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A Communication Training Program to Encourage Speaking Up Behavior in Surgical Oncology

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Abstract

Patient safety in the OR depends on effective communication. We developed and tested a communication training program for surgical oncology staff members to increase communication about patient safety concerns. In phase one, 34 staff members participated in focus groups to identify and rank factors that affect speaking up behavior. We compiled ranked items into thematic categories that included role relations and hierarchy, staff rapport, perceived competence, perceived efficacy in speaking up, staff personality, fear of retaliation, institutional regulations, and time pressure. We then developed a communication training program that 42 participants completed during phase two. Participants offered favorable ratings of the usefulness and perceived effect of the training. Participants reported significant improvement in communicating patient

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safety concerns ($t_{40} = -2.76$, $P = 0.009$, $d = 0.48$). Findings offer insight into communication challenges experienced by surgical oncology staff members and suggest that our training demonstrates the potential to improve team communication.

Keywords

speaking up; team training; communication skills; team communication; oncology

In the seminal report *To Err is Human: Building a Safer Health System*, the Institute of Medicine estimated that between 44,000 and 98,000 patients die in hospitals each year from preventable errors.¹ Recent statistics are even more alarming, suggesting that the number of premature deaths associated with preventable harm may exceed 400,000 patients per year and that nonlethal harm may be 10 to 20 times more common.²

Communication failures are among the most substantial contributors to medical errors, including surgical errors and complications. Communication breakdowns in the OR can result in retained foreign objects, wrong-site procedures, and postoperative adverse events,^{3–5} all of which carry serious implications for patient morbidity and mortality and increased costs.^{2,6–8} A particularly salient problem for effective team communication and patient safety in the OR relates to barriers to *speaking up* (ie, expressing concerns and asking questions) when patient safety issues become apparent.

STATEMENT OF PURPOSE

Research examining interprofessional collaboration (IPC) in the surgical oncology setting is lacking. No empirical studies have identified factors that affect surgical oncology staff members' speaking up behavior. Moreover, team communication trainings that aim to increase speaking up behavior and to create a receptive environment (sometimes called a speaking up climate)⁹ have not been developed or tested in surgical oncology. A lack of IPC research and training specific to surgical oncology is problematic because surgical oncology procedures tend to be longer and often include staff members from multiple specialties as compared to general surgery. These issues add to the complexity of the communication among OR team members and may contribute to a greater risk of communication breakdowns, errors, and patient harm.

The purpose of the current study was twofold. First, we sought to identify factors that influence surgical oncology staff members' speaking up behavior. Second, we aimed to develop and test a communication training program for surgical oncology teams to increase speaking up behavior and improve communication about patient safety in the OR.

RESEARCH QUESTIONS

Our research questions were as follows:

- What factors affect speaking up behavior during surgical oncology procedures?

- Does our communication training demonstrate sufficient levels of participant acceptability (ie, the perceived effect of the training program and the usefulness of individual training components)?
- Does our communication training improve participants' self-efficacy and behavior in communicating patient safety concerns?

STATEMENT OF SIGNIFICANCE TO NURSING

To meet their legal and ethical responsibility to advocate for patient safety, nurses must not only be cognizant of patient safety issues as they emerge, but also demonstrate the necessary skills to overcome communication barriers and to express their concerns and questions quickly. By identifying factors that influence speaking up behavior and establishing a communication training program to improve team communication in surgical oncology, we hoped to address common communication breakdowns, enhance team collaboration, and protect against patient harm.

LITERATURE REVIEW

The quality of patient care in interprofessional settings demands input from providers of varying specialties and hinges on coordination, negotiation, and agreement.¹⁰ Interprofessional collaboration in the OR is complex, and several factors related to IPC may affect staff members' ability or willingness to speak up regarding patient safety. For example, power dynamics and conflicts in role expectations may leave nurses and surgical technologists more reluctant to speak up to attending surgeons.^{11,12} Situational ambiguity, fear of retaliation, or a lack of communication skills also may influence speaking up behaviors.¹³

