

The *BMJ*'s Nuremberg issue

Many people are still uncomfortable with the topic of Nazi medicine

EDITOR—The *BMJ*'s issue commemorating the Nuremberg doctors' trial¹ is a courageous attempt to address an uneasy topic, for which the editor deserves praise. The following short account may show just how brave it is.

Having a longstanding interest in uncovering Nazi medical atrocities, I decided to write a four part series on the subject and suggested the idea to the *Journal of Physical Medicine and Rehabilitation*. Being one of two editors in chief of this journal, I did not want to exert any pressure and accepted without further comment that the Belgian coeditor in chief rejected my offer. The Royal Belgium Society of Physical Medicine and Rehabilitation, which is officially affiliated to the journal, apparently heard of my plan and its rejection and was outraged by the notion of the journal touching the subject. When I mentioned medicine during the Third Reich in a recent editorial in the journal² the secretary general of the society

reacted by demanding from the journal's publisher, Blackwell, that I immediately resign from my position as editor in chief: "With great dismay we read Professor Ernst's editorial and paper on Nazi medicine ... and ... demand Professor Ernst's resignation as editor in chief, otherwise the society will withdraw from the journal in 1997." Blackwell stood behind me in this matter, and the journal is now dissociating from the Belgian society. I should add that my very brief mention of Nazi medicine was in the context of a historical account of homoeopathy in Germany and that my original four papers relating to the Nuremberg doctors' tribunal are currently being published in *Wiener Medizinische Wochenschrift*, which is also published by Blackwell.³

This anecdote illustrates how uncomfortable many people are with the topic of Nazi medicine. The *BMJ* and *Wiener Medizinische Wochenschrift* show that the concern for important ethical issues should override other interests with a view to benefiting the medical community.

E Ernst *Director*
Department of Complementary Medicine,
Postgraduate Medical School, University of Exeter,
Exeter EX2 4NT

Advice to authors

We receive more letters than we can publish: we can currently accept only about one third. We prefer short letters that relate to articles published within the past four weeks. We also publish some "out of the blue" letters, which usually relate to matters of public policy.

*When deciding which letters to publish we favour originality, assertions supported by data or by citation, and a clear prose style. Letters should have fewer than 400 words (please give a word count) and no more than five references (including one to the *BMJ* article to which they relate); references should be in the Vancouver style. We welcome pictures.*

Letters should be typed and signed by each author, and each author's current appointment and address should be stated. We encourage you to declare any conflict of interest. Please enclose a stamped addressed envelope if you would like to know whether your letter has been accepted or rejected.

We may post some letters submitted to us on the worldwide web before we decide on publication in the paper version. We will assume that correspondents consent to this unless they specifically say no.

Letters will be edited and may be shortened.

the media—legalised disposal of expensive and troublesome elderly people. What next?

Hugh J Thomson *Consultant surgeon*
Birmingham Heartlands Hospital, Birmingham
B9 5SS

¹ Woods D. Lessons still need to be learned from Nuremberg. *BMJ* 1996;313:1422. (7 December.)

College oath requires physicians to do everything for the welfare of the state

EDITOR—Hartmut M Hanauske-Abel shows how German doctors embraced subservience to the Nazis as early as 1933: "To serve this State must be the sole objective of the medical profession," as one of them wrote.¹ From this all the rest—forced sterilisations, involuntary euthanasia, and medical "experiments"—duly followed.

It is surprising, then, that the Royal College of Physicians requires as a condition of admission to the fellowship the completion of a "form of faith," in which the doctor promises to "do everything ... to the honour of the College and welfare of the State" without mention of responsibilities to individual patients. Doubtless most doctors would hold that their primary obligation was to their patients; and, in so far as the state serves to protect the interests of its citizens, the welfare of the state and the welfare of patients may coincide. It is not difficult, however, to conceive of situations in which conflict might arise, and it seems remarkable that such a form of faith has survived and found signatories in the post-Nuremberg era.

Geoffrey Nicholson *Consultant physician*
99 Broadbottom Road, Mottram, Near Hyde,
Cheshire SK14 6JA

¹ Hanauske-Abel HM. Not a slippery slope or sudden subversion: German medicine and national socialism in 1933. *BMJ* 1996;313:1453-63. (7 December.)

Abortion and euthanasia evoke thoughts of Nazi Germany

EDITOR—The concern about doctors and fascism reported in a news article is right and proper.¹ We are living in a society based on the survival of the fittest—a culture that increasingly considers it legitimate to pick off the weak and dispose of the inconvenient. In Nazi Germany psychiatric patients were considered to be inconvenient, and thousands were put to death. It was done legally, it was done behind closed doors, and it was done with the cooperation of the doctors of the day.

Now it is unwanted children who are "inconvenient," and 170 000 are put to death in England and Wales each year. It is done legally, it is done behind closed doors, and it is done by the medical profession. And, too, doctors sit back as euthanasia is debated in

Photographs exploited their subjects

EDITOR—I have no doubt that both Hartmut M Hanauske-Abel and the *BMJ*'s staff gave a great deal of thought to the inclusion of photographs showing experiments on prisoners in Dachau concentration camp.¹ I also realise the conflict between "never forgetting" what happened and exploitation, but for me these photographs were a further abuse of those who were unwilling participants in the first place.

K Osborne *Senior scientist in epidemiology*
1A Boothby Road, London N19 4AA

¹ Hanauske-Abel HM. Not a slippery slope or sudden subversion: German medicine and national socialism in 1933. *BMJ* 1996;313:1453-63. (7 December.)

Nobody died during experiments on vitamin C and vitamin A intakes in Sheffield

EDITOR—The important issue commemorating the Nuremberg doctors' trial contains an article by Paul Weindling reporting the presence of a *BMJ* correspondent at the trial.¹ Weindling mentions research carried out in Sheffield on human volunteers who were conscientious objectors in the second world war and writes that "a volunteer receiving a depleted intake of vitamin C had died of a heart attack." This is not true.

I was a member of the research team (which was directed by Sir Hans Krebs) and was responsible for the clinical aspects of the experiment, which was designed to determine the human requirements for vitamin C. It was reported fully in 1953.²

None of the volunteers died in either the vitamin C deprivation experiment or the vitamin A deprivation experiment that preceded it, although one man, Milburn, came close to death in the vitamin C experiment. After spending 229 days on a diet as deficient in vitamin C as we could make it he had clear evidence of scurvy, including bleeding gums and haemorrhages round the hair follicles of the legs. One night, after these signs had appeared, he developed all the major symptoms of coronary thrombosis. He was treated at once with intravenous vitamin C and recovered completely. Haemorrhage into the heart or pericardium was diagnosed.

All 10 volunteers on the vitamin C free diet developed clinical scurvy, of whom one, Drake, had considerable bleeding into a knee joint after a bicycle ride. The experiment confirmed that in scurvy, in addition to bleeding into the gums and skin, bleeding may occur anywhere, sometimes with serious results. It enabled us to suggest a minimum daily human requirement of 30 mg of vitamin C.

