

CLINICAL INVESTIGATION

The flip side of speaking up: a new model to facilitate positive responses to speaking up in the operating theatre

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Abstract

Background: Speaking up is important for patient safety, but only if the concern raised is acknowledged and responded to appropriately. While the power to change the course of events rests with those in charge, research has focussed on supporting those in subordinate positions to speak up. We propose responsibility also rests with senior clinical staff to respond appropriately. We explored the perceptions of senior staff on being spoken up to in the operating theatre (OT), and factors moderating their response.

Methods: We undertook interviews and focus groups of fully qualified surgeons, anaesthetists, nurses, and anaesthetic technicians working in OTs across New Zealand. We used grounded theory to analyse and interpret the data.

Results: With data from 79 participants, we conceptualise three phases in the speaking up interaction: 1) the content of the speaker's message and the tone of delivery; 2) the message interpreted through the receiver's filters, including beliefs on personal fallibility and leadership, respect for the speaker, understanding the challenges of speaking up, and personal cultural and professional norms around communication; and 3) the receiver's subsequent response and its effects on the speaker, the observing OT staff, and patient care.

Conclusions: The speaking up interaction can be high stakes for the whole OT team. The receiver response can strengthen team cohesion and function, or cause distress and tension. Our grounded theory uncovers multiple influences on this interaction, with potential for re-framing and optimising the speaker/receiver interaction to improve team function and patient safety.

Keywords: hierarchy; operating theatre; patient safety; speaking up; team communication

Editor's key points

- Speaking up is important for patient safety and team communication, but only if the concern raised is acknowledged and responded to appropriately.
- The authors undertook interviews and focus groups of surgeons, anaesthetists, nurses, and anaesthetic technicians working in operating theatres across New Zealand, and used grounded theory to analyse and interpret the data.

- The speaker/receiver interaction can be high stakes for the speaker, the receiver, the rest of the team, and the patient.
- The receiver response can strengthen team cohesion and improve team function, or it can be a moment of distress and tension and a threat to effective teamwork.
- Multiple influences on this interaction were conceptualised, with potential for re-framing and optimising speaking up and the receiver response to improve team function and patient safety.

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Speaking up with concerns is important for patient safety.¹ It prompts teams to correct mistakes, or to prevent flawed decisions progressing to patient harm.^{2,3} However, speaking up is only effective if the person being spoken up to listens, acknowledges, and responds to the concern and where appropriate, changes the course of action.⁴

Most research has focussed on the barriers to speaking up from the perspective of the person expected to speak up, who is often at the lower end of a power gradient.^{5–7} Proposed interventions include graded assertiveness or the two-challenge rule.⁸

We propose that speaking up should be viewed as a shared responsibility between the speaker (i.e. the person speaking up) and the receiver (i.e. the person who is being spoken up to). The response of the receiver is key to realising the benefits of speaking up. Patient harm may be averted, or not. Team function may be enhanced or imperilled.

The aim of this study was to elucidate the ‘speaking up and receiver response’ interaction as it occurs amongst multidisciplinary operating theatre (OT) teams. We explored the perspectives of senior OT staff on being spoken up to, focusing on two research questions:

- 1) What influences how OT staff interpret and react to being spoken up to?
- 2) What are the potential consequences of these responses for their teams and patients?

Methods

The Northern Region Health and Disability Human Ethics committee (HDEC 16/NTB/143, amendment 24–26) approved the study. We used the approach of Corbin and Strauss⁹ to grounded theory to analyse and interpret data collected through interviews and focus groups with OT staff.

Context

Participants were surgeons, anaesthetists, nurses, and anaesthetic technicians working in OTs across New Zealand. They were recruited through NetworkZ, a national, insurer-funded simulation-based multidisciplinary training program for OT staff in New Zealand public hospitals¹⁰ (see www.networkz.ac.nz). More than 1300 OT staff have attended the training. Selected hospital staff train as instructors to deliver the program locally.