Several initiatives have been launched to improve patient safety culture in the OR. The World Health Organization's surgical safety checklist has been linked to mortality reductions in hospitals around the world.¹⁴ As another example, the National Quality Forum outlined an evidence-based set of practices shown to decrease the occurrence of adverse health care events.¹⁵

Several health care facilities have established team trainings with the goal to improve patient safety through teamwork, communication, and safety climate interventions.¹⁶ Informed by crew resource management, some trainers have incorporated techniques used in aviation.¹⁷ One of the most widely used programs is the Team Strategies and Tools to Enhance Performance and Patient Safety (TeamSTEPPS) curriculum, which includes didactic-based learning modules that center on the core competencies of leadership, situation monitoring, mutual support, and communication.¹⁸ Overall, team training interventions for surgical staff members have been linked to a variety of improved outcomes, including increased communication (eg, check-backs, hand-overs), frequency of preoperative checklist use, self-confidence in communicating and confronting concerns, and patient satisfaction.^{19–23}

METHODS

We conducted this study in two phases. To identify factors that affect speaking up behaviors, we held focus groups with surgical oncology staff members. Next, we created a communication training program by following a series of consecutive steps outlined by Brown et al²⁴ and based on the focus group findings. To determine participants' reactions to the training program and whether the training program improved safety communication, we tested our training and evaluation methods in phase two. Testing involved evaluating participants' ratings of the perceived effect of the training program and the usefulness of specific training components and examining the effect of the training program on participants' self-efficacy in communicating patient safety concerns and on participants' communication during experiential role-play exercises.

Protection of Participants' Rights

The institutional review board at our facility reviewed and approved this study as exempt research. An exemption from the institutional review board at our facility includes a waiver of informed consent. The exempt status permitted our team to conduct this study as a routine educational practice and to maintain participants' anonymity by publishing de-identified data. Service chiefs informed participants that their participation was voluntary. On the day of participation, members of our research team verbally explained the purpose of the study and described how we would use the de-identified data.

Sampling Technique

We invited surgical oncology staff members from thoracic and urology services at our facility to participate in this study. We recruited participants through service chiefs, who communicated directly with staff members under their supervision and asked for volunteers. We selected thoracic and urology services for several reasons. First, thoracic and urology share the same operating suite and have a manageable number of staff members. Second, preliminary data from the Hospital Survey on Patient Safety Culture²⁵ showed that a high proportion of staff members from these services lacked confidence in speaking freely and asking questions when they noticed something that may negatively affect patient care. Third, these services accounted for a high proportion of count discrepancy events or near misses at our facility at the time of the study.

Phase One: Nominal Group Technique Focus Groups

We conducted focus groups using the Nominal Group Technique (NGT), an interactive process that is commonly used in developing educational programs for eliciting perspectives regarding a problem.²⁶ Each session lasted 60 minutes and was facilitated by an investigator trained in interviewing techniques. After welcoming participants and orienting them to the goals of the group, the facilitator asked, "What are the factors that can help or hinder speaking up when you become aware of something that can affect patient safety?" Participants generated ideas and the facilitator listed them on a flip chart. Participants then discussed, individually ranked, and voted on the most important items. This was followed by further group discussion. Finally, the investigator asked participants to select their top five items from the list and to rank those items in descending order from five points (most

significant) to one point (least significant). Each group created a rank-ordered list of the top five items as rated by participants.

Analysis of focus group data

Our analysis was guided by procedures used in previous research.^{27,28} To begin, we calculated a total priority score for each item by summing participants' ratings. For example, if there were five participants in a group and each participant gave an item the highest rating possible, that item received a total priority score of 25. We could then compare the item to the total priority scores of other items that participants generated and ranked in that group.

Next, we compiled the five items with the highest priority rankings from each of the focus groups and analyzed the content to identify the underlying themes,²⁹ which allowed us to compare data across individual groups. The first author independently reviewed items and created an initial framework of thematic categories through open coding. Next, we used the constant comparative method³⁰ to refine thematic category properties. The second author reviewed category labels and properties and resolved any disagreements through discussion. Finally, the thematic framework was shared with the entire research team and we created a final version through consensus meetings.

