PostScript

LETTERS

Knowledge of aspects of acute care in trainee doctors

Aspects of acute care which may be more fundamental than those elicited by the questionnaire of 12 acute care topics¹ include criteria which enable healthcare workers (including junior doctors and nurses) to be more easily able to identify the seriously ill patient. This issue has been addressed by a study validating the use of a modified early warning score in medical admissions. The parameters evaluated in that study included blood pressure, pulse, respiratory rate, temperature, and conscious level, the latter simply characterised by documentation of alertness, reaction to vocal stimuli, reaction to pain, or absence of all three, as in the unconscious patient.² In view of the proven efficacy of the scoring system utilised in that study, the “take away message” is that this is what juniors and nursing staff should be trained to evaluate, and it is the opportunity to instil these basic principles which should be optimised by promoting the ideal of teaching medical students and student nurses together at some stage in their respective training programmes. Furthermore, in order to maintain the momentum of shared educational objectives, doctors and nurses should utilise an integrated health record which should replace the present system of separate medical and nursing notes.

O M P Jolobe

Department of Adult Medicine, Tameside General Hospital, Fountain Street, Ashton under Lyne OL6 9RW, UK

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Confidence levels of PRHOs in caring for acutely ill patients

We read with interest the paper by Smith and Poplett.¹ We agree that trainee doctors appear to have significant gaps in their knowledge and understanding of acute care. At our hospital, before the introduction of the ALERT course² for pre-registration house officers (PRHOs) and nurses on the general surgical wards, a questionnaire was completed by a group of medical and nursing staff. The aim of the questionnaire was to identify how confident staff felt in caring for critically ill ward patients, and any particular areas of perceived knowledge or skill deficit. Clinical scenarios were used and respondents were asked to rate on a scale of 1 (low) to 5 (high), their level of confidence. For example, one scenario describes a postoperative patient after total colectomy, who has an epidural in situ. The patient is hypotensive, oliguric, and pyrexial.

The PRHOs felt reasonably confident (mean score 3.5) about assessing the patient's fluid status clinically, identifying the likely causes of hypotension and oliguria, and assessing the

response to fluid challenges and interpretation of central venous pressure readings. They were more confident (mean score 4.0) about assessing arterial blood gases, performing 12-lead electrocardiography, and recognising arrhythmias, and knowing the differences between colloids and crystalloids.

They lacked confidence (mean score 2.6) about practicalities such as using a pressure bag to rapidly infuse fluids, and in their knowledge of the cardiovascular effects of epidurals. Nursing staff however perceived a different pattern of knowledge and skill deficits.

While these are subjective self assessments of knowledge and skill relating to the management of critically ill patients, this model has allowed us to tailor educational strategies to target areas of perceived need.

During the introduction of the ALERT course in our hospital, we were interested to see what impact if any, there would be on the PRHOs management of acutely ill patients. After running a number of ALERT courses we noticed that the documentation by PRHOs in the medical notes appeared to be more structured, following an A, B, C-type approach. A small audit of the medical reviews of sick ward patients by PRHOs, before and after introduction of ALERT, appeared to confirm this. An arbitrary scoring system was devised and points were awarded for the documentation of details such as reviewing doctor's name, contact details, respiratory rate, capillary refill, etc. From a possible total score of 12, the mean score before ALERT was 4.54 and after ALERT was 7.75, an improvement of 70%.³

Using a combination of generic critical care training such as ALERT and specific targeted educational packages as part of critical care outreach, does appear to improve the management of sick ward patients by PRHOs.

S Hutchinson, W P Robson

Royal Hallamshire Hospital, Sheffield, UK

Correspondence to: Dr Steve Hutchinson, Directorate of Critical Care, R Floor, Royal Hallamshire Hospital, Sheffield S10 2JF, UK; steve.hutchinson@sth.nhs.uk

- 1 Smith GB, Poplett P. Knowledge of aspects of acute care in trainee doctors. *Postgrad Med J* 2002;78:335–8.
- 2 Smith GB, Osgood VM, Crane S. ALERT a multiprofessional training course in the care of the acutely ill patient. *Resuscitation* 2002;52:281–6.
- 3 Robson WP, Hutchinson S. House officers and the sick ward patient. *Anaesthesia* 2002;57:611 (letter).

