

The Leadership and Management of Surgical Teams

THE ROYAL COLLEGE OF SURGEONS OF ENGLAND

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‘It should be the norm for surgical teams (the surgeon, anaesthetist, theatre nurses, operating department assistants) to have time together and with other teams, such as those in the ITU, to review and develop their performance as a team.’¹

Sir Ian Kennedy – *Learning from Bristol*, 2000

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College policy

The College Council recognises the important role that leadership and good teamworking plays in the performance of clinical teams and the resulting positive outcomes for patient safety.

The College policy on leadership and teamworking is enunciated in the following five statements:

1. Patient safety is at the centre of care provided by all clinicians and is enhanced by effective leadership and teamworking by all clinical staff.
2. The College affirms that it is the consultant surgeon's responsibility to develop an effective team in the clinical setting through leadership and team building.
3. All members of the surgical team and the wider multi-disciplinary team have an obligation to support each other in all activities surrounding the delivery of patient care in the wards, clinics, theatre, community setting and post discharge.
4. Consultant surgeons must engage with management to develop the necessary links that will provide the impetus and support to build the team structure at all levels of the organisation.
5. Situational awareness is a key attribute for sound decision making by all staff members. This is achieved through properly structured briefing and de-briefing of all staff responsible for a patient's care. The consultant surgeon has a moral obligation to ensure that this occurs, for the patient's safety and the accountability of clinical staff.

This document provides the evidential support for these policy statements and will be used for policy implementation through directed training programmes and College guidance.

Executive summary

This is a policy document for surgeons and those who work with them. It sets out the need for safer patient care and effective leadership based on current evidence. It provides guidance for the future development of educational programmes and professional assessment. The current evidence shows the following:

- > Effective teamworking contributes significantly to safer patient care.
- > Surgical teams require leaders who understand the clinical and personal needs of patients and will inspire and manage the team to deliver those needs.
- > Both technical and non-technical skills are required; they are complementary.
- > Currently accepted working practices, inter-disciplinary* relationships and training methods need to be improved using evidence from recent research, performance data and the experience of other high risk industries.
- > Human error is inevitable; it must be identified and managed by all members of the team to improve safety.
- > Communication with patients is an important aspect of patient care but communication between individual team members and between teams is even more important for the safety of patients.
- > Appropriate autonomy is necessary to ensure engagement and responsibility.
- > There must be mutual respect, co-operation and effective communication between clinical and managerial staff.
- > Better understanding of personality and behaviour, error management, team dynamics and appropriate communication are essential to protect patients, to release the potential of professionals and to ensure the confidence of the public.
- > A change in culture is required; the principles will need to be promoted by professional leadership and example, defined in curricula and assessed in training and practice.
- > The principles of safe and effective practice must be emphasised throughout professional training: they must be embedded through inter-disciplinary* training and procedures in the workplace.
- > Significant investment in inter-professional* education and training is needed, backed by commitment at all levels of management.
- > The process is challenging, especially for established practitioners but evidence for the need for change is overwhelming.

* The terms 'multi-professional' and 'multi-disciplinary' are used to describe the whole organisation, and 'inter-professional' and 'inter-disciplinary' to describe the smaller team, which is focused on the needs of the individual patient.

I. Recommendations

1. Surgeons should receive leadership and team management training.
2. All clinicians, medical and non-medical, should be taught teamworking skills as a part of foundation training. The concepts of teamworking need to be introduced as early as possible so that effective teamworking evolves as the individual develops professionally.
3. All clinicians, medical and non-medical, should attend team building training courses that focus on practical exercises in team building. Theoretical knowledge provides an understanding of teamworking but the skills also need to be developed by practice.
4. Consultant surgeons should develop a partnership with management to focus on teamworking and its positive effect on patient safety. Trust management must be involved in team development.
5. At the very least the members of all surgical teams should show that they work in effective teams by demonstrating the features known to be essential. These are:
 - > agreed written objectives focused on the patient's interest;
 - > clear leadership;
 - > regular team meetings, which are recorded;
 - > an inclusive style with shallow authority gradient (see page 14);
 - > a culture of openness, learning and justice*;
 - > the ability to expose and resolve conflicts;
 - > the ability to meet the needs of staff in training; and
 - > a shared understanding of the right and duty to intervene in the patient's or team member's interest.

* A 'no blame' culture is neither feasible nor desirable. Some unsafe acts deserve sanctions. A 'just' culture depends on the trust of the workforce and knowing and agreeing the difference between acceptable and unacceptable behaviour.²

2. Why is this document needed?

Surgery has always depended on exceptional leadership, effective management and teamworking. However, some aspects of practice have changed radically in recent years and adaptation has not kept pace.

Surgery has become more complex and teams have been affected by:

- > increasing sub-specialisation;
- > change from specialty to disease-specific services;
- > data confirming substantial variation in outcome for patients;
- > new working conditions and shorter working hours;
- > role development for non-medical staff;
- > more cross-cover and less continuous personal responsibility;
- > the indiscriminate implementation of central targets by more junior managers less skilled in working with clinicians and clinical teams;
- > patient choice and independent treatment centres;
- > reduced clinical engagement;
- > explicit financial pressures;
- > new evidence of the significant risks of treatment;
- > awareness that both technical and non-technical skills are necessary;
- > documented failures of professional performance and supporting systems;
- > reduced training opportunities and ineffective training;

- > inadequate investment in the training and personal development required by a rapidly evolving, high risk industry;
- > failure to implement the key recommendation of the most authoritative report on the quality of surgical care, to ensure improvement in multi-disciplinary training;³
- > the chief executive's responsibility extended to clinical care in the Health Act 1999;⁴
- > national discussion regarding corporate manslaughter;
- > freedom of information with more informed and questioning patients;
- > increased recognition that medical misadventure is a major cause of premature death worldwide;
- > the leadership of the chief medical officer on patient safety since the 2000 publication of *Organisation with a Memory*;⁵ and
- > the unique opportunity of the NHS to research and improve the safety of patients nationwide. The NHS can lead the world.

