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Main Article

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Informing ENT training bootcamps – operating out-of-hours: a multicentre prospective evaluation

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Abstract

Objective. ENT specialty trainees are invited to national bootcamps to prepare for critical events to which they may have never been exposed. Here, we evaluate the frequency of out-of-hours ENT operations and the level of supervision provided to inform aspiring trainees and the national bootcamps.

Methods. Information on all ENT operations performed out-of-hours was prospectively recorded by trainees in Kent, Surrey and Sussex over seven months.

Results. There was a 100 per cent response rate. The trainee was the most senior surgeon present for 48.4 per cent of out-of-hours operations. Four of the six most frequently performed out-of-hours operations are not included in the ENT indicator procedures, and two are not included in the national ENT bootcamps.

Conclusion. Trainees should be aware of the most common procedures they may be expected to perform out-of-hours. Training in these should be provided prior to the commencement of specialty training. The audit design can be replicated across surgical specialties.

Introduction

The majority of emergency operating should be performed within normal working hours,[1] and the 'gold standard' is that emergency surgery is consultant-led to provide optimum care for patients and maximum training opportunities.[1] Operations occurring out-of-hours are associated with increased post-operative mortality and morbidity;[2] the reasons for this are multifactorial, and include staff fatigue, the nature of the surgical procedures performed and reduced out-of-hours staffing.[1,2]

However, ENT emergencies requiring operative management are often rapidly evolving, making operating out-of-hours unavoidable in many circumstances. As such, the necessary skill set of an ENT specialty trainee includes the ability to manage a variety of emergency surgical presentations.[3] It is not surprising that the step-up from core surgical training to specialty training can be a formidable prospect.[4] These anxieties are compounded by concerns that have been raised about the lack of surgical exposure in early stages of training, in part because of the impacts of the European Work Time Directive, which decreased surgical exposure in UK trainees by 38 per cent.[1,5]

A surgeon enters ENT specialty training as an 'ST3' (year three of specialty training), having completed core surgical training years one and two or equivalent training. The UK core surgical training curriculum is aligned with entry criteria of higher surgical training.[6] It includes core modules that develop generic competencies relevant to all surgical specialties, as well as both core specialty modules and year three of specialty training preparation modules that are specific to the trainee's chosen specialty.

In terms of operative competencies, there are four ENT procedures within the core surgical training curriculum specialty modules and year three of specialty training preparation modules that an ENT core trainee is expected to be able to perform without direct supervision.[6] These are rigid nasendoscopy, nasal cautery, packing a nose and drainage of a peritonsillar abscess. In 2022, when applying to ENT specialty training, a candidate scores maximum points if they have performed each of the following five 'ENT indicator' procedures twice or more: grommet insertion, direct laryngoscopy, nasal polypectomy, adult tonsillectomy and reduction of nasal fracture.[7] In 2023, this was amended, with candidates now needing to perform each procedure four times in order to score maximum points.[8] Additionally, the following four procedures have been added to the previous list: examination under anaesthesia and removal of an ENT foreign body, cervical lymph node biopsy, excision of skin lesion, and drainage of pinna haematoma.[8]

In order to help bridge the gap between core training and specialty training, ENT trainees are now advised to attend a national ENT bootcamp prior to commencing year three of specialty training.[9] These 2-day camps are designed to help trainees develop their management skills for uncommon but critical events to which a trainee may have never previously been exposed.[8]

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Here, we present the findings of a prospective audit of operations performed out-of-hours in the Kent, Surrey and Sussex deanery that aimed to evaluate the type and frequency of ENT operations taking place out-of-hours and the level of supervision provided. We hope our findings can inform aspiring ENT trainees, the core surgical training curriculum and the ENT bootcamp to better prepare trainees for commencing ENT specialty training.

Materials and methods

In January and February 2020 (pre-coronavirus disease 2019), and from August to December 2021, all ENT specialty trainees in Kent, Surrey and Sussex were required to prospectively complete a data sheet to record the details of any operations they were involved in that took place out-of-hours (Appendix 1). The information collected included the operation site, the operation title and the level of supervision. This log was then emailed to the study lead (HD) at the end of each month.

Results

Trainee demographics and response rate

There were a mean of 15 trainees per month working on ENT on-call rotas in the Kent, Surrey and Sussex region. All training grades from years three to eight of specialty training were included. All trainees in the region completed the data sheet each month (100 per cent response rate).

