



Brief communication

Perceptions of the multidisciplinary operative team on intraoperative telecoaching among surgeons



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ABSTRACT

Telecoaching, intraoperative coaching through videoconference, has been suggested as a tool to overcome logistical barriers with in-person coaching. However, little is known about the operative team's perception of telecoaching and its unique set of challenges. This qualitative study explores the perceptions of the multidisciplinary operative team on surgical telecoaching. A telecoaching program between peer surgeons was implemented using the Karl Storz Visitor1 remote presence system (Karl Storz, Germany). Semistructured interviews were conducted with the 12 operative team members present during 2 telecoaching sessions completed during the study period. Twelve participants were interviewed. The 4 central themes that emerged from the data were effective communication and collaboration, improving performance, operating room workflow, and culture and optics. Participating surgeon mentees reported that the session met expectations and learning goals and revealed concerns about negative perception of their autonomy and expertise by colleagues and patients. Conversely, team members unanimously reported a positive impression of surgeon mentees for taking additional measures to improve their performance and for patient outcomes. The operative team members reported that telecoaching was conducive to their own learning and relevant for complex cases. Considerations for future implementation of telecoaching include robust privacy standards for patients and staff, strong internet connectivity, coordinating with the operative team, and space constraints. Operative team participants viewed the intervention favorably and identified practical considerations for its continued use in an operating room environment. However, more work is needed on surgical culture as a contributor to low adoption and its impact on coaching programming activity.

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INTRODUCTION

The development of surgical expertise requires consistent and deliberate practice as a lifelong learning endeavor. Yet, few opportunities exist for surgeons in practice for longitudinal structured learning to support their educational needs [1]. Peer coaching can be directed by the surgeon learner and aligned to personal educational goals [1,2]. However, it remains highly underused, preventing its delivery on a large scale [3,4]. Surgical culture has been suggested as a potential contributor to low adoption [4]. Surgeons associate intraoperative coaching with loss of autonomy, authority, and reputation in the presence of their

peers [4]. Although numerous studies have reported on the positive impact of surgical coaching [5–6], little is known about the peers' perceptions of surgeons who request a coach [7–9]. This exploration can provide insight into surgical culture. This qualitative study explores the perceptions of the multidisciplinary operative team on surgical intraoperative telecoaching.

METHODS

General surgeons at a teaching hospital were recruited to participate with operative teams. Qualitative data were acquired through semistructured interviews of the participating surgeons and multidisciplinary operative teams after informed consent was obtained. Additionally, patient consent was obtained for permission to videoconference their surgery. Surgeons participating as mentees were asked to identify a coach and

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indicate specific goals (e., "refine skill X"). Live broadcasting used the Karl Storz VisitOR1 (Karl Storz, Germany) remote presence system. Semistructured interviews were conducted with participating surgeon mentees and coaches as well as the multidisciplinary operative team members present during telecoaching which included anesthesiologists, nurses, surgical fellows, and residents. Interview recordings were transcribed verbatim and coded by 2 reviewers. The qualitative analysis sought to describe operative teams' views on intraoperative coaching, and thus, an inductive approach to thematic analysis was adopted. Themes were discussed until a consensus was reached.

RESULTS

Participants interviewed included 2 surgeon mentees, 2 coaches, and 8 members of the operative team. Participant characteristics are described in Tables 1 and 2. Four major themes emerged from the data: (1) effective communication and collaboration, (2) improving performance, (3) operating room workflow, and (4) culture and optics (Table 3).

Effective Communication and Collaboration. The surgeon coach and mentee interaction was described favorably. A surgery fellow stated that it added elements of "confidence and encouragement" to the operative experience. An anesthesiologist commented on better patient outcomes:

I thought it is actually a great tool to be able to allow surgeons to communicate between each other and allow them to kind of work together for the betterment of the patient. [A1]

Improving Performance. Both mentees stated that their session met expectations and goals despite having little effect on their performance (attributed to a single session). Second opinions are valuable in complex cases and believed to be contingent on the relationship between the coach and mentee:

And would be even more helpful to get a perspective from another institution from a coaching standpoint to see how they do things differently. Also, because we all work together as well, I think the opportunity to have someone outside of the group, someone who is out of my division might feel have to be too nice or might have difficulty coaching me or you might have to coach in a certain way, be more restrictive in how you do it. [M2]

All participants found the surgical coaching beneficial to their own learning. One surgery fellow said:

I think it was good to hear them sort of talk through their experiences with the case and be able to say ok like that's the right plane for dissection and so forth so it was sort of educational for myself. [F2]

More importantly, the majority of the participants considered it valuable for challenging cases or when there is potential for acquiring new skills:

I think it's a great way of mentoring people and improving their ability to perform either uncommon or complex surgeries. [R2]

Table 1
Surgeon participant experience

Role	Number of years as staff consultant	Number of times participating in telecoaching
Mentee	<2	0
Mentee	2–5	0
Coach	6–10	1
Coach	<10	1

Table 2
Frequency of observing coaching between attending surgeons

Clinical role	Years working at the institution	Frequency of observing peer coaching
Surgery resident (PGY3)	<2	5–10
Surgery resident (PGY4)	<2	1–5
Staff anesthesiologist	11–20	1–5
Anesthesiology fellow	<2	1–5
Staff nurse	11–20	5–10
Staff nurse	11–20	> 10
Surgery fellow	2–5	1–5
Surgery fellow	<2	1–5

Operating Room Workflow. Participants did not find coaching distracting. One resident and anesthesiologist recognized a "conversation shift" from routine to being more inclusive and engaging with the coach. One surgery fellow stated that the degree of familiarity with the coach may have some bearing on the operative room dynamics, for instance, an international coach can potentially change the team's normal interaction.

Culture and Optics. When surgeon mentees were asked whether they thought having a coach affected their colleagues' perception of them and their reputation:

Personally I think that effect is inevitable. It maybe because I'm a one of the more junior faculty that I feel this way. [M1]

One mentee spoke of a theoretical concern on the importance of phrasing the request for consent appropriately to avoid any misconceptions related to the lack of confidence necessitating the assistance of a coach. This concern extended to patient's perception. The operative team participants unanimously stated that it did not change their perception of the operating surgeon. One nurse said, "it's no harm or offence because everyone is learning in every single point in life." In fact, the surgeon mentee was viewed more favorably for his willingness to seek the expertise of another surgeon.

I think it showed, if anything, the operating surgeon was very mature and he was able to implement ideas while also still being able to explain what he was seeing and feeling and what not. [R1]

Table 3
Sample quotes for identified themes.

Themes	Sample quotes
Effective communication and collaboration	A lot of times in the OR especially when things get difficult or challenging we sort of go into silent mode and we stop verbalizing what we are thinking. I think it improves that aspect.
Improving performance	They were sharing their experience on how they do it and how the surgeon does it right now and I heard the comment "yeah I will try your technique as well and this and that" so I believe they are learning something.
Operating room workflow	I find that I'm learning from what they are teaching and how they are mentoring others. It is also building my knowledge to what is going on. So that's a positive thing for me really. I think that would really help anticipate what is the end result, why they are doing it, and what they would need next.
Culture and optics	Well I think maybe at first people were like this is a videoconferencing happening. Once you get around that I don't think that it affected anyone's performance or interaction at all. Everyone is learning at every single point in life. They may know the basics but want to know more to make it better. I don't think that has anything to do with their competency just because they want to be coached.