Researcher backgrounds

JL and TJ have backgrounds in psychology and anthropology, respectively. AG and JW are specialist anaesthetists. KH is an anaesthetic technician and nurse.

Interviews

We developed a semi-structured interview guide to explore participants’ experiences of speaking up and being spoken up to (Appendix 1). The interviewees were selected from our database of staff who had attended a NetworkZ course in their local hospital over the preceding 2 yr. The database included more than 1300 staff, representing 30–40% of all OT staff at those hospitals. NetworkZ course participants are generally rostered to attend a NetworkZ course rather than volunteer. Using purposive sampling across hospital site, gender, and

clinical role we continued interviewing to the point of data saturation, where no new concepts were emerging, and then undertook three additional interviews.¹¹ Interviews were via telephone or videoconference, were audio-recorded, and subsequently professionally transcribed.

Focus groups

Participants were recruited from NetworkZ instructor courses occurring between April 2019 and November 2019. Each focus group comprised five to eight people, seeking maximum clinical role diversity in order to mirror role diversity in OTs. We initially explored participants’ reactions to a trigger video of a simulated OT speaking up interaction (Appendix 2), and then their experiences of being spoken up to by a colleague or junior staff member. Focus groups were audio-recorded and professionally transcribed.

Theory development

Memo writing and theorising

Immediately following interviews and focus groups, researchers (TJ and JL) captured core concepts in individual memos. Memos from primary data and regular research team meetings enabled checking the consistency of findings and emerging theoretical ideas, contributing to confirmability and credibility of data.¹²

Constant comparative technique and selective coding

Following Corbin and Strauss,⁹ we undertook constant comparison analysis during the data collection and grounded theory development, with iterative updates of a diagrammatic summary of emerging ideas. The data were collated into NVivo software version 12 (QSR International, Melbourne, Australia) to enable ease of comparison. JL and TJ also created an iterative coding framework and coded ideas in alignment with Corbin and Strauss⁹ to support the constant comparison analysis. The coding and analysis were regularly checked and discussed with KH, SG, and JW to reach consensus on coding where disagreements were identified. Our theory was developed and refined over the course of the study as new ideas emerged, were developed, contradicted, or reinforced.

Results

Twenty-one OT staff participated in interviews and 58 in focus groups. Interview duration was 15–45 min and focus groups were 30–60 min in duration. Participant numbers and clinical roles are shown in Table 1.

Table 1 Participant numbers and clinical roles.

	Interview	Focus groups	Total
Nurses/nurse educators	6	29	35
Surgeons	6	12	18
Anaesthetists	5	10	15
Anaesthetic technicians	4	7	11
Total	21	58	79

Table 2 Themes and sub-themes in the speaking up interaction, with examples of supporting quotes.