Evaluative criteria

We took several steps to strengthen the rigor and trustworthiness of our findings. To ensure credibility,³¹ we segmented groups by participants' role (eg, RN, surgical technologist). This allowed us to capture the unique perspectives of different team members and protected against reporting bias that may have occurred otherwise. For example, surgical technologists may have been reluctant to freely express their opinions if we asked them to share their views in the presence of attending surgeons. Use of the NGT and our approach to analyze focus group data also contributed to the credibility of findings. The NGT uses a structured interview approach to safeguard against problems associated with group interactions (eg, dominant personalities, group think). Using content analysis to identify themes embedded within ranked items allowed us to compare data across individual groups and ensured that thematic categories represented those factors that most frequently affect surgical oncology staff members as a whole. Finally, having a second researcher review initial coding assignments and category labels, and holding consensus meetings with the entire research team, bolstered the dependability of our results.³¹

Phase Two: Team Communication Training

Communication training included a 30-minute lecture with exemplar videos and 90 minutes of experiential role-play exercises. A facilitator with expertise in communication skills training and research led all role-play exercises. Role-play exercises were also video-recorded and participants received video and oral feedback to enhance their learning.

We developed the training curriculum based on results from phase one and by following a series of consecutive steps used in previous research.²⁴ Research team members met regularly to discuss the factors identified in the focus groups, ways of reinforcing effective team communication, and best approaches to overcoming barriers to speaking up. This

process resulted in the creation and refinement of a communication blueprint (Table 1), which includes an overarching goal that is achieved through a sequence of strategies. Each strategy is achieved through the use of communication skills and process tasks. Communication skills are discrete and observable utterances that move dialogue forward. Process tasks refer to verbal and nonverbal behaviors that create an appropriate environment for effective communication. Process tasks also may include behaviors that should be avoided (eg, being dismissive). In addition, we discussed relevant literature on IPC, team training, and health care communication skills training in research team meetings and we incorporated applicable concepts and skills into the blueprint. For example, the stopping statement, “I need clarity” is an assertive communication behavior adapted from the TeamSTEPPS program.¹⁸

With input from key stakeholders (eg, senior level surgeons and nurses), we developed two role-play scenarios. The first scenario involved a potentially retained foreign object and the second involved tension over repositioning a patient. Both scenarios could be modified as needed to fit the learning objectives of individual participants. However, when designing and delivering these role-play scenarios, we made a deliberate attempt to include factors identified in the focus groups. For example, participants encountered a “difficult surgical fellow” (played by a trained actor) who was dismissive of concerns raised by others and who pressured others to move quickly.

Description of measures

Our evaluation methods were guided by the Kirkpatrick Model, an evidence-based model used for assessing the effect of educational training.³² The Kirkpatrick Model includes four levels. Level 1 focuses on participants’ reaction to training; Level 2 targets acquired knowledge and skills; Level 3 centers on the transfer of skills to practice; and Level 4 evaluates the achievement of larger-scale goals or changes (eg, patient outcomes). For the purposes of this study, we used evaluation methods that measured the effect of training at Levels 1 and 2.

Participants completed a post-training evaluation form that assessed their reaction to the training (Kirkpatrick Model Level 1). First, participants rated their level of agreement with three statements on a five-point Likert scale (“strongly disagree” to “strongly agree”):

- “I feel confident that I will use the skills I learned in this module,”
- “The skills I learned in this module will allow me to provide better patient care,” and
- “The module prompted me to critically evaluate my own communication skills.”

Next, we asked participants to rate the degree to which different training components (ie, lecture, exemplar videos, role-play exercises) aided their learning on a three-point Likert scale (“did not aid my learning at all” to “aided my learning a lot”). The post-training evaluation form that we used in this study is a previously established measure that has been used in several communication training studies.³³⁻³⁶

We assessed acquired knowledge and skills (Kirkpatrick Model Level 2) in two ways. First, we used a retrospective pre-post methodology.³⁷ On the post-training evaluation form, we asked participants to rate their communication confidence before and after the training using a five-point Likert scale. Second, to assess the extent to which participants were using the communication approaches being taught, the first author coded video recordings of 20 role-play exercises using the Comskil Coding System, a previously established method for evaluating skill uptake in communication training.³⁸ The first author coded role-play recordings looking for 12 specific process tasks (eg, stop extraneous activity, take corrective action) and 12 specific communication skills (eg, restate, ask open questions) that were targeted through the training. The first author and a research assistant who were trained to use the Comskil Coding System randomly selected and double coded a sample of five recordings (25%). Inter-rater reliability was acceptable (80% agreement for process tasks and 76.7% agreement for communication skills).

