

Interaction between anaesthetists, their patients, and the anaesthesia team

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Key points

- Communication with the patient on induction of anaesthesia simultaneously co-ordinates the anaesthesia team.
- Emergence communication aims to establish that the physiological independence of the awakening patient is being restored.
- Handover to recovery implies transfer of information and responsibility for the patient but also forms a useful checkpoint in care.
- Non-informational and non-verbal aspects of communication with the perioperative patient should not be neglected.

Summary. Communication is a key skill for anaesthetic practice. The ‘non-informational’ aspects of communication, such as non-verbal elements and the degree to which the style of communication reflects the implied relationship between the sender and the recipient, are relevant to interactions both between anaesthetists and patients and to interactions with other members of staff in the team. Communication and interaction between members of the anaesthesia team in isolation has received less attention than communication in the operating theatre during surgery. Most aspects of such communication are informally learned and developed with experience. Studies of communication at induction of anaesthesia have used qualitative methods to identify a range of styles of talk. This is nominally directed at the patient but also serves to unite and co-ordinate the team to ensure the patient’s smooth, safe progress into anaesthesia. In particular, the use of positive words and phrases seems to benefit patient comfort and safety. On emergence, a more limited range of communication styles is found. Handover of the recently anaesthetized patient to recovery room staff is often brief and distracted by concurrent patient-related activities. Both information about the patient, and responsibility for the patient’s continuing care, have to be transferred. The handover event also serves as an opportunity to review the care the patient has received and plan for further progress. Anaesthetists and nurses use unspoken and implicit negotiation strategies to achieve the aims of handover without compromising future collaborative work. This is in contrast to the more formalized handover approaches in other safety-critical settings.

Keywords: risk management; communication, interdisciplinary communication

Communication is essential in anaesthetic practice¹ but not widely studied.²

Anaesthetists communicate with patients in many settings. Their work in intensive care, the pain clinic, and on the labour ward, for instance, brings many opportunities and demands for effective communication, but these are outside the scope of this chapter.

The preoperative consultation between anaesthetist and patient is also a key encounter, but again this will not be covered here. The reader is referred to recent primary research and reviews in this area.^{3–9} This review will focus on previous work by one of its authors but will set this in the context of communication in general and other related work on the subject.

The basics of communication

Communication is not simply about words. We transmit messages not only through the words we choose (verbal communication) but also through the tone, pitch, and pace of our speech (paraverbal communication) and through gesture, body posture, facial expression, and eye contact (non-verbal communication).¹⁰ The message conveyed by

the non-verbal channels will tend to predominate even if it conflicts with what is said.

There are many models of communication. A simple and practically useful one was developed by Schultz von Thun¹¹ and is known as the ‘square model’. For every message, there is a sender and a recipient. However, the model suggests that each message can be viewed as having four aspects, such as the four sides of a square. The *content* of the message is straightforward—the information it carries. The message also contains what is called an *appeal*—that is, an implication that the recipient is required to do, or not do, something as a result of the message. There will be an element of *self-revelation*, as the message often discloses something about the sender, whether deliberately or subconsciously. Finally, the message also implies something about the *relationship* between the sender and the recipient, as the sender reveals how he/she views the receiver. Sender and recipient will often focus on a different aspect of the message, so there is no guarantee that the person receiving the message will interpret it with the same meaning as the sender. An inbuilt tendency towards divergence between the sender and the recipient has been highlighted in Tate’s model of the doctor–patient encounter in general

practice, described as the 'contested consultation'.¹² Each brings differing expectations and intentions to the interaction. High on the doctor's agenda are information gathering and fact collecting, whereas the sharing of understanding may be quite low down. For the patient, priorities include exploring beliefs, hopes, and fears, with elucidating the precise details of the presenting complaint being less important.