Some professional guidance for surgical teams already exists. This shows that teamwork increases personal behavioural responsibility. It includes:

- > 'Every consultant must bear some responsibility for the quality of service of professional colleagues.'⁶ (*Consultant Surgeons – Team Working in Surgical Practice*, 2000)
- > 'Working in teams does not change your personal accountability for your professional conduct and the care you provide. When working in a team, you should act as a positive role model and try to motivate and inspire your colleagues.'⁷ (*Good Medical Practice*, 2006)

A review of current evidence and revised professional recommendations are now required, particularly in the light of the most recent recommendations of the chief medical officer.⁸ These clearly state the need to improve patient safety by a change in culture.

3. Multiple teams in the NHS

From admission to discharge, the patient is influenced by many different teams. There are therefore multiple leaders, all of whom are also followers in that larger team, the organisation. Coherence is provided by focusing on the patient's interest.

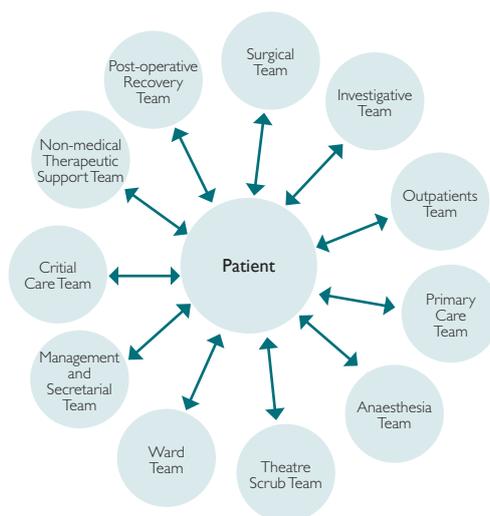


Figure 1: The patient and multi-professional teams

4. Work in progress at the College

Following the 1997 General Medical Council (GMC) hearings on events in Bristol, 13 questions were asked of clinicians.⁹ The College and the Senate of Surgery responded, leading to the publication of *Team Working in Surgical Practice*.¹⁰ After publication of *Learning from Bristol*,¹¹ in 2000 the paper *Human Factors in Surgery*¹² became policy for all four surgical royal colleges and the nine specialty associations. Government has repeatedly been challenged to implement these recommendations. The College has developed courses in leadership and the safety of patients in response to those recommendations.

The College has been active in disseminating good practice. In the College's workforce reports^{13,14} new emphasis has been given to issues of working patterns and deployment and this is updated yearly. Attention is particularly drawn to new models of care including greater use of non-medically qualified staff and changes in consultant working. Case study 1 on page 9 shows an example of service improvement achieved by consultant surgeons working as members of a true team. This is in contrast to the traditional model of independent consultant practice sharing a common resource.

The College has also been active in performance review.^{15,16} Increasing evidence of performance difficulties has been accumulated during recent years by analysis of the College's invited review mechanism, the GMC performance data, the National Clinical Assessment Service analysis¹⁷ and a number of other sources including deaneries. These identified several common themes strongly suggesting the need to improve understanding of effective teamworking and the major implications for the safety of patients. Technical competence and effort were rarely in question but generic, non-technical skills in communication, working with others and personal insight are frequently highlighted as areas for improvement.

This is not surprising bearing in mind the many challenges of the job and the fact that until the launch of the new intercollegiate surgical curriculum in August 2007 the essential skills of leadership and teamworking required by surgeons have never formally been defined by a curriculum, taught or assessed. They are now included as part of the generic and professional skills modules in the new curriculum.¹⁸ They have also been recognised by other major specialties.¹⁹

Such skills have, of course, always been evident by example and in previous years, when training attachments were longer and more stable, excellence was often achieved and recognised. However, it was not consistent. Importantly, external objective assessment and intervention (when required) was not available. Time in an appointment is not proportional to learning, although self-learning may develop as a consequence.

The College has now developed training courses for trainers (*Training the Trainers*), for potential leaders (executive leadership programme) and for surgical teams (*Safety and Leadership for Interventional Procedures and Surgery*); the latter is designed to improve inter-disciplinary working and is being developed for delivery in the workplace.²⁰

5. Teams

The emergency general service at Rotherham General Hospital NHS Trust is a good example of an innovative method of service reform; it reflects good teamworking and leadership.²¹

It required all consultant surgeons to revise their patterns of working to meet the needs of the team.

Case study 1: Emergency general surgery service Rotherham General Hospital NHS Trust

Rotherham General Hospital is an 840-bed district general hospital with a 24-hour mixed surgical and medical admissions ward and a daytime paediatric admissions unit. Traditionally, the rotating surgical on-take rota led to emergency patients taking second priority behind elective patients. Emergency patients were waiting hours to be seen by a surgeon and yet elective activity was often cancelled to deal with emergencies.

The emergency general surgical (EGS) system was introduced in 2003. It was built on a consultant-based team led by the consultant surgeon of the day who looked after all surgical emergencies collectively, regardless of who had admitted them. This matrix-based methodology replaced the old firm structure. The consultant on call led a team that provided, among other things: consultant review of the sickest patients on a daily basis; consultant-to-consultant handover; operative care for emergency patients; opportunities to teach and supervise junior staff more closely; and assurance for those not on call that the sickest patients were being looked after by the on-call team.

The consultant surgeon on call accepted collective team responsibility for all. This required a new level of teamwork with clearly defined roles and responsibilities for each staff member. The timetable of each grade of staff was redesigned; consultant surgeons had a fixed day on call, free of all elective activity, and then the following day undertook the post-take ward round to review all emergency patients, a commitment requiring several hours each day. The rest of the week was allocated to elective activity. Pre-registration house officers (PRHOs) were ward-based and had a finite number of patients to look after. When on call, senior house officers (SHOs) were responsible for reviewing accident and emergency patients within 30 minutes. Supervised training was available in the 24-hour fully staffed emergency theatre. Registrars and staff grade surgeons continued with elective activity between 9am and 5pm and after 5pm they provided an extra tier of on-call cover.

This example of teamworking has also solved process problems. One year on, the hospital had saved 1,500 bed days, the daytime operating on emergencies had increased to 72%, and 90% of EGS operating was taking place within 24 hours. In addition, consultant emergency operating had increased from 22% to 50% and supervised operating for SHOs from 7% to 18%. Urgent cholecystectomies have increased from 12 to 50 cases and outpatient waiting times had decreased. Against expectation there had been no loss of elective activity.