Other experiments were carried out on these volunteers, including experiments into the transmission of scabies, the effects of total deprivation of water for three days (the "shipwreck experiment"), and the effects of living on a diet from which vitamin A was excluded for nearly two years.

The informed consent of the volunteers was always obtained in the experiments in Sheffield. These volunteers played an important part in making measurements and recording data, and they asked that their names be recorded in the Medical Research Council's reports when these were published; this was done. In the course of the experiments they often suffered considerable discomfort and in some cases quite serious illness. They helped to make some important contributions to medical knowledge, and they should be remembered in medical history.

John Pemberton *Emeritus professor of social and preventive medicine*
Iona, Cannon Fields, Hathersage, Sheffield
S30 1AG

1 Weindling P. Human guinea pigs and the ethics of experimentation: the *BMJ*'s correspondent at the Nuremberg medical trial. *BMJ* 1996;313:1467-70. (7 December.)

2 Bartley W, Krebs HA, O'Brien JRP. *Vitamin C requirement of human adults: a report by the vitamin C subcommittee of the Accessory Food Factors Committee and others*. London: Medical Research Committee, 1953.

Compulsory sterilisation of defective people was legal in several countries besides Germany

EDITOR—In the *BMJ*'s splendid Nazi issue Hartmut M Hanauske-Abel explains that compulsory sterilisation of defective people in Germany was inspired by pre-Nazi medical eugenicists.¹ However, this policy was first implemented in the United States, in Indiana, in 1907 "to prevent procreation of confirmed criminals, idiots, imbeciles and rapists."²

By 1913 such sterilisation was legalised in 12 states, and more than 60 000 people were sterilised between 1907 and the 1970s, especially in California. Moreover, such laws, conceived and carefully drafted by doctors, were upheld by the United States Supreme Court in 1927 and were still valid in 1985 in 19 states. These laws were useful models for legislation elsewhere, not only by the Nazis in 1933 but also in Alberta and Denmark (1928), Norway and Sweden (1934), and Finland (1935).

JH Baron *Honorary professorial lecturer*
Gastrointestinal Division, Mount Sinai School of Medicine, New York, NY 10029-6574, USA

1 Hanauske-Abel HM. Not a slippery slope or sudden subversion: German medicine and national socialism in 1933. *BMJ* 1996;313:1453-63. (7 December.)

2 Reilly PR. *The surgical solution: a history of involuntary sterilisation in the USA*. Baltimore: Johns Hopkins University Press, 1991.

Use of Nazi material during medical training left an uncomfortable feeling

EDITOR—I read with interest the articles commemorating the anniversary of the Nuremberg doctors' trials.¹ They reminded me of an incident during my undergraduate teaching at Cambridge University as recently as 1981. We were given a physiology lecture on respiration and, to illustrate the movements of the respiratory muscles, were shown film that, we were told, had been taken in a Nazi concentration camp. The film lasted several minutes and showed the movements of the diaphragm and other muscles involved in breathing in a boy who had been exposed to a much higher dose of x rays than was known to be safe.

I remember that our lecturer's justification for using this material was that something positive could come out of such a dreadful time. I also remember feeling uncomfortable about the film, but, to my shame, I said nothing, nor did I discuss it with other students afterwards. I would be interested to know if contemporaries of mine recall this incident and whether the university continues to use the material.

Margaret Hannah *Consultant in public health*
Fife Health Board, Cupar, Fife KY15 5UP

1 Leaning J. War crimes and medical science. *BMJ* 1996;313:1413-5. (7 December.)

Is enough enough?

EDITOR—The *BMJ* is important not only because of the medical articles it publishes—

other journals do that too—but because of its commitment to culture: the fearless desire to educate, to stimulate, and to amuse its readers. The recent Nuremberg issue was literally astonishing.

Those of us who are not "historical revisionists" are well aware of the barbarism of the Nazi era perpetrated by not only Germans. But I, along with the many, had always assumed that most of the population, including the medical profession, were converted either via "the slippery slope" or through "sudden subversion." But the remarkable paper by Hartmut M Hanauske-Abel shows that this was not so, and I was shocked by the extraordinary cover up subsequently by the German authorities and medical establishment and by the drastic consequences for him.¹ This tends to confirm Goldhagen's controversial assertion that there was no sudden forced subversion of the willingly anti-Semitic Germanic population.²

And then I thought: why should a medical journal thrust these issues before us when historical journals have not, by and large, produced any of this direct, shocking material—even the direct report of Hitler's prewar diatribe? Will the general press or journals republish or comment on this issue's articles? Why should an organ of an instinctively conservative profession (a medical journal) risk causing controversy and possible friction with its peer European journals? Why now? What purpose does it serve to hound these perpetrators for the whole of their lives; is enough enough, particularly after this length of time? Should the Christian ethic of forgiveness be the motto of a largely non-Christian world, especially when that world watched the Balkan Christians showing that European barbarity is alive and well?

As someone who has a legacy of mid-century "European culture" and who has never known grandparents or aunts or uncles, I found these questions springing up as I read these brave, distressing articles.

Harry Preston *Medical practitioner*
838 Doncaster Road, Doncaster, Victoria 3108, Australia

1 Hanauske-Abel HM. Not a slippery slope or sudden subversion: German medicine and national socialism in 1933. *BMJ* 1996;313:1453-63. (7 December.)

2 Goldhagen DJ. *Hitler's willing executioners*. London: Little, Brown, 1996.

Access to computed tomography in British accident and emergency departments

EDITOR—Julien Bogousslavsky highlights the need for further trials of thrombolysis in patients presenting soon after the onset of acute ischaemic stroke.¹ However, before randomisation the patient must have computed tomography to exclude intracranial haemorrhage as the cause of the stroke. Computed tomography has not been widely available in the United Kingdom.² Accident and emergency departments are well placed to perform the initial triage and assessment

Table 1 Numbers of accident and emergency departments in the United Kingdom with access to urgent computed tomography (n=232)

	Easy access	Access with difficulty
Access for urgent cases:		
During normal working hours	195	11
Out of hours	156	31
Access for acute stroke*:		
During normal working hours	121	71
Out of hours	59	102

*If thrombolysis was being considered.

of patients presenting with acute stroke, but a selective audit suggested that access to computed tomography in these departments was patchy.³ We therefore conducted a comprehensive survey of the access to computed tomography in British accident and emergency departments.

We posted questionnaires to all the accident and emergency departments listed in the 1996 directory of the British Association for Accident and Emergency Medicine.⁴ All questionnaires were accompanied by a letter explaining the purpose of the study and a reply paid envelope. The questionnaires and accompanying letters were addressed to the consultant in charge. Reminder letters were sent to all non-respondents two weeks after the initial posting. Thereafter, non-respondents were sent one further reminder.

Two hundred and thirty two of the 273 general, adult, main accident and emergency departments responded (response rate 85%). The non-responding departments had similar rates of annual attendance to those of the responders. Of the respondents, 205 departments had onsite computed tomography. Departments in hospitals without scanners for computed tomography had significantly lower mean annual attendances (32 044 v 53 487, $P < 0.05$). In 142 of the responding departments the scanner was sited either adjacent to or within the accident and emergency unit itself. Access to urgent computed tomography is shown in table 1. Four fifths of responding consultants (185) were interested in receiving further information about a proposed future randomised controlled trial of thrombolysis in patients with acute ischaemic stroke.

