The Call, the Save, and the Threat: Understanding Expert Help-Seeking Behavior During Nonroutine Operative Scenarios

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Abstract

OBJECTIVE—Asking for help in the operating room occurs within a surgical culture that has traditionally valued independence, decisiveness, and confidence. A tension exists between these deeply ingrained character traits and the new culture of team-based practice that emphasizes maximizing patient safety. The objective of this study is to explore surgeon-to-surgeon help-seeking behaviors during complex and unanticipated operative scenarios.

STUDY DESIGN—Semistructured interviews were conducted with a purposeful sample of 14 consultant surgeons from multiple specialties. We used constructivist grounded theory to explore help-seeking experiences. Analysis occurred alongside and informed data collection. Themes were identified iteratively using constant comparisons.

SETTING—The setting included 3 separate hospital sites in a Canadian academic health sciences center.

PARTICIPANTS—A total of 14 consultant surgeons from 3 separate departments and 7 divisions were included.

RESULTS—We developed the “Call-Save-Threat” framework to conceptualize the help-seeking phenomenon. Respondents highlighted both explicit and tacit reasons for calling for help; the former included technical assistance and help with decision making, and the latter included the need for moral support, “saving face,” and “political cover.” “The Save” included the provision of enhanced technical expertise, a broader intraoperative perspective, emotional support, and a learning experience. “The Threat” included potential downsides to calling, which may result in near-term or delayed negative consequences. These included giving up autonomy as primary surgeon, threats to a surgeon’s image as a competent practitioner, and a failure to progress with respect to independent judgment and surgical abilities.

CONCLUSIONS—Our “Call-Save-Threat” framework suggests that surgeons recurrently negotiate when and how to seek help in the interests of patient safety, while attending to the

traditional cultural values of autonomy and decisive action. This has important implications for surgical postgraduate education and also throughout a surgeon's career trajectory.

Keywords

collaboration skills; qualitative research; constructivist grounded theory; communication skills; professionalism; practice-based learning

COMPETENCIES

Patient Care; Practice-Based Learning and Improvement; Interpersonal and Communication Skills; Professionalism; Systems-Based Practice

INTRODUCTION

Complex, uncertain situations are pervasive in the current landscape of surgical practice.¹ A longstanding practice for a surgeon facing an unexpected intraoperative challenge is to call for the help of a coconsultant to prevent or reverse errors that may put patient lives at risk.² Although recent studies have explored the phenomenon of postgraduate trainees seeking help,^{3–5} little is known about the determinants, processes, and consequences of consultant help seeking. This knowledge gap is problematic, because consultant help seeking is central to ensuring patient safety when experts find themselves at the edge of their competence. Help seeking occurs within a surgical culture and social context that has traditionally valued autonomy and individualism. Personal memoirs,⁶ ethnographic studies,⁷ and review articles⁸ published during a span of over 4 decades consistently portray surgeons as inherently competitive, courageous, risk-taking, decisive, independent, and confident.

At the same time, surgery is experiencing an emerging culture of practice that is team based and emphasizes maximizing patient safety and achieving the best possible patient outcomes.⁹ This is reflected in the CanMEDS 2015 template of the Royal College of Physicians and Surgeons of Canada, where “collaboration” is a key competency.¹⁰ However, postgraduate surgical trainees are not explicitly taught help seeking as a central collaborative behavior, although they may see their faculty seek help from colleagues during intraoperative emergencies. Furthermore, trainees may require explicit training in this important skill, because of their training model in which development of competence is strongly associated with increasing independence. Such a training model is in danger of implying that experts are those who never need help, when true expertise is increasingly understood to include appropriate recognition and response to one's technical and cognitive limits.^{11,12} To support new training strategies that foster appropriate help seeking, we require research that systematically explores the factors underpinning consultant surgeon-to-surgeon collaborative help-seeking behavior in a dynamic, high-risk intraoperative environment.

