Compliance of ENT emergency surgery with the Royal College of Surgeons standards

S Sharma¹, A Yao², S Mahalingam³, R Persaud⁴

¹University Hospitals of Leicester NHS Trust, UK

²Newcastle upon Tyne Hospitals NHS Foundation Trust, UK

³Surrey and Sussex Healthcare NHS Trust, UK

⁴Al Zahra Hospital, Sharjah and Dubai, United Arab Emirates

ABSTRACT

INTRODUCTION In 2011 The Royal College of Surgeons of England (RCS) set out best practice standards for emergency surgery. This national pilot audit aimed to determine the compliance of otolaryngology departments in England with these published guidelines.

METHODS A 26-item online questionnaire was devised that encompassed all the 36 best practices as set out by the RCS for ear, nose and throat (ENT) surgery. This was sent to ENT trainees and consultants based at units in England providing emergency ENT services.

RESULTS Data were obtained from 55 of the 102 units (response rate: 54%). A mean compliance of 71% was achieved (range: 25–94%). No units achieved all of the best practices. The standards with the highest compliance included 24-hour availability of blood transfusion and haematology opinion for patients with epistaxis, availability of a consultant or ST3/equivalent for immediate discussion of severe post-tonsillectomy bleeding, 24-hour access to blood transfusion for arrest of haemorrhage and immediate theatre access for arrest of haemorrhage. The areas with the lowest compliance were provision of a pathway for angiography/embolisation for epistaxis and provision of an equipped ENT room on a paediatric ward.

CONCLUSIONS This audit has highlighted that the majority of departments in England are providing a good standard of ENT emergency care. There is room for improvement in certain areas, such as the provision of an embolisation pathway in the context of refractory epistaxis. We hope that this audit will encourage ENT departments to evaluate their current provision of emergency care and institute changes (where necessary) to maintain and improve their practices.

KEYWORDS

Otolaryngology – Emergencies – Clinical audit

Accepted 14 March 2015

CORRESPONDENCE TO

Shradha Sharma, E: shradha121@yahoo.co.uk

In 2011 The Royal College of Surgeons of England (RCS) published emergency surgery standards for unscheduled care across all surgical specialties.¹ The primary purpose of this document was to improve and standardise the current practice in all departments providing emergency surgical care, including ear, nose and throat (ENT) units.

A preliminary national audit was carried out to assess the compliance of ENT departments with the standards recommended by the Emergency Surgery Standards Working Group in collaboration with the Department of Health. The aim was to evaluate the current state of emergency care provision in ENT units and identify areas most deficient throughout the country.

Methods

An online questionnaire was sent to ENT trainees (core trainees and registrars) and consultants based at units

providing on-site emergency ENT services in England between April and July 2014. The units were identified from data provided by the Health and Social Care Information Centre.² Trainees based at the relevant units were identified through the ENT trainee website and consultants via their hospital websites. Units in Wales, Scotland and Northern Ireland were excluded as they have a devolved health service that is not controlled centrally by the Department of Health in London and so the RCS best practice standards are not directly applicable.

A second round of follow-up emails with the questionnaire link were sent to non-respondents.

The questionnaire assessed compliance with the best practice standards for ENT surgery (as set out in the RCS emergency guidelines).¹ It consisted of 26 questions in a binary ‘yes/no’ format encompassing a total of 36 best practices (Appendix 1 – available online). Two additional questions requesting the respondent’s rank and hospital

were also posed to prevent duplication of data only. These results have not been included to preserve anonymity.

Results

Overall, 102 ENT emergency units in England were identified and contacted. Fifty-five responses were received, equating to a response rate of 54%.

No units complied with all 36 best practice standards. The most compliant unit achieved 34 standards (94%) while the least compliant unit achieved 9 (25%). A mean of 25 standards (71%) was met across the units. The median rate of compliance was 82%.

The four standards with the highest compliance were for:

- > 24-hour availability of blood transfusion and haematology opinion for patients with epistaxis
- > availability of a consultant or ST3/equivalent for immediate discussion of severe post-tonsillectomy bleeding
- > 24-hour access to blood transfusion for arrest of haemorrhage
- > immediate theatre access for arrest of haemorrhage.

All of these four standards were achieved by 52 of the 55 units (95%).

The two areas with lowest compliance were in the provision of an agreed written pathway for angiography and embolisation for epistaxis (achieved by four units [7%]), and the provision of an equipped ENT room on a paediatric ward for emergency paediatric patients (achieved by nine units [16%]).