The Audit Commission recently suggested that 24 hour computed tomography is an essential support service for all main accident and emergency departments.³ We found that almost all of the main departments have a scanner in their hospital. A surprisingly high proportion of these scanners were located within (or adjacent to) the accident and emergency unit itself. Although the availability of computed tomography seems to be better than suggested by the Audit Commission's report,³ urgent computed tomography outside normal working hours for patients with stroke was not readily available in a significant proportion of departments. None the less, computed tomography is now available in sufficient British accident and emergency departments for further trials of thrombolysis within a few hours of onset of

ischaemic stroke to be undertaken in the United Kingdom.

Paul Dorman *Medical Research Council clinical training fellow*

Peter Sandercock *Reader in neurology*
Neurosciences Trials Unit, Department of Clinical Neurosciences, University of Edinburgh, Western General Hospital, Edinburgh EH4 2XU

- 1 Bogousslavsky J. Thrombolysis in acute stroke. *BMJ* 1996;313:640-1. (14 September.)
- 2 Langton Hewer R, Wood VA. Availability of computed tomography of the brain in the United Kingdom. *BMJ* 1989;298:1219-20.
- 3 Audit Commission. *By accident or design: improving A&E services in England and Wales*. London: HMSO, 1996.
- 4 British Association for Accident and Emergency Medicine. *Directory 1996*. Lavenham, Suffolk: Lavenham Press, 1996.

Who should talk to patients with cancer about genetics?

EDITOR—Mutations in the recently identified BRCA1, BRCA2, MLH1, and MSH2 genes are associated with high risk of developing common cancers—namely, of the breast, ovary, and colorectum.^{1,2} As the general public is already informed in the popular press about the increased risk of cancer it is not surprising that the demand for genetic testing is increasing.³ The organisation, staffing, and funding of specialist breast and ovarian cancer clinics is a topical issue.

Stoll stated that oncology nurses should staff specialist breast and ovarian clinics,³ whereas Campbell *et al* preferred the appointment of specialist genetic nurses with training in oncology.⁴

However, doctors and nurses in all specialties caring for patients with cancer will be required to give information. We investigated how this group of health professionals responds to patients' inquiries about familial cancer by circulating a confidential questionnaire to 19 senior doctors and 14 nurses. The questionnaire was designed to obtain information on their general knowledge about cancer genetics, the clinical application, and their views on issues concerning genetic testing.

Twenty questionnaires were returned from 10 doctors and nurses. On average each practitioner saw 150 patients with cancer a year. The survey showed an obvious dichotomy between wanting to provide information on genetics and further management and their inability to do so. Family history of cancer was not discussed routinely because of lack of time. Criteria for genetic testing or screening were not used. In addition, staff did not appreciate the associated issues surrounding genetic testing (impact on individual patients and their families and the need for confidentiality).

Genetic units can and should provide continuing education and guidance on protocols for genetic testing and collaborate with specialties to formulate screening protocols. The organisation of a local multidisciplinary team to set up studies to evaluate genetic testing and outcomes of clinical management funded by the NHS research and development programme would ensure that each

specialty's skills are used. Cancer genetic services will then become an integral part of clinical practice, as requested by the respondents to our questionnaire.

The quality of information giving on cancer and genetics is directly related to the knowledge of professionals and their ability to communicate this to a patient regardless of their specialty. If they do not know the answer to a question they must be able to refer the patient to someone who does.

Wendy Chorley *Macmillan genetic nurse specialist*

Kay MacDermot *Senior lecturer in clinical genetics*
Clinical Genetic Department, Royal Free Hospital, London NW3 2QG

- 1 Easton DF, Ford D, Bishop DT. Breast Cancer Linkage Consortium. Breast and ovarian cancer incidence in BRCA1-mutation carriers. *Am J Hum Genet* 1995;56:265-71.
- 2 Liu B, Parsons R, Papadopoulos N, Nicolaidis NC, Lynch HT, Watson P, *et al*. Analysis of mismatch repair genes in hereditary non-polyposis colorectal cancer patients. *Nature Med* 1996;2:169-74.
- 3 Stoll B. Specialist breast and ovarian cancer clinics should be staffed by oncologist nurses. *BMJ* 1996;312:913.
- 4 Campbell H, Mackay J, Porteous M. The future of breast and ovarian cancer clinics—no longer just research, now a clinical need. *BMJ* 1995;311:1584.

Registering a fetus papyraceus

Registration is important for research into cerebral palsy

EDITOR—R F Heys questions the need to register a fetus papyraceus as a stillbirth when the cotwin survives, pointing out the distress it causes to the parents.¹ We believe, however, that limiting the registration of stillbirths to those weighing ≥ 500 g, as recommended by the World Health Organisation, would be a retrograde step.

It is well recognised that, in a twin pregnancy, if one twin dies in utero the cotwin has a high risk of cerebral palsy, particularly if the twins were monozygotic. In two population based series the risk of cerebral palsy in a surviving twin when the cotwin died in utero was about 1 in 10.^{2,3}

The Mersey cerebral palsy register has details of 18 twin pregnancies in which one twin was recorded as dying in utero in the obstetric notes and the surviving cotwin had cerebral palsy. These 18 twin pregnancies have been traced through the birth and death registrations of the Office for National Statistics, and in six the fetal death was not registered, although it was a legal requirement to do so. This has led to the hypothesis that the spastic form of cerebral palsy is due to the death of one twin early in gestation—that is, apparently singleton infants with cerebral palsy were one of twins in which the cotwin died early in gestation and was not recognised. We have proposed that cerebral palsy is predominantly the result of the vanishing twin phenomenon.⁴ If this hypothesis is not refuted it will be extremely important for parental counselling not only that a fetus papyraceus should be registered but that the even earlier death of a twin diagnosed by ultrasonography should be noted and followed up.

Heys is also concerned that upholding the legal requirement could seriously distort

the stillbirth statistics of hospitals undertaking selective termination. Surely allowance can be made for this when stillbirth rates are compared. Being a slave to numerical data can be counterproductive; what is needed is the reason for the stillbirth, whether it is preventable, and what its consequences are. If parents find it distressing to have to register a "barely recognisable scrap of humanity" as a stillborn child and go through the trauma of funeral arrangements there must be a better way of dealing with the problem than leaving them in ignorance.

Incidentally, the evidence suggests that only monozygotic twins are at risk if one dies in utero. Treatment for infertility results in multiple zygosity, and selective termination will not increase the risk of cerebral palsy if the proposed hypothesis is correct.

P O D Pharoah *Professor of public health*

R W I Cooke *Professor of child health*

University of Liverpool, Liverpool L69 3BX

- 1 Heys RF. Selective abortion. *BMJ* 1996;313:1004. (19 October.)
- 2 Grether JK, Nelson KB, Cummins SK. Twinning and cerebral palsy: experience in four northern Californian counties, births, 1983 through 1985. *Pediatrics* 1993;92:854-8.
- 3 Pharoah POD, Cooke T. Cerebral palsy and multiple births. *Arch Dis Child* (in press).
- 4 Pharoah POD, Cooke RWI. A hypothesis for the aetiology of spastic cerebral palsy: the vanishing twin. *Dev Med Child Neurol* (in press).

