

Antenatal HIV testing

Has been done badly in Britain and needs to improve

See pp 253, 259, 262,
268, 270, 271, 272,
290, 293, 307

The advantages of ascertaining a pregnant woman's HIV positive status before delivery are clear: transmission to the baby can be roughly halved by avoiding breast feeding¹ and reduced by a further two thirds by the administration of zidovudine.² Yet, as several papers in this week's issue show, in Britain we are failing to test pregnant women for HIV and, as a result, to reduce the rate of vertical transmission.

Undoubtedly there are psychological and social disadvantages to a woman in discovering that she is HIV positive, but these will inevitably occur at some time. The advantages of knowing are particularly great in pregnancy. As well as through avoiding breast feeding and using zidovudine, further reductions in the risk of transmission may be possible by offering caesarean section,³ using other antiretrovirals, and avoiding invasive procedures during vaginal delivery. The paper by Lyall et al shows that women will take these measures to prevent transmission (p 268).⁴ Some women may choose to terminate their pregnancy,⁵ and all can make informed decisions about further pregnancies: on p 271 Richardson and Sharland show that in many mothers infection is not diagnosed until their child has reached 1 year of age, when a subsequent pregnancy may already have started.⁶

It has been estimated that the number of infected babies in London could have been reduced from 40 to 13 a year if all positive women had been identified and their uptake of interventions to reduce vertical transmission had been at the rate observed in 1995.⁵ Despite an increase in prevalence among pregnant women in London to 0.18% in 1995 and Department of Health guidelines encouraging the offer of testing to all women in higher prevalence areas,⁷ Nicoll et al report antenatal detection rates of only 7%, with no signs of improvement over time (p 253).⁸ How can this situation in Britain be changed?

Compulsory testing is undesirable and illegal. There is no evidence that it would work, and it risks deterring women from seeking any antenatal care. Voluntary testing could be offered to all women antenatally or only to those at high risk. These approaches have not been subject to a randomised trial, but each has potential advantages and disadvantages. In particular, offering the test only to women with reported risk factors may miss cases,⁹ result in poor uptake,¹⁰ and be perceived as discriminatory.

Despite debate about the best approach, some things are already clear. In London at least, where the prevalence is highest, the test must be "normalised," as

advocated by De Cock and Johnson (p 290)¹¹ by being offered and recommended to all women at their booking visit, alongside other blood tests. Simpson et al show that this does not cause anxiety or impair satisfaction with the booking visit (p 262).¹² Improved and continuing training for midwives and other health care workers providing antenatal care is crucial to the success of this approach. Variability in the uptake of the HIV test according to the midwife seen (p 272),¹²⁻¹⁵ the fact that some pretest discussion actually dissuades women from testing (p 270),¹⁴ and a recent article in a nursing journal advocating breast feeding for women known to be seropositive¹⁵ suggest that some midwives remain to be persuaded of the benefits of testing. (Midwives rarely witness the consequences for the baby of vertical transmission of HIV.) The argument that HIV is a difficult subject to broach with women whose first language is not English may deny testing to those at highest risk and is untenable, as many other sensitive and complicated issues necessitate the provision of adequate interpreting services.

Accurate information for all pregnant women explaining the benefits, to themselves and their babies, of making a positive diagnosis before delivery is needed. Gibb et al show that any discussion of HIV transmission with a pregnant woman increased the likelihood of testing (p 259),¹⁶ and Simpson et al show that offering the test with or without a detailed discussion increases uptake.¹² This discussion will add time to the booking visit, although this need not be excessive.¹²⁻¹⁶ Women's concerns about confidentiality must be addressed seriously and may require amendments to local policies. In other countries there is no evidence of widespread refusal of the HIV test, and uptake rates reach over 90% (p 293).¹⁷⁻¹⁸ Importantly, Gibb et al show no evidence of increased refusal rates among those at highest risk.¹⁶ There is anecdotal evidence that many women assume they are tested.