Our study explores the phenomenon of surgeon-to-surgeon help-seeking behaviors during complex, challenging, and unanticipated intraoperative scenarios. Specifically, we seek to understand the conditions that prompt consultant surgeons to ask for help, the collaborative strategies that are negotiated among consultant surgeons after asking or being asked for help, the perceived value of the assistance rendered and the implications of help seeking. Our goal

is to develop a model of intraoperative consultant surgeon-to-surgeon help-seeking behavior, as a basis for teaching this central, but largely tacit, dimension of the collaborator role to surgical trainees and junior faculty.

MATERIAL AND METHODS

We adopted a constructivist grounded theory approach^{13–15} using semistructured interviews. The core research team for this study included a physician with 25 years of consultant experience in cardiac surgery and critical care (R.J.N.) and 2 qualitative and medical education researchers (S.M.C. and L.L.). The idea of the study came from the clinical and educational experiences of the first author, who had participated in the help-seeking phenomenon frequently during the preceding decades (both as provider and recipient of intraoperative assistance) but had not encountered published literature related to this practice. As a “strategic insider,” the first author had access to study subjects and was able to facilitate the open expression of views by participating consultant surgeons; conversely, there was a theoretical risk that some comments provided by respondents would not be as explicit as if the interviewer was a nonsurgeon. In acknowledging this limitation, the nonphysician investigators participated actively in the development and iterative refinement of the interview guide.

Our study employed a purposeful sample^{16,17} of 4 junior, 4 midlevel, and 6 senior consultant surgeons from 3 different surgical departments (surgery, neurosciences, and obstetrics and gynecology) and 7 different surgical divisions. Of the surgeons, 5 were women and 9 were men; the age of respondents ranged from was 33 to 69 years. Although surgical consultants from a variety of specialties were interviewed, our sample was relatively homogenous with respect to the relevant characteristics of the research question—that is, experience of intraoperative help seeking episodes. Our study received approval of our university and hospital research ethics boards and all study participants provided informed consent. All interviews were recorded and transcribed verbatim. During the interviews, consultant surgeons were asked to describe the following: (1) instances during which they called another consultant into the operating room for assistance because of an unanticipated circumstance that had developed, (2) the processes they and their colleague went through to better understand and address the situation, (3) whether their colleague’s assistance was ultimately helpful or not, and (4) the consequences of requesting assistance. Transcripts were read iteratively and open and axial coding were conducted using constant comparison.^{14,15,18} Analysis occurred simultaneously with data collection; emerging themes were identified and explored in detail in subsequent interviews using refined interview probes.¹⁸ The coding structure and conceptual framework that emerged from the data were critically discussed among members of the core research team, until consensus was achieved.¹⁹ Consistent with a theoretical sampling approach, data collection was continued until “sufficiency” was attained.^{20,21} The core research team met at regular intervals to discuss and further refine the coding scheme, after which relationships among categories were re-explored to raise the analytic level from categorical to conceptual.^{15,18} Analytical quality and rigor were enhanced by the multidisciplinary nature of the 3 members of the core research team and by presenting initial research findings to groups of education researchers

and surgeons locally and nationally to explore whether study findings resonated with these 2 core groups, as a way to check for the credibility of our interpretations.²²

RESULTS

We identified from our data a preliminary model of consultant surgeon-to-surgeon help seeking in the operating room, which conceptually was best elucidated in a framework of “The Call,” “The Save,” and “The Threat.” This framework draws on data from both surgeons who called for and were called in to help but focuses primarily on the perspective and experiences of the help-seeking surgeon; subsequent articles will concentrate more intensely on the perspective and specific attributes of the helping surgeon.