Analysis of team communication training data

We analyzed data using descriptive statistics and a paired sample t-test. We used descriptive statistics to evaluate the acceptability of the training through participants' ratings of the perceived effect of the training and the usefulness of specific curricular activities. We also used descriptive statistics to examine participants' use of process tasks and communication skills during experiential role-play exercises. We used a paired sample t-test to assess the differences before and after training self-efficacy in communicating patient safety concerns.

RESULTS

In phase one, a total of 34 individuals participated in seven focus groups. Separate groups were held for thoracic attending surgeons (n = 5), urology attending surgeons (n = 3), anesthesiologists (n = 4), RNs (n = 7), CRNAs (n = 4), surgical technologists (n = 4), and surgical support staff members (n = 7). We identified eight thematic categories that captured themes embedded in focus group items:

- role relations and hierarchy,
- staff rapport,
- perceived competence,
- perceived efficacy in speaking up,
- staff personality,
- fear of retaliation,
- institutional regulations, and
- time pressure.

Results are displayed in Table 2, including the five items receiving the highest priority scores in each focus group.

In phase two, 42 participants completed the training across four dates. An average of 11 participants attended each training session (range = 6 to 15). Participants' self-efficacy in

communicating patient safety concerns was significantly higher after training (mean [M] = 4.32, standard deviation [SD] = 0.61) compared to before training (M = 4.02, SD = 0.65); $t_{40} = -2.76$, $P = 0.009$, $d = 0.48$. Participants' evaluations of the training were positive (Table 3). Most participants (88.1%; $n = 37$) agreed or strongly agreed that they would use the skills taught. Furthermore, 88.1% ($n = 37$) agreed or strongly agreed that the skills they learned would enable them to provide better patient care, and 92.9% ($n = 39$) agreed or strongly agreed that the intervention prompted them to critically evaluate their own communication skills. Participants rated the usefulness of individual components of the training favorably; 88.1% ($n = 37$) reported that the lecture aided their learning somewhat or a lot, 92.9% ($n = 39$) reported that the exemplar videos aided their learning somewhat or a lot, and 95.2% ($n = 40$) reported that the role-play exercises aided their learning somewhat or a lot.

We completed and coded 20 role-play exercises for the frequency of process tasks and communication skills. An average of five (range of two to nine) process tasks and two (range of one to four) communication skills were present in the role-play exercises. The percentage of role-play exercises in which each of the process tasks and communication skills were present are displayed in Figure 1 and Figure 2, respectively.

DISCUSSION

The purpose of this study was to develop a communication training program for surgical oncology teams to increase communication about patient safety concerns in the OR and to conduct a test of the training and evaluation methods. The findings offer insight into the communication challenges experienced by surgical oncology staff members. In addition, results suggest that our training and evaluation methods demonstrate the potential to improve team communication about patient safety concerns in the OR and can be used to guide future work.

The substantial role that team cohesion and collaboration play in promoting speaking up behavior was apparent across focus groups, as reflected in many of the thematic categories that underlie ranked items (eg, role relations and hierarchy, staff rapport). These themes are consistent with the literature on IPC¹⁰ and with research reporting the influence of teamwork on speaking up behavior.¹³ Our findings also revealed that perceptions regarding the most salient factors affecting the communication of patient safety concerns vary by role. For example, RNs struggled most with navigating strong personalities on the team. This is a common barrier experienced by nurses outside of the oncology setting.³⁹ These results also are aligned with literature suggesting that the established hierarchy of medical teams often leaves lower ranking staff members feeling reluctant to question authority.⁴⁰ Finally, as evidenced by concerns over time pressure and institutional regulations, participants believed that hospital-level factors affect staff members' ability to speak up. Although it may not be possible to address these issues directly through communication training, they highlight the importance of considering such factors when working to enhance patient safety.

