Separating emergency and elective surgical care: Recommendations for practice

THE ROYAL COLLEGE OF SURGEONS OF ENGLAND

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Introduction

The challenging reform agenda set by the government, coupled with the requirement to reduce working hours as part of the Working Time Directive (WTD) and the drive to modernise medical careers has had and will continue to have a profound effect on the way in which surgical services are delivered. The safety of surgical patients is our primary concern but with that there is a need to provide protected time for training future surgeons and increased efficiency and productivity to obtain best value for taxpayers' money.

Separating elective care from emergency pressures through the use of dedicated beds, theatres and staff can if well planned, resourced and managed reduce cancellations, achieve a more predictable workflow, provide excellent training opportunities, increase senior supervision of complex/emergency cases, and therefore improve the quality of care delivered to patients.

At the request of the president, a small working group was established to ascertain best practice in separating emergency and elective surgical care. Throughout December 2006 the College surveyed both general surgery, and trauma and orthopaedic link surgeons in NHS Trusts regarding their experience of separating services. Overall, we received replies from 122 Trusts, 35% of which had achieved some form of separation of emergency and elective surgical workloads. We also asked the surgical specialist associations to give us their view of separating workloads and looked at the current literature surrounding the subject.

This guide brings together what we have learnt, good and bad, and aims to assist clinicians and service planners to get the best configuration for the delivery of surgical services that are safe for the patient, efficient, provide value for money and excellent training opportunities for the future generation of surgeons.

Summary

Clearly there is no universal solution and local circumstances will dictate the best method of service delivery. However, our general findings were that:

- A physical separation of services, facilities and rotas works best although a separate unit on the same site is preferable to a completely separate location.
- The presence of senior surgeons for both elective and emergency work will enhance patient safety and the quality of care, and ensure that training opportunities are maximised.
- The separation of emergency and elective surgical care can facilitate protected and concentrated training for junior surgeons providing consultants are available to supervise their work.
- Creating an 'emergency team', linked with a 'surgeon of the week' is a good method of providing dedicated and supervised training in all aspects of emergency and elective care.
- Separating emergency and elective services can prevent the admission of emergency patients (both medical and surgical) from disrupting planned activity and vice versa, thus minimising patient inconvenience and maximising productivity for the Trust. The success of this will largely depend on having sufficient beds and resources for each service.
- Hospital-acquired infections can be reduced by the provision of protected elective wards and avoiding admissions from the emergency department and transfers from within/outside the hospital.
- The improved use of IT solutions can assist with separating workloads (for example, scheduling systems for appointments and theatres, telemedicine, picture archiving and communication systems, etc), although it is recognised that developments in IT for the NHS are generally behind schedule.

> High-volume specialties are particularly suited to separating the two strands of work. Other specialties can also benefit by having emergencies seen by senior surgeons – this can help to reduce unnecessary admissions, deal with ward emergencies and facilitate rapid discharge.

The following sections provide some suggestions for Trusts on how to go about separating emergency and elective services, and highlight some potential problems that may need to be overcome.

How can emergency and elective care be separated?

Patient safety must be at the forefront of any decision to separate services. Clinicians will need to be involved in the rigorous risk-assessment process for any proposals to alter the delivery of surgical services.

As well as separating emergency and elective care, units will need to stream elective care into minor, intermediate and complex and will need to consider post-operative arrangements for recovery depending on the 'level' of elective surgery provided. For most operations, post-operative recovery is a planned component of the patient pathway. This may be provided in a dedicated area and take the form of high-dependency-level care provided by the surgical team. Patients may remain in this area for a limited time before being transferred to the ward, or discharged. In hospitals without dedicated post-operative areas, recovery support is usually integrated with critical care (provided at HDU level). Units providing complex elective surgery or minor/intermediate surgery for patients with co-morbidities will require sufficient critical care support appropriate to patient need.

Evidence from a number of hospitals and critical care networks suggests that approximately 2% of surgical patients have some unexpected complication that requires specialist critical care support. This gives some indication of the volume of elective work that could be safely undertaken in a dedicated elective environment. Of course, risks must be managed appropriately and selection processes for patients must be robust to match the level of critical care facilities available.