The Call

The Call dimension of the framework highlights the intraoperative situations that prompted consultant surgeons to call for help from a coconsultant. Analysis of participant reports suggested that there are both explicit and tacit reasons for “The Call.” Prominent explicit reasons were technical and decision-making challenges. For instance, the precipitous occurrence of a complication such as uncontrollable bleeding or an intraoperative cardiac arrest could lead to what an experienced, midcareer surgeon called an “all hands on deck” (I-05) approach, in which the surgeon and anesthetist would seek any colleagues who are immediately available to try to salvage the situation: “I have my finger on a hole, it’s pretty big, and I don’t have enough proper help to get around the situation. Help me just technically to make the patient safe and then we can talk about things” (I-07). Alternatively, a consultant surgeon may face a nonemergent but unfamiliar intraoperative scenario, such as distorted anatomy or unexpected findings that were not predicted on the basis of preoperative imaging studies. In this situation, consultant surgeons reported calling for help to either validate steps already taken or to seek a second opinion with respect to altering the surgical trajectory. For instance, in complex cancer surgeries, consultants reported seeking a second opinion about the extent of resection, when unanticipated findings called into question the initial operative plan and a decision had to be made regarding persisting with or abandoning the initial plan. In such cases, participants reported that “Sometimes a fresh pair of eyes can actually see what looks like it is not resectable actually is” (I-07). On the contrary, if there is a need to change the surgical plan to a nonresectional strategy “you want to exhaust all of the possibilities with the help of a senior colleague before you close and go onto the next patient” (I-06). In both instances, the helping surgeon would not only assist the calling surgeon in making a decision but might also provide technical assistance to actualize the chosen plan.

In addition to seeking technical help and assistance with decision making, surgeons reported calling for complementary expertise when the need unexpectedly arose. For example, intraoperative circumstances might require a minimally invasive approach that the primary operating surgeon could not execute or the skills of a surgical consultant from another specialty to optimize the management of unexpected intraoperative complications, such as damage to the bladder or ureter. A subspecialist urogynecologist with 12 years of consultant experience recounted the following scenario: “The patient had a C-section by my colleague,

was closed up and was initially stable, but on the ward she actually had gross blood in her urine. And so I was asked by the obstetrician to consult on that patient. At a second surgery it was recognized that the reason for the gross hematuria was because the incision into the uterus to deliver the baby actually traversed the bladder” (I-11). Participants also reported that, in rare instances, the call would come from someone other than the surgeon: the anesthesiologist or senior operating room nurse may call another surgical consultant into the operating room if the surgical team is highly dysfunctional or the patient is in escalating difficulty and the surgeon appears unwilling to call for necessary help. A surgeon with more than 30 years of experience recounted: “Usually the ask for help comes from a surgeon, but sometimes from others if things are not going well. The way I handle that is I get whatever information that person can provide, and then I just peek into the O.R. and see what the actual clinical situation is. I walk into the room and rather than go up to the surgeon, I might go to the anesthetist and say do you need any more help? Then I might poke my head over at the surgical team and say, can I be of any assistance?” (I-12). Although it could create tension, the third-party call was reasoned to be appropriate by both early and late career surgeon participants, because of the importance of calling for help at an early stage, before “real trouble” occurs. A senior obstetrician-gynecologist noted, “For me it’s a systems issue, because we keep saying to people that if you see something that isn’t right please make someone else aware before it’s too late and say, how are things going? Because it snaps you out of it and it refocuses you to do the right thing” (I-14). Help-seeking behavior under these circumstances was seen by all our participants as a hallmark of good surgical judgment.

Beyond these explicit reasons for calling for help, surgeons also described a number of tacit reasons—that is, reasons that underpinned their call but were not articulated to the helping surgeon in so many words. For instance, if a surgical procedure was not going well and the outcome appeared uncertain, a consultant may call a peer surgeon for moral support. As one participant explained, the help in such cases is not so much technical, as emotional: “A good colleague also relieves the stress of handling the situation, because you have another person to share the pain with” (I-07). This respondent also emphasized that “sharing the pain” extends beyond the operating room to the postoperative phase: “I think sharing the pain probably relieves some of the stress related to post-surgery, let’s call it the unhappiness or threat of a lawsuit. When you are able to say to the family this is the situation; we had the best surgeon coming to help us, but even with that it was not possible” (I-07).

Another common but tacit reason of calling for help was “saving face.” For instance, a surgical consultant may be unable to complete an important technical step in the procedure but unwilling to admit this overtly. As one surgical division chief explained: “There are always ways of saying things when your colleague is stuck, such as ‘I may have a better angle at doing that anastomosis.’ Providing them the opportunity of saving face is what they are looking for” (I-05). Most respondents indicated that this “saving face” issue was most severe for early career surgeons, when remaining the primary operator is important to their sense of professional self-worth, even though the helping surgeon plays a major role in guiding them out of difficulty. A surgeon in his first year of practice stated: “Dr. X did come and provide assistance, and at many times during that operation it would have been easier to pass the needle driver to him. But I decided not to and I think I am better for that” (I-03).