Communication, teams, and patient safety

Practitioners' non-technical skills are categorized into 'cognitive' and 'interpersonal'.^{13 14} Communication within teams is probably the key interpersonal skill. Communication has a number of functions. It acts to facilitate relationships, to build and maintain team structures, co-ordinate team processes and tasks, and to enable information exchange.¹⁵ Thus, communication is seen in a much broader context than simply using words to convey information. Effective communication among the team and team members is widely recognized as one of the most important factors in delivering high-quality healthcare, especially in a complex setting such as the operating theatre, where different medical teams interact with each other.^{16 17} Inadvertent error in the delivery of medical care is recognized as an important cause of inpatient morbidity and mortality. For instance, estimates from the Institute of Medicine's 1999 report *'To Err is Human'* suggested that medical error is the eighth leading cause of death in United States, resulting in up to 100 000 deaths annually.¹⁸ Further, data from the Veterans Affairs National Centre for Patient Safety showed that between 70 and 80% of root cause analyses cited communication failure as at least one of the contributory/causal factors in an adverse event or near miss report.¹⁹

The 'human factors' approach draws on industrial psychology and ergonomics while trying to transfer the safety lessons learned in 'high-reliability organizations' (that is, industries which could be predicted to have many accidents but do not) into healthcare. A widely used model of accident causation is that of Reason.²⁰⁻²² This suggests that there are many potential accidents, and many factors potentially contributing to them, but that most are prevented from becoming actual accidents by a series of controls or *barriers*. When the controls fail, the accident that has been 'waiting to happen' can occur.

Contributing factors can arise from the following sources: the *patient*, an *individual* staff member, the *team*, a *task*, *communications*, *education and training*, *equipment and resources*, *working conditions* and *organisational and strategic issues*. They may act as *influencing factors* or *causal factors*. Generally speaking, removing the influencing factor might not have prevented the accident, but it should improve the safety of care overall.

Barriers may be of four types:

- *Physical barriers* (e.g. keypad-controlled doors);
- *Natural barriers*—barriers of distance, time, or location (e.g. the procedure for diagnosing brainstem death,

where independent review by two doctors is repeated a number of hours later);

- *Human action barriers* (e.g. checking the temperature of a bath before immersing an elderly patient);
- *Administrative barriers* (e.g. protocols and procedures).

Physical barriers are the most reliable in terms of providing failsafe solutions to safety problems. Natural barriers, while less effective, generally provide a more robust solution than human action and administrative barriers. However, in health-care, there is a predisposition to relying on human action and administrative type barriers as solutions to problems.

Here, poor communication is seen as a contributory factor to accidents, with good communication a barrier or defence against error within the system. For instance, Helmreich and Davies²³ have used both survey and observational methods with operating theatre staff, and have witnessed suboptimal teamwork and communications paralleling those in the aircraft cockpit, the exchange of information on decisions being judged to be substandard in up to 40% of observations. Within teams, cooperation often produces stable and relatively reproducible patterns of team communication, which can be more or less appropriate for the demands of the situation at hand.

Communication on induction of general anaesthesia

The period before induction of anaesthesia can be stressful for many patients and this stress can make them more vulnerable. The suggestibility that accompanies this can be used to bring positive benefits if the right communication is used, or can make the patient feel worse if negative language and inappropriate images are used.²⁴ Previous work from one of the authors has focused on communication 'routines' as one aspect of anaesthetists' professional knowledge.²⁵ This large observational study of anaesthetic expertise in practice drew out a number of safety-relevant themes, including how anaesthetists learn to use clinical and electronic monitoring effectively,²⁶ how practical techniques are taught and learned,²⁷ and how safety incident reporting can be influenced by professional judgements as to when routine practice becomes 'critical'.²⁸ We recorded communicative routines on the induction of, and emergence from, anaesthesia²⁹ and found not only that they tended to fall into specific types, but also that other members of the anaesthetic team would often join in. Although the talk is usually directed at the patient, it also allows staff to 'signal' each other to enable the patient's safe passage through induction of general anaesthesia. Further, we recorded instances where the routines were 'broken' and staff connected this with an adverse effect on patient safety.

