences for team members and team performance. Four behaviors emerge as representing effective ways for surgeons to manage conflict.

CONCLUSIONS: There is a clear educational need for conflict management education. Target behaviors have now been identified that can provide the basis for a theoretically grounded and contextually adapted instruction and assessment of surgeon conflict management.

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There is a growing body of evidence that supports the general need for operating room conflict management education for surgeons. Studies focused on communication in the operating room showed that there were between

1 and 4 highly tense communications occurring between team members during each procedure with some of these communications evolving into outright conflict.¹⁻³ Studies examining operating room patient outcomes show that interpersonal conflict in this setting is one of the team factors associated with errors and adverse patient events.⁴⁻⁶ Although this information suggests that conflict is a common occurrence in the operating room and can impact patients, it does not specifically address the educational need for conflict management for surgeons. The linkage between conflict and patient events has been established through

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quantitative research. Thus, additional information about this relationship is important to establish motivation for surgeons to consider changing the behaviors that they use to manage conflict.

If a specific educational need exists, then an essential step in developing a conflict management training program for surgeons is to identify behaviors that represent effective conflict management to serve as the target for instruction. Research in stable work teams and health care teams has suggested that controlling emotions, reacting strategically, emphasizing problem solving, communicating competently, practicing expedited negotiation, and building a group identity might be effective behaviors surgeons can use in managing conflict in the operating room.⁷ Additionally, a conflict management process for surgeons has been suggested that uses the steps required to perform a history and physical examination. This process was developed from general conflict resolution systems and includes good communication, flexibility, and leadership.⁸

The identification of effective behaviors is also important in developing an evaluation instrument to assess learning. The only existing work related to measuring conflict management performance is found on measures of essential nontechnical skills for surgeons.^{6,9} This work is derived from research performed in aviation related to evaluating the ability of pilots to effectively lead aviation teams¹⁰ and includes keeping calm, suggesting conflict solutions, and concentrating on what is right instead of who is right. The purpose of this study was to perform a focused educational needs assessment for conflict management training for surgeons and to identify those behaviors that are believed to represent effective conflict management behaviors according to the observations and experiences of individuals who work in this specific health care setting.

Methods

A multi-institutional, interprofessional research team was developed. The core research team was composed of a surgical educator, 2 nurses with educational research experience, and a social scientist. This core research team was responsible for the data analysis and preliminary development of themes. This core team was joined by 3 surgeons who independently validated the emerging themes in the context of the diverse local experiences at the participating sites. This group also considered the surgical educational implications of the findings. Institutional ethics approval was obtained at all 5 participating sites, and informed consent was obtained from all study participants. These institutions were purposely selected so that they were geographically and organizationally diverse although all were regional referral centers affiliated with residency training programs. A semistructured question script was developed before the onset of the focus groups based on the previously developed conceptual framework.⁷ Surgeon participants were asked the following questions: (1) "How did you learn to manage

conflict?" (2) "Can you give specific examples, without identifying names, of negative or positive outcomes that resulted from conflict or conflict management?" and (3) "Are there things that you do that you believe effectively manages conflict?" Nurses were asked "Can you give specific examples, without identifying names, of negative or positive outcomes that resulted from conflict or conflict management?" and "Are there things that some surgeons do or say when conflict occurs that are effective in managing the conflict?" Operating room nurses and surgeons were recruited at each institution and assigned to profession-specific focus groups that ranged in size from 3 to 9 participants. Surgeons were selected to gain an understanding of their perceptions about conflict and conflict management. Nurses were also selected to gain another professional perspective on operating room conflict but also to gain the perspective of 1 group in the operating room that observes how surgeons manage conflict. The participants constituted a convenience sample of individuals who were able to accommodate the time for the focus group discussion. All participants received a financial stipend of US \$50.00 as compensation for their participation in the study.