Theme and sub-themes	Examples of supporting quotes
Theme 1: Act of speaking up Speaking up content and manner.	He did that very nicely; he just actually stated the fact. But it was not stated with any judgement ... nothing personal. (Nurse, Interview 7) When the delivery is sub-optimal with not sufficient explanation of what's going on and just an aggressive direction then a person's automatic response is more likely to be taken as a criticism. (Anaesthetist, Focus Group 8)
Theme 2: Receiver filters Receiver state of mind. Awareness of personal fallibility.	When I'm a bit stressed I might over-react. When someone says something I already know or that's obvious, I might have been a bit abrupt. (Anaesthetist, Interview 03) That's the value for me of someone speaking out to me, even if I do think that I'm right it will cause me to review the situation and make sure that I'm not missing something. (Anaesthetist, Focus Group 2) It's made me more receptive of people speaking up to me, because it's gotten me out of trouble. (Anaesthetist, Interview 16) I think now I really appreciate that but, say, six, seven years ago when I'd only been doing it for not very long, I would have [seen] that more as a challenge and taken it a lot worse. (Nurse, Focus Group 8) It is important that people still feel that they are in command of the OT.... at the same time still allowing people to make helpful suggestions. (Surgeon, Interview 01)
Being cognisant of the challenges of speaking up.	So, in my head, I would have given them a bit of leeway and recognised that okay they've been snippy about it, but I wouldn't have held that against them. (Surgeon, Interview 19)
Respect for medical knowledge and experience.	I still worry that, if I'm going to have a problem, it's a senior that identifies it I'll probably stay and act on, but [if] it's a nursing student I probably wouldn't act on it and I'll get in trouble (Surgeon, Focus Group 7) The person who spoke up was a senior male nurse, who's probably got about a hundred years' experience. If it was someone who [you] didn't respect as such, you would be a bit like, 'Yeah, you need to leave.' (Anaesthetic Technician, Interview 9)
Respect driven by existing relationships.	If it's a surgeon I get on well with and have a good relationship with; then I'm happy for him to say, 'Hey shut up.' But if it's someone who has a history of being rude to you or you don't have a good relationship with, then obviously that's unacceptable, so it depends. (Anaesthetist, Focus Group 9) I have known her for a long time and that's just her approach to things sometimes. Having the knowledge of her in the past helped to make it so that there wasn't so much tension, because everyone knows that she has strong feelings about things, but generally is useful and helpful. (Surgeon, Interview 21)
Cultural and professional norms.	Because it has not been delivered with any intent to be harsh or blunt but just coming from a culture that is innately more abrupt in their communication. It needs that understanding. (Anaesthetist, Focus Group 8)
Theme 3: Potential impacts of the receiver's response Potential impacts for team dynamics and patient care	When those exchanges go wrong, you think it's just you and whoever you're talking with. But everybody in the OT is immediately affected.... everybody is now not functioning as well as they could be. (Surgeon, Focus Group 6)

Themes and sub-themes

Three main themes emerged from the data: the initial act of speaking up; the interpretation of the communication through the receiver's filters; and the potential impacts of the receiver's response on team function and patient care. The themes and sub-themes, with exemplar quotes, are shown in Table 2.

Act of speaking up

Speaking up content and manner

Participants described how the content of the concern raised, or how it was said, influenced how they interpreted the intentions of the speaker and this in turn influenced how they responded. Participants reported responding more positively to conversational and respectful tone of voice and language,

and non-judgmental statements of the facts. However, when the tone sounded accusatory it was 'more likely to be taken as a criticism' (Anaesthetist, Focus Group 8) or a personal attack, which could prompt a negative reaction.

Receiver filters

The receiver saw and interpreted the speaking up message through a range of filters that included: the receiver state of mind; receiver beliefs about fallibility; cognisance of the challenges of speaking up; respect for the speaker's knowledge; existing relationships; and cultural and professional communication norms. Each of these filters fundamentally shaped how the receiver responded to speaking up.

Receiver state of mind

Participants felt their state of mind, such as stress, fatigue, or work pressure, influenced their response to someone speaking up.

Awareness of personal fallibility

Participants reported that being mindful of their potential to make mistakes influenced their interpretation and response to someone speaking up to them. They described being more welcoming of suggestions from others and even gratitude towards the team member for speaking up. Participants reported proactively communicating their fallibility to colleagues as a strategy to encourage speaking up, often referencing temporary external circumstances, such as being new to the hospital or returning from holiday.

Some participants felt their awareness of fallibility and appreciation of speaking up had grown over time. They described less positive responses to speaking up in their early career, because of experience of making mistakes, or a need to prove their competence.

Several participants felt that 'sometimes it's hard to admit you're wrong' (Senior nurse, Focus Group 9) and that acknowledging fallibility to their team members would threaten their self-esteem. One participant expressed concern that acknowledging fallibility could threaten their credibility as a leader. These fears, while not common, may help to explain why some clinical staff tend to respond defensively or aggressively when colleagues speak up to them.