There are a number of models where different elements of separating or streaming emergency and elective care can be combined. The model chosen will reflect local circumstances and a range of issues will need to be addressed. It should be recognised that separating elective and emergency surgical workloads can be done on a local, regional or even national basis. Locally, a unit can be designated as an elective care centre and used for day or short-stay elective care only. On a regional basis, it may be that elective care can be organised across hospital sites so that one hospital is used for elective care across several specialties. At the national level, the two strands of work might be separated for highly specialised or complex electives and might allow the concentration of specialist staff and facilities.

The organisation of elective facilities

The unplanned misuse of elective resources by emergency medical and surgical admissions has a large impact on the use of beds, theatres and staff for elective work and in turn on the management of waiting lists. In particular, medical emergencies tend to overflow into elective resources.

The College would recommend separating elective surgical services from emergency admissions wherever possible. A physical separation of services can sometimes help in dealing with cultural change – however, it can produce staffing and resource implications. Some Trusts have simply separated emergency and elective rotas and theatres and this can work well if clear protocols are in place to ensure one does not encroach upon the other.

If there is no physical separation of facilities elective beds should where possible be strictly ringfenced to prevent disruption to elective patients.

Good practice example: MRSA-protected elective wards avoid admissions from the emergency department and transfers from within/outside the hospital.

The organisation of emergency facilities

Emergency admissions make up almost 50% of the workload in some surgical specialties. Despite this, the service is often planned around elective admissions and this has a detrimental effect on the delivery of emergency care.

There are a number of ways to organise emergency surgical admissions better and these are discussed below.

Surgical assessment units (SAUs)

Surgical assessment units provide a dedicated, centralised area where acutely ill surgical patients can be assessed and monitored prior to being admitted to the hospital or otherwise treated. SAUs may be stand-alone, or part of a wider emergency assessment unit. These units need to be staffed by senior nurses and experienced doctors.

If designed and managed well, SAUs offer many benefits:

- Admissions are concentrated in one area allowing rapid transfer from the emergency department.
- Emergencies can be quickly prioritised by experienced staff.
- Inappropriate admissions are avoided (by converting potential admissions to ambulatory management where appropriate).
- Consultant-led assessment can be provided regularly throughout the day.
- Excellent training for junior surgeons when supervised by senior staff – it is good practice for trainees to follow up patients admitted via the SAU so that they can gain experience of the entire pathway of care.
- Acute beds are ring-fenced.
- Same-day imaging and diagnostics are available.
- Nurse-led early discharge is facilitated.
- 4-hour emergency department wait target is supported.
- 'Safari' ward rounds are avoided.

SAUs can be costly to implement and clear protocols are required to achieve optimal benefit.

NCEPOD theatres

Many hospitals provide National Confidential Enquiry into Patient Outcome and Death (NCEPOD) theatre(s) during normal working hours but there is good evidence that extending the availability of these (and where necessary increasing their number) between 17.00 and 22.00 is a very efficient way of dealing with the majority of urgent and emergency work. Current practice in many hospitals is to run the same surgical and anaesthetic on-call team from 17.00 to 08.00. However, some units have successfully established additional staff provision between 17.00 and 22.00 (the 'twilight shift'). This allows urgent work to continue until 22.00, when staffing reduces to minimal levels.

To succeed, such arrangements require adequate staffing, control of overrunning lists and must involve regular three-session days. They do, however, offer the ability to complete many of the semi-urgent cases which otherwise are required to compete for a theatre slot and potentially 'clog up' true emergency theatre provision. It is helpful to schedule trauma and emergency lists over the weekend to prevent a build-up of urgent, but non-emergency cases so that Monday morning trauma/emergency lists can continue as planned. There are now models of dedicated emergency lists for smaller specialties, which experience has shown to be highly effective.

Ideally the NCEPOD theatre would be fully staffed (either by on-call teams or resident staff). Some units have a 'consultant-only' rule on NCEPOD theatres at any time of the day, but especially at night. NCEPOD dictates that all but life- and limb-threatening surgery should be stopped by midnight. Respondents to our survey indicated that they stopped non-life threatening surgery between 21.00 and midnight. We would suggest that, ideally, the last admission to theatre for non-life- and limb-threatening procedures should be at around 10pm to have a good chance of the operation being over before midnight.

Supporting services

If surgical workloads are separated, the unit must ensure that the necessary supporting services and resources can cope with the potential for increased demand or a change in working practices. The type of procedures performed must match the level of critical care available on site and there must be robust pre-selection assessments of patients in place. Each unit will need to undertake rigorous risk assessment to ensure patient safety.