We noted three main styles of communication during induction. These three categories arose from the data early in the analysis, suggesting that we reached data saturation readily. *Evocative* communication seemed intended to invoke reassuringly pleasant or familiar images. The effects of sedative or analgesic drugs given before induction were

Evocative

'OK young man (anaesthetist injects propofol) you're going to have fantastic dreams... feel nice and warm... you're on a golden sandy beach... wake up when it's all over.'
(soft, hypnotic voice)

(Observation session 30, consultant anaesthetist)

'Are you sitting comfortably? Then we'll begin' '

(Observation session 27, consultant anaesthetist)

[The second quote above was used to introduce the story in each edition of a British radio programme for pre-school children called 'Listen with Mother', which was popular in the third quarter of the twentieth century.]

Descriptive

'I'm just going to give you something that will make you feel a little bit drowsy then we'll give you some oxygen to breathe and send you off to sleep'

(Observation session 23, consultant anaesthetist)

'The anaesthetist stands on the left hand side of the patient and continues to inject propofol into the drip tubing. The drug shows white in the tubing. A single snore is heard from the patient. 'You'll start to feel very sleepy'.

(Observation session 2, consultant anaesthetist).

Functional

The anaesthetist tells her to keep the mask on. He attaches the propofol syringe to the cannula. 'Keep your eyes open as long as you can'. (He injects about 10 ml propofol). 'Are you still with us?' The patient is talking – muffled. He injects another 5 ml. 'Open your eyes Margaret...'

(Observation session 20, consultant anaesthetist)

The three elements were often blended together, as in this abstract, where a pleasant image is curtly interrupted by a more prosaic question about drug allergies:

Anaesthetist: ' I'm sure this will give you a feeling of vodka...magic milk, coconut rumyou're not allergic to anything?'

Patient: 'No'

Anaesthetist: 'As you go off to sleep...oxygen over your face...' Anaesthetic assistant: '...magic milk... cold in your arm...take you off to dream land... think about something very pleasant...'

(Observation session 31, senior house officer)

Fig 1 Illustrative examples of communication styles on induction.

compared to those associated with drinking alcohol. Other calming metaphors were also referred to. For instance, even though time 'stands still' for the patient during anaesthesia, anaesthetists often referred to its continuing progress. *Descriptive* communication was designed to explain to the patient what he/she might expect to feel.

Functional communication was largely geared to assessing the depth of anaesthesia or maintaining physiological stability (for instance, by inviting patients to take deep breaths of oxygen from a mask). Illustrative examples are given in Figure 1.

The final excerpt in Figure 1 is also notable for the contribution of the anaesthetist's assistant, which was another common finding in our observations. It was not unusual for such assistants to join in to provide a seamless narrative to the patient. However, when the usual 'induction talk' is absent, the smooth, predictable sequence of events can be disrupted:

'There have been a couple of other cases where I've felt uneasy really. In one particular instance, the anaesthetist gave the anaesthetic without warning to the patient and the patient panicked. I felt uneasy then, I felt very uneasy because the patient sat bolt upright and started grabbing hold of her throat and I felt bad because I hadn't warned the patient. I thought the anaesthetist was going to do it... the patient was scared stiff... if that was me I would have quite a phobia about coming into theatres now'.

(Interview 11, operating department practitioner)

Another patient was described where a similar loss of continuity might have occurred, but the assistant realized sooner and was able to act to try to 'repair' the situation.

While we are waiting for the next patient, Brian (an operating department practitioner) talks to me in the corridor. He talks about what happened with the previous patient. He points out how the anaesthetist set the propofol infusion going but didn't tell either him or the patient that she was going off to sleep, he just noticed the infusion going, so he quickly moved

to the side of the patient to hold her steady (as she was lying on her side) and reassure her.

