

that run by Warlow are few. In this centre we have had an encouraging response from general practitioners to the idea of a "transient ischaemic attack clinic," where new patients can be seen early by a neurologist and the appropriate selection can be made for surgery. We believe that such clinics should be instituted more widely, not only to optimise selection of patients but also to reduce what can be a long and potentially dangerous delay between the onset of symptoms and surgery.

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- 1 Warlow CP. A role for medical angiologists? *BMJ* 1993;306:1081-2. (24 April.)
- 2 Dennis M, Bamford J, Sandercock P, Warlow CP. Incidence of transient ischaemic attacks: the Oxfordshire community stroke project. *Stroke* 1989;20:333-9.

Management of trauma

Deserves high priority

EDITOR,—Jonathan P Wyatt's account of what happened to him after a road traffic accident is testimony to much that is wrong in medicine generally and trauma medicine in particular.¹ With trauma the leading cause of death in both sexes to the age of 35, the provision of a high quality trauma service should be near the top of the list of the NHS's priorities, yet consider the following facts.

Firstly, accident and emergency medicine was one of the last specialties to emerge; many departments still do not have a consultant and most have only one.² Secondly, there is no well known charity or organisation that funds research into trauma, and the general funding bodies allocate a disproportionately small percentage of their total grants to trauma. Thirdly, a huge government database exists on road trauma and is used for the transport industry but hardly at all for medical advancement. Fourthly, there are still ambulance services with hardly any paramedical staff and little medical involvement in training or operational activity.

Accident departments are still staffed mainly by senior house officers with no electronic referencing that could support them when a consultant opinion is not immediately to hand. Most trauma notes do not recognise the importance of the mechanism of injury as the equivalent of a medical or surgical history. "Fell out of bedroom window" could be from a bungalow, house, or high rise flat; and on to what? "Involved in road traffic accident" conveys even less information.

Finally, education is still given such low priority that it is not possible to determine which postgraduate medical deans have an educational qualification; the medical directory does not list doctors' teaching certificates. The pressures on the profession are such that at a recent 45 minute lecture by a visiting consultant that I attended one junior doctor was bleeped and went in and out four times, five doctors came in 15 minutes before the end of the talk, a further six came in 10 minutes before the end, and one arrived during question time. Seven other staff were paged, and the door to the lecture theatre opened and shut 21 times in 45 minutes.

The advance of a specialty depends on a range of activities with research at one end and education at the other, both of these being governed by funding and allocation of priorities. The fact that a doctor has to put up an intravenous infusion on himself in an ambulance attending him as an emergency surely tells all. Equally, if doctors are not taught the importance of the mechanism of injury they will miss important information from the

ambulance service. Some of us have long advocated that hospital doctors should contribute to pre-hospital care, and the British Association of Immediate Care Schemes continues to push for expansion, but it seems that we still have to convince more of the medical profession—except Wyatt, of course. Perhaps we should ponder the slogan "If you think education is expensive try the cost of ignorance."

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- 1 Wyatt JP. My accident was my fault. *BMJ* 1993;306:1009. (10 April.)
- 2 British Orthopaedic Association. *Report on the management of skeletal trauma in the United Kingdom*. London: BOA, 1992.

Nitrous oxide dangerous in pneumothorax

EDITOR,—Jonathan Wyatt's personal view of the events following his road traffic accident makes several important points regarding the emergency management of patients with multiple injuries.¹ However, I must comment on the use of nitrous oxide-oxygen mixtures in these circumstances.

With fractures of both femurs and his wrist, and already aware of his right pneumothorax, Wyatt was transferred to an ambulance wherein he was offered nitrous oxide-oxygen analgesia. He states that he refused this as he "wished to remain alert and in control." He was wise to refuse the offer, as the use of nitrous oxide may have compromised his situation further.

Nitrous oxide is very soluble in water, unlike the nitrogen in air. During the inhalation of nitrous oxide any closed, gas filled cavity in the body will expand as small volumes of nitrogen from the cavity exchange for much larger volumes of nitrous oxide from the blood. "Expansion of a pneumothorax, pneumopericardium, or pneumoperitoneum may have serious consequences."²

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- 2 Vickers MD, Schnieden H, Wood-Smith FG. *Drugs in anaesthetic practice*. 6th ed. London: Butterworths, 1984:163.

Reporting deaths to the coroner

Doctors abuse the coronial system

EDITOR,—R D Start and colleagues' paper prompts some comments on the use of the coronial system to obtain postmortem examinations without the permission of the relatives being obtained.¹ The "desired local practice" of requiring that all deaths occurring within 24 hours of admission should be reported leads to postmortem examinations being performed in cases in which the cause of death is clearly natural, as in Start and colleagues' first example, and the findings are useful only in refining the clinical diagnosis. This produces an unnecessary charge on the public purse as a coroner's postmortem examination attracts a fee. More importantly, however, it runs the risk of causing needless distress to the relatives, who may not have wished there to be a postmortem examination.