Within the nursing group, purposeful sampling was used to ensure that the nurses had at least 2 years of experience in the operating room environment. This sampling strategy was not used for the surgeon group because all had completed residency training that included at least 5 years of experience in the operating room. The number of focus groups conducted was determined through theoretic sampling in which data collection occurred alongside preliminary analysis and collection ceased when no new themes were arising from the focus group discussions. Focus groups were conducted by an educational researcher, and field notes were taken by an observer. Focus group interviews were audiorecorded, anonymized, and transcribed with standard linguistic conventions to yield a transcription for analysis. In the constructivist grounded theory tradition,^{11,12} transcripts were read iteratively by individual members of the core research team, and open, axial, and selective coding was conducted. The codes were applied to the entire transcript using NVivo Software (QSR International, Burlington, Maine). The analysis was elaborated and refined through the constant comparison of instances from the dataset by the group of core research team members in a series of 3 day-long meetings. Discrepancies were given particular attention in these analytic meetings, returning to code definitions and comparing data excerpts until consensus was achieved.

Results

A total of 31 circulating operating room nurses participated in a total of 6 focus groups. Of these, 29 were women and 2 were men. Thirty-five surgeons participated in a total of 6 focus group sessions; this group included 8 women and 27 men. The thematic results of the narratives of the focus groups provide significant clarity about the

conflict management educational need. Additionally, the same analysis provides for behaviors that both groups identify as being effective in conflict management although there were some significant interprofessional differences.

Defining the Educational Need

Two key thematic results emerged related to educational need for conflict management. The first was that surgeons are not adequately prepared to manage conflict in their formal education. None of the participants expressed the opinion that surgeons had been adequately trained to manage conflict and more commonly noted the lack of preparation.

“And really, there is a huge lack of training and understanding because they don’t get anything in medical school and we really don’t get a lot in nursing school on conflict” (Nurse, Institution A, 38).

In the absence of formal training, surgeons developed their own approaches to managing conflict based on what they had observed and then through trial and error. Although some participants endorsed the value of watching others deal effectively with conflict, others noted that this type of learning could be unhelpful if the observed faculty member was untrained in conflict management or used behaviors that seemed effective in the past but were no longer appropriate.

“And the faculty sets the tone but the faculty isn’t very good at that. Then the residents take on a lot of those characteristics. To me this is not good” (Surgeon, Institution A, 120).

“I think the days of ‘I’m the surgeon...it’s my way and the rest of you be damned’ are gone. As the new younger people come out, while you may wish it may still be that way, you realize that it’s not” (Surgeon, Institution B, 400).

The second theme that emerged related to educational need is that conflict and conflict management had significant consequences for members of the operating room team. Two issues emerged within the theme of consequences of conflict: personal and system issues. These personal negative consequences included increased stress, frustration, and distraction from patient care.

“You have a delicate, complicated operation you have to do and you know you have to focus all your concentration on that and you know if you have had a tussle with somebody it may make it difficult to do that” (Surgeon, Institution E, 157).

Conflict also produced consequences at the system level related to the team processes. These included lengthening the duration of cases, creating delays in cases, and decreasing communication between team members.

“From that point forward she was reluctant to communicate with me any issues going on above-because she was

afraid that I was going to chastise her again...she made a critical and potentially life threatening error but blowing up at her didn’t help” (Surgeon, Institution E, 162).

A specific question was posed regarding the participant’s experiences of conflict or conflict mismanagement directly resulting in an adverse patient outcome. The focus group process notes reflect that both surgeon and nurse participants became very quiet when the facilitator posed such a question, and in some cases participants appeared to withdraw physically from the questioner through body language or broken eye contact. Explicit responses to this probe tended to report that the professional commitment to the patients causes members of the team to do whatever was necessary to make certain that the patient was kept safe.

Identifying Effective Conflict Management Behaviors

Analysis of the transcripts showed groups of behaviors that both nurse and surgeon participants identified as effective in managing interpersonal conflict. These included maintaining calm, problem solving, reverting to a specific style of communication, and confronting other team members about unacceptable behaviors.

Maintaining calm

Maintaining calm involves controlling the outward expression of emotions. Nurse participants interpreted this as being an indication of surgical competence and also reported that it allowed them to focus more on the patient instead of on an emotional response from the surgeon.

“I guess one would be that if there is conflict that they are able to take control and put a hold on it...they are calmer and they are able to prioritize and rationalize important things instead of just flying off the handle” (Nurse, Institution D, 83).