(Notes recorded in theatre during observation session 32)

Anaesthetists and the other members of their team thus tend to make use of highly individual communication ‘routines’ on induction of anaesthesia. Despite their ubiquity, nowhere in our study did we observe these being discussed or taught formally.

Pilnick and Hindmarsh³⁰ have also studied teamwork during the induction of anaesthesia, using conversation analysis of video recordings. In their initial analysis, they contrasted the conceptual processes that seemed to take place in anaesthesia with those previously noted in surgery, taking this as their analytical starting point given that surgeons and anaesthetists work closely together. Sociologists have maintained that one of the key concepts used within studies of surgery is depersonalization or objectification—the idea that, during a surgical procedure, members of staff perceive the patient as a technical object. Clearly, this concept has limits when applied to anaesthesia practice seen in isolation at induction. The patient is conscious before induction, is a participant in the events of induction. Whereas in surgery the focus narrows onto the small part of the body where the operation is to be performed, in anaesthesia the understanding of the patient as a whole is actually broadened and extended by the use of electronic monitoring. Pilnick and Hindmarsh noted that the anaesthetists they observed gave highly personalized and detailed descriptions of the clinical procedures patients were about to undergo, and encouraged patients to ‘take part’ in induction.³⁰ This echoes our ‘descriptive’ communication above.

A later analysis extended this to explore how communication took place between members of the anaesthesia team around the time of induction.³¹ They noted that, although anaesthetists’ talk was nominally directed to the patient, it actually served to unite and co-ordinate the whole team throughout the process of induction. This is so much a part of anaesthetic team expertise that even those who have not worked together previously are able to do so without explicitly co-ordinating their actions in advance. As the patient is still conscious, they are trying to conceal the more technical and threatening aspects of induction from the patient. Further, Pilnick and Hindmarsh noted that it is possible for members of the team to question each other’s behaviour (for instance, guiding a trainee through aspects of induction) without this being apparent to the patient. This informally learned skill is actually quite complex but was taken for granted by the teams observed.

We noted at the start of this section that patients’ suggestibility could be used therapeutically. The use of language and terminology shapes both our perception of reality and our reaction based on that perception. In recent years, research in neurobiology of placebo, nocebo, and expectation has begun to explain how words can hurt, metaphorically and literally. For instance, Lang’s observational study suggested that patients who heard phrases and comments with negative

emotional content had increased pain perception and anxiety when compared with those receiving neutral or positive comments.³² Cyna’s group in Australia has tested the notion that negative emotional comments may increase pain perception by investigating the effect of communication on pain during i.v. cannulation.³³ They conducted a prospective, randomized and blinded study in 101 patients. One group was given negative emotional suggestion regarding i.v. cannulation pain, while to the other group pain was not mentioned. The actual phrases used were: ‘I am going to apply the tourniquet and insert the needle in a few moments. It’s a sharp scratch and it may sting a little’ (negative suggestion) or ‘I am going to apply the tourniquet on the arm. As I do this many people find the arm becomes heavy, numb and tingly. This allows the drip to be placed more comfortably’ (alternative suggestion). Cannulation pain was measured by a 10-point verbal numerical rating score and 5-point Likert scale. There was a significant difference between two groups regarding pain perception, with the ‘negative suggestion’ group feeling more pain.

The same group has explored the advanced communication skills used by experienced consultant paediatric anaesthetists to facilitate the induction of paediatric anaesthesia.³⁴ They observed 12 senior consultant paediatric anaesthetists performing 83 inductions over a 3-month period. They found a wide range of communication techniques—many of which can be thought of as hypnotherapeutic—deployed in a highly flexible manner when inducing anaesthesia in children. The most common communication techniques used were: voice change in 60 inductions (72%); distraction in 49 (59%); direct commands in 39 (47%); repetition in 34 (41%); imagery in 21 (25%); and focused attention in 21 (25%). A number of other techniques were also used. However, the authors also noted what they called ‘sabotage’ (the inadvertent use of negative suggestions by staff or parents) on 14 occasions (17%).

