

## ORIGINAL ARTICLE

## A chapter in emergency: a surgical trainee's experience

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**Objectives:** To assess (1) the exposure a senior house officer (SHO) gains while training in accident and emergency (A&E) and (2) how much this experience benefits a surgical trainee.

**Methods:** An SHO trained in A&E for a period of six months as part of his surgical rotation. Besides regular daily duties, he prospectively collected details of patients in a logbook. For each patient records of name, age, sex, address, presenting symptoms, speciality, and treatment outcome were noted. Also recorded were courses attended, certificates achieved, and audits performed during this period.

**Results:** A total of 1249 patients were seen during this period. This included 423 (33%) medical, 374 (30%) orthopaedic/trauma, and 268 (21%) paediatric cases. Some 153 (12%) were surgical, 55 urology, 41 patients presented with "pain" symptoms in different body regions (excluding abdominal pains), and 120 patients included all other specialities (psychiatry, ENT, ophthalmology, dental, gynaecology). Twenty (1.6%) practical procedures were performed. The SHO attended two courses (ATLS, ALS), achieved two certificates, and was involved in two audits.

**Conclusions:** Wide exposure in all specialities and branches of medicine including internal medicine, orthopaedics and trauma, paediatrics, and surgery was gained. As a surgical trainee, training in A&E did not provide hands on practical experience, but was useful in contributing towards general clinical skills.

There is no study of a senior house officer (SHO) or surgical trainee recording their experience and training in accident and emergency (A&E) for an entire six months.

The accident and emergency department at King George Hospital, Goodmayes is in the outer London Borough of Redbridge and has over 90 000 attendances each year.

Three consultants, five staff grades, and nine SHOs staff the department. There are three outpatient/consulting rooms, a 16 bedded trolley area, and a three bedded resuscitation room. There is a theatre for aseptic (for example, suturing of wounds, removal of foreign bodies, etc) and another for septic procedures (for example, incision and drainage, splintages, etc). Within the department a full nursing triage system is in operation. All acute gynaecological and obstetric emergencies are managed within a ward run independently of the main A&E premises.

## METHODS

The study entails the SHO rotating to A&E as part of his basic surgical training and working 56 hours a week for six months. The rota entailed working a week shift of morning, evening, and nights, each for seven consecutive days. Each

working day was of 10 hours duration with a 45 minutes break in between.

Tasks included, medical and non-medical work. Medical work entailed history taking, clinical examinations, ordering investigations, referring patients to other doctors, etc. Non-medical tasks included, waiting on telephones, venepunctures, intravenous access, calling patients, pushing wheel chairs, searching for previous record notes and radiographs, and filling GP letters for all discharges.

Before seeing patients, all demographic data were entered in a logbook. All patients were divided into major and minor cases, depending on the priority of each case, after their initial assessment via a nursing triage system. Every SHO was then allocated patients according to a fixed rota or under unusual circumstances by one of the staff grade (who was unaware of the study), depending upon the need of the hour. No special treatment was given while working in the department during this time.

## RESULTS

A total of 1249 patients were seen in six months: a breakdown by age and sex is shown in table 1. This included 694 male and 555 female patients.

**Table 1** Relative age and sex distribution of total number of patients

Age group (in years)	Sex		Total
	Male	Female	
0-10	111	63	174
11-20	112	65	177
21-30	117	68	185
31-40	89	88	177
41-50	84	64	148
51-60	54	56	110
61-70	47	32	79
71-80	40	56	96
81-90	37	43	80
91-100	3	19	22
>100	-	1	1
Totals	694 (55.6%)	555 (44.4%)	1249

There were a total of 94 patients in the 11-16 age group.

**Table 2** Total number of medical patients, examined by A&E SHO

Chest pains	126
Respiratory diseases	80
Headaches	12
CVA/stroke/TIA	9
Collapses	25
Intoxications	34
Convulsions	12
Rashes	10
DVT/cellulites	14
Ulcers	4
GI symptoms	46
Allergic reaction	13
Unwell (Dka, temp, etc)	38
Total	423 (33%)

There were a total of 423 medical patients whose varying medical conditions are in table 2.

A total of 208 surgical patients (including 55 urology cases) were seen. Table 3 also shows 41 patients presenting with a range of "pain" symptoms in different body regions. Altogether 374 orthopaedic and trauma cases were also seen.

Twenty six foreign bodies, 20 swellings, 31 infections together with 20 psychiatry, 26 paediatric (cases not falling into the previously mentioned symptoms), 34 ear, nose, throat, 23 ophthalmology, 6 dental, and 11 gynaecological patients were also examined. This has been assigned as a miscellaneous group in table 4. Table 5 identifies the total number of practical procedures performed during the six month period.

One appraisal session with the consultant was held three months after starting training. Two audit studies were performed (one independent retrospective study on "wound management in A&E" and another a prospective study on "use of antibiotics in A&E", as part of a multi-disciplinary team). Two courses were attended (Advanced Trauma Life Support, Advanced Life Support) and he achieved two certificates (acute and basic cardiopulmonary resuscitation).

**DISCUSSION**

Every medical, orthopaedic, and surgical SHO scheme considers A&E as an essential part of it rotation—but its

**Table 3** Total number of surgical speciality patients presenting to A&E in six months

Abdominal pains	92
Lower GI symptoms	20
Head injury	36
Burns	5
Total*	153 (12.2%)
Urology	55 (4.4%)
Other pains†	41
Fractures	44
Dislocations	3
Back pains	36
Ankle sprains	37
Other injuries	6
RTAs	24
Trauma	
chest/rib	11
upper limb	100
lower limb	75
Face	30
Assaults	8
Total orthopaedic	374 (30%)

\*There were total of 20 referrals made to surgical teams. †This is excluding abdominal, chest, renal, and back pains.