Related to this practice are two more ways in which I have seen the coronial system abused. The first is when the clinical team adopts an unnecessarily punctilious approach to the accuracy of the stated cause of death and no one feels able to complete the death certificate for a patient who has died after being under the team's care for some time. One example is when there is uncertainty over whether a patient with intractable congestive cardiac failure had terminal bronchopneumonia.

Another is whether the final event in a patient with myocardial infarction was a pulmonary embolism or a fresh infarct. The death is accordingly reported to the coroner and a postmortem examination is performed without the relatives having to be consulted.

Worse still is when relatives are coerced into giving permission for a postmortem examination by the refusal to issue a death certificate unless such permission is forthcoming—that is, if the relatives do not give permission the death will be reported and a coroner's postmortem examination performed. In my experience, this practice is uncommon but not unknown and can usually be stopped by the combined efforts of the pathologist and the coroner's officer.

In common with many histopathologists, I deplore the falling rate of hospital postmortem examinations, both in Britain and elsewhere. There is no justification, however, for forcing relatives to accept that a postmortem examination will be performed, whether they like it or not, by sheltering behind the coronial system. This adds to the relatives' distress at a time when they are particularly vulnerable and places an added burden on the family's general practitioner.

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Legal medicine overlooked in training

EDITOR,—The *BMJ* has highlighted a problem to which many of us have drawn attention for a number of years.^{1,2} Our medical schools cannot be proud of the appalling deficiency in the undergraduate teaching of legal medicine.

For successive years the Derby division has sent motions to the annual representative meeting relating to this subject, but because they have been listed far down in the agenda they have failed to be reached and debated. The Association of Police Surgeons has also campaigned long and hard for the same cause.

Postgraduate training schemes in clinical forensic medicine have been developed and encouraged by the Association of Police Surgeons and the Association of Chief Police Officers, but this does not solve the problem of the inadequate knowledge of many basic elements of legal medicine among new entrants to the medical profession.

Colleagues from many parts of the world are puzzled by the relegation of undergraduate teaching of legal medicine in the United Kingdom to a low or zero priority. The time is long past for procrastination by the responsible authorities. If they do not act now, perhaps the public will be sufficiently concerned in their own interests to persuade them that urgent action is necessary.

Dare one hope that the BMA will be in the vanguard of such a campaign?

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- 1 Leadbeater S, Knight B. Reporting deaths to coroners. *BMJ* 1993;306:1018. (17 April.)
- 2 Start RD, Delargy-Aziz Y, Dorries CP, Silcocks PB, Cotton DWK. Clinicians and the coronial system: ability of clinicians to recognise reportable deaths. *BMJ* 1993;306:1038-41. (17 April.)

Death certification needs urgent overhaul

EDITOR,—Twenty two years after the Brodrick report¹ the "apparent inability of doctors to complete a death certificate accurately" is still of

major concern, as Stephen Leadbeater and Bernard Knight point out.² Recent Australian research has developed and validated a method to distinguish between major errors in certification, which may affect the coding of underlying cause of death (16% of 430 certificates in a sample in 1990), and minor errors with no such significance.³

The challenge is to change knowledge, attitudes, and practice with respect to death certification. Experience with an educational intervention in a teaching hospital's quality assurance programme has been described.⁴ Attitudinal factors are critical with respect to both death certification and necropsy practice.^{5,6}

The Brodrick report also pointed out the mutual dependence of coroners and doctors with regard to accurate certification of the cause of death.¹ Non-medical coders extract and code the underlying cause of death from information on the death certificate, using the World Health Organisation's rules for selection and modification. Queries are made only when the content is inadequate for specific coding; checking of the narrative sequence and the accuracy of the cause of death should ideally be done beforehand by medical or coronial staff. It seems strange then that, at least in Australia, there is no requirement that coroners frame their findings on cause of death in the same fashion as the medical certificate.

Key steps to improving the current situation are that teaching hospitals should introduce a quality assurance programme (perhaps mandatory and linked to hospital accreditation processes) incorporating education about death certification and necropsies and monitoring of performance at certification and necropsies; coding staff should maintain a uniform programme regarding queries; and coronial and public health functions should be integrated into a single framework, as Leadbeater and Knight suggest.

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- 1 Committee on Death Certification and Coroners. *Report*. London: HMSO, 1971. (Cmd 4810.)
- 2 Leadbeater S, Knight B. Reporting deaths to coroners. *BMJ* 1993;306:1018. (17 April.)
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- 5 Bell G, Cremona A. Alcohol and death certification: influencing current practice and attitudes. *Br J Addict* 1989;84:1523-5.
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24 hour rule unnecessary

EDITOR,—R D Start and colleagues' article about deaths that should be reported to the coroner may cause confusion.¹ Nowadays doctors are well trained and have many modern aids to rapid diagnosis. As a result it is superfluous and sometimes distressing for relatives to have local rules for reporting all deaths within 24 hours of admission to hospital or 24 hours after recovery from anaesthesia and, indeed, after detention under the Mental Health Act. Inevitably, a number of these deaths will be reported, but this will be because the death is believed to have been violent or unnatural or the cause is unknown. In Birmingham the 24 hour rule was abolished many years ago, and as far as I am aware this has caused no problems.