Cognisance of the challenges of speaking up

Being cognisant of the challenges of speaking up, including the bravery required, motivated participants to respond constructively and give them 'a bit of leeway' (Surgeon, Interview 19) even if the mode of delivery was abrupt or 'a bit snippy' (Surgeon, Interview 19).

Respect for knowledge and experience

Respect for a colleague's knowledge or seniority generally would elicit a positive response and genuine consideration of the concern being raised. However, one participant raised this as a possible safety issue, fearing they may unconsciously ignore valid concerns raised by junior or low status staff members.

Respect driven by existing relationships

Some participants reported taking concerns more seriously if raised by colleagues with whom they had a good existing relationship or knew well. Trust built through prior interactions meant they were more likely to assume that speaking up was done with good intentions, rather than 'point scoring' to gain a reputational advantage. Existing relationships could mean that even when the speaker used a negative tone of voice or challenging language, they assumed the intention was good, and would pay attention to the concern that was raised.

However, when prior histories were negative, this could have the opposite effect, and participants reported they were less interested in the content of the message, and more likely to interpret the speaker as trying to score a point against them or put them down.

Cultural and professional norms

Participants reported that differing cultural or professional communication norms of the speaker and receiver could lead to misinterpretation of the speakers' intentions. For example, some cultural groups may habitually use a direct or blunt communication style, leading other groups who favour a more indirect communication style to interpret a blunt or direct statement as a personal attack. Understanding that the concern had not been delivered 'with any intent to be harsh or blunt but just coming from a culture that is innately more abrupt in their communication' (Anaesthetist, Focus Group 8) could lead to more tolerance on the part of the receiver.

Potential impacts of the receiver's response

Potential impacts for team dynamics

Speaking up interactions, in particular the response to speaking up, could have a long-term impact on the relationships between the sender and receiver, and the wider team. Participants described instances where a confrontational response when speaking up to a colleague had affected their willingness and ability to work effectively with that person in the future. Others felt an apology after the event had helped restore working relationships.

Potential impacts for patient care

Participants also described how negative responses to speaking up could disrupt their ability to think clearly and in turn disrupted their ability to provide optimal care for patients. Participants reflected that other OT staff are often privy to these interactions, affecting the whole team's ability to focus, and their propensity to speak up in that environment.

Grounded theory of the antecedents and consequences of responses to speaking up in the OT

The grounded theory we developed from our 79 participants conceptualises OTs as cultural spaces in which existing norms, beliefs, and relationships are constantly informing communication and practices in relation to one another and in relation to patients. Each instance of speaking up is filtered through the receiver's existing state of mind, their background beliefs, and cultural and professional norms about socially

acceptable ways of talking to each other, which in turn shapes their ability to process the speaker's concerns constructively. Individuals have different views about their propensity to mistakes or lapses in attention, and varying understanding of the challenges some colleagues may face when attempting to speak up with concerns. Some colleagues may have long-shared histories, through which they have developed expectations about how each will communicate. For some, this helps to build trust in the other persons' intentions, to develop tolerance for each other's unique communication style, and to build strategies for communicating difficult information with that person effectively. For others, prior relationships may result in diminished trust and respect.

We theorise that the receivers' state of mind, background beliefs, and cultural and professional norms about socially acceptable communication have a strong influence on how the act of speaking up is received. Within the OT there is a watching audience, creating the possibility of embarrassment in front of colleagues. We propose that the receiver's response can fundamentally shape all team members' future propensity to speak up and their ability to provide optimal care for current and future patients. We propose a model for the speaking up interaction in Figure 1.

Discussion

The speaking up/receiver response interaction can be high stakes for the speaker, the receiver, other members of the team, and the patient. An appropriate response to being spoken up to depends not only on the content and delivery of the message, but also a range of 'filters' that the receiver uses to process the message. The receiver's response can have immediate consequences for the patient present, and because of the collective audience of the OT, it can also have ripple effects on interpersonal relationships and future patient care.