In addition to “sharing the pain” and “saving face,” early stage surgeons also reported calling a senior colleague for the tacit reason of “political cover,” especially if there was a need to precipitously change the surgical plan: “My colleague gave me cover and helped describe to the powers that be in the room, the nursing staff, the anesthesia staff that we are changing track, that we are going to have to proceed in this new direction” (I-09). The notions of “sharing the pain,” “saving face,” and “political cover,” while not explicitly identified by surgeons to their consultant colleagues as the primary reasons for calling for help, were highlighted in the interviews as being of pivotal importance in mitigating the stress of dealing with an unexpected intraoperative dilemma or complication.

Our data suggested that early career and late career surgeons have different reasons for calling for assistance. Participants described that although junior surgeons occasionally called an older colleague for technical assistance, they much more frequently sought experience and judgment, as well as reassurance regarding the acceptability of their intraoperative decision making and results. A surgeon in his first year of consultant practice commented that, “People in my situation would be more likely to call for help when technically they can do it but they’re looking for judgment, reassurance and moral support” (I-03). On the contrary, older surgeons were reported to be more likely to seek help from younger colleagues to use new operative techniques or tools that they did not encounter in their training. In addition, participants expressed that older surgeons may have decreased physical or emotional stamina that may lead to a low threshold for either the surgeons themselves or other staff to call for help. For instance, 2 early career surgical consultants described regularly helping senior surgeons who had “waning technical abilities” (I-06, I-12). Both reported that this was an uncomfortable and delicate situation to be thrust into: “I think you’re a bit more sheepish. He’s a senior colleague and you’re in the first or second year of your career. You don’t want to feel uncomfortable but just ask if he needs a hand. I try to let him maintain the case. I don’t ever try to take over the case unless there is real trouble” (I-06).

The Save

“The Save” dimension of the framework represents the benefits that calling for help offered in resolving serious intraoperative difficulties. Many interviewees highlighted that being provided enhanced technical expertise was an important benefit of receiving help. For example, in a sudden emergency such as uncontrolled bleeding, if the only assistant was a junior resident, the surgeon may seek help from another consultant surgeon because he/she can anticipate the next technical steps better than a trainee: “It was great to have another set of hands to provide exposure, to provide assistance, to provide suction, to provide a timely stitch, by somebody who didn’t have to be told ‘do this’” (I-05). In less emergent instances, such as when anatomical landmarks are unfamiliar owing to congenital anomalies, scarring from previous surgeries, or dense inflammatory changes in tissues, early career surgeons reported that assistance could minimize the likelihood of a serious technical error: “When the dissection is really difficult, I may do better in terms of patient outcome if I have someone who has been there many times before and can prevent me from getting into serious trouble” (I-07). In the less commonly described instance of a senior surgeon calling in a more junior colleague, the perceived benefit was receiving help with the new

intraoperative techniques that the former may not have been exposed to in his or her training or experience to date. For instance, a surgeon with 15 years of consultant experience, whom other participants noted is frequently called in to help other colleagues in difficulty, indicated: “I asked a particular colleague who had a specific skill set that is more advanced in new percutaneous techniques than my own to come in. I thought I had exhausted all of the possibilities and for the benefit of the patient I felt I should take this unfamiliar step with a colleague who was expertly versed in this new technology” (I-05).

A second important benefit of receiving help was in making difficult decisions during uncertain and dynamic intraoperative circumstances. For instance, in cancer surgeries, when the disease is more advanced than anticipated, junior surgeons reported that a senior colleague provided not only technical help but also invaluable feedback as to whether their decisions so far were valid or whether the operative plan should be changed: “If the disease is really advanced the key issues are should we really do this; is my planned procedure too much or not enough; and is the patient going to tolerate this” (I-07). Most of the early career surgeons who were interviewed highlighted that receiving assistance with intraoperative decision making from a senior colleague was invaluable in resolving complex scenarios that they were uncertain how best to manage on their own, even if the patient ended up having the procedure they had originally envisaged. A senior surgeon with 35 years of consultant experience spoke of being called into the operating room to “validate decisions and solutions that younger colleagues had already undertaken” and to convince them that “less is more” and that “perfection is the enemy of good” (I-13).