Health professionals can exercise discretion

EDITOR—R F Heys's letter about the requirement to register all "births" of a fetus papyraceus highlights the confusion among midwives, obstetricians, and registrars of births and deaths on this issue.¹ In 1995 I looked after a woman who was known to have had a first trimester death of one of her two twins. I issued instructions that the birth was to be recorded and registered as a singleton. Soon after the birth I was informed by one of our senior midwives that the local registrar had previously advised that such births should be recorded as multiple births, with a stillbirth being registered. Having discussed the matter with the local registrar—who repeated this advice—I took it up with the national office and subsequently wrote to the secretary of state for health for clarification. The matter was dealt with by G Hughes, the head of branch, general register office, Office of Population Censuses and Surveys (now the Office for National Statistics). His response was that, while the law did technically require registration of a stillbirth, "in practice it is comparatively rare for a papyraceus fetus to be brought to the attention of the registrar, either by health professionals or by the parent(s). Moreover ... it is not usual practice to chase up the non-attendance of such events." This seems to give licence to obstetricians, midwives, and other health professionals to exercise discretion in such cases.

Malcolm Griffiths *Consultant obstetrician*
Luton and Dunstable Hospital NHS Trust, Luton LU4 0DZ

- 1 Heys RF. Selective abortion. *BMJ* 1996;313:1004. (19 October.)

Purchasers should require providers to set standards for pain relief

EDITOR—The sad tale by Matthew Juniper, a young rugby player, about the six weeks he spent in hospital after he injured his leg shows the continuing lack of adequate knowledge of pain relief.¹ Undergraduate and postgraduate education in pain relief remains inadequate, and it is time that we set standards.

The book *Clinical Audit in Palliative Care* describes a set of standards for palliative care,² which are readily adaptable for the management of pain. There are four core standard statements.

Standard 1 (pain control)—All patients have their pain and associated symptoms controlled to a degree that is acceptable to them, and achievable within current knowledge.

Standard 2 (collaboration)—There is effective collaboration between nurses, doctors, and other professionals to provide support for patients in pain.

Standard 3 (patient information)—The patient has the information that he or she seeks relating to the cause of the pain and the options for treatment to enable him or her to make informed choices.

Standard 4 (education)—All professional staff have access to up to date knowledge on the principles and practice of pain relief and can show an appropriate level of skill for their area of work.

I invite all purchasers to require this of their providers (and, if they refuse, to provide justification for their refusal). Perhaps the colleges and other authoritative bodies in medicine and nursing should sign up as well. At the end of the 20th century it is a sobering thought that the first account of opiate analgesia was given by Theophrastus some 2300 years ago.

William G Notcutt *Consultant anaesthetist*
James Paget Hospital, Great Yarmouth NR31 6LA

- 1 Juniper M. The tale of two wards. *BMJ* 1996;313:1152. (2 November.)
- 2 Higginson I, ed. *Clinical audit in palliative care*. Oxford: Radcliffe, 1993.

Diagnosing death

Start resuscitation first

EDITOR—The subtitle of Rodger Charlton's editorial on diagnosing death—Getting it right if vital opportunities for resuscitation are not to be missed—misleads readers.¹ It does not emphasise the common need to start resuscitation when the diagnosis is in doubt, which in practice is often while information is still being gathered from attendants. Only when the clinician has decided not to try resuscitation does the thorough examination proposed by Charlton become relevant. Before making this decision respiration should not be checked until the airway is opened, and a pulse should not be sought until effective ventilation has been

provided. Although we acknowledge the difficulties posed by diagnosing death in the community, the logical sequence of current resuscitation guidelines²⁻³ must be followed unless (or until) a positive decision not to resuscitate has been made. Furthermore, in the case of drowning these guidelines (including those referenced by Charlton) do not propose the Heimlich manoeuvre to expel water from the lungs but amply describe the reasons for not doing so.

Simon Mardel *MSc student in public health and health services research*
Aberdeen AB24 3HX

Colin Thomas *Practitioner in resuscitation medicine*
Resuscitation Department, Hereford Hospitals NHS Trust, County Hospital, Hereford HR1 2ER

- 1 Charlton R. Diagnosing death. *BMJ* 1986;313:956-7. (19 October.)
- 2 Handley AJ, Swain A, eds. *Advanced life support manual. Resuscitation Council (UK)*. 2nd ed. London: Resuscitation Council (UK), 1994.
- 3 Advanced Life Support Working Party of the European Resuscitation Council. Guidelines for advanced life support. *Resuscitation* 1992;24:111-21.

Death after electric shock and lightning strike is more clear cut than suggested

EDITOR—Some of Rodger Charlton's assertions about death from environmental causes are faulty.¹ He says that death should not be confirmed after immersion until water has been expelled from the lungs by a Heimlich manoeuvre and that death should be confirmed with extreme caution after lightning strike, electric shock, and airway obstruction. There is little, if any, evidence for these statements.

Heimlich evaluated the manoeuvre named after him in animal experiments in which anaesthetised beagles had the larynx obstructed by a plugged endotracheal tube and then by a meat bolus.² In both cases the Heimlich manoeuvre dislodged the obstruction from the upper airway. There was no simulation of drowning in this work, and there is no good evidence that the manoeuvre is effective in expelling water from the lower airways.

Drowning without aspiration of fluid accounts for 10-20% of deaths by drowning. There is a consensus that the amount of water obtained during attempts to empty the lungs when it has been tried does not justify the inherent delay in airway management and ventilation.³ In addition, the performance of the Heimlich manoeuvre on victims of immersion may exacerbate a cervical spine injury or expel swallowed water from the stomach, leading to aspiration. Attempts to empty the lungs deny casualties the more important intervention of cardiopulmonary resuscitation.

The inference that cardiopulmonary arrest after lightning strike is particularly amenable to successful resuscitation with prolonged cardiopulmonary resuscitation has no substance in fact. It stems from a case report in 1961⁴ that was misinterpreted in a classic article.⁵ There is no reason to distinguish apparent death from electric shock or lightning strike from other arrhythmia related deaths such as ventricular fibrillation. In the original case report the

period of cardiac arrest was uncertain but was at most 12 minutes from loss of pulse to return of spontaneous circulation.

The suggestion that death from upper airway obstruction requires an unusually prolonged resuscitation is illogical. Cardiac arrest from upper airway obstruction is preceded by profound hypoxia and hypercarbia and consequently results in a poor outcome from resuscitation efforts. We agree that the diagnosis of death in a domiciliary setting is beset with pitfalls. The specific instances we have detailed, however, are more clear cut than Charlton asserts.