The EGS system has achieved the main aims of a consultant-led service, maximising daytime operating and minimising reduction of elective activity. In addition, continuity of care and supervised teaching has been maintained while embedding a team-based approach to the clinical management of patients.

Not only did this system result in better quality at reduced cost but it also made explicit the need for more consultant surgeons to be appointed, subsequently increasing the strength from six to eight. All junior staff are now working shifts, which has resulted in more theatre experience for specialist registrars (SpRs).

Effective teamworking contributes significantly to safer patient care.

Evidence suggests that the following benefits to patients are achieved by good teamworking:²²

- > increased range of skills and knowledge;
- > improved deployment of scarce professional skills;

- > improved continuity of care;
- > sharing onerous clinical burdens;
- > service continuity in outpatient departments, wards and theatres;
- > technical support in theatre;
- > reduced hours of service;
- > a more evenly staffed environment for service and training;
- > facilitation of local peer review;
- > reduced risk of harmful consequences from idiosyncratic practice or individual failure;
- > 'a phased sequence of responsibilities'; and
- > ease of revalidation.

However, it means surrendering some autonomy and working effectively with colleagues you may not like, get on with or trust. The key to effective teamworking is that the systems assurance and professional culture overrides the negative aspects of personality and inappropriate behaviour. Doctors working in multi-disciplinary teams are more likely to have their views challenged, their creativity stimulated and the quality of their decision making improved.²³

Better teamworking has the potential to reduce costs, improve service, reduce errors, reduce deaths and increase job satisfaction.²⁴ It also saves time.²⁵

Good teams are developed by good leadership. In surgical teams the development of skills in the following are considered essential components of safe care:²⁶

- > managing workload;
- > ensuring the correct balance between demands and support to maintain good performance;
- > setting a shallow authority gradient;
- > briefing;
- > maintaining situational awareness; and
- > de-briefing.

5.1 Teams and teamworking

Teams differ from small groups because teams embody the coordination that results from task interdependency; that is teamwork characteristically requires team members to adjust to one another to achieve team goals.

(David P Baker, American Institutes for Research)

Teamworking should be distinguished from group working. In the NHS staff often think that they work in teams but analysis by team inventory reveals that they actually work in groups.²⁷ The essential difference could be summarised by saying that group working involves individuals coming together to perform a task or achieve a target (galley-slave model).

Teamworking involves a broader vision: a leader able to develop that vision with the team and to use all the talents of the team to achieve the objective.

In particular, it depends on the ability of all members of the team to put the team's needs above their own individual interests. They must also fill in for others in the team who lack skills or need help, and work flexibly between skill domains to achieve the agreed objective. Conflicting opinions are to be expected and the strength of the team is enhanced by the process of resolution. Openness and honesty are essential (boat race model).

Team vs Group	
Decision by consensus	Decisions often not made
Disagreements examined and resolved	Unresolved disagreements
Objectives are well understood and accepted by the team	Objectives often not agreed
All members contribute ideas	Personal feelings are hidden
Self-examination of how the group is functioning occurs frequently	Discussions are avoided regarding how the group is functioning
Roles are understood by all members	Individuals tend to protect their role and their niche in the group
Shared leadership occurs on an as-needed basis	Leadership is appointed

Table 1: Difference between teams and groups

Surgical teams require leaders who understand the needs of patients and will inspire and manage the team to deliver those needs.

Teamworking in healthcare is inherently problematic. Teams in healthcare almost always exceed the size known to be ideal, often by a factor of ten, and their interfaces with other teams are indistinct and dynamic.²⁸ Demands on staff are unpredictable and sometimes ‘unreasonable’. This, with the absence of any team training for many of the most influential staff, may help to explain why true teamworking in the NHS is comparatively rare. It has clearly been linked to poor surgical outcome and may be embedded and persistent despite being repeatedly identified.²⁹ It highlights the pressing need to educate the professional to examine working practice in the interest of the safety of patients. It also offers the opportunity to reduce the demonstrated high levels of stress, depression, dysfunction, disability, bullying, intimidation and abuse that have been shown to degrade some staff working in the NHS.³⁰ These levels are significantly higher than those found in other comparable industries. This type of hostile environment may lead to disengagement and behavioural changes. The role of ‘negative dictator’ may be adopted by some staff who express their feelings by failing to co-operate and obstructing others.

Both technical and non-technical skills are required; they are complementary.

By contrast, it is the capacity of good leaders and effective teams to win through to their shared goals, despite the difficulties, that illustrates their unique value. In healthcare there can be no doubt that the safety of patients is at stake.

Research clearly demonstrates that in high risk industries teamworking reduces error and provides a safer working environment.³¹ Rather than encouraging an illusory ‘culture of excellence’, modern, evidence-based error management depends on the principle that error is a normal human attribute and must be detected by constant vigilance.³² It must also be managed by each and every member of the team. Surgical errors are rarely the result of a single mistake by an individual and systems factors have been shown to contribute to more than 80% of cases.³³ Safe care depends on both teamwork and systems. Training in teamworking skills has been shown to improve team behaviour as well as safety.³⁴

It has been shown that the accumulation of minor failures may provoke major failures and affect patient outcome. Such minor failures can be detected in otherwise successful operations and offer an important opportunity for improvement.³⁵

Currently accepted working practices, inter-disciplinary relationships and training methods need to be improved using evidence from recent research, performance data and the experience of other high risk industries.

Human error is the price we pay for the unique flexibility and inventiveness of the human brain. The errors we make are best seen in a behavioural context as skill-based, knowledge-based or rule-based.³⁶ All team members must share a safety culture in which errors are used as an opportunity to learn rather than to blame. All team members must be trained to recognise their right and duty to intervene for the protection of others.³⁷

Error is inevitable; it must be identified and managed by all members of the team to improve safety.

Error management requires us to recognise the imperfections of people and systems, to expect things to go wrong and to be ready to avoid, trap or mitigate their effects. Similarly, our personality types and preferences must be recognised, their advantages exploited and their disadvantages countered.³⁸ Feedback is essential in helping colleagues to become more aware of when their behaviour is becoming counter-productive and adversely affecting performance and morale.

