The emergency surgical team – the way forward in emergency care?

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ABSTRACT

INTRODUCTION With reduced working hours and shift patterns, surgical training and continuity of patient care is being put at risk. We have devised a system for managing the emergency surgical patients in an effort to counteract these perceived problems. This study describes the emergency surgical team and audits its activity.

PATIENTS AND METHODS The emergency surgery team concept is described in detail. Over a 2-week period, general surgical referral data, patient management and operative activity were audited.

RESULTS A total of 229 patients were referred to the emergency surgical team with 159 treated conservatively, 45 underwent operative intervention and 25 were discharged without admission. Of the emergency surgical team referrals, 58% had gallstone pathology, appendicitis or constipation/non-specific abdominal pain. Average daily number of patients under the care of the emergency surgical team was 26 (range, 10–40).

CONCLUSIONS The consultant-led emergency surgical team look after many of the acutely sick surgical patients. Our system not only provides good teaching opportunities but ensures optimal continuity of patient care in a busy district general hospital. Such an approach to emergency surgical care has been successfully developed to optimise training opportunities and improve patient care in a setting of reduced working hours and shift systems in our hospital.

KEYWORDS

Emergency surgical team – Patient care – Training

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The impact of *Modernising Medical Careers* (MMC) on surgical training has yet to be fully established but certainly seems likely to reduce the length of training with recent trainees anticipating 6000 h of surgical experience prior to achieving a consultant position as compared to 30,000 h for trainees 'pre-Calmanisation'.¹ In addition, Government-driven hospital targets aimed at optimising service delivery further reduce the opportunities for operative training for surgical trainees. With increasing enforcement of the European Working Time Directive (EWTD) resulting in more shift systems for junior doctors, the traditional firm structure is being eroded, training opportunities are being lost² and we run the risk of compromising the continuity of patient care.³ Whilst concerns about patient care may hold true across many medical specialities, it is in the emergency surgical setting that regular review and decision making on each patient remains vital.

In an effort to pre-empt some of these potential problems, the concept of the emergency surgical team was developed.

Patients and Methods

The emergency surgical seam (EST)

The eight surgical consultant-led teams are divided into two megafirms (A and B). Junior doctors within each surgical team are expected to cross-cover fixed commitments, such as pre-operative assessment clinics, within their megafirm. The rota is designed so that each of the four consultants in each megafirm are regularly time-tabled with their own registrars and other juniors. Consultant vascular cover is provided separately and these surgeons do not participate in the emergency surgical seam (EST).

The core emergency surgical team consists of a surgical consultant, a specialist registrar (SpR) and an F1 doctor. Any one consultant will be linked to the same SpR and F1 doctor for the duration of the EST period. However, on any given day, an additional SHO/F2 and another F1 doctor will be on the ward round and admitting referrals. All the emergency admission patients remain under the care of the same consultant for the duration of their on-call period (3–4 days). A

formal handover to the next on-call consultant and team then takes place with transfer of care of all of the emergency patients with continuing surgical problems. Therefore, instead of the emergency patients being allocated 'named' consultants, they are designated under the care of the EST. Most patients that have been operated on by the original consultant stay under their care until discharge.

The on-call system template is shown in Table 1 and works with 8 consultants, 8 SpRs, 8 SHOs and 8 F1 doctors. The first consultant remains on-call from 8am Monday until 8am Friday with all their elective commitments cancelled. This allows time for daily consultant-led educational ward rounds of all the EST patients at which the day SpR, night SHO and EST F1 are expected to be present. The same consultant controls the use of the CEPD emergency theatre list. Each consultant is always on-call with the same SpR who sees all emergency admissions between 8am and 5pm, Monday to Thursday. The night shift is covered from 5pm to 8am, Monday to Thursday by a rolling rota of SpRs within the megafirm on a non-resident basis after 11pm. At 8am, the night SpR resumes the usual firm-based activities.

The SHO/F2 grades have a rolling day-time on-call rota from 8am to 9pm, Monday to Thursday and receive accident and emergency and ward referrals. As part of a partial shift system, they carry out one week of nightly on-call duties starting 8.30pm Monday and finishing 8.30am the subsequent Monday followed by 7 days' leave. Both night and day SHO/F2 grades are expected to attend the EST ward rounds.

To aid continuity throughout the week, an F1 doctor is assigned to each consultant for the duration of that EST commitment. Whilst it is the responsibility of this F1 to write in the medical notes on the daily rounds, chase up test

results and carry out any of the jobs arising from that round, there is great emphasis placed on consultant-led teaching of clinical skills and talking through management decisions of critically ill surgical emergency patients. This gives the whole team an opportunity to review the patients they have admitted regularly and observe their progress with either operative intervention or conservative treatment over 3–4 days. The core F1 doctor also keeps the computerised EST list of patients up-to-date and is exempt from admitting emergency surgical patients. The remaining F1 doctors fulfil a rolling rota for accepting general practitioner referrals from 8am to 8pm, Monday to Thursday (after this time, all referrals are received by the SHO/F2 grade). A 'second-on' F1 doctor works from 4pm to 11.30pm, Monday to Thursday, to deal with any EST or ward-based problems.

The weekend shift begins at 8am Friday and finishes 8am Monday with a new consultant taking over for 3 days and carrying out the EST daily rounds. The weekend emergency surgical team is much simpler with another SpR, SHO and F1 carrying out the day shifts 8am to 8.30pm on Friday, Saturday and Sunday. A further SpR within the megafirm covers the 3 weekend night-shifts on a non-resident basis as already described.