Operation details

Over the seven-month study period, a total of 122 ENT operations were completed out-of-hours. A mean of 17.4 operations (range, 8–21) were performed per month. Figure 1 shows the number and type of operations performed each month. Thirty-one different operation types were performed out-of-hours. Six procedures comprised 64.8 per cent of all operations. These were oesophagoscopy or panendoscopy and removal of a foreign body ($n = 28$); drainage of neck abscess ($n = 14$); tracheostomy ($n = 13$); removal of a foreign body from the nose ($n = 10$); sphenopalatine artery ligation ($n = 7$); and arrest of tonsillar haemorrhage ($n = 7$).

Supervision

The trainee was the most senior person present for the operation in 48.4 per cent of out-of-hours operations ($n = 59$) (Figure 2). Figure 3 demonstrates which procedures were performed when no surgeon more senior was present. The six most frequently performed procedures comprised 74.6 per cent of all those performed when no surgeon more senior was present (44 out of 59).

Discussion

The Royal College of Surgeons' standards for emergency surgery state that most emergency procedures should take place in the daytime.[1] Our results affirm that it is not possible to limit ENT operating to daytime hours only. This study was limited, as we did not investigate the indication of each procedure, and so we were unable to evaluate the necessity of performing each procedure outside of daytime hours.

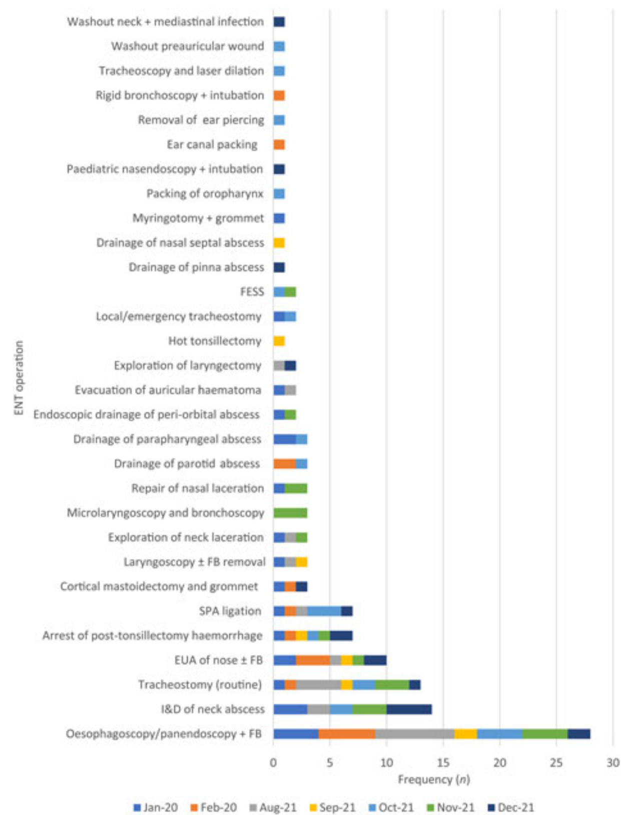

Figure 1. Numbers of each ENT operation performed out-of-hours per month. FESS = functional endoscopic sinus surgery; FB = foreign body; SPA = sphenopalatine artery; EUA = examination under anaesthesia; I&D = incision and drainage

It is important to note that of the six most commonly performed out-of-hours operations, only tracheostomy features in the core surgical training 'ST3' (year three of specialty training) preparation curriculum, with trainees expected to have observed the procedure.[6] Furthermore, while removal of a foreign body from the nose or throat is now mentioned in the updated self-assessment criteria for candidates applying for ENT specialty training, a candidate can score the maximum 18 out of 18 points on the surgical logbook section of these self-assessment criteria without having performed any of the six most commonly performed out-of-hours procedures we identified.[8]

This, in conjunction with a general reduction in operative exposure in the early stages of training, emphasises the

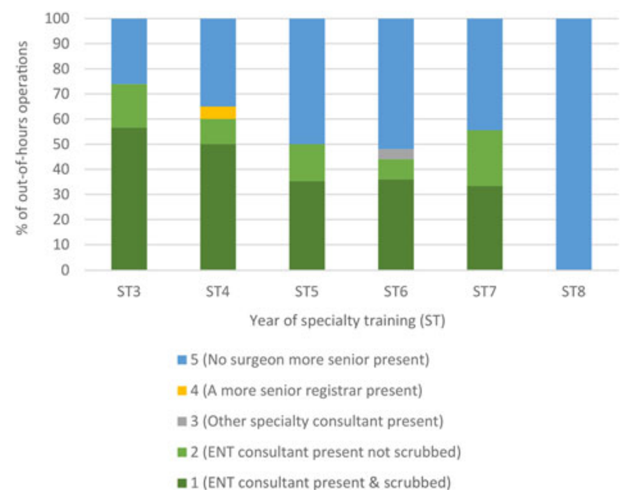

Figure 2. Supervision level for out-of-hours operations by specialty training grade.

