LETTERS TO THE EDITOR

Identity crisis

EDITOR,—What do we call ourselves? Before we add our voices to the growing debate, we would like to point out that any name change will lead to additional costs, changes to stationery, telephone directories, computers, and signs as well as salaries for those who will execute the modifications. And neither the NHS nor the various faculties and organisations concerned are financially unconstrained.

We will also have to provide patient education, especially to the elderly. All potential patients will need to understand, for example, that they should still attend the newly designated emergency department with a laceration. Although it is an accident, they might not be sure it qualifies as an emergency.

We can eliminate the terms “casualty” and “accident”, as these are only some of the emergencies we deal with. Since we are all trained to deal with emergencies and we are all qualified physicians, we should be known as “emergency physicians”: a physician is “one who practises the healing art including medicine and surgery” and we work in the “emergency department”.

What do we... Now, there is a problem. Is it “emergency medicine”? Medicine is defined as the art of restoring and preserving health... as opposed to surgery and obstetrics. We have just as much to do for patients with medical problems as we do for those with surgical, obstetric, psychiatric, and other non-medical conditions. We need a term to encompass all specialties. Although “medicine” as a term can be used as a collective noun for all its branches including that of medicine itself, it will still lead to confusion and even dissatisfaction. We can say we practise “emergency health care”.

Organisations, such as colleges and faculties will be those of “emergency physicians”, for example the “Faculty of Emergency Physicians” and later the “Royal College of Emergency Physicians”.

Now we have all the labels.

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1. Rocke LG. Accident and emergency medicine or emergency medicine? J Accid Emerg Med 1999;16:74.
2. Concise Oxford dictionary, 7th Ed. Oxford: Clarendon/Oxford University Press, 1982.

Accident and emergency medicine—the next 25 years

EDITOR,—I greatly enjoyed reading Mr Binchy’s intelligent and thought provoking “personal view”. He describes six very credible causes for increasing accident and emergency workloads but omits one important factor which, simply put, is social failure.

Various researchers have endeavoured to explain the steady rise in hospital admissions, but it is clear that no single factor is solely responsible. In 1996 Stephen Kendrick published a detailed analysis of the trends in hospital admission in Scotland between 1981 and 1994.1 Contrary to many expectations he was unable to attribute the steady rise to an aging population, increased readmission rates, or increased morbidity. Instead it was apparent that emergency admission to hospital occurred when the family, social services, and general practitioner were no longer able to help. This means that marginal changes within informal, community based primary care will have a disproportionate effect on the demand for emergency admission.

Most doctors working in acute medicine are well aware of the effect that increasing social fragmentation is having upon admissions. As informal care networks deteriorate and the expectations of relatives change we find ourselves admitting more and more patients who would previously have been cared for at home. At the other end of the spectrum, discharges are delayed by problems in establishing effective social care, and within my own city at least one hospital trust is paying for temporary nursing home provision while further discharge arrangements are being put in place.

Unfortunately, identifying this problem is rather easier than solving it. “Hospital at home” schemes have shown some promise,2 but there is doubt as to their overall cost effectiveness.3 Certainly they would need to be very widely adopted to have any real impact on our daily working lives.

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1. Binchy J. Accident and emergency medicine—the next 25 years. J Accid Emerg Med 1999;16:48-54.
2. Kendrick S. The pattern of increase in emergency hospital admissions in Scotland. Health Bull (Edin) 1996;54:169-85.
3. Shepperd S, Millenson C, et al. Randomised controlled trial comparing hospital at home care with inpatient hospital care. BMJ 1998;316:1786-91.
4. Shepperd S, Harwood D, Gray A, et al. Randomised controlled trial comparing hospital at home care with inpatient hospital care. BMJ cost minimisation analysis. BMJ 1998;316:1791-6.

The PEP transducer

EDITOR,—Dodds et al imagine a way of measuring the respiratory rate by means of a simple mask mounted transducer.1 The importance of respiratory rate monitoring has been emphasised by the authors and the need for a disposible mask mounted sensor is clear. We surveyed 300 consultants in respiratory and accident and emergency medicine throughout the UK and found a 85% interest in such a device. On the issue of cost, 60% would purchase the device if less than 50 pence, with half of these willing to pay less than 20 pence. The clear message is that the sensor needs to be very cheap!