The results from the communication training suggest that our intervention and evaluation methods demonstrate potential. The training was well-received by participants, as evidenced

by highly favorable ratings of the perceived effect of the training and usefulness of the specific curricular activities. In addition, participants rated their confidence in communicating patient safety concerns significantly higher after training.

Observational data from the role-play exercises indicate mixed results in terms of participants' use of communication approaches taught in the training. Participants did an excellent job of using process tasks and communication skills that create a space for problem solving to unfold. For example, participants frequently used the stopping statement "I need clarity," stopped extraneous activity, and allowed sufficient time to explore the problem at hand. These are steps that demonstrate the use of critical language²¹ and enable all team members to focus their attention on resolving an apparent patient safety issue.⁴¹ Participants were less likely to use approaches that help to flatten the hierarchy. Most notably, participants addressed one another by first names in only one of the role-play exercises and were less likely to encourage open communication, invite questions, endorse questions, and ask for team consensus. Beyond creating a climate of patient safety, many of the approaches that were largely absent from the role-play exercises contribute to an improved speaking up climate.⁹

LIMITATIONS AND RECOMMENDATIONS FOR FUTURE RESEARCH

The current study had several limitations. We made the decision to focus on urology and thoracic services, which resulted in a relatively small sample size. Future studies would benefit from larger samples with a more diverse range of surgical oncology disciplines. Next, the evaluation methodology we used to assess acquired knowledge and skills (Kirkpatrick Model Level 2) limits the conclusions that can be drawn from the experiential role-play data. For example, because we did not collect a measure of skill level before the training, we cannot say whether or to what extent participants' use of skills and process tasks in the role-play exercises reflect an improvement from baseline. Although a baseline evaluation was beyond the scope of the current study, its addition in future studies would improve the evaluation methods. We plan to use standardized encounters in future work. We will give learners a patient safety scenario and ask them to work through the issue before completing the training. We will then repeat the simulated encounter after training, which will enable pre-post training comparisons.

Another limitation of the current study is that the evaluation methods were limited to Levels 1 and 2 of the Kirkpatrick Model. For example, we did not measure the effect of training on improved patient safety outcomes (eg, number of retained foreign objects, near misses). Higher levels of evaluation within the Kirkpatrick Model were beyond the scope of this study and should be considered in strengthening future investigations and larger-scale studies.

Finally, certain aspects of study design may have influenced participants' responses. The self-report items used to assess the effect of training may have been subject to response bias. For example, rather than feeling empowered to speak up, participants may have rated their communication self-efficacy higher because they believed we expected them to. We invited participants to take part in the study through their service chief and participants may have

offered favorable ratings to please their superiors. Finally, we expended considerable time and effort on this project and it is possible that a desire for positive findings to justify this work ultimately affected our results.

RECOMMENDATIONS FOR CLINICAL PRACTICE

All professional nurses have a legal and ethical responsibility to advocate for patient safety in every setting. Surgical oncology staff members' difficulty with speaking up represents a significant barrier to effective communication and patient safety in the OR. Team communication training offers a powerful approach to address such communication breakdowns, giving staff members the tools needed to speak up (eg, using stopping statements), enhancing team collaboration, and ensuring that all team members feel an atmosphere of inclusiveness and openness. The role of perioperative nursing administrators and senior staff members is to set the tone for the working environment in the OR. This includes assuming leadership in promoting excellence by developing and implementing such programs.