Speaking up content and tone

Our theory proposes that the tone and manner of speaking up, and the specific words used to raise a concern, can deliberately or inadvertently signal positive or negative intentions to the person on the receiving end. The cultural nuances of direct communication such as use of voice (tone, volume, and pitch) and silence, and how these are informed by power and structure, have been well documented in the culturally-specific communication compendium website *Cultural Atlas*,¹³ and in ethnographic works concerning medical

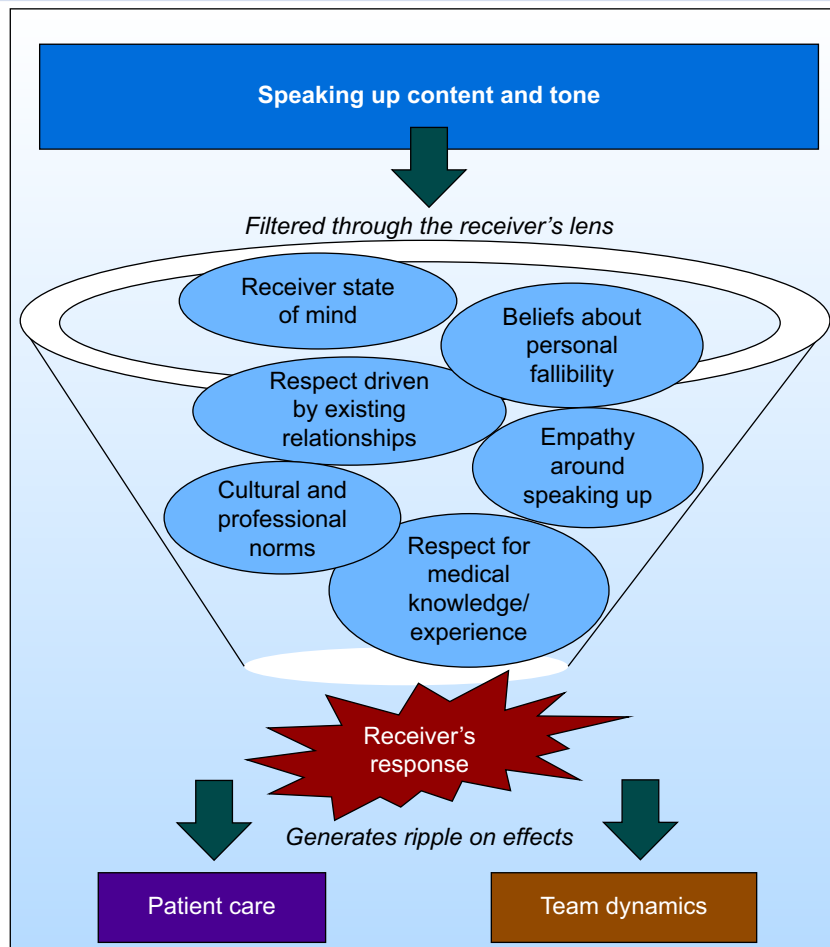


Fig 1. Grounded theory model of the speaking up/receiver response interactions and influencing factors.

communication.^{14,15} Speaking up tools such as graded assertiveness and the two-challenge rule describe the words to use,⁸ but they could also acknowledge that culturally-inflected aspects of communication affect the receiver, and the importance of coming from a position of respect.

Receiver's state of mind

Receiver stress or fatigue can affect their cognitive capacity to process the concern being raised, and consciously shape a response. Meta-cognitive strategies may help to mitigate these effects. The Operating with Respect¹⁶ course for surgeons encourages self-awareness of one's own present state and vulnerability to potential triggers. Pre-rehearsal of responses to triggers is suggested to reduce the reliance on instinctive responses in times of stress. Such strategies may help alleviate the impact of concurrent stressors when responding to a staff member speaking up with a concern.

