Recent advances in accident and emergency medicine

EDITOR,—We wish to draw to your attention the article recently published in the *BMJ* entitled "Recent advances in accident and emergency medicine".¹ In the article Dr Stahmer advocates the use of serial measurement of creatine kinase MB isoenzyme to confirm acute myocardial infarction in patients with non-diagnostic electrocardiograms. Doing so she appears unaware of financial constraints operating here in the UK. The paper that Dr Stahmer bases this recommendation upon quotes a sensitivity to detect myocardial infarction in the first six hours, from the development of symptoms, of 95.7% with a specificity of up to 96%.² The methodology involved venesection every 30–60 minutes for up to six hours.

Currently in our department we use creatine kinase measurements at presentation then at 2 and 4 hours. This follows work by Collinson and Stubbs who, using this method, showed an incremental change of 20% in creatine kinase between 0 and 4 hours to be 100% sensitive and 94% specific for patients with a degree of uncertainty in the diagnosis of acute myocardial infarction.³ An audit by next day follow up has shown a reduction in the rate of missed acute myocardial infarction from 6.7% to <1%. This method has obvious cost benefits over that advocated by Dr Stahmer as well as having strong implications regarding risk management. It may also be of interest, in light of one of the presentations at the British Association for Accident and Emergency Medicine conference in Birmingham, that we are soon to start a trial using point of care testing in conjunction with our practise outlined above.

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A late presentation!

EDITOR,—Last year I saw an 88 year old man who had fallen and had some "right scaphoid" tenderness. Radiographs of his right wrist showed an old un-united fracture of his scaphoid bone, but no new bony injury (see fig 1). He last fell in 1926, off his motor-cycle, onto both hands. His right wrist had been sore ever since and it took him 71 years to present to a doctor.

Is this a record for a late presentation of an injury?

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Golf is a dangerous game

EDITOR,—Golf related head injury in children is a significant problem in the West of Scotland, according to a three month prospective, observational study carried out between June and August 1997.

During this period, a record was kept of all children, aged 16 and under, presenting to the accident and emergency (A&E) department of the Royal Alexandra Hospital in Paisley (catchment population 250 000) with a golf related head injury. A concurrent record was kept of similar patients requiring admission to the regional neurosurgical centre at the Southern General Hospital in Glasgow (catchment population 2.7 million).

A total of 23 children attended the A&E department with such an injury, with a mean age of 8.0 years. All patients had sustained accidental injuries with 22 of these patients injured while observing another person playing golf. Only six of these were supervised by an adult and only three were playing golf on a recognised course at the time of injury. All patients were struck with either a club (20 cases) or a ball (three cases). The most common injury was scalp and facial lacerations, although one child sustained an acute extradural haematoma and another a compound depressed skull fracture. Both of these children were transferred to the regional neurosurgical centre.

Over the same period, 17 patients were admitted to the neurosurgical centre, with a mean age of 11.8 years. Of these, 13 patients sustained compound depressed skull fractures, all of whom required surgery, and two patients had acute extradural haematomas which needed emergency neurosurgical evacuation. A further two patients were admitted for computed tomography and observation only. There were no postoperative

complications and at two month follow up all the children had recovered fully.

Head injury is a major cause of morbidity in Western society and sport related incidents account for approximately 11% of all head injured patients attending A&E departments.¹ Golf was shown to be one of the sports most commonly associated with head injury requiring referral to a regional neurosurgical centre.² Interestingly, individuals injured at play and not on a recognised golf course were excluded from this study, although golf related head injuries remained the largest single group, with 14 admissions over a five year period. The complications related to compound depressed skull fractures and intracranial haematomata are well documented.³

The majority of children in this study were injured at play in an unsupervised setting while observing someone else playing golf. Serious head injuries are being sustained. Children require education and supervision if this is to be avoided.

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Fatal intra-abdominal injury associated with incorrect use of a seat belt

EDITOR,—A 64 year old woman was the seat belted front seat passenger of a vehicle involved in a high speed front end collision road traffic accident. The woman was transported by paramedic crew to our accident and emergency department. On arrival she was fully conscious (Glasgow coma score 15/15) and talking. She was obese and pale and her abdomen was bruised in the line of her seat belt.

Standard resuscitation was performed along Advanced Trauma Life Support (ATLS) principles but she became progressively haemodynamically unstable and was transferred to the operating theatre for an emergency laparotomy where a small splenic laceration was found. The patient died during the procedure from uncontrollable massive retroperitoneal haemorrhage.

Seat belts, when correctly applied, are effective in minimising injury but they do have the potential to cause serious abdominal injury which, when fatal, is usually the result of intra-abdominal haemorrhage.^{1,2} It is clearly emphasised in the ATLS providers' manual that the lap strap should be positioned between the anterior superior iliac spines and the thighs.³ However, while seat belt compliance appears to have improved among the general public, both through health education and legislation, there appears to be little emphasis on the importance of using these devices correctly.

In the case described above, the lap strap lay across the abdomen and the diagonal strap above both breasts, the two meeting at the

Figure 1 Radiograph of right wrist.

Figure 1 Bruising indicating the position of the seat belt (arrow).

fastening at the level of the lower thorax (fig 1). In view of the patient's obesity and heavy clothing this was undoubtedly her easiest means of applying the seat belt, whereas she should have ensured that the lap strap lay below her fatty apron and the diagonal strap ran between her breasts.