Strength	Derailer
Diligent	Perfectionist
Charming	Manipulative
Confident	Arrogant
Shrewd	Mistrustful
Focused	Passive aggressive
Careful	Cautious
Independent	Detached
Imaginative	Eccentric
Vivacious	Dramatic
Enthusiastic	Volatile
Dutiful	Dependent

Table 2: Dysfunctional behaviours or ‘derailers’ (after Hogan)³⁸

Effective teams depend on appropriate organisation, working conditions and procedures. These make the core values of the team visible. For example, team briefing before a procedure has been shown to increase safety and to ensure that each member can contribute fully to a successful outcome. Lack of briefing may have devastating consequences.

Case study 2: Wrong site surgery Carmarthenshire NHS Trust

A patient was admitted for right nephrectomy. Due to a clerical error the admission slip stated 'left.' The operating list was transcribed from the admission slips. The patient was not woken from sleep to check the correct side on the pre-operative ward round. The side was not checked from the notes or consent form.

The side was questioned by the consultant surgeon on the patient's arrival in theatre but was not confirmed. The consultant instructed the SpR to carry out the operation. The consultant mistakenly put the correctly labelled x-rays on the viewing box back to front. The consultant supervised the positioning. The SpR did not check the side and was not alerted to this being the wrong site by noticing the normal pulsation in the renal artery of the kidney he was removing.

A medical student observing the operation suggested to the SpR that he was removing the incorrect kidney but was told by the SpR that she was wrong.

The mistake was not discovered until two hours after operation. The patient later died.

This example illustrates the decreased vigilance of the consultant surgeon because he was not operating and the SpR because the consultant was positioning the patient. It highlights the dismissal of the student's concerns without checking as responsibility was being transferred. This is an example of ineffective teamworking. Increased vigilance, correct briefing and a shallow authority gradient would have resulted in a different outcome.

Team meetings to agree objectives, expose disagreements and resolve them by open discussion are essential. These are hallmarks of effectiveness.

Specific evidence shows that teamworking delivers better and safer care.

- > Patient mortality is reduced – hospitals with 60% of its staff working in functional teams show mortality rates reduced by 5%³⁹
- > Improved service provision through streamlining services⁴⁰
- > Good teams report less sickness absence⁴¹
- > Economic benefits⁴²

5.2 Communication

**Communication with patients is an important aspect of patient care
but communication *between individual team members and
between teams* is even more important for the safety of patients.**

Research has shown that communication is the key skill for safe teamworking. It is enhanced by effective handover, procedural briefing and de-briefing. This should be concise, clear and recorded. Situational awareness is essential and is defined as 'a dynamic state of cognitive awareness that integrates information and uses it to anticipate changes to the current environment'.⁴³ Maintaining full situational awareness by all members of

the team requires vigilance and a shallow 'authority gradient' (the measure of interpersonal power between superior and subordinate as perceived by the subordinate)⁴⁴ so that the most junior members are trained to articulate any concerns and the most senior to respect and encourage their challenge. It should be remembered that the authority gradient must be assessed from the perspective of the most junior members. There is ample evidence to show that senior staff are less aware of its inhibitory effect.⁴⁵ This is clearly illustrated by the 'wrong site' nephrectomy. The shallow authority gradient is achieved by mutual respect.

Communication can be improved by:

- > reducing the authority gradient;
- > briefing;
- > de-briefing;
- > team questions;
- > encouraging and training team members to speak up;
- > giving feedback to team members;
- > encouraging team members to provide objective feedback;
- > acknowledging your own mistakes, particularly if in a senior role; and
- > assertiveness training.

The qualities that need to be encouraged are best developed not by criticism but by honesty and balanced self-criticism.

The increased fluidity of team membership within the NHS is an obstacle to open team communication. Conversely, continued familiarity may lead to unwarranted complacency or idiosyncratic practice. It is important for the NHS to cultivate organisation-wide awareness of these issues and for staff to be trained in the skills needed. Familiarity is a primary cause of complacency and indiscipline within the NHS unlike the military discipline of 'at ease' and 'attention'. Military discipline instils the ability to change an informal condition to a disciplined response based on the hierarchical structure of the organisation. Switching modes is quick and complete when needed. This is rarely seen in the NHS.

It must be remembered that skills such as briefing are more complex than they might at first appear. The information shared needs to be simple and clear. Selecting what is important to inform and empower every member of the team is a matter of professional judgement requiring both technical knowledge and intuitive skills. There is evidence that the acquisition of these intuitive skills and the expert handling of uncertainty requires many hours of front line experience and considerable personal insight.⁴⁶

All staff must also receive training so that they know how to raise concerns. It is as important to train senior staff to accept and encourage challenge as it is to empower more junior staff to speak up. Failure to do so may have fatal consequences.

Case study 3: Elaine Bromiley

Unidentified hospital

Mrs Elaine Bromiley was the 37-year-old wife of an airline pilot and mother of two young children. She was generally healthy and due to undergo endoscopic sinus surgery and septoplasty under general anaesthesia.

08.35: Anaesthesia was induced. The proposed airway management was with a flexible laryngeal mask airway but it was not possible to insert this.

08.37: Oxygenation began to deteriorate and she looked cyanosed (blue). Her oxygen saturation at this time was 75% (anything less than 90% is significantly low) and her heart rate was raised.

08.39: Oxygen saturation continued to deteriorate to a very low level (40%). Attempts to ventilate the lungs with 100% oxygen using a facemask and oral airway proved extremely difficult.

08.41–08.43: It was still proving near impossible to ventilate the lungs and the oxygen saturation remained perilously low (40% or less). The consultant anaesthetist decided to attempt tracheal intubation. At about this time, he was joined by a second experienced consultant anaesthetist, who had been about to start an operating list in the adjoining theatre.

08.45: Other staff had arrived in the anaesthetic room including the surgeon. Airway access was not achieved. The situation now was that termed 'can't intubate, can't ventilate' and is a recognised emergency for which guidelines are available.