Focused problem solving

Problem solving in the setting of operating room conflict involved focusing only on the immediate problem and showing flexibility in generating solutions, particularly as it relates to the use of alternative surgical materials and equipment. Once the procedure is completed, an appeal was made to the administration to identify and correct those systems issues that contributed to the conflict.

Focusing on the immediate problem.

“For everyone there comes a point when you do have to put that conflict aside and get on with the case... most surgeons would say ‘Let’s just move on from this right now. If it needs to be addressed later...that’s secondary to actually getting through the case, trying to have it run smoothly’” (Surgeon, Institution B, 157).

Demonstrating flexibility in solutions.

"Yeah, you know if they don't have the suture that you want. Okay, can I really use something different or am I going to stand here and tap my foot and tap the Mayo stand? Okay, give me something that does work and we'll go from there" (Surgeon, Institution B, 99).

Appealing to administration about systems issues.

"Generally take it to the nurse manager and tell her my issues....And they usually tell me they will look into it and sometimes they get back to me and sometimes they don't. But once I've taken it to them, it generally doesn't recur. They are usually good about handling it (Surgeon, Institution B, 161).

Enhanced communication

Participants in both groups endorsed reverting to a specific type of communication as a way to deal with conflict. This involved the surgeon taking time to explain his/her analysis and plan with members of the team. Surgeons described slowing the surgical process to engage in this type of communication.

"...if you slow things down and say 'This is what you need to do, this is what is happening and this is what I want to do. Sometimes this helps'" (Surgeon, Institution B, 242).

Nurses also endorsed surgeons communicating more details, with some indicating a desire for surgeons to listen to and acknowledge their position in a conflict.

"...I think as long as both people involved kind of acknowledge the option or input of the other person, sort of give them credit for saying like oh that's a good idea or I see your point but this is my rationale for doing it this way..." (Nurse, Institution D, 176).

Confronting team members

Confronting is another type of response that nurses and surgeons describe as being effective. This involves explaining one's own situation and mildly rebuking another team member for inappropriate behaviors.

"Well, I've confronted them before...I've had doctors and they come in carrying on....and I'm looking at them and I just say, 'We're trying our best to do what we can do and some of the things are out of our control, but the things we can control, we're taking care of.' And he looked at me and said, 'In other words, you just want me to be quiet and do my job.' And I said, 'You got it'" (Nurse, Institution B, 239).

Conclusions

The results of this study show a need for conflict management training for surgeons. Participants in this study described regularly encountering conflict in this

setting and reported that they had not received formal training in managing it. This has left surgeons to discover their own ways to manage conflict by observing others and experimenting with those behaviors that seemed to produce the desired results. Even this approach was ineffective because surgical faculty were also untrained or used behaviors that appeared effective in previous times but were no longer appropriate. The other evidence for the need is that conflict has important consequences for all individual team members and for the overall teamwork processes. Learning to manage conflict more effectively offers the possibility of reducing stress and frustration for both surgeons and nurses and improving the efficiency of the work. Our participants seemed reluctant to report that conflict directly impacts patients in a negative way. However, their descriptions of its impact on both personal and system levels suggest that conflict and conflict mismanagement may affect patient care indirectly through the impact that it has on people and processes in the operating room context. For example, these results have shown that conflict mismanagement can inhibit communication, and communication lapses have been shown to be a major contributor to adverse patient outcomes.^{4,13,14}

Prior suggestions for effective conflict management were developed based on a large body of existing theory and research done in conflict in stable nonmedical work groups and limited research done in health care teams.⁶⁻⁹ At the onset of this study, it was unknown whether these behaviors would also prove effective in a situation in which the teams have been described as pseudoteams¹⁵ doing work that is fast paced,¹⁶ complex,¹⁷ and stressful.¹⁸ These results provide insight into the behaviors that surgeons and nurses perceive to be effective in managing conflict in this particular team setting with both groups endorsing maintaining calm, focusing on problem solving, engaging in an enhanced form of communication, and confronting others.