Authors' reply

The comments of both Jolobe and Hutchinson and Robson complement the message of our paper—that is, that there is room for improvement in aspects of acute care of patients.¹ We believe that, as well as an inadequate level of knowledge by trainees, factors such as poor or late recognition of disordered physiology, sub-optimal clinical management, poor communication, poor record keeping, and lack of teamwork lead to deficiencies in care. All of these topics are discussed in the one day, multiprofessional, acute care course, Acute Life-threatening Events—Recognition and Treatment (ALERT),² now running in over 80 UK

hospitals and being praised by the Commission for Health Improvement,³ British Medical Association,⁴ and others. As with any educational course, it is difficult to prove a positive effect of ALERT training on practice. However, just as Hutchinson and Robson believe that they have identified improved note keeping, we have unpublished evidence that suggests greater team work and cooperation between ward nurses and PRHOs after attendance at an ALERT course. This is now being studied in detail with the help of the Department of Psychology at the University of Portsmouth and we are also currently analysing the effect of attendance at an ALERT course on trainee doctors' knowledge of acute care topics.

We agree with Jolobe that systems such as the Modified Early Warning Score (MEWS)⁵ have an extremely important part to play in identifying sick ward patients, as there is already widespread evidence of patients' abnormal physiology being charted for many hours without intervention. However, such systems can only affect clinical outcome if there is an appropriate response to high scores with associated changes in clinical management. This usually means the early involvement of a critical care outreach service but, as these services are not universally present 24 hours a day, there must also be improved education of ward staff to enable them to deal locally with the identified problems.

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Knowledge of aspects of acute care in trainee doctors

We read with interest the article by Smith and Poplett.¹ In a recent study, the results of which are currently being analysed, PRHOs were approached at the end of their first post (four or six months after qualification).

When questioned, 53% of those who had completed only a medical attachment felt confident in making a diagnosis and treating a patient with an acute abdomen. Of those who had completed only their surgical attachment, 91% felt confident to diagnose and treat pneumonia, 73% acute left ventricular failure, and 50% an exacerbation of chronic obstructive pulmonary disease. Six percent even felt able to decide when to administer thrombolysis to a patient requiring it for myocardial infarction (despite having no medical experience at all).

These data, taken alongside those of Smith and Poplett indicate that PRHOs are falsely confident in their own abilities.

This has serious implications for patient care (as PRHOs may fail to ask for help from senior colleagues sufficiently quickly, or even give inappropriate treatment), as well as for postgraduate deans, as it is important to redress this discrepancy through education.

The experience level of the doctors questioned by Smith and Poplett was not clear. Had the PRHOs started work at all? In which year were the SHOs and had any of them completed advanced life support courses? It would be interesting to take this into account, which may highlight the benefit of advanced life support-type courses.

**J Henderson, R A E Clayton,
S E McCracken*, S Paterson-Brown**

Department of Surgery, The Royal Infirmary Of
Edinburgh and *Western General Hospital,
Edinburgh

Correspondence to: Dr James Henderson,
Department of Surgical Sciences (Surgery), Royal
Infirmary of Edinburgh, Lauriston Place, Edinburgh
EH3 9YW, UK; jameshenderson999@hotmail.com

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Should inexperienced trainees be delivering acute medical services?

Earlier this year Smith and Poplett discussed the findings of a questionnaire that had been answered by newly qualified pre-registration house officers and senior house officers.¹ The questions concerned various aspects of basic acute medical care. The results suggested significant gaps in knowledge and understanding of both the signs and immediate management of these conditions. The authors concluded that medical graduates are poorly prepared to identify and treat critically ill patients and felt that “these deficits have the potential to contribute to error and to influence patient outcome”. The authors did not, at any point, consider whether such young and inexperienced doctors should be assessing and treating such acutely ill patients in the first place.

At the time of publication, this article was reported widely by the UK print media and I was interviewed by *The Western Mail* (the main Welsh broadsheet) for an article that appeared on the front page under the headline *Doctor training “puts lives at risk”*.² I was unhappy with the paper’s interpretation of Smith and Poplett’s research, and because of the potential for public confusion I responded with a long letter to the editor where I made the following points³:

1. The findings of the research did not surprise me and the situation is actually much better now than it was in 1993 when I qualified as a doctor. At the time, there was virtually no preparation for the realities of working in the NHS, with very little instruction on how to assess and treat sick people, prescribe drugs, take blood, or resuscitate collapsed patients. Instead, we learned very quickly “on the job” and many of us recall with horror our first few weeks as house officers, the pressure we were under, and the mistakes we must have made.

2. There has been a recognition of these deficits over the last few years and the medical school courses across the UK have evolved

appropriately. There has been a move away from the traditionally theoretical and highly academic approach to a more “hands on” and integrated course that concentrates on knowledge together with the practical and communicative skills needed to actually work as a doctor. Unfortunately, this paper suggests the process has still not gone far enough.

