AN OCCASIONAL SERIES ON CRITICAL CARE

Critical care in the emergency department: introduction

P Nee, F Andrews, E Rivers

In this series of articles we aim to stimulate the interest of the emergency physician treating critically ill patients and promote discussion on critical care in the resuscitation room

Graham and Parke recently published the first of an occasional series of articles whose aim is to stimulate interest in and discussion on the care of critically ill adults in the emergency department (ED) setting.[1] A further eight articles have been commissioned by the EMJ Editorial Board addressing emergency airway care, respiratory failure, sepsis, coma, renal failure, drug and fluid therapy, monitoring, and the principles of patient transfer.

The series is timely and reflects current trends in emergency medicine (EM) in the UK and elsewhere. In England and Wales we are obliged to ensure that the patient journey through the ED is completed within 4 h in 98% of cases. This has often been achieved by a process of segmentation: the triage of selected patients to platforms other than the main ED, such as family practitioner sessions, nurse clinicians, and minor injuries units. For admitted patients there are GP assessment units, clinical decision units, and multidisciplinary admission units in most trusts, ensuring that repeat assessments of stable patients do not exacerbate ED crowding.

This has enabled the emergency physician (EP) to focus on what might be deemed the core business of EM: the immediate medical care of patients with critical illness and injury. This group of patients, triage category I and II, represents up to 15% of attendees in most major departments. They are at risk of organ failure due to an imbalance between systemic oxygen delivery and the utilisation requirements of the tissues. This time period represents the greatest opportunity for organ injury reversibility.[2] The knowledge, skills, and attitudes that prevail in critical care medicine (CCM) are useful attributes in the management of these patients.

Hence the landscape is changing in EM in the UK. The ED has always enjoyed the support of specialists from anaesthesia, general internal medicine, and CCM. Trends in education and training, the New Deal, and the European Working Time Directive will make this more difficult to sustain.

The structure and process of CCM is also changing. The delivery of critical care is no longer considered restricted to a physical location but a knowledge base addressing the needs of patients in all clinical areas.[3 4] There is a trend in many trusts to extend the clinical approach of the intensivist into all other areas, including the ED.[5] Non-invasive ventilation is an example of a procedure, once the province of the critical care unit, now well established in EM practice.[6] And emergency airway care, including rapid sequence intubation, is increasingly found within the skill set of the EP.[7] There is also compelling evidence that initiation of intensive therapy in the ED improves the outcome of patients with severe sepsis.[8]

The recommendations of the Modernising Medical Careers initiative will see the growth of pluripotential acute care schemes following on from the foundation years. This will ensure a proper grounding in CCM for the EPs of the future, and it will require that their supervisors and mentors are au fait with the modern management of critical illness. Training in CCM is supervised by the Intercollegiate Board on Training in Intensive Care Medicine (IBTICM; www.ibticm.org). The training is intended to be taken within a main specialty programme such as anaesthesia, medicine, surgery, or EM. The programmes allow for sessional commitment to CCM whilst maintaining a base in the ED. EM trainees in the UK increasingly opt for a training that prepares them for a consultant post at the EM/CCM interface.[9]

In this series of articles we aim to stimulate the interest of the EP treating critically ill patients, and promote discussion on the principles and practice of critical care in the resuscitation room. The contributing authors are, in the main, credentialed EPs and intensivists, with daily hands-on involvement in the delivery of augmented care in the ED setting. The topics have been selected to represent the broad range of problems that may present in a seriously ill adult. The case based, semi-interactive format is intended to encourage participation and further reading.

We have moved on irretrievably from the bad old days of accident and emergency, when junior doctors dealt with severely ill patients without adequate training or senior support. Nowadays, major EDs are able to deploy experienced doctors to treat sick adults and children, whatever time of the day or night they present. Critical care skills are part of the armamentarium of the contemporary EP. It is hoped that the present series will contribute to their learning and development in this important and expanding branch of EM.

Emerg Med J 2006;**23**:560.
doi: 10.1136/emj.2005.029942

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Accepted for publication 22 August 2005

Competing interests: none declared

REFERENCES

1 **Graham CA**, Parke TR. Critical care in the emergency department: shock and circulatory support. *Emerg Med J* 2005;**22**(1):17–21.
2 **Rivers E**, Doyle D, Nguyen H, *et al*. Physiologic assessment of the critically ill: an outcome evaluation of emergency department intervention. *Acad Emerg Med* 1998;**5**(Suppl 5):530.
3 **Rivers EP**, Nguyen HB, Huang DT, *et al*. Critical care and emergency medicine. *Curr Opin Crit Care* 2002;**8**(6):600–6.
4 **The Intensive Care Society**. *The evolution of intensive care in the UK*. London: Intensive Care Society, 2003.
5 **Graff LG**, Clark S, Radford MJ. Critical care by emergency physicians in American and English hospitals. *Arch Emerg Med* 1993;**10**(3):145–54.
6 **Cross AM**, Cameron P, Kierce M, *et al*. Non-invasive ventilation in acute respiratory failure: a randomised comparison of continuous positive airway pressure and bi-level positive airway pressure. *Emerg Med J* 2003;**20**:531–4.
7 **Butler JM**, Clancy M, Robinson N, *et al*. An observational survey of emergency department rapid sequence intubation. *Emerg Med J* 2001;**18**:343–8.
8 **Rivers E**, Nguyen B, Havstad S, *et al*. Early goal-directed therapy in the treatment of severe sepsis and septic shock. *N Engl J Med* 2001;**345**(19):1368–77.
9 **Brown T**. Emergency physicians in critical care: a consultant's experience. *Emerg Med J* 2004;**21**:145–8.