There may be some duplication of services where emergency and elective work is streamed, especially if this occurs over separate sites. Economies of scale should be exploited in the form of centralising 'back office' functions such as administration or laundry services.

Workforce requirements

To separate emergency and elective work streams may require a fundamental change in the way that surgeons and other staff work. There must be clinical engagement to make the separation work and ensure that trainees receive an appropriate level of training and supervision. The following section provides some guidance on how the surgical workforce can be organised to facilitate more efficient working.

'Surgeon of the day/week'

Many respondents to our survey indicated that they ran a rota where one or more named consultant surgeons covered all emergency admissions to the specialty for a defined period (eg. a day/part week/week). It is College policy that consultant surgeons should be free of elective commitments (NHS and private) during this time. However, for low-volume specialties, local circumstances will dictate the degree to which consultants should drop their elective commitments.

In high-volume specialties, consultant surgeons reported that a full week acting as the 'emergency consultant' was tiring and, after day 3–4 the number of patients could become unmanageable. There are potential solutions to this:

- Some Trusts had a 'surgeon of the part-week' rota in a 3- or 4-day configuration. Alternatively, surgical consultants could be on emergency take for one day at a time.
- Consultant surgeons become the 'surgeon of the week' during the daytime, but other staff cover the on-call duties overnight. Patients who can be stabilised to receive surgery the next day can be taken on by

the 'surgeon of the week' when they return to work in the morning. Those requiring emergency surgery overnight (ie those with life- or limb-threatening conditions) can be operated on by the on-call surgeon and handed back to the 'surgeon of the week' the next day.

> Larger Trusts/specialties were able to split surgical consultant teams – for example a twelve-cell consultant team were able to work a 1:6 rota with two consultant surgeons sharing the on-call duties at the same time.

The consultant job planning process provides an ideal opportunity to redesign service delivery and utilise the skills and experience of consultant surgeons more effectively.

The emergency team

If trainees are able to follow a consultant surgeon through their 'surgeon of the day/part-week/week' rota, and rotate through emergency and elective cases, this creates an 'emergency team'. This is an excellent method of staffing both aspects of the surgical service and also means that surgeons can obtain and maintain skills in delivering both types of care. We would strongly recommend that separate teams are designated to handle electives and emergencies. The emergency team should be led by a consultant surgeon and supported by various levels of trainee and/or staff grades. Good practice would be for the entire team to rotate between electives and emergencies.

The Association of Surgeons of Great Britain and Ireland debated the role of the emergency surgeon recently and concluded that there should not be a separate specialty of emergency surgery. Rather, where emergency surgery comprises a significant workload all general surgeons should maintain their skills in treating surgical emergencies. The appointment of dedicated clinical leads in emergency surgical care may help to galvanise and coordinate the efforts of consultant surgeons in each hospital.

Depending on the level of emergency admissions to the specialty, it may be appropriate to have the surgical consultant on call from home, with senior specialist trainees either resident or non-resident first on call, and foundation year and/or ST1–2 trainees on site to provide cover over night. Specialties or units with a high emergency admission rate might benefit from having the consultant surgeon on site during the out-of-hours period – Trusts will need to profile their activity to decide whether this is a feasible option.

Supporting staff

Separating services may require some duplication of resources, perhaps in terms of the supporting staff required to facilitate the two services, for example, non-medically qualified practitioners to support theatre work, allied health professionals to support diagnostics and laboratory work, and administrative staff to facilitate scheduling and patient bookings. It may be possible to exploit economies of scale, especially for 'back office' functions such as administrative support. These should be explored.

Training

Aside from the primary aim of improving patient care, the separation of elective and emergency services needs to focus on the training needs of junior surgeons. Separating services may also facilitate a more focused view on research and development opportunities. The following provide some examples of how training can be improved within shortened working hours.

Modular training

Separating emergency and elective workloads provides the ideal environment for modular training to take place. Dedicated blocks of time in electives and emergencies provide the trainee with the opportunity to work up a patient from the beginning of his or her treatment to the end. This concentration on the entire episode of care helps to create a fuller experience for the trainee, something which many report has been lost due to the implementation of full-shift working to comply with WTD requirements.

Wherever possible modular training must take into consideration the training requirements of the individual. While there is much to be gained from a sustained period in doing hernia operations, for example, once the techniques have been mastered and the trainee has acquired sufficient experience and competence there is little educational benefit in repeating that module of training.