08.47–08.50: Further attempts at laryngoscopy and intubation were made. A tracheostomy set was available but not used.

08.51–08.55: The surgeon attempted intubation but was not successful.

09.10: It was decided to abandon the procedure and allow Mrs Bromiley to wake up.

Unfortunately, she had sustained severe brain damage, did not recover consciousness and died 13 days later:

During the attempts at intubation, Mrs Bromiley's oxygen saturation was extremely low (at or less than 40%) for some 20 minutes.

An independent expert review drew attention to a number of significant issues. The anaesthetist had 16 years of experience, the surgeon had 30 years of experience and 3 of the 4 nurses were experienced. Given the skill mix of the clinicians, it would have been very easy to perform a surgical procedure to gain access to the trachea. Surgical airway access by either tracheotomy or cricothyroidotomy should have been considered and carried out. Contributing factors concerning team performance included:

- > Loss of awareness of time, fixation and drying up of communications
- > Lack of assertiveness (two of the four nurses knew what needed to happen but did not know how to broach the subject)

'So Elaine's message would be:

1. *Accept that error is normal; it is not poor performance or weakness.*
2. *Commit to help your fellow clinicians to understand and learn how to manage it.'*

Martin Bromiley, 'Everybody's Business' conference at The Royal College of Surgeons of England, 10 November 2006

The case of Elaine Bromiley illustrates that the availability of technical skills is not enough for safe practice. Non-technical skills are essential if technical skills are to be deployed effectively. In this case problems with leadership, situational awareness, communication, decision making, prioritisation and assertiveness were apparent. Seventy-five per cent of airline accidents are caused by these factors.⁴⁷ The non-technical skills involved are the same.

Recent evidence has also documented reluctance on the part of some consultants to raise concerns about working practices or attendance with consultant colleagues with whom they regularly work. If honest and open de-briefing after every procedure is not a usual occurrence then the best opportunity for improvement is lost.

Case studies 4 and 5: Surgeon and anaesthetist A major teaching hospital

An example of learning from de-briefing:

A surgeon was undertaking a laparoscopic cholecystectomy under general anaesthesia. The anaesthetist was new to him. Without discussion the anaesthetist gave more muscle relaxant shortly before the surgeon spoke up to indicate imminent completion of the procedure. Recovery was delayed. A de-briefing led to an objective and adult analysis and a decision that the surgeon would be asked about progress before additional relaxant was given. This de-briefing was effective as no recurrence was observed and neither surgeon nor anaesthetist felt belittled or demeaned.

An example of opportunities missed:

A consultant surgeon was carrying out a carotid endarterectomy under local anaesthesia with a consultant anaesthetist giving sedation. The patient was restless, resulting in slow progress. The surgeon became increasingly concerned because the anaesthetist left the theatre several times during the procedure when help was needed.

This concern was apparent to other theatre staff but was not directly raised with the anaesthetist as the operation continued. After some difficulties the procedure was satisfactorily completed.

A formal de-briefing was suggested by an experienced observer, in agreement with theatre policy, but the surgeon felt unable to raise the issue with his colleague. He admitted that he had avoided the issue for fear of upsetting the consultant anaesthetist but undertook to raise the issue the next time they worked together.

However, a few weeks later a similar incident was observed and once again no de-briefing took place.

De-briefing is a skill that needs to be understood and practised in conditions that are not threatening to the individuals. It is highly dependent on an objective and open culture if it is to be effective. Unless that culture has been established for all members of the team, de-briefing will be personally threatening. It is not surprising that untrained and unskilled team members find it difficult to tackle the issues. Effective leaders make sure that an open and learning atmosphere is created with a shallow authority gradient and that all members of the team are included as active participants in post-operative de-briefings.

6. Leadership and management

Appropriate autonomy is necessary to ensure engagement and responsibility.

Leaders of surgical teams are also followers in the larger team that constitutes the organisation. They have a duty to engage in the management of their own team and the larger interest of the institution. Guidance on this principle has been published by the GMC.⁴⁸ Leadership requires a degree of autonomy if it is to be carried out responsibly. *Public service leaders are often unable to lead effectively because others fail to give them the freedom, the support systems or the challenges that will permit them to do so.*⁴⁹

6.1 Leadership includes management

There must be mutual respect, cooperation and effective communication between clinical and managerial staff.

Leadership is the ability to motivate and direct those around you to achieve the best outcome for the patient. Management is concerned with process, achieving an objective or completing a task. Surgeons must be both managers and leaders. They need to form constructive relationships with other managers of the service, dealing with misunderstandings, giving information and developing a common purpose.

6.2 Leadership skills

Leadership skills are developed by experience, reflection and guidance. There are very few ‘natural’ leaders but some component skills can be taught in a two-phase process. The first phase is in learning the concepts of leadership and the tools available. The second phase is the practical implementation and adjustment needed to deal with changing situations and particular individuals. No system will meet the needs of every occasion, and innovation and experiment are essential. Learning from mistakes may be the best method of improving leadership skills. The leader’s capacity for objective assessment combined with insight and a positive attitude in the face of difficulty are likely to achieve the best outcome.

The competencies of self-awareness, self-discipline, persistence and empathy are more significant leadership traits than the leader’s intelligence quotient. They may be grouped under the heading of emotional intelligence. This may be defined as:

‘Emotional intelligence describes the ability to effectively join emotions and reasoning. Using emotions to facilitate reasoning and reasoning intelligently about emotions.’

(George J. Emotions and Leadership: The Role of Emotional Intelligence. *Human Relations* 2000; **53**: 1,027–1,055.)

The five domains of emotional intelligence have been described as:⁵⁰

- > knowing your emotions;
- > managing your own emotions;
- > motivating yourself;
- > recognising and understanding other people’s emotions; and
- > managing relationships (for example, managing the emotions of others).

Case study 6: Ineffective emotional intelligence

A consultant surgeon came to theatre during a difficult laparoscopic cholecystectomy that was being converted to an open procedure. He talked loudly and amiably to all present but was unaware of the operating team's need for concentration and communication. He turned music on at high volume and began a separate conversation with the anaesthetist about a complex operation planned for the following week. He then left the theatre leaving the music playing until it was switched off by another member of the team.