Maintenance: operating theatre

The operating theatre is a high-technology, accident-prone environment where many different professional groups, often with conflicting priorities, have to work together—though perceptions of the strength of the team may vary widely between surgeons, anaesthetists, and nurses,³⁵ which can work against optimal communication.

Lingard’s team³⁶ has found that about one-third of team communications could be classified as ‘failures’ and typically exhibited a common set of problems.³⁷ Some of these posed potential threats to patient safety by increasing team tension and workload and interrupting smooth working. However, there is no work to our knowledge examining interactions between the anaesthesia team alone while in the operating theatre.

Emergence from anaesthesia

At the end of the surgical operation, the anaesthetist must allow the patient to regain consciousness and control of

his/her vital functions once more. We followed many patients through from induction to emergence²⁹ and observed 31 patients regain consciousness after surgery. As anaesthesia came to an end, we observed the anaesthesia personnel talking loudly to patients, as if talking to the hard of hearing, and usually addressing them by name. Communication tended to fall into the functional category above, as it focused on establishing that the patient was awake—that is, responding to voice or command—and had regained vital physiological functions such as muscle strength, protective airway reflexes, and breathing. We also observed some descriptive communication, where an attempt was made to re-orientate or reassure the patient. In some cases, recovery room nurses were the ones who spoke to the patient on emergence; the styles were similar.

In the first of the two extracts in Figure 2, the anaesthetist and recovery nurse both happen to be present just as the patient is waking up. Here, both members of the team take part in an unscripted yet collaborative effort. In the next extract, however, the operation finished earlier than expected, leaving the patient temporarily weak from the residual effect of the neuromuscular blocking agents drug given at the beginning of the procedure. Here, although both a nurse and two anaesthetists are present, it is the senior anaesthetist who does all the talking. Only when the patient has regained strength and the anaesthetist diverts his attention to the patient-controlled analgesia machine, does the nurse enter the conversation.

Handover in recovery

Handover is a process of passing patient information and responsibility from one healthcare worker to another for the purpose of ensuring the continuity of care. During a single hospital admission, one patient can be treated by a large number of healthcare professionals as he/she moves around the hospital. In addition to handovers necessitated by transfer, staff working shifts change over two or three times a day and must pass on information and responsibility to those taking over from them. Deficient handover can cause serious breakdown in the continuity of care, inappropriate treatment, and potential harm to the patient.³⁸

We devoted a further analysis to the handovers of care from anaesthetists to nurses in the recovery room.³⁹ The handovers we observed took place in among many other activities. In the first data extract in Figure 3, the anaesthetist is mixing and giving an i.v. antibiotic, writing on the prescription chart and chatting to the nurse, and passing on relevant clinical information. Many different members of staff were transiently involved in the care of patients in the recovery area, including porters, operating department practitioners, nurses, and surgeons and as such there is considerable movement in and out of this space. There were thus a number of obstacles to, and distractions from, the business of safely handing over the care of the patient recovering from anaesthesia.

Within this study, 'handing over' achieved three objectives: it offered an opportunity to convey the anaesthetist's knowledge of the patient's perioperative care to the receiving nurse in order to facilitate the patient's ongoing care; it marked the transition of responsibility from one professional to the other and it provided an 'audit point' in care to review what has been done and plan for further management. The length and information content of the anaesthetists' handovers we witnessed varied with the complexity of the patient's condition and operation. However, they were typically brief, and concerned with the patient's preoperative state, operation performed, analgesics given in the operating theatre, and any problems encountered. An element of familiarity was also seen—anaesthetists often referring to 'my usual'—a combination of anaesthetic drugs and techniques they favoured, which they expected the recovery staff to know. While a brief handover might be expected for a straightforward patient, we also observed instances where quite complex problems encountered during anaesthesia—for instance, an unexpected prolonged decrease in oxygen saturation just before removal of the tracheal tube—were almost glossed over.