I therefore agree with Stephen Leadbeater and Bernard Knight that the local rules cited by Start and colleagues put the coroner outside his or her jurisdiction.² My own experience is that the registrar of births, marriages, and deaths makes inquiries and studies the certificate given by the

doctor and as a result makes many referrals to the coroner on the grounds that the death may have been unnatural or that the death certificate is incomplete or misleading.

In the crowded medical curriculum there is insufficient teaching on medicolegal matters and completing a death certificate. This may well need to be remedied. Leadbeater and Knight also refer to the possible benefits of a "medical examiner" system. As most deaths referred to the coroner require a medical decision rather than a legal opinion in a court of law I conclude that a doctor is best able to judge the many pathological and other medical reports before deciding a course of action. It might reasonably be argued that all coroners should be medically qualified.

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- 2 Leadbeater S, Knight B. Reporting deaths to coroners. *BMJ* 1993;306:1018. (17 April.)

Pressure sores underreported

EDITOR,—R D Start and colleagues assessed clinicians' ability to recognise deaths that require referral to the coroner.¹ I believe that conditions that would be referred to the coroner if they were entered on death certificates are underreported, a good example being bed sores. In 1986, 171 death certificates recorded pressure sores as a cause of death, with 1229 mentions. This, however, is a very small number when one considers that 22-37% of about 60 000 patients are at risk of death due to pressure sores.² One would expect pressure sores to be recorded on several thousand certificates. This underreporting arises because pressure sores are commonly considered, including by coroners, to indicate a poor quality of care even though the clinical condition of the patient, including acute illness and age, increases susceptibility to pressure sores.

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- 2 Allman RM. Pressure sores among the elderly. *N Engl J Med* 1989;320:850-3.

Medical management of miscarriage

Psychological impact underestimated

EDITOR,—In their paper on the medical management of miscarriage R C Henshaw and colleagues state that women were reviewed 12-18 hours after treatment, when pelvic examination was repeated.¹ They do not mention, however, whether the patients were sent home during this time (which would have been inconvenient for the patients) or were kept in the hospital (which would have been expensive for the hospital, nullifying the economic benefits of medical treatment).

I would also like to draw attention to the psychological impact of medical treatment, which I observed while working in Northampton General Hospital, where medical management was routinely offered to all women requesting termination of pregnancy. The patients were admitted to the hospital 48 hours after taking mifepristone and were given vaginal prostaglandin; then they would

collect in a bowl every blood clot or product of conception, which was later reviewed for completeness by nurse and doctor. Many patients were so distressed to see the fetus that they regretted their decision and felt guilty. Retrospectively, they said that they would have opted for surgical treatment, when they would not see anything. The nurses were also distressed to see the fetus, and two nurses, who were pregnant, refused to collect and examine the products. Patients with inevitable and incomplete miscarriage are already distressed, and asking them to collect all products and blood clots will make them even more so. At least with surgical treatment the uterus is evacuated under anaesthesia in one go and after the procedure patients feel normal.

Another important advantage of surgical treatment is that samples are obtained for histological examination in almost all cases, while in the present study products of conception could be identified in only 25 of 44 cases. This has important implications as some of the spontaneous miscarriages can be due to hydatidiform mole, especially partial mole, where histological diagnosis is of the utmost importance because follow up is needed.

Psychological aspects should be taken into consideration when randomised studies comparing medical and surgical management for incomplete and inevitable miscarriages are planned.

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Should we intervene in uncomplicated miscarriage?

EDITOR,—Both R C Henshaw and colleagues' paper¹ and Peter Macrow and Max Elstein's editorial² conclude that a prospective randomised trial is needed to compare active medical management of miscarriage with the traditional surgical curettage. Both articles fail to address the far more fundamental question of whether any intervention (medical or surgical) is necessary for uncomplicated spontaneous inevitable or incomplete abortion.

Where is the evidence from randomised controlled trials supporting "routine" dilatation and curettage, which is usually performed by a junior doctor? The editorial does not refer to any supporting evidence, and Henshaw and colleagues quote a paper published in 1944 supporting the traditional surgical intervention, which does not contain any scientific evidence or refer to any other papers that support surgical intervention. Indeed, the authors of both papers, although half a century apart, state that the uterus must be emptied as soon as possible without supporting scientific evidence.

So is it necessary to intervene at all in uncomplicated miscarriage to prevent complications? Much anecdotal evidence from general practice suggests that women do survive miscarriages safely without active intervention.

I agree with the authors that a randomised controlled trial is needed, but not of surgical versus active medical management but of no active intervention versus any intervention. Only then would the trial they propose be justified. It may well be found that a substantial number of women with uncomplicated miscarriage do no worse medically by avoiding intervention. They would certainly avoid the trauma and discomfort of separation from their family, admission to hospital, and potentially unnecessary surgical and anaesthetic procedures at a time when they need the support of their family and general practitioner. In