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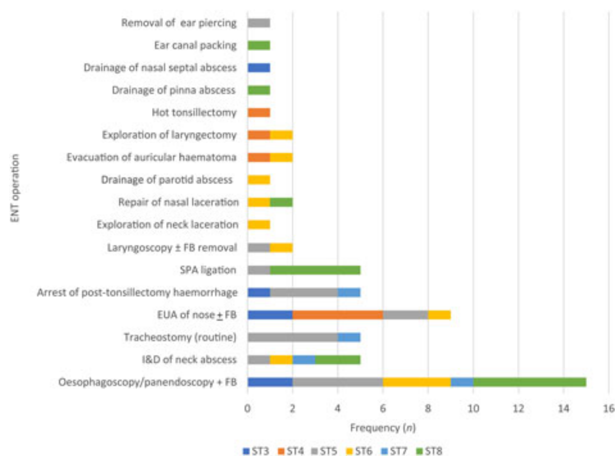

Figure 3. Frequency of all operations performed out-of-hours by each specialty training grade when no surgeon more senior was present.

importance of the national training bootcamp. Specialty trainees will be faced with emergency presentations out-of-hours that require operative management for which their previous training and applications have not been designed to prepare them. It is not feasible that the national bootcamp could cover all 31 of the procedures identified in this study, but we recommend that increased emphasis is placed on the 6 operations highlighted. Previous national bootcamps did not include drainage of neck abscess or arrest of tonsillar haemorrhage, which represent the second and fifth most frequently performed procedures out-of-hours, respectively, identified by this study.[9]

- ENT specialty trainees are expected to perform operations out-of-hours in emergency situations; senior supervision is less readily available out-of-hours
- The operations performed out-of-hours have not previously been investigated
- National bootcamps and core surgical training aim to help prepare specialty trainees to manage critical events to which they may not previously have been exposed
- This paper presents prospectively recorded data showing the range and frequency of out-of-hours ENT procedures, and the supervision level provided
- Knowledge of out-of-hours procedures allows trainees to develop proficiency in performing these procedures early in their surgical careers
- Likewise, training programmes and national ENT bootcamps can work to ensure adequate support and training in these procedures are provided

Operating out-of-hours within ENT is often unavoidable. Careful consideration should be taken to ensure patient safety is optimised, both by performing emergency procedures during daytime hours where possible and by ensuring that adequate senior supervision is provided out-of-hours. Specialty trainees should be aware of the most common procedures they may be expected to perform out-of-hours, and adequate training and support should be provided to facilitate trainees developing proficiency in these procedures as early as possible in their surgical careers. The design of our prospective audit can be replicated in all surgical specialties to inform the training of all aspiring surgical candidates.

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Data availability statement. The data that support the findings of this study are available from the corresponding author upon reasonable request.

Competing interests. None declared.

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Appendix 1.

ENT REGISTRAR OPERATIONS OUT-OF-HOURS

Please complete the table below to give details on each of the operations that you were involved in that were performed out-of-hours this month

(Out of hours = any operation performed between 18:00 and 08:00 weekdays, or anytime on a weekend).

MONTH						
NAME OF SURGEON						
GRADE OF SURGEON (e.g. ST3, ST4)						
	Operation 1	Operation 2	Operation 3	Operation 4	Operation 5	Operation 6
HOSPITAL NAME						
OPERATION TITLE*						
DURATION OF OPERATION** (Nearest 15 mins)						
LEVEL OF SUPERVISION***						
OUTCOME/COMPLICATION****						
PATIENT COVID-19 STATUS						

KEY:

*OPERATION TITLE: Please use title as coded in the surgical elogbook.

**DURATION OF OPERATION: Please estimate to the nearest 15mins.

***LEVEL OF SUPERVISION: (please complete table with every number that applies).

- **1** = ENT consultant present + scrubbed.
- **2** = ENT consultant present not scrubbed.
- **3** = Other specialty consultant present.
- **4** = A more senior registrar present (please specify grade).
- **5** = No surgeon more senior present.
- **6** = Other supervision (please specify).

****OUTCOME/COMPLICATION: please give brief detail of any known complication e.g wound infection, reoperation required, procedure abandoned, death.

Note: If you have been involved in more than 6 operations out-of-hours this month please complete a second word document.

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