The location and timing of the transfer of responsibility varied considerably and did not always coincide with the point of transfer of knowledge described above. The transfer of knowledge did not in itself oblige the nurse to accept responsibility for the patient if he or she considered the knowledge in some way incomplete. How this was determined seemed to depend not on any written protocol or procedure but rather on an informal and unspoken arrangement shaped by mutual trust and experience. Thus, in the second extract in Figure 3, the nurse is initially reluctant to accept sole responsibility for the child, doing so only when the laryngeal mask airway has been removed and the child is more alert.

Both extracts in Figure 3 show a significant feature of recovery handovers, namely the use of the word 'happy'. The anaesthetist asking the nurse if he or she was 'OK' or, more commonly, 'happy', was the usual way of completing the handover. 'Happy' in this context related both to the clinical condition of the patient and the professional relationship between the anaesthetist and the nurse. In most instances, the reply would be affirmative. Sometimes, though, as in the second extract above, the nurse was clearly not willing for the anaesthetist to go. However, here, as elsewhere, direct contradiction was avoided; her reply, 'you can go but I'd like someone around' was interpreted, as she intended, by the anaesthetist as an indication that he should stay. This he did, until the patient woke up, and his second enquiry ('OK?') was met with agreement. In this extract, there is also apparently overt criticism of the anaesthetist's behaviour regarding the re-using of a partially used bag of i.v. fluid. However, it is clear from the tone of the dialogue that the two individuals knew each other well and that this was a serious point made in a light-hearted manner. Finally, handover is also used to check that all the actions necessary for the patient's transition back to the ward have been

2.1

A1 disconnects the breathing circuit and connects the portable oxygen.

S1 'Have we got a wedge, she's going to dislocate that hip if we don't put one in...'

RN1 (Recovery nurse) enters.

A1 'Freda'

The scrub nurse hands over to RN1.

A1 'Shall we go then?'

RN1 takes the brakes off the bed.

RN1 'Freda, open your mouth.'

Patient opens her eyes.

A1 holds the patient's hands, repositions the pulse oximeter.

A1 'Looks a bit blue'

RN1 'Pinking up a bit now'

RN1 'Open your mouth, nice and wide'

RN1 removes the laryngeal mask (LM). A1 disconnects the oxygen from the LM and points it at the patient's nose, RN1 connects it to a face mask and puts it on the patient.

A1 'PCA'

RN1 'I shall connect it if you have prescribed it.'

RN1 changes the pulse oximeter position again.

Pulse oximeter reads 64%...85%

A1 'Nice deep breaths now' (nudging the patient's shoulder).

RN1 'Relax, operation's finished. All right?'

Patient nods.

(Observation session 29, senior house officer)

2.2

A2 'Brian!' (loudly)

10.25

The anaesthetic machine is beeping, ODP1 is tidying up.

A2 '.... reversed....'

A2 draws up the drug to reverse the action of the muscle relaxant. A2 replaces the pulse oximeter, it reads 100%. The patient is wheeled to Recovery.

10.26

RN2 at the head of the patient. The patient is still breathing loudly and laboured, it sounds like a kind of wheeze and a kind of snore, the patient's shoulders move as if it is taking a lot of effort to breathe. The patient's eyes open and close.

RN3 attaches some of the monitoring.

A2 '... bit jerky...' (about the patient)

A3 draws up some more reversal agent. RN2 attaches some monitoring.

A2 'I think he might not be completely reversed, RN2, the operation ended rather sooner than we thought...'

A3 gives the reversal agent. Patient twitching.

A2 'Brian, you're in Recovery, do you feel a little bit weak? You will be back to normal in a couple of minutes, just concentrate on your breathing, nice slow deep breaths.'

A2, A3 and RN2 wait, looking at the patient.