Narratives about personal fallibility

The report from the Institute of Medicine, *To Err is Human*,¹⁷ highlighted the inevitability of mistakes in healthcare. In our study, some participants reported a tension between acknowledging mistakes, or having them pointed out by others, and a desire to appear as a competent and confident medical professional, particularly in early career. Similar tensions have been noted by other authors, suggesting that a decision to seek help is a balance between the risk of appearing incompetent and the risk of making a mistake.¹⁸ Senior colleagues who share personal experiences of their own mistakes may help others to navigate this balance between awareness of personal fallibility and maintaining the respect and confidence needed to practice effectively. Support for inclusive leadership,¹⁹ in contrast to the infallible 'captain and commander' model of leadership, may go some way to addressing these issues.

Being cognisant of the challenges of speaking up

We propose that being cognisant of the challenges of speaking up may help create greater receptivity to speaking up. Multidisciplinary team training that provides opportunities for senior staff to listen openly to the views of others²⁰ may support staff to become more aware of their influence on the team and on subsequent patient care.

Preferential respect for speaking up from trusted colleagues

Our grounded theory model proposes that a team climate of mutual trust and respect encourages positive speaking up interactions.^{6,21,22} Stable team membership allows trust to develop over time,²³ but with the *ad hoc* teams often found in the OT, specific training may be required. Preferential response to input from trusted colleagues has also been reported in other research.^{24,25} However, any member of the team can identify a problem, and senior staff need to be aware of unconscious negative reactions to staff held in low regard for any number of reasons as potential safety threats.

The influence of culture

Our participants identified culture based on ethnicity and culture based on professional group as factors influencing the

speaking up interaction. This aligns with the published literature on the influence of culture on verbal communication style, such as on the use of direct or indirect verbal communication.²⁶ Those with a direct communication style, in the context of the speaking up interaction, may seem rude or abrupt to a team member more used to an indirect style. Participants suggested that understanding where someone is coming from helps interpret others' verbal communication less critically. Differences in communication styles in the OT can cause tensions and misunderstandings.²⁷ The ability of OT teams to monitor each other's actions and speak up with concerns is a key feature of effective teams.¹ The extent to which interprofessional communication in the OT is jeopardised by differences in communication style among professional groups remains an area for future research.

Receivers' response: implications for future communication and patient care

Because interactions in the OT are seldom private, the speaking up response interaction can have ripple effects, over time and across a team, and may either erode or enhance the psychological safety of a team, and wider department over time.^{28,29} Participants in our study also described how negative responses to speaking up disrupted concentration and focus, which could interfere with team performance for that or subsequent cases. These 'ripple' effects reinforce the importance of interventions for senior staff about responding to concerns raised by team members. In multidisciplinary simulation-based team training,³⁰ where flattened hierarchies can be created during the debriefing discussions, senior clinical staff hear the views of others, and may be made more aware of their influence on the team and on subsequent patient care.

Strengths and limitations

This study drew on both interviews and focus groups with a large number of participants from different hospitals. Video prompts in the focus group helped to stimulate collective sense-making about speaking up, which we were then able to triangulate against data collected through interviews. The study relies on the integrity of verbal reports and has potential bias as participant recruitment followed involvement in team training.

Our data did not identify issues of ethnic or gender influencing the extent to which participants would listen responsively to a concern raised by another member of staff. This could potentially be as a result of participants either not being prepared to openly express racist or gendered beliefs, or a lack of awareness of their own unconscious bias. It is also possible that ethnic and gender influences had a lesser impact on the speaking up interaction than the influence of hierarchical power between senior and junior status professionals (e.g. senior staff being spoken up to by lower status colleagues).

While the researchers' prior understanding of the field may have implicitly influenced theory development, we aimed to mitigate this with the multiple steps during coding of the transcripts and including researchers from diverse backgrounds. The extent to which our theory applies beyond the specialised environment of the OT remains to be tested.

Further research could explore the opportunities for, and efficacy of interventions to shape how speaking up is interpreted and responded to by senior clinical staff. Such

interventions could embrace the potential of multidisciplinary team training and the concepts of inclusive leadership.