Maintaining calm involves avoiding the outward expression of emotions. Surgeons describe that this involves a deliberate effort to control these outward physical signs. A nurse participant endorsed the surgeon leaving the room for a few minutes to achieve a state of calmness. Surgeons who maintain calm during team conflict promote this emotional state among other team members, which allows them to remain focused on the patient and increases their confidence in the surgeon. This is in contrast to the impairment in team performance that is observed when surgeons show negative emotional behaviors in response to conflict.¹⁹ Emerging social science has shown that leaders who effectively manage the emotional climate of the team do so by increasing trust with positive effects on team performance.²⁰ Empiric research performed specifically in operating room teams also shows that the emotional state or climate of the team affects patient outcomes²¹ and can be improved with team training.²²

These results also support the suggestion, based on extensive social science research, to emphasize problem

solving in response to conflict.⁷ However, these results do extend that recommendation by providing some specificity for how a problem-solving approach can be accomplished in this specific setting. Problem solving is perceived as effective when it involves purposely concentrating on the immediate problem, showing flexibility, and then appealing to administration later to address systemic factors that contributed to the conflict. This narrowing of focus is consistent with prior recommendations drawn from aviation team studies to concentrate on doing what is right.¹⁰ Strategically selecting from among possible conflict responses, including problem solving, was one of the behaviors suggested as possibly being effective⁷ in this environment, but that approach is not supported by these results. It may be that the nature of the work and the structure of the team, among other factors, make it unreasonable to ask surgeons to react strategically and select from among the various conflict behaviors. Instead, these results show that it would be better to teach surgeons to concentrate on problem solving that includes showing flexibility.

Surgeons describe reverting to a specific type of communication as an effective way to manage conflict. This form of communication involves sharing their assessment and plan in detail with the rest of the team. Nurses endorse this more elaborate form of communication. However, there is a difference between the participant groups; some nurses suggest that the surgeon listening is an important part of communication in conflict, whereas none of the surgeon participants endorsed this aspect of communication. Negotiation was one of the suggested approaches to operating room conflict based on substantial support in the social sciences literature.^{7,8} However, this approach was not supported from the results of this study. This might be explained by the findings that surgeons did not report valuing listening, and negotiation cannot occur without both parties listening. A limitation of this study is that the focus groups were conducted once without an opportunity to engage the groups again to probe specific items that arose from the narratives. Thus, it is not clear whether surgeons have tried listening as part of conflict management or find that there are barriers to listening during conflict in this team setting. Physicians in other acute care team settings have found it possible to listen to others during conflict and have found this approach valuable.²³ Additional research is required focused on operating room team member's perceptions about the role of listening as a part of communication during conflict.

None of the published suggestions for conflict management included confronting other team members as an effective way to manage conflict, but both nurse and surgeon participants endorsed it in this study. It is not surprising that surgeons would feel comfortable with this approach given the power that they have in this setting.¹⁶ The finding that nurses are now willing to confront surgeons is consistent with previous research that recorded instances in which nurses were observed to confront, and even rebuke,

surgeons.^{24,25} Collectively, these findings suggest that there are changing cultural expectations in the operating room with nursing staff feeling more empowered to confront surgeons in ways that they might not have done previously. Conflict management education for surgeons will need to prepare surgeons to react to confrontation by other members of the team that will likely be quite different from anything that their predecessors encountered. The need for managing confrontation by others will increase as team training programs include teaching staff to confront the surgeon if they believe that there is a patient safety concern.^{26,27}

The overall picture of the surgeon who effectively manages conflict is one that remains calm, shows superior problem-solving skills, and reverts to a situation-specific style of enhanced communication. Additionally, surgeons will need to be prepared to manage themselves when they are confronted by other members of the team. The results of this study can be used to develop a specific conflict management program for surgeons because these kinds of programs have proven helpful for other leaders in health care.²⁸ Many of these behaviors are similar or identical to what have been described as essential nontechnical skills^{6,29} or behaviors associated with surgical excellence³⁰ or leadership.¹⁷ An alternative educational approach would be to teach surgeons and surgical residents that effective conflict management is maintaining these essential leadership qualities during the conflict and adapting them to this common and challenging circumstance.

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