A recurrent and critical benefit of “The Save” that study participants described was the helping surgeon’s ability to see a difficult situation with new eyes. Respondents reported that any surgeon, regardless of experience level, can become close-minded when stressed: “When you get into a jam in the OR you very often get close-minded and tunnel vision and think, I have to do this to get out of it. And because you are stressed you don’t stop and think about what else you can do. At least I don’t think outside the box as well as I could when I am not under stress” (I-02). Many respondents described how a helping surgeon’s fresh perspective enabled the surgical team to extricate themselves from a narrow, crisis-driven perspective. The broader intraoperative viewpoint that this new perspective provided often enabled novel solutions to intraoperative dilemmas to be found. As this surgeon explained: “I think it’s valuable when someone steps into a difficult case halfway through and has a new set of eyes that enable you and the team to be more aware of your surroundings and begin to think of solutions that you hadn’t considered before” (I-05).

The receipt of emotional and moral support was also identified as an important, albeit less explicit, component of “The Save” by surgeons who found themselves in serious intraoperative difficulty. Respondents indicated that as long as the helping surgeon was collegial and nonjudgmental, “the moral support of not feeling so alone in an otherwise very frightening situation is of critical importance” (I-09). Furthermore, all early career surgeons who were interviewed highlighted how older surgeons they called to provide assistance could help them to develop self-confidence, by supporting them under difficult conditions without undermining them. One surgeon with only a year of consultant experience indicated: “I think it’s important at this stage of my career, when I’m trying to develop more comfort

and expertise, that remaining the primary surgeon is key. When I ask for help I'm not looking for someone to do the procedure" (I-03).

In addition to receiving the benefits listed above, many surgeons mentioned the importance of learning as a non-explicit and side benefit of "The Save." Early career surgeons highlighted how well-established surgeons can teach them new "tricks of the trade": "You know, there are always tricks and tips that you can get from experienced colleagues. Every surgeon has their own way of doing things and every surgeon will be able to teach something to me" (I-03). Senior surgical consultants, while also viewing the opportunity to help as a bidirectional learning experience, focused more on the non-technical aspects of the procedure: "Being a competent surgeon is just more than learning how to do an operation. I don't teach people how to do an operation. I teach people surgical principals, surgical skills, the surgical management of certain diseases and then apply those skills to each individual patient in each individual situation" (I-12). Furthermore, several surgeons recognized that receiving help also served to model intraoperative collaboration to surgical trainees: "We wanted to show our residents and fellows that it is okay to ask for and receive a colleague's help and therefore model that behavior. We do have colleagues around that are a resource and even though you don't see it very often in the operating room, it is always available to you" (I-05).

The Threat

While "The Save" dimension of the framework outlines the many benefits and advantages of calling another surgical consultant into the operating room to help resolve serious difficulties, participants also reported a number of potential downsides to this practice that may result in near-term or delayed negative consequences. These are represented as "The Threat" in our framework. One of these consequences includes giving up the primary surgeon's cherished autonomy in the case, leading to role confusion by other members of the operative team. For instance, several respondents reported instances in which consultant surgeons they called in to help actually made things worse: either by having an "annoying, dismissive manner" (I-06), by "confusing the nurses...because there were two sets of people asking for things" (I-04) and "by being very impatient and taking over the case...when all I asked for was an opinion" (I-09). Participants reported that these types of interactions could result in the calling and helping surgeons work at cross-purposes. Several respondents indicated that such experiences influenced future decisions about calling the same surgeon for help, even if such a call would be in the best interest of patient safety. A surgeon with 2 years of consultant experience noted: "I was confronted with a totally unfamiliar situation I've never seen before. Where upon opening the abdomen I was very disoriented. So I asked for help for that reason but the person who came in was very impatient and took over the case almost entirely. When I asserted myself, which I tried to do in a collegial way, I was met with a great deal of offense. It then became an ongoing challenge outside of the actual challenge we were dealing with. What I was left with was, a) not having help for the reason I called for help, and b) having a very disgruntled colleague whom I had to figure out how to manage in the future" (I-09).