On-call consultant changeover times are always 8am Monday and 8am Friday at which time a formal sit-down handover is carried out. The consultant, SpR and F1 doctor are present from both the handing over team as well as the new team taking over the EST role. In addition, the day and night SHOs from the Sunday or Thursday shifts are expected to attend. Each patient on the EST list is presented with their history, current investigations, diagnoses and details of any surgical procedures performed or planned. It is made

Table 1 Example of 2 weeks on-call/EST rota

Day	Mega-firm	Consultant EST	SpR day/EST	SpR night	SHO day	SHO night	F1 EST	F1 day	F1 evening
Mon	A	1	1	2	4	3	1	2	5
Tues	A	1	1	3	5	3	1	3	6
Wed	A	1	1	4	2	3	1	4	8
Thurs	A	1	1	1	1	3	1	6	2
Fri	B	5	5	7	8	3	5	7	–
Sat	B	5	5	7	8	3	5	7	–
Sun	B	5	5	7	8	3	5	7	–
Mon	B	6	6	8	2	4	6	3	6
Tues	B	6	6	5	8	4	6	4	8
Wed	B	6	6	7	5	4	6	5	3
Thurs	B	6	6	6	6	4	6	7	4
Fri	A	4	4	2	1	4	4	2	–
Sat	A	4	4	2	1	4	4	2	–
Sun	A	4	4	2	1	4	4	2	–

Figure 1 Number and source of daily referrals to EST over 2 weeks.

very clear which patients are to remain on the EST list and which will remain under the care of the ‘retiring’ EST consultant. Identification of subspecialty problems with any EST patient may be referred on to an appropriate clinician (*e.g.* jaundiced patient requiring ERCP).

Audit of activity

Over 2 weeks, data were prospectively collected on the type and number of surgical emergency admissions, source of referral, number requiring operative intervention and running total of daily EST activity.

Results

A total of 229 patients were referred to the EST during the audit period. Of these, 112 were referred via the accident and emergency department, 98 by general practitioners and 19 were either in-patient or clinic referrals. Of the 229 referrals over the 2 weeks, 159 were treated conservatively, 45 underwent operative intervention and 25 were discharged or referred on. On average, there were 16 referrals to EST in each 24-h on-call ranging from 7 to 28 referrals (Fig. 1). Of the referrals, a mean of 3 patients (range, 0–6)

Figure 2 Management of patients referred to EST over 2-week period.

Figure 3 Final diagnosis for all patients seen by EST over 2 weeks.

were operated on each day, with the majority being treated conservatively (mean, 11; range, 3–21) and an average of 2 referrals (range, 0–7) being discharged or referred on to another speciality (Fig. 2).

The variety of surgical pathology is shown in Figure 3. Fifty patients had a urological diagnosis and 7 patients had vascular problems so all of these were removed from the EST care and handed over to the appropriate speciality at 8am on the morning following their admission. Gallstone pathology, appendicitis and constipation/non-specific abdominal pain accounted for 58% of the EST general surgical admissions (85 out of 147 admissions).

At each of the four consultant EST handovers during the 2-week period, an average of 12 patients were handed over to the takeover EST team (on-going acute surgical problem) with an average of 14 patients being retained by the ‘retiring’ EST team. The retained patients were composed of patients that had been operated on during the on-call period, those patients with pathology pertaining to the consultant’s subspecialty and those in whom the acute surgical problem had resolved and discharge was imminent. The daily average number of patients under the care of EST was 26 (range, 10–40).

Discussion

There is increasing pressure from the public for a consultant-led service and this has become part of the governments plan

for the NHS.⁴ The National Confidential Enquiry into Patient Outcome and Death (NCEPOD) drew our attention to the poor operative outcomes in emergency surgical patients undergoing operative intervention by junior surgical staff without consultant supervision during anti-social hours.⁵ As a result, there have been wide-spread changes in the NHS, with a majority of hospitals having dedicated day-time emergency surgery lists with consultant supervision readily available.⁶

We believe our EST system ensures an optimal consultant-led service for our surgical emergency admissions. This cohort of surgical admissions often includes the most critically ill patients as well as those requiring technically challenging emergency operative intervention and intensive care. By having a dedicated EST consultant with no elective commitments, our surgical unit ensures that an appropriately experienced surgeon is readily available to deal with any surgical emergency in line with current recommendations.⁶

Our EST model has adopted the traditional ‘firm-based’ style of emergency patient management with the perceived benefit of continuity of care, which has recently come under threat with the enforcement of shift systems.⁵ Not only does this foster the ‘team spirit’ but allows the consultant to observe the patient management and operative skills of their allocated junior doctors and makes training opportunities more readily available. This is especially important with the high intensity of emergency activity demonstrated by our audit.

This system has now been in place at our institute for 12 months. It optimises the continuity of emergency surgical patient care by ensuring that all members of the emergency surgical team see all the EST patients on the daily consultant-led ward round. The adoption of such an approach to emergency surgical care depends on agreement and co-operation within the surgical department and this appears to have led to an improvement, not only in the quality of patient care but also to the staff morale by increasing the availability of teaching and emergency surgical training opportunities by a dedicated trainer for all grades of surgical junior doctors.

Conclusions

We would recommend the adoption of such a system to emergency surgical care in any busy co-operative surgical department. It appears to benefit both patients and medical staff.

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Erratum

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Cranial nerve injuries and the retrojugular approach in carotid endarterectomy

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On page 686 the boxed list in Figure 1 should be: 1. Internal carotid artery; 2. External carotid artery; 3. Jugular vein; 4. Ligated facial vein; 5. Superior thyroid artery. The authors apologise for the error in the labels for 1 and 3. An updated figure can be seen online.