Gregor Campbell-Hewson *Specialist registrar, accident and emergency medicine*

Conor V Egleston *Senior registrar, accident and emergency medicine*

Susan M Robinson *Consultant, accident and emergency medicine*
Addenbrooke's NHS Trust, Cambridge CB2 2QQ

- 1 Charlton R. Diagnosing death. *BMJ* 1996;313:956-7. (19 October.)
- 2 Heimlich HJ. Pop goes the cafe coronary. *Emerg Med* 1974;6:154-5.
- 3 Handley AJ, Swain A, eds. *Advanced life support manual. Resuscitation Council (UK)*. 2nd ed. London: Resuscitation Council (UK), 1994.
- 4 Ravitch MM, Lane R, Safar P, Steichen FM, Knowles P. Lightning stroke. Report of a case with recovery following prolonged artificial respiration. *N Engl J Med* 1961;264:36-8.
- 5 Taussig HB. "Death" from lightning and the possibility of living again. *Ann Intern Med* 1968;68:1345-53.

Death of the brain stem means death of the individual

EDITOR—Rodger Charlton says in his editorial on diagnosing death that "complete cessation of circulation to the normothermic adult brain for more than 10 minutes is incompatible with survival of brain tissue."¹ This implies that shorter periods are compatible with recovery of the brain, whereas it is well known that the safe period of normothermic circulatory arrest does not exceed 3 minutes. He also suggests that an isoelectric electroencephalogram is one of the criteria for diagnosing brain death, whereas this is not so in Britain.

Of more importance is the obfuscation introduced by concepts such as somatic death and molecular death. There is only one kind of human death and that is the irreversible loss of the capacity for consciousness, combined with the irreversible loss of the capacity to breathe (and hence to sustain a spontaneous heart beat). Hence the importance of clearly defining the criteria for the diagnosis of brain stem death, which were issued by the medical royal colleges in 1976² and which led to the acceptance that death of the brain stem was the necessary and sufficient condition of death of the brain as a whole and that death of the brain means death of the individual.

Terence English *Master*

St Catharine's College, Cambridge CB2 1RL

- 1 Charlton R. Diagnosing death. *BMJ* 1996;313:956-7. (19 October.)
- 2 Diagnosis of brain death. Statement issued by the honorary secretary of the Conference of the Medical Royal Colleges and their Faculties in the United Kingdom on 11 October 1976. *BMJ* 1976;ii:1187-8.

Author's reply

EDITOR—I thank the correspondents for their remarks and the additional information given. In reply to Simon Mardel and Colin Thomas, I would strongly affirm, as I hope my editorial does, that when the diagnosis of death is in doubt resuscitation should be started while vital information is gathered from attendants.

In reply to Gregor Campbell-Hewson and colleagues, the unfortunate circumstance of apparent death may indeed occur as a result of lightning strike. Two recent case reports vividly describe patients who suffered lightning strike and were reported as "comatose at the scene, with dilated non-reactive pupils and circulatory arrest." Through aggressive and prolonged resuscitation these two patients were revived.¹ A similar argument may be made for cardiac arrest as a result of electric shock.²

The diagnosis of death is not always straightforward, and it is coincidental that another paper on this subject recently reiterated two questions posed by my editorial.³ Firstly, although the heart may have stopped and respiration ceased, the tissues retain the "vital principle of life" for some time. During this period of somatic or systemic death (cessation of vital processes) and lingering vitality can death truly be confirmed? Secondly, are we to wait for molecular death (the progressive and irreversible disintegration of the body tissues) before death can be pronounced with absolute certainty but at the risk of considerable distress to attendants? Thus, in reply to Sir Terence English, the use of the concepts, somatic death and molecular death are not to obfuscate but rather to clarify that death is a process rather than an event.

These philosophical concerns about the definition of death highlight that dilemmas remain about the scientific criteria currently used to diagnose and predict death. This argument is borne out by the criteria used to diagnose brain stem death, which in America include an isoelectric electroencephalogram but in Britain do not.⁴ Similarly, when outcome after resuscitation is considered, views on the likelihood of good neurological recovery as a result of cerebral anoxia are diverse, the upper limit varying between articles; a recent paper suggested a time limit of up to 5 minutes.⁵ Evidently, a challenge exists to refine consensus guidelines to diagnose death.

Rodger Charlton *Senior lecturer in primary health care*

School of Postgraduate Medicine, Keele University, Stoke on Trent ST4 7QB

- 1 Graber J, Ummenhofer W, Herion H. Lightning accident with eight victims: case report and brief review of the literature. *J Trauma* 1996;40:288-90.
- 2 Fontanarosa PB. Electrical shock and lightning strike. *Ann Emerg Med* 1993;22:378-85.
- 3 Powner DJ, Ackerman BM, Grenvik A. Medical diagnosis of death in adults: historical contributions to current controversies. *Lancet* 1996;348:1219-23.
- 4 Evans DW. Brain stem death. *J R Coll Phys Lond* 1996;30:88.
- 5 Quan L. Drowning issues in resuscitation. *Ann Emerg Med* 1993;22:366-9.

Office for National Statistics neither conceals nor puts spin on statistics

EDITOR—Richard Smith accuses the Office for National Statistics of burying differences in death rates between rich and poor men in England and Wales.¹ Nothing could be further from the truth. The office is independent and makes no value judgment as to whether figures are good or bad. It certainly is not in the business of concealing or putting a spin on its statistics.

A stream of articles on this subject has been published in recent editions of *Population Trends*. This year will see a major publication devoted to socioeconomic differences in mortality. When *Population Trends* was published in December I chaired a press briefing, to which the *BMJ* was invited. The conference lasted almost one and a half hours, and these statistics were discussed extensively.

In Smith's analysis of subsequent press coverage he fails to mention the Press Association, whose material is available to media outlets nationwide. It led with this story, with the headline "Poor die at three times rate of rich."

John Fox *Chief medical statistician*

Office for National Statistics, London SW1V 2QQ

- 1 Smith R. Keeping the bad news from journalists. *BMJ* 1997;314:81. (4 January.)

Moderate alcohol consumption has been shown previously to improve insulin sensitivity in men

EDITOR—Stefan Kiechl and colleagues claim that their study is the first to show a relation between alcohol consumption and plasma insulin concentrations in men.¹ This is untrue. Over a year ago we published data on the relation between alcohol consumption and plasma insulin and lipoprotein concentrations in a large cross sectional study of men.²

Altogether 729 men aged 40-69 (75% of a stratified random sample) were recruited from general practitioners' lists in east Bristol, England. They comprised 354 men aged 40-49, 205 aged 50-59, and 170 aged 60-69. Our findings differed from those of Kiechl and colleagues. Increases in alcohol consumption were associated with increases in high density lipoprotein, high density lipoprotein-2 cholesterol, and high density lipoprotein-3 cholesterol concentrations and decreases in low density lipoprotein cholesterol concentrations and the total:high density lipoprotein cholesterol ratio (table 1). With insulin, however, there was a U shaped relation, with moderate drinkers (21-30 g/day) having the lowest concentrations. This was confirmed when a quadratic term was introduced into the analysis of covariance ($P = 0.04$).