RECOMMENDATIONS FOR EDUCATION

This study highlights the need for perioperative staff member education regarding team communication. Interventions that target communication breakdowns and enhance team collaboration are crucial to improving patient safety and protecting against patient harm in the OR. Our findings—along with important lessons learned in completing this study—indicate that the training can be improved in several ways. First, the training must do a better job of addressing the established hierarchy among surgical oncology team members and improving team cohesion and collaboration. Enhancing the leadership aspects of the training is one way to achieve that objective. Team leaders, including attending surgeons and senior level nurses, need to be clear that patient safety partially hinges on creating an atmosphere of open communication and inclusiveness. A crucial part of this process is team leaders' ability to recognize that some staff members may be uncomfortable sharing concerns and asking questions. In light of this knowledge, team leaders must explicitly ask for feedback and reinforce questions. In terms of improving the training, this might include emphasizing these points in the lecture and helping team leaders to recognize moments when they have an opportunity to practice these approaches during role-play exercises. One simple step to flatten the hierarchy is to encourage team members to refer to one another by first names. Although it is not uncommon for surgical staff members to refer to one another by role (eg, doctor, nurse), addressing one another by first names may enhance collaboration and trust among team members.

Next, the role-play exercises proved more challenging than expected. Managing an entire team of learners is onerous and it was difficult for actors to integrate seamlessly into the experiential exercises. Using multiple facilitators is one solution to enhance structure in role-play exercises and help manage the learners. The role-play exercises also may run more smoothly if an experienced staff member is recruited to play the role of "difficult surgical oncology fellow." A more experienced staff member is familiar with surgical procedures and jargon and could help create a more realistic scenario. Learners also provided feedback that

more could be done to make the OR more consistent with the look and feel of an actual procedure (eg, having learners wear gloves, gowns, and masks).

CONCLUSION

This study extends a well-established body of literature to the surgical oncology setting. Our findings demonstrate that IPC is essential to speaking up behavior in surgical oncology and that OR staff members encounter a variety of communication barriers that must be addressed to prevent patient harm. Our results also indicate that our communication training program demonstrates the potential to improve team communication about patient safety concerns in the OR and warrants further study.

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Figure 1.
Presence of process tasks during 20 role-play exercises.

Figure 2.
Presence of communication skills during 20 role-play exercises.

Table 1

Communication Blueprint

Strategy	Process Task	Communication Skill	Example
Identify the problem that puts the patient at risk	<ul style="list-style-type: none"> Use stopping statement: "I need clarity" Encourage open communication and participation Repeat questions as needed 	Ask open questions	"What is happening with the count?"
		Invite questions	"Are there any questions about what we just reviewed?"
		Endorse question asking	"I encourage everyone to ask questions at any time."
		Restate	"So you are saying that the drape touched the floor?"
Develop a shared understanding of the issue	<ul style="list-style-type: none"> Stop extraneous activity Allow time to explore the problem Correct understanding of the issue Avoid being dismissive Repeat questions as needed 	Check understanding	"What is your understanding of how this is supposed to work?"
		Ask open questions	"What seems to be the problem?"
		Restate	"So you are saying that we already covered that in the time out?"
		Clarify	"Tell me again, which instrument are we supposed to be using?"
Flatten the hierarchy and work together as a team with a shared focus	<ul style="list-style-type: none"> Negotiate time for discussion Collaborate and include all staff members in discussion Address each other by first names 	Acknowledge	"I appreciate your frustration with the delay."
		Validate	"It is reasonable that you would be concerned about the positioning, given what you know about the patient."
		Endorse question asking	"Questions are a great way to identify potential issues."
		Ask open questions	"What steps should we take to correct this?"
		Ask strategic questions	"What do you suggest we do?"
Resolve the problem	<ul style="list-style-type: none"> Ask for consensus from team Take corrective action 	Ask open questions	"What else needs to happen here?"
		Preview	"It is important that we resolve the issue, so I am going to ask that we do a few things."
		Summarize	"So we are missing a laparotomy sponge and we've already checked the surrounding area."
		Review next steps	"We are going to repeat the time out and this time everyone will respond."