Gibb et al show that the booking unit is the strongest predictor of testing.¹⁶ Units claiming to have policies of universally offering an HIV test have rates of testing of 3.4-51.2%, suggesting widely divergent implementation. For those units participating in the unlinked anonymous surveys, comparisons are already available between actual and detected rates of HIV infection, but this information needs to reach the healthcare workers offering the HIV test. Furthermore, information systems in departments of pathology and antenatal clinics must be improved to facilitate routine

audit of the rate of testing and to allow public health doctors to exert leverage by setting expected testing rates as part of the commissioning process.

An intercollegiate working party on antenatal HIV testing, including representatives of the royal colleges of midwives, obstetricians and gynaecologists, physicians, and general practitioners, among others, has prepared recommendations to reduce vertical transmission of HIV in the United Kingdom by increasing voluntary confidential HIV testing. It is addressing the issues considered above, but to be more effective than the current Department of Health guidelines it will need to be followed by a detailed implementation plan.

The indifference of some obstetricians and an unwillingness by many midwives to broach the issue of testing has meant that Britain has fallen behind other countries in providing pregnant women with access to HIV testing. It is shameful and negligent that we have counted the number of babies at risk of infection since 1990 without acting to reduce their risk.

Danielle Mercey *Senior lecturer*

Department of Sexually Transmitted Diseases, University College London Medical School, London WC1E 6AU

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Reducing road traffic

Would improve quality of life as well as preventing injury

On a balmy summer afternoon in London in 1896 Bridget Driscoll stepped off the kerb and into history as the first person to be killed by a car in Britain. At her inquest the coroner said he hoped such a thing would never happen again. Over the next 100 years, 475 000 people would die on Britain's roads, with 30 times as many seriously injured.¹ So many deaths could not go unnoticed, but the effect of motorisation on walking very nearly has.

The Road Traffic Reduction (UK Targets) Bill has its second reading next week. If it is enacted the Secretary of State will be required to implement policies to reduce road traffic by 5% by 2005, and by 10% by 2010. The bill is supported by a host of health, welfare, and environmental groups, including the BMA, Barnardos, the Child Accident Prevention Trust, the Children's Play Council, the Faculty of Public Health Medicine, Friends of the Earth, and the Royal College of Paediatrics and Child Health. Their concern is not only to reduce death and injury but also to counter the other adverse effects of motorisation.

Car travel has decimated walking. National estimates of walking mileage first became available in 1972. Since then the annual average distance walked has fallen by 22%.² The decline is greatest in 5-15 year olds, in whom mileage has fallen by 28%.² A quarter of all car journeys are under two miles (3.2 km), and the

proportion of children travelling to school by car has increased from 12% in 1975 to 23% in 1994.²

The equation of transport policy with road traffic policy has left children, elderly people, and those without a car socially excluded in our "top gear" towns. Children are prevented from playing in the street and travelling independently³; adults without cars are excluded from out of town supermarkets and inconvenienced by edge of town hospitals poorly served by public transport.⁴ Yet both are included in injury statistics and suffer more than their share of noise and pollution.⁴ For many children being struck by a car is their first experience of car travel, and the risk of injury for children in families without a car is twice that of children in car owning families.⁵ This, and the familiar scenario of the elderly pedestrian waiting anxiously at the kerb, surely deserves the attention of any Downing Street social exclusion unit.

A three kilometre walk uses up about half the energy in a small bar of chocolate.⁶ The same distance by car expends 10 times as much energy and from the wrong source.⁷ As physical activity and thus energy output has declined, the prevalence of obesity has increased.⁸ Inactivity contributes to cardiovascular disease, diabetes, osteoporosis, and hypertension.⁸ On the other hand, energy consumption by road transport is increasing rapidly.⁹ Private cars account for one eighth

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of all carbon dioxide emissions, and vehicle exhaust is a potpourri of pollutants.¹⁰

Preventing disease and injury may not be the most persuasive reason to reduce car use: improving quality of life should be the stimulus for change. Urban living would be more enjoyable without the drone of traffic, the smell of exhaust, and the danger. Bumping into someone in the street could be a welcome opportunity for interaction, not the precipitant of road rage. Less traffic might regenerate the supportive social networks of community interaction and revitalise our inner cities. And congestion is bad for business. The Confederation of British Industry estimates that road congestion costs Britain £20 billion a year.