Health educational programmes aimed at seat belt use should also emphasise the correct use of these restraints, especially in those people where anatomy or clothing prevent an easy snug fit.

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BOOK REVIEWS

Acute Paediatrics. By Steve Ryan and Elizabeth Molyneux. (Pp 250; £17.95.) Blackwell Science, 1996. ISBN 0 86542 624 4.

Anyone who has ever been faced with a sick neonate or child will admit to feeling anxious. This wonderful little book allays most if not all of that anxiety and is easy to read in the lift, on the way to the ward, or during a hasty walk to the resuscitation area. It fits snugly into a white coat pocket and, importantly, into the "bumbag" so loved by paediatricians!

The authors are succinct in achieving their aim to write "a clear practical guide to the management of both the acutely ill child and the neonate". They never leave any doubt as to what should be done. Punchy, confidence inspiring statements fill the pages, for example "in trauma—insert two large bore cannulae into big peripheral veins".

The book is almost equally divided between neonates and children. Each section is divided into common presentations and specific conditions. I found it difficult to think of an example of either which was not supported by a relevant chapter. Cross referencing in the book is extremely easy.

Each presentation or condition covered stresses the priorities in management as well as treatment regimens. The chapter on poisoning even includes the telephone numbers of the National Poisons Centres. Life support measures in neonates and children are described as are details of emergency practical procedures.

Negative aspects of this sturdy little book are difficult to find. Local policy may not include ipecacuanha in its management of poisoning and some centres have replaced arachis oil with olive oil when using paraldehyde in the management of status epilepticus.

My invitation to review *Acute Paediatrics* said that I could add it to my bookshelf. I doubt it will remain on any shelf long enough to gather dust so invaluable will it be to all those involved in the care of sick neonates and children.

A long overdue book which I have every confidence will be a great friend to those who buy it.

LYNN WILLIAMS

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A Simple Guide to Blood Gas Analysis.

Edited by P Driscoll, T Brown, C Gwinnutt, and T Wardle. (Pp 191; £20.00.) BMJ Publishing Group, 1997. ISBN 0 7279 1107 4.

This is an up-beat and enthusiastic book. If it were a teacher, it would be young, sporty, and given to Blairite body language in its efforts to explain. It is the New Labour of textbooks, putting emphasis, and even spin, on the subject of blood gases to make it sexy and interesting. The style is a cross between life support manual and trendy vicar, and the end result is both highly readable and effective, if a little overcooked and earnestly matey.

With a reassuring move to increasing critical care in accident and emergency (A&E) departments, the subject of blood gas interpretation is highly relevant and no longer belongs exclusively to intensive care. This book sets out to cover what should be considered essential core knowledge of this area for A&E staff dealing with acutely ill or injured patients. The layout is extremely easy to follow, with well designed cartoons, graphs, and boxed information highlighting key points. Concepts of acid-base balance are well developed, with excellent chapters on acidosis, alkalosis and oxygenation, and these build up to a concluding chapter on interpretation of blood gases that is comprehensive and presented with patient clarity. The introductory two chapters are less strong, and beginning with the detailed description of how to take blood gas samples is a bit of a turn-off. Describing a practical procedure always tends to read like a VCR manual—this is better

than most, but does not instantly engage like many of the subsequent chapters. Each chapter is followed by a self test quiz; these are strongest when presenting case scenario puzzles.

This book is geared towards experienced nurses and junior doctors. As such, the content is spot-on and achieves its objective of demystifying blood gas analysis. What's more, you feel as though the authors really care that you understand this subject, and would make you a pot of Earl Grey while you were reading if they only could.

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NOTICES

British Association of Plastic Surgeons: Advanced Courses in Plastic Surgery

The eighth meeting of the sixth series will be held on bone biology/limb trauma (excluding hands) at the Haydock Thistle Hotel, St Helens, on 26-27 March 1999. The course is aimed at consultants and trainees in plastic surgery but members of the British Association for Accident and Emergency Medicine are invited to attend. The fee for this meeting will be £350, inclusive of one night's accommodation and all meals.

For further information contact: British Association of Plastic Surgeons, Royal College of Surgeons of England, 35-43 Lincoln's Inn Fields, London WC2A 2PN (tel: +44 (0) 171 831 5161/2; fax: +44 (0) 171 831 4041; e-mail: secretariat@baps.co.uk).

The 16th Annual Scientific Meeting of the Australasian College for Emergency Medicine incorporating the 20th Annual Scientific Meeting of the Australasian Society for Emergency Medicine

The above meeting will be held on 22-24 November 1999 at the Auckland Convention Centre, Aotea Centre, Auckland, New Zealand. The key theme will be education in emergency medicine and the keynote speaker Judith Tintinalli, Professor and Chairman, Department of Emergency Medicine, University of North Carolina at Chapel Hill.

For further information contact: Amanda Kennedy Medical Meetings, PO Box 16-106, Glenview, Hamilton, New Zealand (fax: +64 (0)7 838 1887; e-mail: amandak@wave.co.nz).

Readership survey

The editor would like to thank all those who responded to the readership survey. The comments are greatly appreciated.