We have developed a sensor (the “respiometer”) that has all the qualities of the pyroelectric polymer (PEP) sensor except self exciting, but with the advantage of being visible to the eye, with a digital sensor option. The visual nature of the device will help respiratory rate recording in the pre-hospital setting in fully clothed patients. Our sensor has the important property of being able to differentiate between a cough and a breath by measuring inspiratory effort and we suspect the PEP sensor is unable to do this.

The sensor has been validated in the respiratory laboratory using volunteers, a variety of masks, oxygen flow rates, and breathing patterns and produced excellent correlation with capnography and plethysmography (accurate to within two breaths in 97%). A clinical study of 40 patients with a variety of masks and oxygen flow rates found an accuracy of 98% again within two breaths.

With a sensor for less than 20 pence and an accuracy of 98% we have developed a very useful tool for pre-hospital care assessment of respiration that can be incorporated into the continuing resuscitative care in the hospital setting.

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1 Dodds D, Purdy J, Moulton C. The PEP transducer: a new way of measuring respiratory rate for the non-anaesthetised patient. J Accid Emerg Med 1999;16:26-8.

Protocols for deep vein thrombosis

EDITOR,—O’Shaughnessy et al rightly draw attention to the benefit of an evidence based protocol for deep vein thrombosis (DVT) in terms of both economy and patient satisfaction.1 However the original work on which light reflection plethorography is based demonstrated a false negative rate of 3% to 8%.2 Between 22 and 59 patients in this study are therefore likely to have been inappropriately discharged. While no patient represented, the study would have been more robust had follow up (six months with no ill effects) been complete.

In addition the protocol does not consider any evaluation of pre-test probability and a negative LRR (or duplex ultrasound) further testing is recommended. The SoleilRed D-dimer assay has a negative predictive value of 97%, may be performed at the bedside, and is a worthwhile adjunct in selected patients in this setting.

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1 O’Shaughnessy DF, Tovey C, Miller ALC, et al. Out-patient management of deep vein thrombosis. J Accid Emerg Med 1998;15:292-3.
2 Thomas PRS, Butler CM, Bowman J, et al. Light reflection plethorography: an effective non-invasive technique for screening patients with suspected deep venous thrombosis. Br J Surg 1991;78:207-9.
3 Anand SS, Wells PS, Hunt D, et al. Does this patient have deep vein thrombosis? JAMA 1998;279:1094-9.

The authors reply

We thank Dr Lloyd for his interest in our paper on the outpatient treatment of DVT. He points out there is a small false negative rate for LRR. However in the original paper published in 1991 and a subsequent unpublished study we found that these patients only had very minor calf thromboses unlikely to lead to significant pulmonary embolus. In deed in some of these cases there was dispute
between radiologists in the interpretation of the venogram as to whether thrombus was present or not. Nevertheless this group of patients was a worry to us and we have since performed the follow up of 120 of the cases between six and 12 months after their initial treatment. None of these patients had suffered further thrombosis or pulmonary embolism. All were still alive and none had been admitted to another institution.

We agree that the clinician should maintain a low threshold of suspicion for DVT despite a negative LKR. We also agree that the Simple X-Ray is useful and we have just completed a study of several hundred patients using this D-dimer assay. The negative predictive value in our study was similar at 95%. We feel the test has a strong part to play in the screening of patients for DVT as long as they have no other cause for fibrinolysis, for instance they are not postoperative or suffering from certain medical conditions such as sepsis or myocardial infarction. It is probably the screening method of choice out of hours as it is easy and quick to perform when other more sophisticated tests may not be available.

Empirical thrombolysis in catastrophic pulmonary embolism

Editor,—I was interested to read the report by Kehoe and Dacruz in which administration of recombinant tissue plasminogen activator (rt-PA) during cardiac arrest secondary to pulmonary embolism in a 69 year old woman resulted in restoration of the circulation and subsequent full recovery.1

The authors may be interested in a review by Bottiger et al who have collected data on a total of 480 patients (case reports and three small case series) with cardiac arrest secondary to pulmonary embolism treated with thrombolysis (either with streptokinase, urokinase, or rt-PA) during cardiopulmonary resuscitation (CPR).2 Data from the three small case series showed initial survival rates of 55%–100%. In successful cases, spontaneous circulation was re-established in as little as 10–20 minutes after administration of thrombolysis, though successful resuscitation was recorded in cases where CPR was continued for up to 90 minutes after thrombolysis. The authors favoured use of rt-PA or urokinase over streptokinase in view of the latter's propensity to cause hypotension.