As a private member's bill the Road Traffic Reduction Bill will need government support to succeed. The Department of the Environment, Transport, and the Regions has already made clear its intention to get people out of their cars, and the bill provides it with an opportunity to match its concern with commitment. Nevertheless, the bill does have political enemies in the shape of a well organised road lobby, representing those who sell cars, roads, and petrol, and even with

government support may face parliamentary obstructionism. Those MPs who are tempted to filibuster should think instead about the quality of life of their own and their constituents' children.

Ian Roberts *Director*

Child Health Monitoring Unit, Institute of Child Health, London WC1N 1EH (Ian.Roberts@ich.ucl.ac.uk)

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Is clinical effectiveness a management issue?

Yes, doctors and managers need each other to implement evidence based practice

Action on clinical effectiveness is showing that success in implementing evidence based practice is achieved only when there are real local partnerships between clinicians and managers. The challenge is not to turn clinicians into managers but to recognise that some aspects of the task are the direct responsibility of managers. The recent white paper on the NHS, with its emphasis on quality and concept of clinical governance,¹ has given added impetus to the creation of these partnerships. The requirement for chief executives of trusts to make "appropriate local arrangements" may make little progress unless doctors and managers reach a shared understanding of their distinct contributions to the development of evidence based practice and generate enthusiasm for the approach in organisations.

Progress may be contentious because some clinicians are sceptical about the interest of managers in clinical effectiveness and evidence based practice.² Clinicians are usually interested—and excited—by discussions about research, but their interest wanes when those discussions progress to questions about the routine use of research findings. Interest in implementation is often viewed as yet another means of influencing clinical decisions or, more cynically, as a means of reducing resources.

Improved access to research evidence has stimulated interest in implementing evidence based practice³ in order to improve the quality of health care, reduce variations in the delivery of health care, secure a better return on the extensive investment in research, and minimise clinical risk. Early examples of implementation projects included the use of corticosteroids in pre-term delivery in Oxford⁴ and the use of aspirin in

secondary prevention of cardiovascular disease in Sheffield.⁵ More recently several other projects have been launched, including a programme involving all health authorities in the North Thames region and a major national programme, Promoting Action on Clinical Effectiveness (PACE), which was launched in 1995 and is based at the King's Fund.

The programme includes 16 projects working on a range of 10 clinical conditions. These projects are showing that a focus on a clinical topic can encourage changes in clinical behaviour. For example, the Bradford project is aiming to change clinicians' prescribing practice in order to eradicate *Helicobacter pylori*, the Chase Farm project to improve the management of pressure sores, and the North Derbyshire project to improve the treatment of cardiac disease.⁶ Project work also identifies areas where local partnerships and clarity about the roles and responsibilities of clinicians and managers are important.

In fact, clarity about responsibilities is a prerequisite for success. Clinicians need to review local practice against available evidence and help determine priorities for change—a subsequent task to be handled jointly by clinicians and managers. The Bromley project has shown that discussions about responsibilities can promote understanding about the overall task. Managers can help ensure adequate resources and bring project management skills to the task. This is important because coordinating the work may be time consuming: many projects need to work in both primary and secondary care and involve a wide range of disciplines. The Royal Berkshire project has shown that communications are an essential shared responsibility so that all those likely to be affected by a change

are kept in touch. It is essential that staff are equipped with the relevant skills, such as critical appraisal, change management, and appropriate research skills. Both clinicians and managers need to be involved in developing and delivering training programmes and staff must be encouraged to attend. The Oxfordshire project has illustrated problems in releasing staff to attend national training sessions.