Figure 1 demonstrates how the units performed across all the best practice standards. Three per cent of questions were not answered.

Discussion

Emergency admissions in ENT are common. In 2012–2013 there were 68,788 emergency ENT admissions across England.⁵ The RCS introduced guidelines for best practice in emergency surgery to improve the care that is provided to this cohort of patients, who are often the most vulnerable surgical patients.^{4,5} These standards are based on current evidence or (in the absence of this) a consensus expert opinion of what is considered best practice. They appear to be pragmatic in that they are reasonable and achievable. The results from our national audit indicate that none of the ENT departments from which a response was received currently comply with all the recommendations.

There are some standards that were generally well met. The first was in the provision of 24-hour access to blood transfusion and the availability of blood products for transfusion in severe epistaxis. In 2007 the National Patient Safety Agency (NPSA) released a rapid response report for the management of emergency haemorrhage in surgical units; this recommends that all units undertaking surgery must ensure that a 'co-ordinated system for the urgent supply of blood products is established and maintained'.⁶

Alongside the national guideline for the management of massive blood loss,⁷ a further NPSA report in 2010 reiterates that the hospital transfusion committee should have in place a robust protocol for requesting and obtaining blood in emergency situations including out of hours.⁸

The majority of units also complied well by readily providing senior support for the discussion and management of key emergencies such as post-tonsillectomy haemorrhage, orbital cellulitis and oesophageal foreign bodies. However, it was remarkable to find that some units did not. With the increasing number of shift changes for junior doctors in conjunction with a reduction in working hours, doctors accrue less experience in managing emergency surgical patients.^{9–11} It is therefore important that experienced senior colleagues are easily accessible to prevent compromising patient care or safety.

The units that failed to meet these standards may be part of a 'hub and spoke' model of ENT service provision or part of a network of transfusion facilities, therefore lacking an on-site blood bank. With the hub and spoke model, there may often be one senior off-site doctor providing cover for a number of units, particularly out of hours. This could account for delays in senior input.

Our results have highlighted areas requiring improvement. There is a lack of recognised protocols and pathways for the management of ENT emergencies such as oesophageal foreign body management and epistaxis, notably refractory epistaxis. Established protocols can help streamline the patient management pathway. They have also been shown to improve the patient experience, prevent treatment delays, reduce the length of hospital admissions and keep down overall hospital costs.^{10–12}

Epistaxis is a common emergency. The current management of this condition has changed with the technical advances in interventional radiology. In 2012–2013 there were 20,812 emergency hospital admissions for epistaxis that required some form of intervention,¹³ of which 0.1% underwent embolisation.¹⁴ In this small subset of patients, the epistaxis is refractory to other basic treatments (medical and surgical) and recent studies have shown that the use of embolisation is increasing.^{15,16} It is not clear, however, whether this reflects an increased need or a change in the trend of management due to better access to resources.

The 2008 document *Standards for Providing a 24-hour Interventional Radiology Service*, published by the Royal College of Radiologists, proposes that when there is an unmet clinical need in a trust, service commissioners should be consulted to consider providing the service required.¹⁷ When this service cannot be provided, trusts should have planned patient pathways, including onward referral to another centre.

There are also aspects of inadequate segregation of paediatric ENT emergency services from adult services. Only 16% of units provide an equipped ENT room on a paediatric ward. This is surprising considering that over a quarter of ENT admissions in England are under the age of 15 years.³ In 2003 the Department of Health's *National Service Framework for Children* highlighted the

Figure 1 Compliance with best practice standards across all units

importance of separating adult and paediatric care.¹⁸ Furthermore, the RCS document *Standards for Children's Surgery* recommends that 'adults and children are segregated in all service areas'.¹⁹

The lack of compliance with standards may be occurring because some units are unaware of some (or even all) of the existing recommendations. Implementation of some standards can also be more challenging than for others, primarily owing to the need for further resources. In the current financial climate in the National Health Service,²⁰ the lack of funding may be having a direct impact on emergency service provisions as we cannot reach certain standards. For example, not all hospitals may have the required staffing levels or even the necessary bed space to provide care in a separate ENT ward. Moreover, aspects of ENT care are highly specialised whereby optimal care is dependent on the presence of specially trained nursing staff.²¹ It is therefore important that each unit can identify specific areas for change and improve best practice targets, which can be more consistently achieved despite the challenges in resource limitations.