3. Improving the training of medical students is only part of the answer and it must be remembered that the doctors interviewed were at the beginning of their postgraduate training. Both the British Medical Association and the government are committed to a health service that is delivered by “competently trained doctors” rather than “doctors in training”. It is essential that we move away from the traditional model of care where patients are first seen by the most junior doctors in the hospital. These doctors do not have the experience, training or basic skills to properly assess, diagnose, and treat patients with complicated and life threatening diseases.

4. Patients should be seen at a much earlier stage in their admission by consultants. This would not only provide better levels of individual care but would also ensure more efficient service delivery.

This article highlights the fact that inexperienced trainees lack the competence to deal with much of their workload and supports the argument that we should have a consultant delivered service.

I Davies

(Immediate Past) Chair BMA Wales JDC
Department of Child Health, King’s College
Hospital, Bessemer Road, Denmark Hill, London
SE5 9RS, UK; y.tarw@virgin.net

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Plain abdominal radiographs in acute medical emergencies: an abused investigation?

I read the article on plain abdominal radiographs in acute medical emergencies with interest,¹ and I agree in many respects about the unnecessary use of abdominal radiographs, especially if the diagnosis is clear. I would, however, like to address a few points with regards to the article.

• I note that the abdominal radiographs were performed on patients admitted under a general medical on-call with acute medical emergencies. It is unusual, in my experience, for patients with medical disorders to have abdominal radiography unless an acute abdomen is suspected. In this situation, the patient would have a surgical abdomen. In this case an abdominal radiograph may be necessary to exclude/confirm obstruction and perforation by demonstrating Rigler’s sign. Consequently, I would say that the plain abdominal film is not an abused investigation as it may determine quite rapidly whether the patient has emergency surgery or medical treatment.

• The indications for a plain abdominal radiograph as described by the Royal College of Radiologists were mentioned. Examining the request forms table (table 3), it would appear that 58% of abdominal radiographs were requested for one of the guidelines

determined by the Royal College of Radiologists and presumably the doctor on-call considered these as part of the differential diagnosis in patients presenting with abdominal pain.

• I note that for acute pancreatitis, abdominal radiographs were requested. Could it be that this is probably due to standard medical teaching which instructs on the ability of a plain abdominal radiograph to reveal features suggestive of acute pancreatitis (for example, sentinel loop, loss of psoas shadow)?

• An abdominal radiograph may be required to exclude or confirm one of several differential diagnoses if the clinical problem is not apparent. It may be one of the reasons why abdominal films were requested in this cohort. Consequently, I would argue that in this situation, plain films are not an unnecessary investigation.

• Of the 45 patients with a diagnosis that was not stated, what was the eventual clinical impression? Could it be that in this subgroup, the acquisition of a plain abdominal radiograph may have resulted in the correct diagnosis being reached and therefore managed appropriately?

• Also I would say that an abdominal radiograph in an elderly patient with rebound tenderness in the right iliac fossa and signs and symptoms suggestive of pseudo-obstruction may be necessary to determine caecal size. How many of the patients had this presumptive diagnosis and had an abdominal radiograph?

• Pre-registration house officers may have ordered the largest number of abdominal radiographs, but how many of these films were requested after discussion with a senior on-call (senior house officer or registrar)? Do the authors have data that give this information?

• It may be essential to do a plain abdominal radiograph to narrow down the diagnosis in an acute abdomen. In this case, radiation dose may be minimised by ordering a single supine plain film, rather than the standard erect and supine set of radiographs for the abdomen. Were erect and supine abdominal radiographs obtained in the study?

D Singh-Ranger

Academic Department of Surgery, Royal Free and
University College Medical Schools, Charles Bell
House, 67–73 Riding House Street, London
W1W 7EJ, UK; d.singh-ranger@ucl.ac.uk

Reference

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Plain abdominal radiographs in acute medical emergencies: an abused investigation?

I was interested in reading the paper by Feyler *et al* looking at requests for plain film abdominal radiographs in acute medical emergencies.¹ Although the results indicate plain film radiography is unnecessarily requested it fails to address several important related issues. Firstly, the discussion of the paper fails to highlight that the existence of many grey areas in clinical diagnosis, particularly the subjectivity of clinical signs and symptoms, may influence the decision to request a plain abdominal radiograph as a first objective means of ruling out intra-abdominal pathology. Fuzzy logic (multivalent logic) is a reality in clinical medicine,

because acute clinical signs and symptoms are not as neatly packaged as the Royal College of Radiologists' guidelines. Secondly, it will be very educational to know the patient profile of the nine patients in whom plain film radiographs influenced clinical management. This is not detailed in the paper.