Parallel efforts are needed to secure changes to services.⁶ There is no point in encouraging general practitioners to change their referral practice if the service cannot meet an increased demand. For example, the Southern Derbyshire project has emphasised the need for early access to physiotherapy services to improve services for patients with low back pain. These resource issues cannot be resolved solely by clinicians.

But good projects are only part of the story. Clinicians and managers must work together—again with a clear understanding of relative roles and responsibilities—to create organisations, in both primary and secondary care, which support rather than stifle the delivery of evidence based practice. These are organisations that foster an inquisitive culture, where clinicians are encouraged to ask, “Am I doing things right?” Essential elements of these organisations include information and library services to help clinicians keep up to date; audit programmes to assess local practice and the need for change; education programmes to support clinicians who need to change their practice; information services to support the monitoring of practice and service delivery; and joint training to facilitate improved understanding between clinicians and managers.

Work in St Helens has earlier provided a salutary lesson in showing how large is the amount of resources already devoted to all these local systems. It is difficult to measure the return on this investment. Responsibility for many of these systems rests with managers,⁷ and better alignment and integration of these systems is one of the major challenges facing the NHS. Clarity about the respective roles and responsibilities of clinicians and managers will be an essential precursor to progress—and success. The proposals for quality and clinical governance in the white paper may rest or fall on success with such developments.

Michael Dunning *Programme manager*

PACE programme, King's Fund, London W1AM 0AN

Myriam Lugon *Medical director*

Forest Healthcare NHS Trust, PO Box 13, Woodford Green, Essex IG8 8DB

John MacDonald *Chief executive*

Oxford Radcliffe Hospital NHS Trust, Oxford OX3 9DU

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Steroids and depression

Glucocorticoid steroids affect behaviour and mood

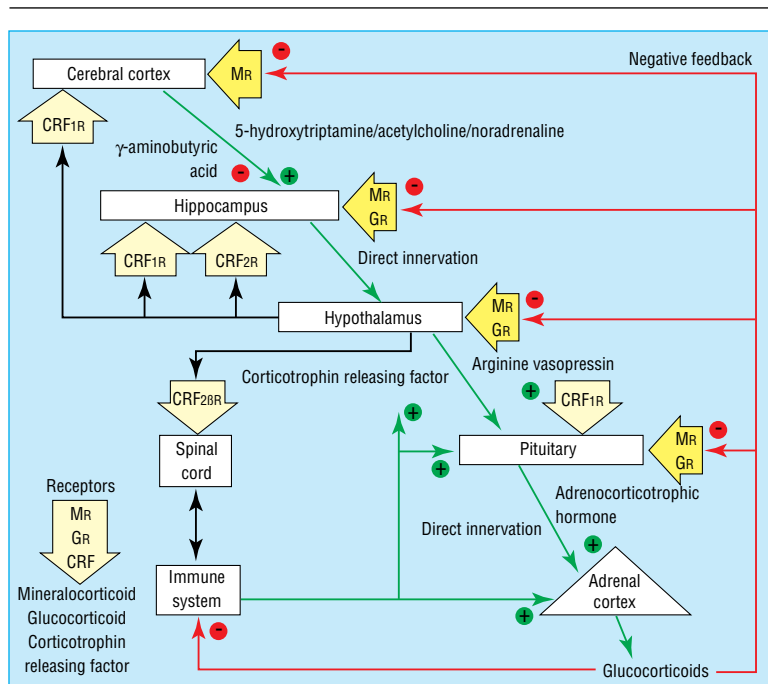
Adrenal steroids are commonly prescribed drugs, the central effects of which are rarely alluded to in routine clinical practice or systematically investigated in medical research. Glucocorticoids are important in the pathogenesis of depression, but this potentially serious psychological side effect is often overlooked in clinical practice.