The NHS Leadership Centre has identified desirable leadership qualities in three main groups (Figure 2).⁵¹ Personal qualities are at the core of this framework.

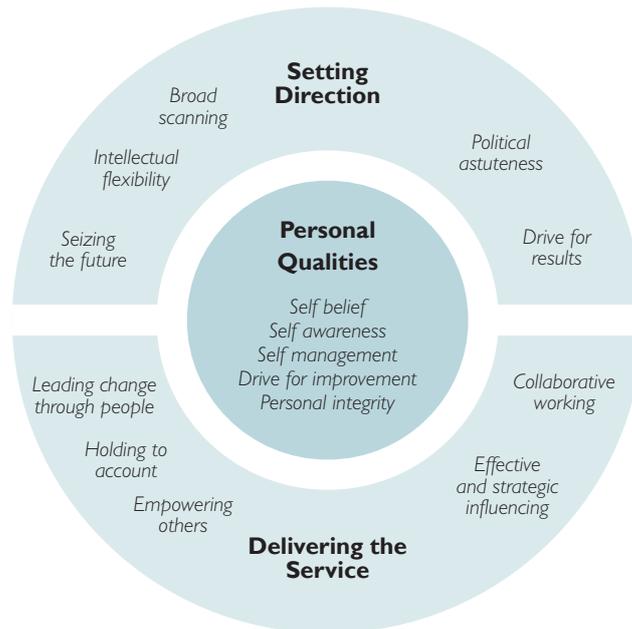


Figure 2: Characteristics of a leader

Better understanding of personality and behaviour, error management, team dynamics and appropriate communication is essential to protect patients, to release the potential of professionals and to ensure the confidence of the public.

Each group contributes to the qualities of the leader. How that leader interacts with each member of the team, however, is influenced by their respective personalities. An individual's personality is influenced by:

- > ethnicity (includes British regional variations);
- > age;
- > sex;
- > life experiences;
- > ambition;
- > religion;
- > self-esteem;
- > prejudices;
- > anxiety; and
- > respect by others.

Personality traits are generally regarded as fixed but there is evidence that behaviour can be changed. Nevertheless, it must be remembered that learned improvements in behaviour, while often essential to personal development, may be difficult to sustain long-term and may break down under conditions of stress, overload or fatigue. Such reversion should suggest a significant loss of situational awareness requiring other members of the team to increase their vigilance and involvement. A leader's capacity to change the behaviour of others in the team to achieve the best outcome is a key determinant of effectiveness. The measure of a leader is not in terms of 'good or bad' but by the achievement of the team's objectives. Appropriate professional behaviour is critical to safe care and the performance of teams and institutions.⁵²

An individual's personality can pose significant challenges for a leader, especially in a multi-national organisation such as the NHS. Cultural differences between team members in other industries have resulted in fatalities. An example would be where the aircraft captain's authority cannot be challenged by a deferential junior.⁵³ Sometimes staff will be alerted to these differences by external clues, such as differences in race or religion, but many important differences in attitude exist without these clues being evident. Prevention is an important responsibility of the team and particularly the leader.

6.3 Leadership style

**A change in culture is required; the principles need to be promoted
by professional leadership and example, defined in curricula
and assessed in training and practice.**

The leader's role is to motivate the team so that its performance is optimal. There is no ideal style of leader.

A team needs to be energised and challenged. A moderate degree of anxiety and stress in each individual raises performance and promotes learning. However, excessive challenge and stress reduces both. This has been shown for a variety of situations. Leaders concerned with delivering training and service have an important role in stimulating engagement while protecting team members from overload. The Yerkes–Dodson model (Figure 3) clearly shows that performance is linked to the arousal of the individual.⁵⁴

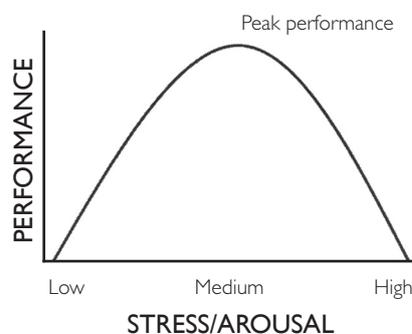


Figure 3:Yerkes–Dodson model

Performance is also linked to fatigue. Tired doctors make more errors and take longer to perform familiar tasks⁵⁵ but short periods of crisis or urgent demand can raise performance even in those who are fatigued, for example in the management of severe trauma.

Good leaders are approachable and they lead by setting a low authority gradient and being sensitive to the needs of their team members. Research suggests that team members recognise the most common positive attributes of healthcare leaders as:⁵⁶

- > intelligence;
- > ability;
- > confidence;
- > warmth and friendliness;
- > benevolence;
- > emotional stability;
- > integrity;
- > ability to delegate; and
- > ability to communicate.

The leader needs to inspire followership. The leadership style of the consultant will influence the style of followership. Evidence suggests that a consultative leader achieves better results.⁵⁷ This does not mean acquiescence or withdrawal from authority or accountability, but that before making decisions, the team members are encouraged to contribute their views. A leader who listens and acknowledges their own mistakes has a powerful effect on the honesty and openness of all members. There are times when the leader needs to take on a followership role, especially when working within the wider organisation (a task that many surgeons find difficult).

All consultant surgeons are or have been trainers of junior surgeons, although aptitudes vary. Teaching skills are now better defined and training of trainers has been introduced. In recent years, training times and opportunities have been reduced, making more effective training techniques and, for example, the use of simulation, more important.

Simulation should reduce the threat of the 'learning curve' to patient care. There is evidence that simulation has particular value in the early stages of technical training and learning procedures.⁵⁸ The experience of non-technical skills training, especially in developing openness and honesty in de-briefing, is also improved by the 'risk free' environment of simulation and role play, particularly when there are cultural barriers or steep authority gradients.

Case study 7: A lost opportunity

A consultant surgeon and an SpR were operating together on a complex patient, each dissecting in separate operating fields. The SpR asked the consultant to inspect what he had done and advise. The consultant moved to the SpR's operative field and continued this part of the operation in silence. The SpR stood back, hands on hips, silently indicating his feeling of frustration and exclusion. No de-briefing took place and the training opportunity was missed.