Another negative consequence to calling for help is the threat to a consultant surgeon's image as an independently competent, decisive and confident practitioner, regardless of how carefully the helping surgeon handles the situation. For instance, calling another consultant into the operating room may result in a perception by others that the surgeon is indecisive or incompetent in the face of uncertainty: "You don't want to be perceived as that person who cannot make a decision or complete a case without help from another surgeon in your area. Along with your training should be the ability to encounter uncertainty and be able to deal with it" (I-04). Such negative image consequences can adversely affect future interpersonal relationships in the operating room.

A third threat of help seeking our participants described was the fear that if early career surgical consultants get used to the practice of calling for help often, they may fail to progress with respect to their surgical abilities. Indeed, several respondents highlighted that encountering uncertainty in the operating room and dealing with it on one's own were integral to a surgeon's development. As a surgeon with 2 years of consultant experience noted: "Another problem of calling too often is your own skill development. You don't actually learn what risks you're able to take safely. If you always call for help you actually may not ever prove to yourself that you have the skill already" (I-09).

In their interviews, participants referenced surgery's evolving culture as an important underpinning of these threats. Most of the respondents in this study maintained that the prevailing culture of surgical practice has recently changed for the better. A neurosurgeon with 5 years of consultant experience indicated: "I've not been around that long, but even from my earlier training days...the culture is more collegial and open" (I-10), whereas a midcareer urologist stated: "I think it's much better than in the past. I think we're kinder and gentler with our colleagues" (I-06). They and others reported that whereas in former years calling for help as a consultant surgeon was viewed as a sign of weakness, presently it is usually perceived as an integral part of being a safe surgeon, especially by early career surgical consultants: "When you are first starting your career, you want to be safe and you want to be perceived as safe, and you want to be perceived as someone who calls for help when appropriate" (I-03). However, several respondents highlighted that elements of the traditional surgical culture still exist: "I think that there is a deep underlying culture that is very persistent and pervasive, and that people don't like to call for help because you always feel it is perceived as a sign of weakness. I always think that maybe people perceive you as not being confident in your decisions" (I-04). Nonetheless, this same respondent added: "But I do think people are starting to realize that it is better to suck it up and swallow your pride a bit and ask for help before you get into real trouble" (I-04).

DISCUSSION

This first study of the phenomenon of consultant surgeons seeking help in the context of complex and unanticipated intraoperative situations found that help-seeking behavior in expert surgical practice is not a simple activity but rather a nuanced and sophisticated phenomenon. Our "Call-Save-Threat" model suggests that surgeons are recurrently negotiating when and how to seek help in the interests of patient safety, while attending to the demands of a surgical culture that retains its values of autonomy and decisive action

alongside new values of self-assessment of limits and collaboration. Our model derives from interviews with surgical faculty across the career spectrum at 3 hospital sites affiliated with a single Canadian medical school; future research will be required to explore its transferability to other surgical settings. While dominant thematic patterns were consistent across participants of varying generations, specialties, and sexes in our sample, it would be interesting to focus future work on surgical subgroups and other factors that may influence help seeking, such as divisional culture or surgeon gender, and refine the model accordingly. Our sampling strategy was not designed to explore such characteristics, but research on the powerful influence of local organizational norms and the role of gender in social behavior suggest that designing studies to probe these influences would increase our model's explanatory power.²³ We expect that the lead author's insider status contributed to the rich, reflective nature of the interview discussions; however, it is possible that participants may have been reluctant to fully disclose their reasons for calling for help and their concerns about the aftermath. To triangulate our findings for authenticity, we conducted a presentation to a diverse group of consultant surgeons at a recent national scientific meeting; questions and comments during this event suggested that our model had strong resonance with this group.

