considered for the role of the emergency care practitioner?

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PostScript

LETTERS

Pain relief in children: how good are we?

The literature suggests that the provision of pain relief in children is suboptimal despite guidelines from the British Association for Emergency Medicine.[1–3]

In July 2003, we assessed the prescription of analgesia by senior house officers (SHOs) for children presenting with acute painful conditions to emergency departments (EDs). We contacted 50 conveniently chosen EDs within the UK and asked one SHO from each department to complete a telephone survey comprising four clinical scenarios for children with acute painful conditions, including a fractured femur, second degree burn, undisplaced greenstick fracture, and grossly deformed forearm. Eight of the departments contacted were in dedicated paediatric EDs.

HOs were asked to comment on the need for analgesia. If they recommended analgesia, they were asked which drug they would give and by which route. All 50 SHOs contacted completed the questionnaire; none were locums. SHOs recommended analgesia in a total of 182 responses out of a maximum of 200 (91%). The analgesic agent chosen was appropriate for 86% of responses, whilst the route of administration was appropriate for 73% of responses. In paediatric EDs 89% of SHOs chose an appropriate route for drug administration compared to 71% of SHOs working in general EDs.

Our study demonstrates that SHOs are able to recognise pain in children but that the drug chosen and the route by which it is given are often inconsistent and inappropriate. Without continuing educational initiatives children will continue to receive inadequate analgesia. We recommend specific SHO teaching during ED induction on the use of analgesia in the ED, in particular options available for pain relief in children including intranasal diamorphine and Entonox.

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Unconscious incompetence and the foundation years

One popular educational model suggests that trainees progress through the following sequence of competencies, and awareness of those competencies:

1. Unconscious incompetence
2. Conscious incompetence
3. Conscious competence
4. Unconscious competence

In our experience this model does not fit with training in emergency medicine. An additional first step can be added to represent the new senior house officer (SHO): that of initial conscious incompetence. We find that new SHOs are acutely aware of how little they know about many of the conditions they will see in the emergency department. Typically, as they grow in confidence, they progress through to unconscious incompetence, usually by about the 3rd or 4th month. Frequently something will happen to help them progress to the next step, conscious incompetence, through which they may or may not pass by the end of their 6-month attachment. The two states of conscious incompetence are distinguished by improvements in knowledge and skills. Worryingly, proposals for foundation year 2 will result in many SHOs spending only 4 months working within our speciality. This could result in trainees leaving us in a state of unconscious incompetence.

Senior consultants may be interested to read that we have further developed our five-stage model. Most registrars and younger consultants reside happily in a state of conscious or unconscious competence. We are finding the issue of deskilling a significant concern. We anticipate adaptation. The full eight stage model looks like this:

1. Initial conscious incompetence
2. Unconscious incompetence
3. Conscious incompetence
4. Conscious competence
5. Unconscious competence
6. Conscious incompetence (intolerant of self)
7. Conscious incompetence (tolerant of self)
8. Conscious of incompetence in others, and intolerant

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Myocardial infarction in a 21-year-old healthy man on rapid ascent

Exposure to high altitude without acclimatisation can result in acute mountain sickness. Although increased angina and arrhythmia have been reported in coronary patients with acute elevation, moderate elevation up to 2500–3500 m does not pose a hazard for a patient with stable coronary artery disease and good exercise tolerance.[1 2] However, we treated a young, healthy man who experienced myocardial infarction from ascending rapidly to this height.

This 21-year-old man has a non-contributory medical history. He drove to an altitude of 3275 m from sea level within 3 h, and then climbed a neighbouring mountain 3421 m high. He had intractable chest pain that night. He descended the next day to visit our emergency department. On arrival, his vital signs and physical examination were unremarkable. Pathological Q waves were found in inferior leads and cardiac enzymes were raised (CK-MB/CK: 93.8/919 IU/l, troponin-I: 14.689 ng/ml). Other blood tests were normal. Mild hypokinesia of the inferior wall but preserved left-ventricle functions were shown by echocardiography and ventriculography. Coronary arteriography (CAG) disclosed a dominant right coronary artery (RCA). Although a 70–80% eccentric stenosis was found initially at the proximal RCA, it never recurred when a smaller-sized catheter was changed. No anatomical abnormality was found by CAG.

Barometric pressure and temperature fall with increasing altitude. Arterial oxygen tension and oxyhaemoglobin decrease, pulmonary artery pressure increases, and the sympathetic system is activated.[3] The myocardium is stressed from increased oxygen demand and decreased supply. Although various kinds of mountain sickness have been discussed, to our knowledge, acute myocardial infarction in such a young, healthy person at this altitude has not been discussed. Cardiac attach, in addition to acute mountain sickness, should never be forgotten for urban vacationers who can easily reach high altitudes in a short time, with the convenient transportation.

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Reference

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Extreme sports—ignore the safety advice at your peril

Extreme sports are more popular and more accessible to adrenaline junkies than ever.

However, having signed up for the next experience of a lifetime, how many participants actually read the health disclaimers? If we read the small print, are we always truthful about our own health?