Study limitations

The low response of rate 54% could result in a response bias. This reflects the challenges of questionnaire-based surveys. The responses were obtained from a diverse range of ENT units throughout the country, comprising district general hospitals and tertiary referral centres, thereby providing a representative sample. These responses have allowed us to identify trends in the areas of best practice where units are either compliant or deficient.

Conclusions

This pilot audit has shown that ENT departments in England at present are achieving the majority of the best practice standards for emergency care provision. However, there is room for improvement. We hope that this audit will raise awareness of the best practice guidelines, and encourage ENT departments to identify local deficiencies and target resources to improve emergency ENT practices.

Acknowledgement

The authors would like to thank Mr Dino Argiris for his assistance with editing and reviewing the final versions of the manuscript.

References

1. Royal College of Surgeons of England. *Emergency Surgery*. London: RCS; 2011.
2. Hospital Episode Statistics, Admitted Patient Care, England, 2012–13: Hospital Providers. Health and Social Care Information Centre. <http://www.hscic.gov.uk/catalogue/PUB12566> (cited September 2015).
3. Hospital Episode Statistics, Admitted Patient Care, England, 2012–13: Main Specialties. Health and Social Care Information Centre. <http://www.hscic.gov.uk/catalogue/PUB12566> (cited September 2015).
4. Dagan E, Wolf M, Migirov LM. Why do geriatric patients attend otolaryngology emergency rooms? *Isr Med Assoc J* 2012; **14**: 633–636.
5. Pearse RM, Harrison DA, James P *et al*. Identification and characterisation of the high-risk surgical population in the United Kingdom. *Crit Care* 2006; **10**: R81.
6. National Patient Safety Agency. *Rapid Response Report 3: Emergency Support in Surgical Units: Dealing with Haemorrhage*. London: NPSA; 2007.
7. National Patient Safety Agency. *Rapid Response Report NPSA/2010/017: The Transfusion of Blood and Blood Components in an Emergency*. London: NPSA; 2010.
8. Stainsby D, MacLennan S, Thomas D *et al*. Guidelines on the management of massive blood loss. *Br J Haematol* 2006; **135**: 634–641.
9. O'Gallagher MK, Lewsi G, Mercieca K *et al*. The impact of the European Working Time Regulations on Ophthalmic Specialist Training – a national trainee survey. *Int J Surg* 2013; **11**: 837–840.
10. Canter R. Impact of reduced working time on surgical training in the United Kingdom and Ireland. *Surgeon* 2011; **9**(Suppl 1): S6–S7.
11. Parsons BA, Blencowe NS, Hollowood AD, Grant JR. Surgical training: the impact of changes in curriculum and experience. *J Surg Educ* 2011; **68**: 44–51.
12. Fallon SC, Delemos D, Christopher D *et al*. Trauma surgeon becomes consultant: evaluation of a protocol for management of intermediate-level trauma patients. *J Pediatr Surg* 2014; **49**: 178–182.
13. Hospital Episode Statistics, Admitted Patient Care, England, 2012–13: Diagnosis. Health and Social Care Information Centre. <http://www.hscic.gov.uk/catalogue/PUB12566> (cited September 2015).
14. Hospital Episode Statistics, Admitted Patient Care, England, 2012–13: Procedures and Interventions. Health and Social Care Information Centre. <http://www.hscic.gov.uk/catalogue/PUB12566> (cited September 2015).
15. Brinjikji W, Kallmes DF, Cloft HJ. Trends in epistaxis embolization in the United States: a study of the Nationwide Inpatient Sample 2003–2010. *J Vasc Interv Radiol* 2013; **24**: 969–973.
16. Risley J, Mann J, Jones NS. The role of embolisation in ENT: an update. *J Laryngol Otol* 2012; **126**: 228–235.
17. Royal College of Radiologists. *Standards for Providing a 24-hour Interventional Radiology Service*. London: RCR; 2008.
18. Department of Health. *Getting the Right Start: National Service Framework for Children*. London: DH; 2003.
19. Royal College of Surgeons of England. *Standards for Children's Surgery*. London: RCS; 2013.
20. Timmins N. Health economics. Where do the cuts leave the NHS? *BMJ* 2010; **341**: c6024.
21. Hurst K. Nursing by numbers. *Nurs Stand* 2006; **21**: 22–25.