The SpR who had previously expressed confidence in his ability to assert himself (but had not received training in doing so) admitted later to a trained observer that, in the event, it was more difficult than he had anticipated.

The example suggests that better skills on the part of the trainer or the trainee would have improved the outcome.⁵⁷

7. Teamworking and leadership in the NHS

The principles of safe and effective practice must be emphasised throughout professional training: they must be embedded through inter-disciplinary training and procedures in the workplace.

Studies of the NHS suggest that dysfunctional behaviour is readily recognised by staff.⁵⁹ Frequently, however, they do not have the skills or confidence to raise their concerns and there is significant and widespread fear of reprisal. Of even more concern is the reluctance shown by many staff to engage in an open and honest de-briefing after a ‘near miss’ or other untoward incident, particularly when a more senior member of staff is involved. In this area the culture of the NHS lags significantly behind that of other high risk industries. Moreover, there is a lingering but erroneous belief that the consultant surgeon remains an independent practitioner and another surgeon should not intervene.

Significant investment in inter-professional education and training is needed, backed by commitment at all levels of management.

The lack of national policies and training investment in teamworking and leadership means that practice in the NHS remains very uneven. Deficiencies in team performance will manifest themselves through increased risk of harm to patients and dysfunctional behaviour. An example is the bullying of trainees that indicates a lack understanding and skills on the part of the trainer.⁶⁰

Public confidence in doctors is reported to be high⁶¹ but the unequal dependence of the doctor–patient relationship means that the test for doctors should be more rigorous than for other professional or commercial comparators. Trust will be sustained only if it is based on the demonstration of competence and clear capability. It must also be proportionate (related to the procedure and risk) and bilateral (a shared understanding of risks and benefits by patient and surgeon).

8. Conclusion

The process is challenging, especially for established practitioners but the evidence for the need for change is overwhelming.

Effective teamworking is inextricably linked to good leadership. Both are skills requiring training and development. It is essential that the NHS invests in that training and development for all members of multi-professional and inter-disciplinary teams. It is also essential that all surgeons recognise their duty to act both as effective leaders and contributing team members. Both are necessary to achieve optimal outcomes for patients and trainees, and to minimise risk of harm. It is now more than five years since the publication of *Learning from Bristol*.⁶² Sir Ian Kennedy’s recent review clearly indicates that despite some progress, much more needs to be done.⁶³

9. References

1. Department of Health. *The report of the public inquiry into children's heart surgery at the Bristol Royal Infirmary 1984–1995: learning from Bristol (Cm 5207(1))*. London: DH; July 2001.
2. Reason J. *Managing Patient Safety – A multimedia resource*. TVC Films Limited; 2005.
3. DH, *Learning from Bristol*.
4. HM Government. *Health Act 1999*. London: HMSO; 1999.
5. Department of Health. *An Organisation with a Memory. Report of an expert group on learning from adverse events in the NHS*. London: HMSO; June 2000. ch5.
6. The Senate of Surgery of Great Britain and Ireland. *Consultant Surgeons – Team Working in Surgical Practice*. London: Senate; 2000. p13.
7. General Medical Council. *Good Medical Practice*. London: GMC; 2006. paras 41–42.
8. Department of Health. *On the state of the public health: Annual report of the Chief Medical Office 2005*. London: DH; July 2006.
9. The Senate of Surgery of Great Britain and Ireland. *Response to the General Medical Council Determination on the Bristol Case*. London: RCSE; October 1998.
10. op cit, *Consultant Surgeons – Team Working in Surgical Practice*.
11. DH. *Learning from Bristol*.
12. Giddings A, de Leval M, Reason J. *Human Factors in Surgery. Discussion document*. London: ASGBI; 2001.
13. Giddings AEB, Cripps J. *Developing a Modern Surgical Workforce*. London: RCSE; January 2005.
14. The Royal College of Surgeons of England. *The Surgical Workforce 2006*. London: RCSE; October 2006.
15. Moore A, Poole D. Invited review mechanism. *Ann R Coll Surg Engl (Suppl)* 2006; 88: 226–227.
16. Giddings A. *Rapid Response Review Paper*. (Draft) 2007.
17. Cox J, King J, Hutchinson A, McAvoy P. *Understanding Doctors' Performance*. Oxford: Radcliffe; 2006.
18. Intercollegiate Surgical Curriculum. Can be found at <http://www.iscp.co.uk/Syllabus/Stages.aspx?Spec=GEN>.
19. Royal College of Physicians. *Doctors in Society. Medical professionalism in a changing world: Main report*. London: RCP; December 2005.
20. Raven Department of Education courses can be found at <http://www.rcseng.ac.uk/education/>.
21. Donlon M, Cooper JC. Re-designing emergency services: the 'EGS' system. *Ann R Coll Surg Engl (Suppl)* 2006; 88: 166–170.
22. Firth-Cozens J. Cultures for improving patient safety through learning: the role of teamwork. *Qual Health Care* 2001; 10 Suppl 2: ii26–31.
23. Borrill CS, West MA, Shapiro D, Rees A. Team working and effectiveness in health care. *British Journal of Health Care Management* 2000; 6: 364–371.
24. Borrill CS, Firth-Cozens J, West MA. The Influence of Team Working on Doctors' Performance. In: Cox J *et al. Understanding Doctors' Performance*. Oxford: Radcliffe; 2006.