Table 1 Mean lipoprotein and insulin concentrations (mmol/l) according to daily alcohol consumption, adjusted for age, body mass index, smoking, and use of antihypertensive drugs

	Alcohol consumption (g/day)					P value
	0	1-20	21-30	31-40	>40	
No of men	85	375	101	55	113	
Mean alcohol intake (g/day)	0	8.6	24.8	35.3	64.9	
HDL	1.08	1.12	1.18	1.30	1.34	0.001
HDL ₂ cholesterol	0.37	0.36	0.40	0.49	0.47	0.002
HDL ₃ cholesterol	0.74	0.79	0.82	0.84	0.87	0.02
Low density lipoprotein	3.9	3.6	3.4	3.5	3.4	0.001
Total/HDL ratio	5.8	5.3	4.8	4.6	4.5	0.0001
Insulin (mU/l)	6.2	6.1	5.1	5.9	6.8	0.06

HDL = High density lipoprotein.

Compared with non-drinkers, moderate drinkers had a lower plasma insulin concentration (by 1.2 mU/l, $P = 0.04$), low density lipoprotein cholesterol concentration (by 0.4 mmol/l, $P = 0.0001$), and total:high density lipoprotein cholesterol ratio (by 0.9, $P = 0.0001$) but a higher high density lipoprotein cholesterol concentration (by 0.1 mmol/l, $P = 0.02$). Conversely, compared with moderate drinkers, heavy drinkers (>40 g/day) had a higher plasma insulin concentration (by 1.5 mU/l, $P = 0.01$) and high density lipoprotein cholesterol concentration (by 0.16 mmol/l, $P = 0.0001$). In this analysis the P value was derived from one way analysis of covariance after adjustment for age, smoking habits, body mass index, waist:hip ratio, and use of antihypertensive drugs.

Our data support Kiechl and colleagues' conclusion that moderate alcohol consumption improves insulin sensitivity, and this might at least partly explain its cardioprotective effect. We do not agree, however, that higher intakes have the same benefit. We also question whether up to 50 g/day should be called a low intake and up to 99 g/day a moderate intake.

George Razay Lecturer in geriatric medicine
Centre For Education and Research on Ageing,
Concord G Hospital, Concord, NSW 2139,
Australia

K W Heaton Reader in medicine
University Department of Medicine, Bristol Royal
Infirmary, Bristol BS2 8HW

- 1 Kiechl S, Willeit J, Poewe W, Egger G, Overhollenzer F, Muggeo M, *et al.* Insulin sensitivity and regular alcohol consumption: large, prospective, cross sectional population study (Bruneck study). *BMJ* 1996;313:1040-4. (26 October.)
- 2 Razay G, Heaton KW. Alcohol consumption and cardiovascular risk factors in middle aged men. *Cardiovascular Risk Factors, an International Journal* 1995;5:200-5.

CS gas has been used as chemical restraint in mentally ill person

EDITOR—An event that occurred recently while I was on call as a senior registrar in psychiatry in Leeds has prompted me to become concerned about the use of CS gas by the police. An inpatient on a neurology ward in a general hospital had become suddenly and unexpectedly violent, causing injuries to hospital staff. The episode could

not be contained on the ward, and so the police were called. The patient was taken to a nearby police station, and I was asked to assess his fitness to be detained in the cells.

In my experience it is usual, as a safety precaution, for the psychiatrist to be accompanied by police officers when circumstances dictate that an assessment must be made in the cell. If the patient is aggressive or violent the police will physically restrain him or her, and this had always been successful in cases in which I had been involved previously. On this occasion, however, the police instructed me to be ready to move out of the way if the patient became violent "so that we can spray him with the CS gas." In the event, although he was aggressive, no restraint was necessary at that stage.

After my assessment, arrangements were made for the patient to be transferred (by ambulance with two police officers to escort him) to the secure ward of a local psychiatric hospital. On past occasions the police have tended to transport such patients with their hands behind their backs in wrist restraints, sometimes being held face down on an ambulance trolley. Again, I have not known of any problems occurring in any such cases in which I have been involved.

In this case, however, I was telephoned later by the police and told that the patient had attacked the ambulance driver and that "the two officers could not restrain him so they sprayed him in the face with the CS gas." I am concerned about the comments made in the cells and the subsequent events. The police were readier to use CS gas than I expected.

To my knowledge, this is the first reported case of CS gas being used to restrain a mentally ill person in police custody in Britain. It raises important issues about the welfare of such people who come in contact with the police. If other, similar, cases are reported then the use of CS gas may need to be addressed by the BMA's ethics committee, perhaps with representations being made to a body such as the Association of Chief Police Officers.

Peter Trigwell Senior registrar in psychiatry
Department of Liaison Psychiatry, Leeds General
Infirmary, Leeds LS1 3EX

Paramedic skills

Data collected on paramedic care need national standardisation

EDITOR—Howard K Simpson and Gary B Smith recommend national standards for the evaluation of paramedic skills and raise the possibility of opportunistic research (based on the differences between regions) to assess the benefit of interventions by paramedics.¹ If these objectives are to be achieved, however, systems that allow the collection of consistent, universally reproducible, data need to be implemented.

We conducted a survey of ambulance services to assess their methods of collecting data; we sent out a questionnaire and request for the present paramedic report form. We received 47 replies (100%) to the questionnaire and 43 (91%) report forms.

Use of the patient report form was universal. Twenty eight services said that they collected data on a computer database, with a further five intending to upgrade to this in the near future. Seven services used optical scanners to collect data, with a further 13 intending to upgrade to this. Ambulance services seem to be developing the equipment to make extensive clinical audit and research possible.

Data collected on the patient report form showed a similar degree of variability to that of the skills surveyed by Simpson and Smith. Recording of the Glasgow coma score (41 of the 43 forms) and systolic blood pressure (all 43 forms) was almost universal, but recording of oxygen saturation (27 forms), blood glucose result (12) and peak flow rate (14) reflected the variable training in these subjects. Trauma scoring was identified on 27 forms: 25 services using the revised trauma score, while two used the CRAMS field triage scale³ (a scoring system based on the five physiological or anatomical variables of circulation, respiration, abdomen, movement, and speech). Assessment of prehospital trauma care mandates the recording of uniform physiological data.

Performance of paramedic skills was recorded with similar variability: 27 services recorded the use of bag and mask ventilation, 42 the use of endotracheal intubation, and 42 the use of intravenous cannulation. Only 21 and 24 services, respectively, recorded failed attempts at intubation and cannulation. Drug use was recorded on a chart by 34 services and with tick boxes by seven. Two forms had no dedicated space to record the administration of drugs.

The development of a national ambulance report form, as proposed by the Joint Royal Colleges Ambulance Service Liaison Committee,² would allow the collection of uniform data on paramedic practice. These data could then be used to allow analysis of the performance of ambulance services in the ways that Simpson and Smith suggest.