Conclusions

The speaker/receiver interaction can be high stakes for the speaker, the receiver, the rest of the team, and the patient. The receiver response can strengthen team cohesion and improve team function, or it can be a moment of distress and tension and a threat to effective teamwork. Our grounded theory uncovers multiple influences on this interaction, with potential for re-framing and optimising speaking up and the receiver response to improve team function and patient safety.

Authors' contributions

Conception and study design: JW, TJ, AG, KH

Acquisition of data: all authors

Analysis and interpretation of data: JL, TJ, JW

Drafting the article: JL, TJ, JW

Revising and critically appraising manuscript: all authors

Final approval of the submitted version: all authors

All authors agree to be accountable for all aspects of the work.

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Declarations of interest

JW is a member of the editorial board of the *British Journal of Anaesthesia*. The other authors declare that they have no conflicts of interest.

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Appendix 1. Semi-structured interview guide

1. First, I'd like to ask you four demographic questions:
 - a. What is your gender?
 - b. How many years have you been working in operating rooms?
 - c. What country did you train in?
 - d. What ethnic groups do you identify with?
2. Can you think of a time in the operating room when you felt the need to speak up? What happened?
3. If you were faced with the same situation again would you do anything differently?
4. Can you think of a time in the operating room when you kept quiet or did not put information forward to another team member about something that could potentially have affected patient safety? What happened?
5. Now I'd like to explore your experiences of being spoken up to. Can you think of a time in the operating room when someone spoke up to prevent you doing something that could have been harmful to the patient? What happened?
6. Can you think of a time in the operating room when someone raised any concern they had with you about your area of practice or something you were doing. What happened?
7. How do you know whether people feel that they can raise their concerns with you about your area of practice? (profession)
8. In the operating theatre, have you ever found people attempting to mislead you, or concealing information from you? What happened? (Can you tell me about a specific time?)
9. Thinking back on your previous experiences that we have just discussed, how have they influenced your current practices around encouraging others in your operating theatre to speak up? Or speaking up yourself?
10. What have you found helpful in encouraging you or others to speak up?
11. Thinking back over this interview, what are your key messages or what is the take-home message?

Appendix 2. Trigger video description.

(n=number of groups who viewed this video).

Handling editor: Hugh C Hemmings Jr

Video name	Description
Airway negotiation (negative response) (n=4)	An anaesthetist expresses concern about securing the airway on a patient with a postoperative neck haematoma and airway compromise. She asks about removing the wound staples. The surgeon dismissively says 'no way,' the anaesthetist 'just needs to get on with it.'
Surgeon expresses concern to anaesthetist (constructive response) (n=4)	A surgeon questions the anaesthetist about the BP as the patient is semi-upright in the 'beach chair position,' referring to a recent patient who suffered a stroke in a similar position. The anaesthetist explained how the concern was being mitigated and thanked the surgeon for raising the concern.
Surgeon expresses concern to anaesthetist (negative response) (n=4)	A surgeon questions the anaesthetist about the BP as the patient is semi-upright in the 'beach chair position,' referring to a recent patient who suffered a stroke in a similar position. The anaesthetist bluntly, stating she has it under control and will sort out 'her end' implying the BP is not the surgeon's business.
Wrong suture (constructive response) (n=3)	A nurse realises that she has given the surgeon the wrong type of suture. She debates in her head whether she needs to tell the surgeon. She then proceeds to explain her mistake to the surgeon who thanks her for letting him know.
Team distracting surgeon (negative response) (n=2)	An anaesthetist, technician, and nurse are loudly discussing a recent social function. The surgeon asks the group to 'shut up' in an abrupt manner.
Team distracting surgeon (constructive response) (n=4)	An anaesthetist, technician and nurse are loudly discussing a recent social function. The surgeon addresses the anaesthetist and politely asks for quiet because he is working on a difficult part of the case. The anaesthetist apologises and asks if there's anything they can help with.