25. Catchpole KR, de Leval MR, McEwan A *et al.* Patient handover from surgery to intensive care: using Formula 1 pit-stop and aviation models to improve safety and quality. *Paediatr Anaesth* 2007; **17**: 470–478.
26. West MA, Borrill C, Dawson J *et al.* The link between the management of employees and the patient mortality in acute hospitals. *International Journal of Human Resource Management* 2002; **13**: 1,299–1,310.
27. West MA, Markiewicz L. *Building Team-Based Working: A Practical Guide to Organisational Transformation*. Oxford: Blackwell; 2004.
28. Royal College of Nursing. *The Clinical Teams Project. Evaluation report*. London: RCN; October 2006.
29. Healthcare Commission. *Investigation into cardiothoracic surgical services at the Oxford Radcliffe Hospitals NHS Trust*. London: HC; March 2007.
30. Randle J. *Workplace Bullying in the NHS*. Oxford: Radcliffe; 2006.
31. Barbour A, Goldman A, Giddings A. Everybody's Business: Lessons from High-Risk Industries for the Safety of Patients. *Ann R Coll Surg Engl (Suppl)* 2007; **89**: 10–11.
32. *op cit*, Reason. *Managing Patient Safety*.
33. Rogers SO, Gawande AA, Kwaan M *et al.* Analysis of surgical errors in closed malpractice claims at 4 liability insurers. *Surgery* 2006; **140**: 25–33.
34. Morey JC, Simon R, Jay GD *et al.* Error reduction and performance improvement in the emergency department through formal teamwork training: evaluation results of the MedTeams project. *Health Serv Res* 2002; **37**: 1,553–1,581.
35. Catchpole KR, Giddings AEB, Wilkinson M *et al.* Improving Patient Safety by Identifying Latent Failures in Successful Operations. *Surgery*. In press; 2007.
36. Reason J, Hobbs A. *Managing Maintenance Error*. London: Ashgate; 2003.
37. UK Offshore Oil Operators. <http://stepchangeinsafety.net/stepchange>.
38. Hogan R, Hogan J. *Hogan Development Survey Manual*. Tulsa: Hogan Assessment Systems; 1997.
39. *op cit*, West *et al.* The link between the management of employees and the patient mortality in acute hospitals.
40. *op cit*, Morey *et al.*
41. Sexton JB, Thomas EJ, Helmreich RL. Error, stress and teamwork in medicine and aviation: cross sectional surveys. *BMJ* 2000; **320**: 749.
42. *op cit*, West *et al.* The link between the management of employees and patient mortality in acute hospitals.
43. Svatek N. *Virgin Human Factors Course Guide*. Crawley: Virgin Atlantic Airways Ltd.
44. Stevenson P. Personal communication.
45. *op cit*, Sexton *et al.*
46. Grant J. Personal communication.
47. Williamson C. *Essay: Accident investigation and its application of lessons learnt for occupational accident prevention*. University of Western Sydney – Macarthur; 13 March 1998, unpublished.

48. General Medical Council. *Management for Doctors*. London: GMC; 2006.
49. Cabinet Office Innovation Group. *Leadership Report*. London: 2002.
50. Goleman D. *Working with Emotional Intelligence*. London: Bloomsbury; 1998.
51. Institute for Innovation and Improvement. *NHS Leadership Qualities Framework*. London: NHS; November 2006. p4.
52. Whittemore AD. The impact of professionalism on safe surgical care. *J Vasc Surg* 2007; **45**: 415–419.
53. Helmreich RL, Merritt AC. *Culture at Work in Aviation and Medicine: National, Organizational and Professional Influences*. London: Ashgate; 1998.
54. Amati CA, Scaife R. *Investigation of the links between psychological ill-health, stress and safety*. London: HSE; 2006.
55. op cit, Cox *et al*. *Understanding Doctors' Performance*.
56. Goodwin N. *Leadership in Healthcare: A European Perspective*. London: Routledge; 2006.
57. *ibid*.
58. Ganai S, Donroe JA, St Louis MR *et al*. Virtual-reality training improves angled telescope skills in novice laparoscopists. *Am J Surg* 2007; **193**: 260–265.
59. Oxley J, Johnson J, King J *et al*. *An analysis of The Royal College of Surgeons' Rapid Response Review Reports (Draft)*. London: RCSE; 2007.
60. Paice E, Firth-Cozens J. Who's a bully then?. *BMJ Career Focus* 2003; **326**: S127.
61. Ipsos-Mori Poll. Opinion of Professions conducted in 2006 on behalf of the Royal College of Physicians.
62. op cit, *Learning from Bristol*.
63. Kennedy I. *Learning from Bristol: are we?* London: Healthcare Commission; 2006.
64. Argyris C. *Overcoming organizational defences: Facilitating organizational learning*. Needham, MA: Allyn and Bacon; 1990.

Appendix I

A better way of identifying and resolving problems

Currently accepted practice	Evidence-based practice
Leadership is a single personal attribute.	Leadership requires different skills to meet the needs of different people and situations.
I know my team members are happy with my leadership.	I need to check how I appear to other team members.
Leadership reduces differences of style and opinion.	Leadership values and employs all talents.
The consultant surgeon is in charge and cannot be challenged.	Consultant surgeons and others expect us to challenge them when we are unsure.
It's my job.	It's everybody's job and mine.
We do not have conflicts.	We expect conflicts and know how to resolve them.
Team loyalty is a priority.	The patient's welfare is the priority.
Professional status gives authority to influence and intimidate.	Leadership is conferred by skill in managing situations and people.
Sometimes you have to get angry to get things done.	We must recognise and use our emotions intelligently.
We are able to work without rest and error for longer than other people.	We must understand and manage our performance.
Bad behaviour gets results.	Bad behaviour shows lack of appropriate skills.
My colleague does things that are not in the patient's best interest but that is his/her responsibility.	It is mine too. We need to get the facts and resolve the issues.

My colleague overstretches the juniors but that is his/her business.	It is my responsibility to intervene.
They behave badly.	They lack the skills.
Personality is fixed, behaviour cannot be altered.	Personality is fixed but behaviour can be changed.
We do not really have any problems in our team.	We need to actively identify areas for improvement.
We expect colleagues to know.	We expect colleagues to know how to find out.
First, tell the trainee what to do.	First, understand what the trainee needs.
I know my colleague is difficult but we have to work around it.	We need to identify what is wrong and try to fix it.
Errors are unacceptable personal failures and you need to try harder.	Errors are normal and you need to understand and manage them.
They behave badly; they have wrong opinions.	Why would they behave like that? Why would they think that?
Loyalty, morale, job satisfaction	Competence, justice, learning ⁶⁴
Response when provoked; anger, intimidation or withdrawal	Arbitration skills are needed.
You open and I will come later.	Everyone should be present for briefing.
Do as much as you can and let me know if you need me.	Proactive supervision and help is needed for trainees.

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