A2 'Brian, you're feeling a bit weak, you'll be back to normal in a short while'. The patient seems to acknowledge this and says yes. After a few moments the patient quietsens down, as if he's gone back off to sleep, not struggling to breathe so much. Condensation is seen on the oxygen mask. A2 talks to A3.

A2 'Get an explanation...' The patient opens his eyes and twitches a little bit, not as much as before.

A2 'All right Brian, your operation's finished'. A3 leaves Recovery. A2 goes to connect the PCA but cannot find the keys initially. Finds the keys and checks the programme. The patient starts to take the pulse oximeter off his finger.

RN2 'Lie nice and still'

(Observation session 5, consultant anaesthetist)

Fig 2 Examples of communication on emergence from anaesthesia. 'A' denotes an anaesthetist; 'RN' a recovery nurse; 'ODP' an operating department practitioner (a member of theatre staff able to assist the surgeon or, in this case, the anaesthetist); 'S' a surgeon. Names have been changed to assure anonymity.

completed (as in the second extract when the nurse asks if postoperative medications and fluids have been prescribed).

There does not seem to be a great deal in the research literature on how relationships between members of the inter-professional team are negotiated. In the context of handovers, there is a substantial body of research on nurse-to-nurse handovers (for instance,⁴⁰ and some recent interest in handovers between doctors,⁴¹ but little work

exploring interprofessional handover. Our data suggest that nurses may sometimes be manoeuvred into taking the responsibility for setting the boundaries of doctors' safe practice—for instance in saying when they consider the anaesthetist can safely leave the patient and return to the operating theatre—and this may prevent them from effectively voicing concerns about safety. Paradoxically, they do appear to influence medical practice, though not in the

3.1
 A4 and ODP2 begin to wheel the patient to Recovery, O1 takes over the foot end of the bed. ODP2 hands the antibiotics to A4. The way out of theatre is a bit cluttered, they bump into another bed on the way to Recovery. In Recovery RN4 (nurse) goes to the head of the patient. She jokes to A4 about me 'oh no, you've got that person following you around'. A4 prepares the antibiotic whilst handing over to RN4.
 A4 'Lady, 87... left DHS' (dynamic hip screw). 'Couldn't get a good sats trace' (shaking the antibiotic). 'Long history of pulmonary fibrosis'
 A4 hangs the antibiotic, looks closely at it. RN4 looks at the monitor.
 RN4 'It was 98% a minute ago'
 A4 'Her sats are absolutely fine, I'm sure'
 A4 is writing on the prescription chart, waiting for the antibiotic to infuse. A4 puts the second antibiotic up.
 A4 'She's to have a cup of tea when she gets to the ward'. A4 sits down.
 A4 'So, you off out tonight?' (to RN4)
 The antibiotic has finished infusing, A4 reattaches the part used bag of fluids, he squeezes all the fluid to the top expelling the air then inserts the giving set.
 RN4 'Ooh, you shouldn't do that'
 A4 'Well, I had to give the antibiotics. You happy?'
 RN4 'Ecstatic'
 A4 and I leave the Recovery Room.
 (Observation session 4, senior house officer)

3.2
 The patient is transferred to Recovery, A5 lifts and supports the chin as the patient is wheeled to Recovery. A5 hands over to RN5
 A5 '12 of morphine, 50 Voltarol PR, fit and well, gas induction, difficult veins...'
 RN5 'Written up for Oramorph?... What about fluid?'
 A5 'That's just to go through...'
 There are noises coming from the patient which sound like a cross between a loud exhalation and a whine.
 RN5 'All right Daniel, open your mouth.'
 A5 waits by the patient's side. The LMA moves in the patient's mouth.
 A5 'He's just toying with it now.'
 RN5 'This is the one who took hours to wake up last time.'
 A5 'Are you happy?'
 RN5 'I would rather someone was about, you can go but I'd like someone around'
 A5 stays.
 10.50
 LM is removed by RN5. Daniel coughs and rubs his nose.
 RN5 bandages the cannula in.
 A5 'OK?'
 RN5 'Yeah'
 A5 'I'll just check he is written up for morphine... he should just need that one bag of fluid.'
 (Observation session 18, senior house officer)