Training within shortened hours

The craft specialties will find it particularly challenging to meet WTD 2009 requirements (48 hours per week). Survey respondents listed various solutions for achieving the reduction in working hours and these ranged from moving to full-shift working, to adopting Hospital at Night principles, combining junior and senior trainee rotas to form a single tier of cover and increasing the number of staff grade surgeons.

It is inevitable that consultant surgeons will need to take more of a frontline role and embrace opportunities for team working with consultant colleagues. This supports both the safety of the patient (by having ready access to a senior surgeon) and the drive for efficiency (by having a senior decision-maker present to avoid unnecessary admissions, tests, etc). Further consultant expansion is therefore required in most surgical specialties.

Good practice example: Separating emergency and elective services can help to achieve WTD 2009 compliance. For example, trainees undergo an intensive period of on-call activity while covering emergency work (ie averaging more than 48 hours a week). Then their elective module includes no on-call commitment and they work less than 48 hours a week; thus averaged over the reference period, they will comply with the WTD.

The separation of emergency and elective work can benefit all levels of trainee:

- F1 and F2 trainees can obtain dedicated exposure to acute admissions by full-shift working and being part of the Hospital at Night team.
- Trainees at ST1–2 level might also support the Hospital at Night team, possibly on an on-call basis.
- Trainees at ST3–4 should, wherever possible, be precluded from working full shifts at night in order to consolidate their learning and maximise daytime training opportunities on the more complex elective cases.
- Trainees at ST4 and above could perhaps undertake non-resident on-call activities or in exceptional circumstances network with neighbouring Trusts to provide an out-of-hours on-call rota.

Patient experience and quality of care

Separating emergency and elective care has significant benefits for patients and can offer early investigation, definitive treatment and better continuity of care. Hospital-acquired infection risks are reduced and length of stay should be shorter. Streaming elective and emergency care should lead to fewer cancellations and improve supervision of trainees, thus improving patient safety.

Resources required

The separation of services needs to be properly planned, resourced and managed. It may be that services can be separated by rearranging existing resources and with little financial outlay. However, many respondents to our survey indicated that there had been increased costs initially. These may include:

- expanding the consultant base (surgeons and anaesthetists);
- expanding the number of support staff (nurses, trainees, staff grades, administrative staff, etc);
- setting up SAUs – resources, facilities and equipment;
- gearing up additional theatres so that services can be separated; and
- additional support services (radiology, pathology, etc).

The cost of routine elective care should reduce if services are separated. The cost of emergency care and complex electives may rise, but Trusts should find that scarce resources are used more efficiently. Currently the income generated via the payment-by-results mechanism may not fully recognise the increased costs incurred by Trusts treating emergencies and complex elective cases and this needs to be remedied.

Making it work

Surgeons and service planners will need to ensure that:

- Patient safety is safeguarded.
- Emergency and elective demands are accurately profiled and understood.
- Clinical involvement and agreement is secured.
- All participants understand the 'rules of engagement'.
- Proper handover of patients occurs between both emergency and elective teams.
- Training opportunities are maximised.
- Elective bed requirements are well thought out and resourced. Once agreed, they should be strictly ring-fenced.
- Supporting facilities can cope with the potential for increased demand (for example critical care beds, nursing staff, imaging, etc).
- Admissions for emergency surgery or to the SAU are made for clinical reasons and not to meet 4-hour wait rules.

- Senior decision-makers are available at key points in the patient pathway to reduce inappropriate admissions, tests, etc.
- IT solutions are explored (for example, telemedicine techniques, PACS, automated booking/scheduling systems).
- There is inherent ability to 'flex' emergency and elective resources to meet service pressures at different times in the year.
- Ambulance Trusts, the local authority and the local population are aware of any changes in service delivery.
- The requirement for full public consultation is followed where appropriate – clinicians should take the lead in making the clinical case for service change.

Conclusion

The College is committed to maintaining and improving standards in surgical care. We believe that the separation of emergency and elective workloads can facilitate this when it is well planned, resourced and managed. The College would therefore support the separation of elective and emergency services.

General inquires about this guidance can be addressed to dss@rcseng.ac.uk. The College can also offer targeted support for service change via our invited review mechanism (http://www.rcseng.ac.uk/standards/irm).

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Further reading

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