Our work on help seeking in experts extends the knowledge from previous studies of help-seeking behavior in surgical trainees. Studies of help seeking among postgraduate trainees have found that supervisor availability and approachability, and a trainee's desire for independence and credibility, are key features of the behavior in this setting.^{3,5} Our results suggest that in the transition from residency training to being a consultant, the features of help seeking necessarily evolve in nuanced ways. The first difference is that experts can choose whom to call for help, whereas trainees must call their supervisor. The choice of whom to call was a critical one for experts in our study. In a future article, we will describe in depth the characteristics of the "go-to-surgeons" most likely to be called for help by their colleagues. A second difference is that, although experts and trainees seem to share a concern for credibility and image when seeking help, our participants reported these as threats consequent from help seeking, not as reasons to delay or avoid seeking help. This may reflect the expert's situation as being ultimately responsible for patient safety; not seeking help when it was needed was not a strong narrative in our results, whereas concerns regarding the threats consequent from calling were. It is unclear whether the transition from trainee to expert naturally engenders this shift or whether education should be developed to ensure this transition occurs appropriately.

Our model depicts help-seeking practice as socially complex. Although our participants were emphatic about the need to seek help to ensure patient safety, they did not present this as a simple decision or a straightforward process. Others have articulated how social context shapes surgical identity and how surgeons undergo a socialization process during postgraduate training that is unspoken, in which displaying an image of confidence and certainty is highly valued.^{7,8} In keeping with this, we found that while consultant surgeons benefit from calling another consultant into the operating room to "Save" them during unanticipated situations, this practice carries "Threats" to a consultant surgeon's image, autonomy, and development as an independent practitioner. However, despite such "Threats," the experience of seeking help from another consultant was usually viewed as

highly positive, not only because it helped to ensure the best possible patient outcomes, but also because it provided emotional support, “political cover,” and learning opportunities. Reflecting this social complexity, our model portrays help seeking as an expert behavior that navigates conflicting cultural values, and it has implications for how we teach trainees to deal with complex situations. There is little question that we need to equip trainees with the skills and strategies to judge the limits of their knowledge and ability and to seek help at such moments.^{11,12} Our study alerts us that help-seeking behavior occurs in a context of changing culture values and that training for help-seeking behaviors requires understanding of these values and the ability to navigate them.

Our results also demonstrate that help seeking is not solely the purview of more junior or early career surgeons; help-seeking behaviors happen across a surgeon’s career trajectory. Interestingly, however, the motivations for a call for help appear to vary by career stage in our results. Although our participants suggested that early career surgeons tend to seek help to solve complex judgment dilemmas or to obtain emotional support during procedures not going well, senior surgeons were perceived as more likely to seek the help of younger colleagues because of waning abilities, physical or emotional exhaustion, or an unanticipated need to use novel operative approaches. The findings that surgeons engage in help-seeking practices independent of career stage and that the situations that prompt help seeking may shift over the career trajectory have implications for how we teach intraoperative collaboration during real-life emergency situations. Given that surgeons seek help for different reasons, communicating those reasons clearly and establishing common ground early in the help-seeking interaction becomes paramount for an effective collaborative relationship between the caller and the respondent.

Similarly, our results suggest that help seeking is motivated by both explicit and tacit reasons. This finding draws attention to the need to recognize that the reasons for calling for help may not be obvious—an explicit request for technical help may mask a tacit request to “share the pain”—or may be purposefully obscured to save face while still help seeking to ensure patient safety. In fact, we would argue that this is a cause of the complexity of help seeking, because it means “The Save” may be multifaceted and so might “The Threat.” The relations and tensions revealed by the 3 components of our “Call-Save-Threat” help-seeking model offer a basis for situating this complexity within the context of a shift in the cultural values of surgery, from privileging surgeon autonomy to privileging patient safety. We speculate that a fuller understanding of these shifting values could be a critical component of fostering effective interactions between the help-seeker and the help-provider in the high hazard, dynamic domain of the operating room.

CONCLUSIONS

Our “Call-Save-Threat” framework highlights that surgeons recurrently negotiate when and how to seek help in the interest of patient safety, while attending to the traditional cultural values of autonomy and decisive action. A fuller understanding of these concepts has important implications for surgical postgraduate education and throughout a surgeon’s career trajectory.

Acknowledgments

Funded by operating grants from the Canadian Institutes of Health Research, Canada and from the Royal College of Physicians and Surgeons of Canada. The funding sources had no involvement in study design; the collection, analysis, and interpretation of data; or the writing of the report.

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