**Table 4** Miscellaneous patients (number) and specialties (number) presenting to A&E in six months

Foreign bodies	26
Bites	6
Infections	31
Swellings	20
Psychiatry	20
Paediatrics	26
ENT	34
Ophthalmology	23
Dental	6
Gynaecological	11
Total	203

Other "undiagnosed" is a group of patients whose final diagnoses were not established in A&E.

usefulness has never been assessed. Organising training, induction, appraisal,<sup>1 2</sup> continuous education, a supervision<sup>3-7</sup> are recognised as important aspects in a SHO's training. There have been A&E based studies assessing work activities,<sup>8</sup> hours of work,<sup>9 10</sup> stresses<sup>11</sup> and job satisfaction.<sup>12</sup> No study has been done to establish what experience and exposure a SHO gains during their stay in A&E.

This study shows the experience gained in different specialties while working within a busy district general hospital. The figures demonstrate exposure to a wide variety of clinical conditions, with medical patients constituting about 33% of the total workload. As a result the SHO gained confidence in handling acute severe life threatening conditions (for example, asthma, myocardial infarction, allergic reactions) and at the same time had a chance to treat potentially crippling disorders such as transient ischaemic attacks, strokes, etc, but particularly in elderly patients.

Orthopaedics and trauma together formed 30% of the total. This group of patients provided an opportunity to translate into practice trauma triage terms such as ISS, TRISS, and ASCOT. It also allowed a chance to apply ATLS principles in polytrauma cases. To practise primary, resuscitation and secondary surveys skills and improved ability to tackle all types of trauma resuscitation situations with greater confidence.

Between 2 and 3 million children attend A&E departments every year in the United Kingdom.<sup>13</sup> This is reflected in our study by the significant number of paediatric (21%) cases seen. The SHO dealt with a variety of paediatric emergencies and learnt to be calm and composed while examining unwell, uncooperative, and upset children.

Surgical cases (12%) included a variety of patients ranging from those with trivial symptoms to those who warranted urgent interventions such as, lifesaving ruptured aortic aneurysms, and urgent limb saving embolectomies for acute vascular occlusions. This experience helped instil vigilance and caution and the ability to provide effective and safe pain control management. Though there were few opportunities for hands on experience, satisfaction was gained from instant results.

**Table 5** Practical procedures performed during six months

Incision and drainage	5
Relocation of shoulders	2
Chest drains	1
Cardioversion	2
Stitching wounds	5
Closed cardiac massage	4
Intubation	1
Total	20 (1.6%)

Other important skills learnt and honed during the short stay in A&E are: decision making, effective communication with patients, relatives, general practitioners, and other members of the staff, identifying critically ill medical and surgical emergencies, instituting effective acute resuscitation, learning about the purpose of rehabilitation, benefits of community services, relevance of discharge planning, and the ethical issues involved in the management of acute medical cases.

This audit does not include the eventual outcome of diagnoses of medical and surgical specialties and does not outline areas that need to be improved in patient care management. Further audits are required to overcome this short fall and also examine the usefulness of A&E training to SHOs who intend to pursue a career in other specialties of medicine. This will further help in planning SHOs induction, appraisal and provide problem areas to concentrate on during the course of the remaining training period and offers the means to improve the quality of patient care in A&E.

In conclusion, this audit shows that working in the A&E department provides exposure to a wide range of acute and chronic conditions from all branches of medicine. While not giving much specific hands on surgical experience, training in A&E nevertheless has great value in contributing towards the general clinical skills for would be surgeons.

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#### CONTRIBUTORS

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#### REFERENCES

- 1 **Rawlinson JN**. Organising training for undergraduates and SHOs. *J Accid Emerg Med* 1999;**16**:69-71.
- 2 **Clancy MJ**. How to conduct an appraisal of a senior house officer. *J Accid Emerg Med* 1999;**16**:371-3.
- 3 **Rodenberg H**. Education in A&E medicine for senior house officer: reviews and recommendations. *J Accid Emerg Med* 1996;**13**:238-42.
- 4 **Cooke LS**. Education and training in the senior house officer. *Med Educ* 1999;**33**:418-23.
- 5 **Dale J, Williams S, Wellesley A**. Training and supervision needs and experience. *Postgrad Med J* 1999;**75**:86-9.
- 6 **Yates DW, Wakeford R**. The training of junior doctors for A&E work. *Injury* 1983;**14**:456-60.
- 7 **Reid C**. Continuing medical education one year on. *J Accid Emerg Med* 1998;**15**:360-2.
- 8 **Tham KY, Richmond PW**. Senior house officers activities in an accident and emergency. *J Accid Emerg Med* 1995;**12**:266-9.
- 9 **Anonymous**. Working hours of junior hospital doctors. *Lancet* 1969;ii:1057.
- 10 **Walker RG, Miller WR**. The work of hospital junior medical staff. *Health Bull* 1970;**28**:61-5.
- 11 **Williams S, Dale J, Wellesley**. Senior house officers work related stresses, psychological distress, and confidence in clinical tasks. *BMJ* 1997;**314**:713-18.
- 12 **Heyworth J, Whitley TW**. Predictors of work satisfaction among SHOs during A&E. *Medicine* 1993;**10**:279-88.
- 13 **Simons JM**. Young children in A&E: a local review. *Paediatric Nursing* 1999;**11**:24-7.