Table 2

Most Frequently Ranked Items by Focus Group

Focus Group	Rank	Priority Score	Item (Thematic Category)
CRNAs (n = 4)	1	19	Staff rapport (<i>Staff Rapport</i>)
	2	12	Level and amount of experience (<i>Perceived Competence</i>)
	3	8	Focus of the OR team members or differing priorities (<i>Staff Rapport</i>)
	4	6	OR environment at the time (weighing the safety issue against what is happening in the OR) (<i>Miscellaneous</i>)
	5	4	Fear of retaliation (<i>Fear of Retaliation</i>)
Thoracic Attending Surgeons (n = 5)	1	17	Culture of safety (<i>Miscellaneous</i>)
	2	15	Respect for coworkers (<i>Role Relations and Hierarchy</i>)
	3	12	Atmosphere of inclusiveness and culture (<i>Role Relations and Hierarchy</i>)
	4	11	Adequate ancillary support (<i>Perceived Competence</i>)
	5	9	Familiarity with team members (<i>Staff Rapport</i>)
Urology Attending Surgeons (n = 3)	1	15	More concern about documenting safety initiatives (<i>Institutional Regulations</i>)
	2	12	Even when concerns are identified, nothing changes (<i>Perceived Efficacy of Speaking Up</i>)
	3	10	Multiple safety initiatives lead to chaos (<i>Institutional Regulations</i>)
	4	2	Knowledge base of staff members (<i>Perceived Competence</i>)
	5	2	Previous interactions and relationships (<i>Staff Rapport</i>)
Surgical Support Staff (n = 7)	1	23	Hierarchy; opinions not taken seriously because of job title (<i>Role Relations and Hierarchy</i>)
	2	21	Concern whether statement or complaint will be heard or evaluated (<i>Perceived Efficacy of Speaking Up</i>)
	3	17	Confidentiality (<i>Fear of Retaliation</i>)
	4	12	The time it takes for action to take place if you do say something (<i>Perceived Efficacy of Speaking Up</i>)
	5	10	If speaking up could affect your employment or the employment of a colleague (<i>Fear of Retaliation</i>)
RNs (n = 7)	1	24	Attitude of the attending physician (<i>Staff Personality</i>)
	2	22	Knowledge of the service (<i>Perceived Competence</i>)
	3	10	Turnover pressure ("factory") (<i>Time Pressure</i>)
	4	8	Teamwork issues (<i>Staff Rapport</i>)
	5	7	Fatigue (<i>Miscellaneous</i>)
Surgical Technologists (n = 4)	1	9	Attitude of the attending surgeon (<i>Staff Personality</i>)

Focus Group	Rank	Priority Score	Item (<i>Thematic Category</i>)
	2	8	Hierarchy (ie, surgical technologist considered “at the bottom”) (<i>Role Relations and Hierarchy</i>)
	3	7	Rushing (ie, turnover pressure) (<i>Time Pressure</i>)
	4	6	Strong surgeon pressures (ie, lack of flexibility) (<i>Staff Personality</i>)
	5	5	Rules are not followed consistently (<i>Miscellaneous</i>)
Anesthesiologists (n = 4)	1	12	Hierarchy (ie, reluctance to speak up) (<i>Role Relations and Team Hierarchy</i>)
	2	11	Relationship with OR team members (<i>Staff Rapport</i>)
	3	8	Severity of the safety concern or event (<i>Miscellaneous</i>)
	4	6	Understanding the value of the work of other disciplines (<i>Staff Personality</i>)
	5	5	Personality of the person to speak up to (<i>Staff Personality</i>)

Table 3

Post-Training Evaluations (N = 42)

	Mean	Standard Deviation
Evaluation of the Team Communication Training^a		
Before this module, I felt confident about communicating patient safety concerns in the OR.	4.02	0.65
Now that I have attended this module, I feel confident in my ability to communicate patient safety concerns in the OR.	4.32	0.61
I feel confident that I will use the skills I learned in this module.	4.27	0.63
The skills I learned in this module will allow me to provide better patient care.	4.24	0.62
The module prompted me to critically evaluate my own communication skills.	4.39	0.67
Usefulness of Individual Training Components^b		
Didactic lecture	2.38	0.59
Exemplar videos	2.53	0.55
Role-play exercises	2.65	0.48

^aRatings on a scale from 1 (strongly disagree) to 5 (strongly agree)^bRatings on a scale from 1 (did not aid my learning at all) to 3 (aided my learning a lot)