A 34-year-old pilot presented after dislocating his shoulder at "Airkix™" (www.airkix.com).

The pilot had assumed the freefall position, but very soon his shoulder jerked out of position. Recognising a problem, he signalled to be removed from the simulator and was brought to the emergency department.

During his assessment, it became apparent that he had dislocated his shoulder on two previous occasions, the most recent being 2 years ago.

After an uncomplicated reduction of his right anterior shoulder dislocation, he was discharged.

The literature contains only one letter, published in October 1995, about shoulder injuries associated with skydiving.[1]

The health and safety information provided by Airkix™ states contraindications to participation; this includes "You have not previously suffered from a dislocated shoulder".

I contacted the patient to ask whether he had read and signed the health disclaimer. He admitted that he had ignored the contraindication to take part, as he thought his shoulder would be OK. As a professional pilot, he had for many years refused to skydive despite descriptions by friends of a truly fantastic experience. The indoor Airkix skydive seemed a safer alternative.

The patient took part, fully aware of the risks and his own medical history.

I suppose the patient was lucky that the Airkix environment is indoor, well supervised and actually quite safe. A real skydive could have had an altogether different outcome.

So for all those looking for that extra buzz of adrenaline, please remember that the safety restrictions are there for a reason and yes, they do apply to you.

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Reference

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Should emergency medical technicians be considered for the role of the emergency care practitioner?

We enjoyed a recent discussion in this journal about the evaluation of the role of the emergency care practitioner (ECP).[1 2] In the UK, 77% of ECPs are paramedics and most of the remainder are nurses,[2] although studies report them as a homogeneous group. We also find differences within ECPs interesting, particularly as ECPs in London have also been recruited from emergency medical technicians (EMTs).

In the London pilot, 11 EMTs undertook the same ECP diploma-level education as paramedic recruits, with EMTs also needing to complete paramedic training before qualifying as ECPs. We examined their performance in the period when they were practising autonomously as ECPs, but before their paramedic training.

Educational performance of EMTs was similar to that of a group of paramedic ECPs matched by operating area and length of time as ECPs—physical assessment average marks 59.8% *v* 57.3% and clinical decision making average marks by Objective Structured Clinical Examination 59.9% *v* 60.6% (EMTs *v* paramedics, respectively).

Practice data for 1086 EMT-ECP and 973 paramedic-ECP-attended patients showed differences in care pathway use, defined as treat and leave (30.8% *v* 22.5%), treated and referred (11.1% *v* 12.3%), conveyed, not emergency department (3.5% *v* 5.8%) and conveyed to the emergency department (54.6% *v* 59.4%); $\chi^2 = 21.42$, df = 3, $p = 0.001$. Without outcome data, the interpretation of findings is limited and the higher treat and leave rate among EMT-ECPs needs further investigation. However, the clinical educational results offer some reassurance about the similarity of competence of EMT-ECPs and paramedic ECPs.

These data raise two issues:

- differences in performance within the ECP group may be important to consider in future studies;
- recruitment from a variety of staff is promoted in the national ambulance review.[3] As long as professional registration is embedded in the educational programme, and clinical governance is robust, the possibility of access to the ECP role for EMTs, and potentially for others, is open.

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Transition to the Foundation Programme: does it affect the numbers of patients seen by SHOs?

We read with interest the article by Kilroy and Southward[1] on their experiences of the Foundation Programme. The Mersey Deanery was a pilot site for the Foundation Programme, with the first Foundation Year 2 (FY2) doctors appointed in 2004. Originally our department employed 20 senior house officers (SHOs). In August 2004, half of these became FY2 posts. From August 2004 to July 2005, we maintained a 50:50 split between traditional 6-month posts and 4-month FY2 posts. This gave our department a unique opportunity to study the effect of the transition to the Foundation Programme on workload.

Data were obtained from the hospital information technology system on the number of patients seen by all SHOs during the year. The mean number of patients seen by each set of doctors was compared. Variations over time during the posts were also analysed. Statistical analysis with the unpaired t test was carried out using SPSS V.13.

The department had 80 981 attendances from August 2004 to July 2005, of which 38 416 patients were seen by SHOs. FY2 and 6-month doctors saw 18 928 and 19 488 patients, respectively. At the end of their placements, there were no marked differences between the mean numbers of patients seen by the two types of SHOs. Over the course of the year, FY2 doctors saw a mean of 159 patients per month, whereas 6-month doctors saw 162 patients per month. The stem and leaf plot (fig 1) shows that the means for the number of patients seen are almost identical. Table 1 shows the wide range for the mean number of patients seen during the course of the year, which was greater for those in the 6-month posts. A small number of FY2 doctors saw considerably more patients than their colleagues. No overall differences were identified between the two types of placement. For those doctors in 6-month posts, the numbers of patients seen per month tailed off after 4 months.