Given that cardiac arrest caused by pulmonary embolism is usually refractory to conventional resuscitative efforts, these data, together with the case reported by Kehoe and Dacruz, suggest that thrombolysis should be considered in cases of cardiac arrest associated with pulseless electrical activity where suspicion for underlying pulmonary embolism is strong.

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1 Kehoe T, Dacruz P. “Empirical” thrombolysis in catastrophic pulmonary embolism. J Accid Emerg Med 1999;16:71-76.

2 Bottiger BW, Bohrer H, Bach A, et al. Bolus injection of thrombolytic agents during cardiopulmonary resuscitation for massive pulmonary embolism. Resuscitation 1994;28:45-54.

Activated charcoal preparations

Editor,—I read with interest Boyd and Hanson's paper on the ingestion of two differing preparations of activated charcoal.1 The authors have used a two sample t test to compare the mean mass of charcoal ingested and one of the assumptions of this test is that the data are Normally distributed. While the test is relatively robust to minor deviations from Normality two aspects of the study give cause to concern as to the validity of this assumption for their data. Firstly, the very large standard diviates given in the paper for the mean amount of activated charcoal ingested. These represent the spread of the data and their size indicates possible skewing or non-Normality of the distribution of the data. Secondly, clin- 
ci- cal experience would suggest that there would be some clustering of patients ingesting the maximum level (about 45–50 g) or around the minimum level with spread in between, this distribution with a fixed upper limit that is readily achievable would seem unlikely to be Normal.

To support the authors contention that a significant difference exists in mass ingested some evidence of Normality of the distribution would be helpful. This could be simply a histogram of the data to reassure readers of the validity of their conclusions. Alternatively a transformation of the data to Normality and repeat sample t test could be used. If the data cannot be transformed adequately then the non-parametric equivalent of the two sample t test would be appropriate, the Mann-Whitney U test.

The authors reply

We thank Dr Lehman for his obvious interest in our recent paper. The data for the Actidose and Carbomix ingestions did not strictly conform to routine tests for Normality. However both were relatively symmetrical (especially for Actidose) and the standard deviations are of very similar size. Due to the moderate to large sample sizes (47 and 50), it was not con- sidered crucial that the data was Normally distributed. Use of the two sample t test was therefore considered valid.

The histograms of the ingested doses show that the Actidose appeared to have a greater degree of variability in the ingested amount than the Carbomix (see figs 1 and 2). In fact no patients achieved ingestion of the maxi- mum dose while all but one patient ingested some of the prescribed charcoal preparation. The data do not appear to be clustered at the extremes of the ingested dosages, as shown by the relatively symmetrical histogram forms.

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You wouldn’t think that a reference book would be a good read. But like the old Pari Cyclopaedia into which I used to dip as a child to marvel at oddities, paediatric toxicology is full of interesting antidotes. I think it is because many of the recommendations are illustrated by case reports. There is a fascina- tion for doctors in the reading of case reports. They somehow seem more like “real life” than pages of opinion and information. We can apply our own diagnostic skills to the story and there is a personal clinician to patient feel about the reading of a case report.

So much for its entertainment value. Is Pae- diatric Toxicology a useful book in the manage- ment of acute poisoning in children and is it presented in an accessible manner?

The answer to the first question is easily provided by asking users whether they found it helpful in solving problems. Personally I have found useful information in 90% of the occa- sions that I have consulted it for individual patients or when preparing teaching. Nurses at our telephone triage point, who spend seven hours a day on average answering phone calls from the public, many of which are about poison- ings, tell me that it is useful in about 80% of the requests that they get for information. It is particularly helpful to reassure parents whose child has taken an innocuous sub- stance.

When it comes to the management of a child who has taken a potentially serious over- dose, and particularly one that is not com- monly taken (that is, not paracetamol) then I will still want to individualise the advice by talking to a poisons centre expert. However, these cases are in a small minority.

The presentation of information is easy to access. Page layouts make the book an easy read. We are, of course, still bedevilled in pae-