Patient 2 was an 80 year old male who had previously been fit and well. He had owned a terrier for a number of years. With this case, however, it was the human who became frightened when he witnessed the dog having a seizure for the first time. Having learned some first aid, the man immediately tried to prize open the dog's mouth as some sort of attempt to take care of the airway. The dog, however, firmly closed its mouth over the man's forearm and he required surgery for the skin loss and exploration of radial nerve and flexor tendons.

Dogs and epilepsy don't mix.

SEAN WILLIAMSON
Middlesbrough General Hospital

- 1 A survey of dog bites in Salisbury. *J R Soc Health* 1991;111:224-5.

Adrenaline, cardiac arrest and evidence based medicine

EDITOR,—Rainer and Robertson must be congratulated on their useful review regarding the use of adrenaline in cardiac arrest.¹ A further piece of evidence is the effect of large doses of adrenaline in the postarrest cerebral reperfusion phase. Adrenaline has been shown to adversely affect the ability of the neurone to resist and repair damage during reperfusion.² The biochemical events responsible for this effect are:

- (a) Acceleration of lipid peroxidation
- (b) Depression of insulin secretion
- (c) Downregulation of the insulin receptor tyrosine kinase.^{2,3}

At the present time the clinical implications of these biochemical events are difficult to quantify. The development of cerebral resuscitation techniques alongside cardiac resuscitation may further challenge the present use of adrenaline as a first line drug in advanced life support resuscitation.

VICTOR INYANG
Accident and Emergency Department, Norfolk and Norwich Hospital NHS Trust

- 1 Rainer T, Robertson C. Adrenaline, cardiac arrest, and evidence medicine. *J Accid Emerg Med* 1996;13:234-7.
- 2 White BC, Grossman LI, O'Neil B, et al. Global brain ischaemia and reperfusion. *Ann Emerg Med* 1996;27:588-94.
- 3 White BC, Grossman LI, Krause GS. Membrane damage and repair in brain injury by ischaemia and reperfusion. *Neurology* 1993;43:1656-65 (review article: 159 references).

Spinal boards

EDITOR,—The article by Main and Lovell¹ highlights the major problem of the spinal board, namely the high interface pressures that can result in more rapid development of pressure sores. The spinal board has suffered because it is no longer only being used for its intended purpose. The spinal board is an excellent extrication device. A patient can be

very rapidly extricated from a vehicle by sliding them along a spinal board. They are then secured onto the spinal board to transfer them to the ambulance. The spinal board is considered the gold standard for spinal immobilisation in the field by the pre-hospital trauma life support (PHTLS) course² but this course also accepts that "too much focus often is placed on the particular devices without an understanding of the principles of immobilisation".

Unfortunately the problem then develops as to when to remove the patient from the board. Every transfer is a high risk procedure for the spinally injured. The risk is less when several trained people are available, therefore it may be best to delay transfer from the board until arrival at the A&E department when more skilled help is available. However, this means a longer period on the board and lack of support of the lumbar lordosis during transport.

Use of a spinal board as an extrication tool speeds up extrication dramatically and therefore decreases time to arrival in hospital. Its use for this purpose should therefore be encouraged. As with any piece of equipment, proper training is vital. What should be discouraged is long journeys on a spinal board or putting patients on spinal boards in the A&E department. In these cases use of a vacuum mattress is better. The ATLS course has been blamed for the excessive use of the spinal board; however, the course manual clearly states that the backboard is for use "before and during transfer", not for use within the hospital.³ The spinal board is for pre-hospital care not for care within the hospital, when better support can be given to the spine without causing excessive pressure over prominences. It must however be remembered that the torso needs immobilisation as well as the head and neck in order to achieve full spinal immobilisation.

The new product that Main and Lovell describe, combining spinal board and vacuum mattress, is in my opinion not logical. The high friction surface prevents its use as an extrication tool and therefore the board is simply being used to give added strength to the mattress, that is, the main advantage of the board is lost.

If used properly the spinal board can improve trauma care. If abused it will produce pressure sores. On arrival in hospital the patient should be removed from the board at the earliest convenient time providing immobilisation of the spine is maintained.

MATTHEW COOKE
Department of A&E Medicine, University of Birmingham and City Hospital NHS Trust, Birmingham

- 1 Main PW, Lovell ME. A review of seven support surfaces with emphasis on their protection of the spinally injured. *J Accid Emerg Med* 1996;13:34-7.

- 2 National Association of Emergency Medical Technicians. *Pre-hospital trauma life support*. St Louis: C V Mosby, 1994.
- 3 American College of Surgeons. *Advanced trauma life support*. Chicago: ACS, 1993.

BOOK REVIEW

Accident and Emergency: Diagnosis and Management (3rd ed). ATF Brown. (Pp 410; £16.99.) Oxford: Butterworth Heinemann, 1995. ISBN 0 7506 2233 4.

In recommending a book to SHOs about to start work in an accident and emergency department, I would look for a text which offered practical, up to date, clear and uncontroversial advice in an accessible format. Although there are other books aimed at this corner of the market, *Accident and emergency, diagnosis and management* probably comes closer to achieving these objectives than its competitors. It is a "no frills" book designed to be used on the shop floor rather than as a text to be read cover to cover, and as such will provide some comfort to stressed junior doctors in their first weeks in accident and emergency.

Although the author works in Australia, much of the content is specific to British departments with British telephone contacts, drug names and dosage regimes (though no mention of the vagaries of legal procedures north of the border to appease Scottish opinion). The fact that this text has reached its third edition within 10 years of publication speaks well of the author and publishers' commitment to keeping abreast of new developments in the field of A&E medicine. It is also an index of its success and popularity.

The approach is symptom based to allow consideration of differential diagnosis before management. The book is accurately indexed and cross referenced and also contains suggestions for further reading which will be useful to the better motivated. The content is, however, predominantly text, with only 13 figures consisting of line drawings and 13 tables. This gives a book of over 400 pages a rather monotonous feel at times, though the text is broken up by subheadings and numbered lists.

Although for new SHOs there is no substitute for an experienced colleague looking over your shoulder, a reliable small text such as this can provide reassurance in moments of uncertainty. In summary this book can be recommended to junior doctors as a concise and practical guide to the work of an A&E department.

GRAHAM JOHNSON
Leeds