Fig 3 Extracts from observation transcripts of handovers in the recovery room. 'A' denotes an anaesthetist; 'RN' a recovery nurse; 'ODP' an operating department practitioner (a member of theatre staff able to assist the surgeon or, in this case, the anaesthetist); 'S' a surgeon. Names have been changed to assure anonymity. Extract 3.2 is reproduced from reference 39, with permission.

explicit fashion one would expect in a fully developed 'safety culture'. Rather, it is in variable, informal, and less visible ways. Handovers provide an opportunity to check progress and review care. Manias and Street have suggested that nurse-to-nurse handovers (observed in an intensive care unit) act to maintain conformity of practice, as a nurse's work during the previous shift is under scrutiny by the colleague relieving her or him.⁴⁰ Typically, intraoperative problems were underplayed in the handovers we observed. This may simply be because few of them lead to problems in the recovery room, but we suggest that anaesthetists' practice may be similarly exposed to the recovery nurses' subtle and implicit judgement of what constitutes an acceptable clinical standard. Whatever the circumstances, the

handover process must still be conducted to the satisfaction of both parties, and take place in such a way that neither party 'loses face' so that future encounters are not jeopardized. One characteristic of safety-sensitive organizations is that everyone, no matter how junior they are, feels free to voice concerns about safety.^{17 27} In the context of anaesthetic practice, this has to be done using coded language and without confrontation. This informal, implicit approach goes against the standardized approaches to handover in safety-critical industries.^{42 43}

Key points for practice

A number of recent publications have made suggestions as to how to improve communication and we would encourage

Table 1 Recommendations for good handover practice

- The handover should take place in the recovery room after the monitoring has been reconnected to the patient, and the nurse's full attention can be given to the anaesthetist. The culture should be such that recovery staff feel able to say if they are not happy with a patient's condition
- Important and relevant information should be communicated orally to the recovery nurse such as: surgery (drains, catheters, packs, etc.); anaesthetic technique used; drugs, especially analgesics and anti-emetics; blood loss during the procedure; and intravenous fluids given
- The anaesthetist should stay in the recovery room to see the first recording of vital signs and oxygen saturation, and not leave until the patient is in a stable and satisfactory condition
- Post-operative instructions should be clear to the recovery room nurse including: monitoring required; positioning; drugs and fluids prescribed; expected progress; and when to inform the anaesthetist should the patient's condition depart from normal
- The anaesthetist should review the patient before transfer to the ward. If the anaesthetist intends to leave the recovery room before the patient, it should be established: whether the staff are happy with this; how the anaesthetist should be contacted; which named member of the medical staff has been passed the responsibilities for the patient in case the need arises

this as part of anaesthetists' general professional development and practice improvement.⁴⁴ These include advice on improving preoperative communication,⁴⁵ airline-style 'crew resource management' training,^{46 47} and the use of checklists⁴⁸ to improve teamwork and communication in the operating theatre, and strategies for making the professional tacit knowledge related to communication and safety more visible.^{49 50} From the work reviewed in this article, it is possible to make some recommendations for communication practice. Attention should be paid to the 'non-informational' aspects of communication, as these are powerful and can be used to therapeutic advantage. The induction of anaesthesia can be a stressful time for patients and good communication has an important role to play in making the process as pleasant as possible. Positive suggestions and images may help here. Patients emerging from anaesthesia should expect to be able to do so in a calm, quiet environment with reassurance and reorientation. They should be spoken to quietly and with privacy and dignity maintained. Lastly, effective handover has a key part in ensuring the continuity, quality, and safety of patient care. Recommendations for the content of an anaesthetist–recovery nurse handover are given in Table 1.

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Conflict of interest

None declared.

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