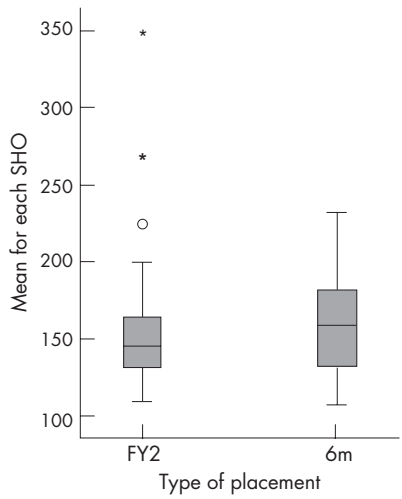

Figure 1 Stem and leaf plot of the mean number of patients seen by the type of senior health officer (SHO) placement. FY2, Foundation Year 2; m, months.

Table 1 Mean number of patients seen by different types of senior health officers

	Total patients seen	Range of SHO monthly mean	Monthly mean
FY2 Aug–Nov 04	6557	115–191	149
FY2 Dec 04–Mar 05	6830	124–350	190
FY2 Apr–Jul 05	5541	110–200	139
6 months Aug 04–Jan 05	10388	133–232	173
6 months Feb–Jul 05	9100	107–232	152

FY2, Foundation Year 2; SHO, senior house officer.

In conclusion, the transition to the Foundation Programme has had no effect on the number of patients seen by SHOs. The ability of the individual doctor has a greater influence than the type of post he or she held. In terms of numbers seen, doctors in the 6-month posts peaked 4 months into the placement and tailed off thereafter. Therefore, rotating the FY2 posts every 4 months will not affect the workload of the emergency department.

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Reference

1 **Kilroy DA**, Southward SA. The Foundation Programme and the emergency department: a review of the curriculum and experience of a UK pilot. *EMJ* 2006;**23**:167–71.

BOOK REVIEWS

Practical guide to emergency ultrasound

Edited by K S Cosby, J L Kendall. £ 53: Published by Lippincott Williams & Wilkins, 2005, pp 450. ISBN 0-781778-58-1.

This is a very useful text. At first glance it appears somewhat dry, but is easy to read and very relevant to ultrasound practice in the emergency department.

The section on ''fundamentals of ultrasound'', covering physics and common artefacts, is somewhat brief and may not be extensive enough for beginners in the technique.

There are useful sections on the history and politics of emergency ultrasound and advice on introducing ultrasound, and although this section is clearly based on the US hospital system, it does highlight some important issues.

Each clinical chapter clearly defines the clinical applications of the technique and there is a discussion of the use of ultrasound in clinical decision making, with clinical case scenarios given as examples. All the primary indications of emergency ultrasound are covered.

The book has copious illustrations and clear diagrams on anatomy, although the reader would benefit from some more diagrammatic interpretations of the ultrasound pictures. Considerable attention is paid to atypical appearances and pitfalls in each chapter.

The chapter on procedure guidance covers vascular access (both central and peripheral) in detail. There is also information on aspiration of various joints and body cavities under ultrasound guidance, rather than blind techniques as practised at present. Information on abscess and foreign body detection is given.

We think this will be a useful text for the practitioner with basic ultrasound skills, although the beginner may be better off starting with one of the smaller introductory texts.

J Brenchley

The ABC of eyes, 4th edn.

Edited by P T Khaw. UK: Published by BMJ Books, 2004, pp 80. ISBN 0-72791-659-9

Get ready for a sigh, ''I don't really do eyes'', a phrase we hear far too often from our current juniors in the emergency department (sigh). Similarly, the look of bewilderment when we ask if there are any retinal changes in the patient who has lost vision, or who has a blood pressure of 260/140 mm Hg, or has HIV is a bit of a heart sink moment for us both. True, the rot starts with the marginalisation of ophthalmology in the undergraduate curriculum, but it is simply not acceptable for the practising doctor in the emergency department to abstain from a whole organ. In fact, it is arguably worse than that: the eye may be the window to the underlying clinical diagnosis far beyond the confines of the bony orbit; diagnostically speaking, the eye is for us to look in, not for the patient to look out.

Something needs to change and if we were to look for a brief text to get a good working knowledge of ocular problems, we could do little better than to buy the ABC of eyes. It is concise and covers nearly everything that you are likely to meet in primary care or emergency medicine. Some of the content seems a little less relevant to emergency medicine—for example, the management of chronic glaucoma or squint—but there is something in every chapter to take away and use. In fact, one of the messages really apparent here is just how much the eye may act as a window to other pathologies. For the career ophthalmologist it is a bit light in terms of depth of content, but if referring doctors knew what was in this book, then assessment, referrals and management would no doubt improve.

We have always found it surprising that for a specialty that in every sense of the word is so visual, there are so many texts that have few or even no pictures. Although such texts may appeal to the specialist, those needing an introduction or a gentle reminder need pictures, and lots of them. In this respect, the ABC of eyes is excellent; the authors have obviously spent a great deal of time and energy to back up virtually every point with a high-quality diagram or photograph. We suspect that this is probably the reason for the price, but the content still makes it of good value.

Our only irritation is that the enclosed CD ROM, although excellent, runs only on Microsoft systems, but which contains all the text and images from the book. It also incorporates a PDA version for the technophiles. However, the lack of a MacOS version for the enlightened among us is somewhat annoying.

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