S Goodacre Specialist registrar in accident and emergency

A Gray Research registrar in accident and emergency

A McGowan Consultant in accident and emergency
St James's University Hospital, Leeds LS9 7TF

- 1 Simpson HK, Smith GB. Survey of paramedic skills in the United Kingdom and Channel Islands. *BMJ* 1996;313:1052-3. (26 October.)
- 2 Audit Subcommittee of the Joint Royal Colleges Ambulance Service Liaison Committee. *National ambulance service patient report form*. London: Joint Royal Colleges Ambulance Service Liaison Committee, Royal College of Physicians, 1995.
- 3 Gormican SP. CRAMS scale: field triage of trauma victims. *Ann Emerg Med* 1982;11:132-5.

Two tier system of advanced life support and basic life support ambulances is needed

EDITOR—Howard Simpson and Gary Smith report that the skills taught to ambulance service paramedics in Britain vary widely.¹ We suggest that this wide variability is a result of the lack of evidence to support the use of skills in advanced life support before the patient reaches hospital. We should be considering not simply which advanced life support skills are taught but how, when, and if they should be used. In most ambulance services covering Britain the transport times while the patient is taken to hospital are short—shorter even than the time necessary to establish venous access. Many patients, however, spend a long time at the scene to which the ambulance has been called while paramedics practise their advanced life support skills. We should advocate the teaching and use of advanced life support skills in the prehospital environment only if the skills have been shown to improve clinical outcome. At present this has been established only for defibrillation.²

In Britain most 999 calls do not result in the use of advanced life support procedures, yet a paramedic is always sent. This results in a dilution of exposure to critically ill patients, deskilling, poor compliance with protocols, and long times until the patients reach hospital.^{3,4} A two tier system of advanced life support and basic life support ambulances is needed. This would give paramedics in advanced life support ambulances regular exposure to critically ill patients. Clinical skills and judgment increase with experience, and this perhaps explains why two tier systems have shown benefits in patient outcome.^{2,5}

If experience was concentrated among fewer paramedics, delivery of care would doubtless improve. Only then would proposals to teach the management of relatively rare emergencies, such as neonatal paediatric and obstetric resuscitation,¹ be appropriate.

Simon Carley *Hillsborough research fellow, Royal College of Surgeons of England*

Polly Terry *Clinical fellow in emergency medicine Manchester Royal Infirmary, Manchester M13 9WL*

- 1 Simpson HK, Smith GB. Survey of paramedic skills in the United Kingdom and Channel Islands. *BMJ* 1996; 313:1052-3. (26 October.)
- 2 Callahan M, Madsen CD. Relationship of timeliness of paramedic advanced life support interventions to outcome in out-of-hospital cardiac arrest treated by first responders with defibrillators. *Ann Emerg Med* 1996; 27:638-48.
- 3 Hodgetts TJ, Brown T, Driscoll P, Hanson J. Prehospital cardiac arrest room for improvement. *Resuscitation* 1995;29:47-54.
- 4 Lillis KA, Jaffe DM. Prehospital intravenous access in children. *Ann Emerg Med* 1992;21:1430-4.
- 5 Nichol G, Detsky AS, Stiell IG, O'Rourke K, Wells G, Laupacis A. Effectiveness of emergency medical services for victims of out-of hospital cardiac arrest: a meta-analysis. *Ann Emerg Med* 1996;27:700-10.

Meta-analysis of risk of gastrointestinal complications with NSAIDs

Authors should not have included data from one study

EDITOR—I wish to draw attention to an important omission in the report of a meta-analysis of observational studies of serious gastrointestinal complications of non-steroidal anti-inflammatory drugs.¹ The paper was based on both published and unpublished data, and this process was assisted by a workshop held in September 1993 in Newcastle, Australia. This was attended by many of the authors of the original studies. Among those attending was Dr David Kaufman, from the Slone Epidemiology Unit at Boston University School of Medicine.

Kaufman and his colleagues had previously published an international study on major gastrointestinal complications of non-steroidal anti-inflammatory drugs.² At the workshop Kaufman presented unpublished data from a follow up of their original study. Kaufman and his colleagues were not prepared to be coauthors of the report arising from the workshop because they objected to the use of meta-analysis during systematic reviews of non-randomised studies. However, they agreed to provide access to their data on the understanding that they would write a commentary to accompany the final report, which would outline their concerns. I undertook to facilitate this, but during a protracted and complicated analysis and publication process I forgot the undertaking that I had made, and the final report appeared with no opportunity for Kaufman and colleagues to write a commentary. Effectively, I included the unpublished data from the Slone Epidemiology Unit without the final approval of the authors. I sincerely regret this oversight and wish to apologise publicly for it.

The unpublished data from the Slone Epidemiology Unit made a significant contribution to the overall analysis. In their original paper Kaufman *et al* analysed the results in 574 cases of gastrointestinal bleeding. The report of the meta-analysis included details of 1004 cases. The unpublished data of Kaufman *et al* related to 430 of a total of 9677 cases that were included in the overview. These data contributed substantially to the investigations of the relation between dose and risk, for which there were fewer studies overall.

The study in question was a high quality case-control study, and the data were reported accurately, so that their inclusion has not introduced any error into the paper. The incorporation of the data, however, was a breach of faith, which I regret.

David Henry *Senior lecturer in clinical pharmacology Faculty of Medicine and Health Sciences, Discipline of Clinical Pharmacology, University of Newcastle, Callaghan, Waratah, NSW 2308, Australia*

- 1 Henry D, Lim LL-Y, Garcia Rodriguez LA, Perez Gutthann S, Carson JL, Griffin M, *et al*. Variability in risk

of gastrointestinal complications with individual non-steroidal anti-inflammatory drugs: results of a collaborative meta-analysis. *BMJ* 1996;312:1563-6. (22 June.)

- 2 Kaufman DW, Kelly JP, Sheehan JE, Lasglo A, Wilholm BE, Alfredsson L, *et al*. Non-steroidal anti-inflammatory drug use in relation to major upper gastrointestinal bleeding. *Clin Pharmacol Ther* 1993;53:485-94.

Narrative review should have been used

EDITOR—We are glad to have the opportunity to put our view about David Henry and colleagues' meta-analysis.¹ We agree with the overall conclusions of the analysis, but they would have been reached in a narrative review. We take issue with the meta-analysis because it included studies that differed in important respects and combined unlike things.

Exposure—The definitions of exposure ranged from any prescription for a non-steroidal anti-inflammatory drug recorded by a pharmacy within one month to any exposure recorded at interview within one week of the onset of the illness. Such heterogeneous definitions should not be combined; indeed, some definitions included exposures that were not aetiologically relevant (for example, use of a drug stopped weeks previously).

Dose—As acknowledged,¹ doses were defined differently among the studies, with different cut off points, yet the meta-analysis combined them without regard for the differences.

Outcome—Different studies evaluated different outcomes, including gastric ulcer, duodenal ulcer, any upper gastrointestinal bleeding (including stools positive on occult blood testing), major bleeding only, and perforation, either singly or in different combinations. In some studies the diagnoses were validated from medical records; in others they were not. Some studies included only the first occurrences of disease; others included incident and recurrent cases.