The unwanted behavioural effects of anabolic steroids are widely known, but those of glucocorticoid therapy, though recognised for over 45 years, receive less attention. Placebo controlled studies have reported that a third of patients taking glucocorticoids experience significant mood disturbance and sleep disruption.¹ More importantly, up to 20% of patients on high dose glucocorticoids report psychiatric disorders including depression, mania, psychosis, or a mixed affective state.² A recent double blind placebo controlled trial of corticosteroid administration in healthy individuals showed that 75% of subjects developed disturbances in mood and cognition, which reversed when steroids were stopped.³ We do not know the characteristics of those who are vulnerable to adverse

effects, but those with higher cumulative dosages appear to be most at risk.

Dysregulation of the hypothalamo-pituitary adrenal axis in depression is one of the oldest and most consistent findings in biological psychiatry. A large scale meta-analysis of over 140 studies using the low dose dexamethasone suppression test illustrated that persistent adrenocortical hyperactivity is a robust indicator of poor prognosis and a weaker predictor of suicide in depression.⁴ From the physicians' view point, medical disorders which feature sustained overdrive of the hypothalamo-pituitary axis carry an unexpectedly high risk of mood disorders. Patients with Cushing's disease, stroke, or chronic alcoholism, and those taking long term steroid treatment have a reported prevalence of depression above 50%.⁵ The precipitation of dysregulation of the hypothalamo-pituitary axis by environmental stressors may be important in the onset of both Cushing's disease and depression.⁶ However, not all increases in adrenocortical activity are associated with pathological consequences, and, as the core mediator of the neuroendocrine stress response, an acute failure of activation of the hypothalamo-

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The hypothalamo-pituitary axis

pituitary axis is equally hazardous in animal and man. In fact, underactivity of the axis may be associated with a range of psychiatric disorders, the most extensively investigated being post-traumatic stress disorder.⁷

Overall, data from conditions of both exogenous and endogenous steroid excess provide support for a glucocorticoid theory of depression.⁸ But, if glucocorticoids contribute to the syndrome of major depression, several vexing questions remain. If patients with primary depression have long term cortisol hypersecretion, albeit at a low grade, why don't they have the peripheral stigmata seen in Cushingoid patients? One explanation, which is mooted by some authors to be central to the pathophysiology of depression, is that of partial glucocorticoid resistance at the receptor level. This receives some support from in-vitro studies of type II glucocorticoid receptors.⁹ However, many depressed patients do show some of the peripheral and central manifestations of Cushing's disease including immunosuppression, osteoporosis, central obesity, menstrual irregularities, and muscle weakness, as well as sleep disturbances and cognitive impairment.

In an attempt to examine central control of the hypothalamo-pituitary axis, some 14 studies have measured levels of corticotrophin releasing factor in the cerebrospinal fluid of depressed patients versus controls (references available from the authors). Five studies found significantly higher concentrations in depressed patients. More conclusively, immunocytochemical analysis of postmortem hypothalami from patients with depression have shown a fourfold increase in corticotrophin releasing factor expressing neurons relative to age matched controls.¹⁰ Blocking adrenal steroid synthesis using metyrapone results in augmented levels of adrenocorticotrophic hormone in depressed individuals compared with controls. This, together with blunting of responses to pituitary challenge tests, suggests that peripheral hyper-

cortisolaemia masks central overdrive of the hypothalamo-pituitary axis in depression, via feedback inhibition by glucocorticoids.¹¹ This pathological overdrive may be maintained by the neurotoxic actions of glucocorticoids on the hippocampus, since the hippocampus is the principal locus for feedback inhibition of the hypothalamo-pituitary axis and also the site most vulnerable to damage mediated by glucocorticoids. Of note, in vivo hippocampal atrophy has been documented via magnetic resonance imaging in both depression and Cushing's disease, and preliminary evidence suggests that hippocampal atrophy correlates with plasma cortisol levels.¹² Ultimately, the risk factors which govern the development and maintenance of dysregulation of the hypothalamo-pituitary axis in adults may also be those which are relevant in depression: for example, genetic predisposition, early life events, aging, comorbidity, and psychosocial stressors.