A Wakai

Department of Medicine, Our Lady's Hospital, Navan, County Meath, Ireland; wakai@indigo.ie

Reference

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Editor's note: The authors have declined an invitation to comment on the above two letters.

Vacuum assisted closure system in the management of enterocutaneous fistula

We congratulate the authors for their innovative efforts in dealing with a clinically relevant issue.¹ Indeed this may prove to be a significant breakthrough in the management of difficult enterocutaneous fistulas. However, we were a bit concerned whether an ethical committee approval/informed patient consent was obtained before treatment. This is because Argenta *et al* considered dehiscent wound and fistula a contraindication to a vacuum assisted closure (VAC) system.² Moreover, continuous suction may hamper closure of fistulas. I would be grateful if the authors could shed light on this aspect.

A P Saklani, R J Delicata

Nevill Hall Hospital, Abergavenny, UK

Correspondence to: Mr Saklani; asaklani@hotmail.com

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Authors' reply

We are grateful to Mr Saklani and Mr Delicata for their interest in our report. We were aware before using this device that enterocutaneous fistula has been suggested as a possible contraindication to the use of the VAC system. In the first patient on whom we used this system, it had proved impossible to achieve adherence of any wound care product despite the attention of an experienced tissue viability nurse and a stoma therapist. As a result, the patient suffered severe pain from skin excoriation and frequent embarrassment from leakage of intestinal contents. Against this background we discussed with her the option of using the VAC device. She was informed this was traditionally regarded as a contraindication to the use of the device. It seemed unlikely that the use of this device could cause additional problems as a fistula was already established.

As our paper reports the outcome was very satisfactory. Based on this anecdotal experience, we had similar discussion with the subsequent patients.

It is not necessary to obtain ethics committee approval for the use of novel treatments in desperate situations. We would agree, however, that if a prospective study of the VAC device was to be performed ethics committee approval would be mandatory.

Editor's response

Saklani and Delicata have raised interesting questions relating to the introduction of new techniques. Do ethical committees have a role in the treatment of individual patients as opposed to the conduct of a clinical trial where different modalities of treatment are under investigation and comparison? With the emergence of bioethics and medical ethics, it should be the role of ethics committees to concern themselves with such issues. However, their role would then include many other aspects of life and death in which clinical interventions played a part. Are ethics committees prepared to take on this role, and are their members adequately trained to fulfil it?

Patients need advocates who can put their view, and although nurses have traditionally claimed this ground, the patient advocate of the 21st century needs to be an independent practitioner. As to informed patient consent, we need to move towards informed patient choice where patients choose between options based on a comprehensive package of information. Anything less smacks of medical paternalism.

BOOK REVIEWS

The reviewers have been asked to rate these books in terms of four items: readability, how up to date they are, accuracy and reliability, and value for money, using simple four point scales. From their opinions we have derived an overall "star" rating: * = poor, ** = reasonable, *** = good, **** = excellent.

Stress Management for Primary Health Care Professionals.

By Usha R Rout and Jaya K Rout. (Pp 218; £38.50.) Kluwer/Plenum Publishers, 2002. ISBN 0-306-47240-6.***

The subject of this book, written by a general practitioner and research psychologist, is probably more pertinent today than at any other time in the past. Stress in primary health care professionals is so common that almost every general practice will have had some experience of it at first hand.

The book is reasonably easy to read and contains extensive analysis and references. It will therefore be particularly useful to readers who have an academic interest in stress related problems. It may, however, appeal less to the health professional who is seeking help from the book or who is reading it for general interest.

Following a definition of terms, there are chapters on types of occupational stress and the ways in which individuals perceive and cope with stress. Many case scenarios are used to illustrate points. These are well written and describe sources of stress in all members of the primary health care team. The familiar consequences of stress related illness are discussed. Readers have to wait until chapters 7 and 8 to read about strategies for the management of stress. Practical suggestions are made at both individual and organisational levels. They are ideally tailored to

general practice and refer to evidence bases where available.

This book will provide a useful, although rather expensive, addition to a general practice library.

L Tapper-Jones

Roath House Surgery, Cardiff, UK

Basic Statistics and Epidemiology. A Practical Guide.