Quality—Certain studies were excluded because they "did not show the association with gastrointestinal damage." Unless there were additional reasons for exclusion, the meta-analysis was biased. Although the studies were assessed for quality, this assessment does not seem to have been taken into account in the analysis, and we question whether it could have been. For example, in some studies detection bias could have occurred if users of non-steroidal anti-inflammatory drugs were tested more commonly than non-users for stool occult blood: such bias cannot be measured or controlled for. With regard to confounding, the pharmacy based studies lacked information on use of over the counter aspirin, and its concomitant use with prescription non-steroidal anti-inflammatory drugs was not controlled. To give another example, people with peptic ulcer or a history of upper gastrointestinal bleeding tend to avoid non-steroidal anti-inflammatory drugs; some studies did not control for or even record the previous occurrence of these conditions. Much the same considerations apply to other confounders such as cigarettes and alcohol.

Heterogeneity—Random effects models were used, presumably because the pooled

results were heterogeneous. Such models may be statistically valid, but they do not make biological or clinical sense,² and some advocates of meta-analysis reject them.³

When several well conducted studies identify strong and generally similar effects, as in the present case, the conclusions reached in a meta-analysis are likely to resemble those reached in a narrative review. A meta-analysis does not contribute further information. By contrast, a good narrative review can convey the weight, breadth, limitations, and subtlety of the evidence from the different studies more clearly. Variation among studies is inevitable in observational research, and individual evaluations are essential.

If a narrative review and a meta-analysis reach the same broad conclusions why disqualify the meta-analysis? A danger inherent in the use of meta-analysis to evaluate large effects is that its seeming legitimacy, because it comes up with the "right" answer, can be interpreted as conferring legitimacy to the meta-analysis of small effects. For small effects it may readily lead to spurious conclusions,^{2,4} and it is in the evaluation of small effects that meta-analysis is now most commonly being used.

David W Kaufman *Professor of epidemiology*

Samuel Shapiro *Professor of epidemiology*
 Slone Epidemiology Unit, Boston University
 School of Medicine, Brookline, MA 02146, USA

- 1 Henry D, Lim LL-Y, Garcia Rodriguez LA, Perez Gutthann S, Carson JL, Griffin M, *et al*. Variability in risk of gastrointestinal complications with individual non-steroidal anti-inflammatory drugs: results of a collaborative meta-analysis. *BMJ* 1996;312:1563-6. (22 June.)
- 2 Shapiro S. Meta-analysis/shmeta-analysis. *Am J Epidemiol* 1994;140:771-7.
- 3 Greenland S. Can meta-analysis be salvaged? *Am J Epidemiol* 1994;140:783-7.
- 4 Shapiro S. Is meta-analysis a valid approach to the evaluation of small effects? *J Clin Epidemiol* (in press).

Self administered tampons can be used to diagnose sexually transmitted diseases

EDITOR—Lars Østergaard and colleagues highlight the importance of self administered techniques for diagnosing and screening for chlamydial infection in women.¹ They used the combined results from three samples (first void urine, midstream urine, and a sample obtained with a 5 ml vaginal pipette) but were concerned about whether women in the general community would comply with this method.

We have used a tampon method administered by patients to detect several genital infections, including infection with *Chlamydia trachomatis*, *Neisseria gonorrhoeae*, *Trichomonas vaginalis*, and human papillomavirus, and found it to be highly acceptable. Women are asked to insert and immediately remove a commercially available tampon, which is then placed in phosphate buffer in a sterile container and sent to a centralised reference laboratory for processing by the polymerase chain reaction.

The tampon technique has advantages over the sampling method described by

Østergaard and colleagues because it relies on a procedure that most women perform routinely each month and that can be performed at any time. The tampon collects at least three times more DNA than a cervical scrape² and perhaps 100 times more than a urine or vaginal minidouche specimen, thus allowing multiple assays to be performed with the polymerase chain reaction. The samples are robust and can be transported for processing many thousands of kilometres away.

We have used the technique in urban, rural, and remote settings in both Aboriginal and non-Aboriginal women (including in a study of over 1300 women living in the top end of the Northern Territory of Australia). It has been shown to be acceptable (>95% of women agree to participate) and to be highly sensitive and specific for each organism (FJB *et al*, 7th international congress for infectious diseases, Hong Kong, June 1996).³

In the future we will extend the polymerase chain reaction mix to include primers for herpes simplex type 1 and 2, syphilis, granuloma inguinale, and group B streptococcus. Primers for chancroid could be included in areas where the disease is prevalent.

The control of sexually transmitted diseases in populations reduces the incidence of HIV infection,⁴ but effective programmes in such diseases require the detection of asymptomatic infections, a fact not addressed by the "syndromic-treatment" approach. We have found the tampon technique to be a valuable tool in the detection of asymptomatic disease in a geographically and culturally heterogeneous population.

Francis J Bowden *Head*

AIDS/Sexually Transmitted Diseases Unit, Disease Control, Territory Health Services, Darwin, NT, Australia

Barbara A Paterson *Research officer*

Menzies School of Health Research, Darwin

Suzanne M Garland *Director*

Sepehr Tabrizi *Senior research officer*

Department of Microbiology, Royal Women's Hospital, Melbourne, Victoria, Australia

Christopher K Fairley *Senior lecturer*

Department of Epidemiology and Preventive Medicine, Monash University, Prahran, Victoria

- 1 Østergaard L, Møller JK, Andersen B, Olesen F. Diagnosis of urogenital Chlamydia trachomatis infection in women based on mailed samples obtained at home: multipractice comparative study. *BMJ* 1996;313:1186-9. (9 November.)
- 2 Fairley CK, Chen S, Quinn M, McNeill JJ, Garland SM. A novel method for the assessment of human papillomavirus infection. *J Infect Dis* 1992;165:1103-6.
- 3 Tabrizi SN, Chen S, Borg AJ, Lees MI, Fairley CK, Migliorini G, *et al*. Patient administered tampon collected genital cells in the assessment of Chlamydia trachomatis infection using polymerase chain reaction. *Sex Transm Dis* (in press).
- 4 Grosskurth H, Moshafiq T, Todd J, Mwijarubi E, Klokke A. Impact of improved treatment of sexually transmitted diseases on HIV infection in rural Tanzania: randomised controlled trial. *Lancet* 1995;346:530-6.

Sailing makes use of tobacco sponsorship

EDITOR—When I visited the Boat Show in London recently my first view of Earls Court after I arrived by underground was a huge mock up of a yacht made out of hardboard (fig 1). This completely dwarfed the entrance. The chief medical officer's statutory notice was just visible on the ground. The whole thing was an advertisement for Silk Cut cigarettes.

On looking through the official guide to the show I found no mention of Silk Cut among the numerous advertisements from the sailing world. However, an advertisement for a competition for "Silk Cut Sailing for Britain" fell out of the guide, and this said that the yacht *Silk Cut* is participating in the Whitbread round the world race. Apparently Silk Cut had a stand in the exhibition, but I did not see it.

Sailing seems to be yet another sport that depends on sponsorship from the tobacco industry.

H M White *Retired general practitioner*

7 Marlborough Avenue, Bromsgrove B60 2PG



Fig 1 Silk Cut and seven members of its crew, who hope to win the Whitbread round the world race