By Antony Stewart. (Pp 160; £19.95.) Radcliffe Medical Press, 2002. ISBN 1-85775-589-8.****

According to Mark Twain "When in doubt, tell the truth". There are few situations in medicine in which there is not an element of doubt, so we have to tell the truth. However the "truth" in medicine is never simple, especially when we give advice, as we have to function as bookmakers and call the odds: "most people with your condition survive x years". The politically correct and intellectually challenging term for "calling the odds" is of course "statistics" and as statistics are often based on epidemiological data they are ideally presented together, and this book does so superbly (it is remarkable how many other books focus on one to the relative exclusion of the other).

This book will be invaluable for those of us whose eyes glaze over when confronted with anything but the simplest statistics. Definitions in are all in plain English. The font size is larger than in most textbooks and psychologically non-threatening, almost relaxing, suggesting "even a child could read and understand this". Information is partitioned into short chapters; this ameliorates, but of course never abolishes, the problem of having to remember so much before one can grasp overall concepts. To assist this the author has commendably resisted further elaboration of statistical complexities and often advises that those wishing further information to consult more detailed textbooks (as listed in further reading).

Worked examples, showing how various numerical entities are derived, are particularly clear. Complex formulas (with one exception) are avoided. The concluding section features insight-provoking worked examples of practical problems that may be faced by doctors.

For most of us the message as given on page 56 is still relevant "...it is advisable to consult a statistician or someone with advanced statistical skills". No book could replace this advice but this book offers succinct insights for those of us who, whether we like it or not, have to use or interpret statistics.

P D Welsby

Consultant Physician in Infectious Diseases, Western General Hospital, Edinburgh, UK

Accident and Emergency Diagnosis and Management.

By Anthony F T Brown. (Pp 442; £18.99.) Edward Arnold, 2002. ISBN 0-340-80720-2.****

Dr Brown has produced this new edition of his book for the first time in Britain, and it is primarily for young doctors entering accident and emergency departments for the first time. It is aimed at senior house officers and it is for this reason that the book is written in an easily readable format, particularly on bullet

points of history, examination, investigation, and immediate management.

I find the book totally revised and updated in line with our Resuscitation Council guidelines and other subjects. It now includes a new section on environmental emergencies, advanced life support, hypoxaemia, hypokalaemia, etc. As we are heading towards clinical governance, I am glad that Tony Brown has included chapters on risk management and incident reporting as well.

Going through the book, I find that the essentials of diagnosis and management are described concisely and fairly, and contain a lot of practical advice.

I find this book a reliable text and will be of enormous help to junior doctors practising accident and emergency medicine for the first time. It is a concise and practical guide. I also feel that this book will be very useful to many nurse practitioners and general practitioners in moments of uncertainty.

This is a good addition not only to a personal library but the departmental library as well.

G Bodiwala

Head of Accident and Emergency Service, Leicester
Royal Infirmary, Leicester, UK

Scientific Writing—Easy when you know how.

By Jennifer Peat, Elizabeth Elliott, Louise Baur, and Victoria Keena. (Pp 312; £22.50.) BMJ Books, 2002. ISBN 0-7279-1625-4.****

This book provides clear advice on how to write scientific articles and how to get published. The philosophy behind the book is that doctors are drowning in information with thousands of medical journals published annually and endless material from pharmaceutical companies, Royal Colleges, etc and it is therefore not that difficult to get one's work published but the real challenge is to publish it well and make an impact.

Each chapter begins with a quotation and the text is also interspersed with well chosen quotations that act as signposts easing our journey through the book. Chapter 1 kicks off with a quote from Samuel Johnson "What is written without effort is in general read without pleasure". The authors even have a quotation to enliven the chapter on statistics "Like dreams statistics are a form of wish fulfilment".

There is much to be learnt from dipping into this book—for example, did you know that to report the results of a randomised

control trial you will be required to follow the CONSORT guidelines? Their "golden rules" for reporting numbers are very worthwhile—for example, numbers less than 10 are written as words and larger numbers are written as the number; do not use decimal places if the sample size is less than 100 etc. Their clear advice on how to title a scientific article is very well worth reading.

The book contains a lot of advice on how to draw up a list of authors and coauthors. With the tendency to increasing numbers of coauthors in medical publications there is sound advice here on the responsibilities and entitlements of all authors and coauthors.

The authors of this book are associate professors, a statistician and an information manager, and have provided a very comprehensive book written in a very clear style and packed full of sound information. The book is beautifully laid out and a model of clarity. They have obviously followed their own advice so that it can be read through from cover to cover, but it is also a useful book to have on the shelf to dip into. I strongly recommend it to all budding medical writers and even well published researchers will find much within its pages to interest.

L Penny

Consultant Cardiologist, University Hospital of
Wales, Cardiff, UK