The therapeutic potential of antiglucocorticoid drugs has recently been explored in patients with mood disorders. Encouraging results with steroid synthesis inhibitors used in the treatment of depression in patients with Cushing's disease led to several successful controlled trials in primary depressive disorder.⁸ Furthermore, a re-examination of the actions of conventional antidepressants hints at a mechanism which involves reduction in activity of the hypothalamo-pituitary axis, a previously overlooked possibility.

Overall, chronically raised concentrations of glucocorticoids from endogenous or exogenous sources can produce severe disturbances in mood, and clinicians need to be aware of the potential consequences.

Alexander Mitchell *Senior house officer*

Veronica O'Keane *Consultant*

Department of Liaison Psychiatry, Addenbrooke's Hospital, Cambridge CB2 2QQ

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Continuing medical education

Needs to be more effective, accountable, and responsive to all stakeholders in health

Medical education is unfit for the millennium. Professional conservatism, inertia, and poor leadership have left it struggling to cope with rapidly changing health care systems. Those universities that have adopted new educational programmes may dispute this, but globally they are in a minority and their experiences have mostly not been evaluated or well disseminated. Too many education programmes at all levels continue to churn out “time honoured” material, present it boringly, and assess its absorption predominantly by written tests. Too few train doctors, both new and established, to acquire the skills that the new trends in health care demand.

Adult learning theory holds that a key element of good teaching is the ability to stimulate self learning. This message has been accepted at medical undergraduate level, where many universities have introduced variations on problem based learning curricula. Continuing medical education has, however, lagged behind. More emphasis has been placed on quantity than quality, despite the fact that ever more credence is being given to the role of continuing medical education in maintaining professional standards.

In the first of a new series on continuing medical education (p 301), Angela Towle discusses the current trends and forces in health care and their implications for all forms of medical education.¹ She concludes that continuing medical education in particular needs radical change, to become accountable to both those who pay for health care and those who use it—and to reflect their needs and priorities as much as those of the medical profession.

In Europe, continuing medical education is largely a professionally driven activity based on “recognised” educational activities for a set number of hours a year. In America, pressure from health care providers has been a major factor in the establishment of formal recertification. Every 7-10 years doctors in most specialties have to renew their specialist licences. This usually entails completing multiple choice questionnaires. Although these are a poor measure of performance, more rigorous forms of assessment, such as practice visits and peer review, have proved too costly to introduce widely. Doctors who don't get recertified get paid less, may lose admission rights to hospitals, and are less favoured by patients. With such incentives it is not surprising that the development of education programmes geared to helping doctors pass recertification exams has become big business.

Unease about the vast “CME industry” is high. Costs are hard to measure but are estimated in billions of dollars in the United States alone. The lack of evidence that many of these programmes change doctors' performance or improve patient outcomes, and their heavy dependence on pharmaceutical industry sponsorship (with its inevitable emphasis on diagnosis and treatment), are widely acknowledged as problems. In response, educationalists, health care purchasers, and others have been looking more critically at the provision of continuing medical education, and a

growing consensus exists on what methods are effective. Much of the published information is, however, descriptive rather than evaluative—but, as Dave Davis illustrates in the third article in the series, there is convincing if relatively sparse evidence that well crafted, targeted, continuing medical education programmes improve not only doctors' performance but also health care outcomes. He also says that continuing medical education is becoming more innovative, international, and relevant to patient care.

But isolated reports are not enough. For many clinicians, continuing medical education is a chore, and most go for the soft educational options.² Few are fully aware, or care about, which forms of education work best, and without clear guidance the call from medical educationalists for providers and consumers to recognise their professional obligations and commit themselves to effective, evidence based continuing medical education³ is unlikely on its own to effect change.

Internationally, the trend is to enforce rather than encourage continuing education and for reaccreditation and recertification to be introduced more widely in the belief, or hope, that this will guarantee professional standards. It is arguable, however, whether this approach is ever likely to be sufficient to do this, irrespective of how or by whom standards are set. Motivating doctors to improve their performance and adopt continuous learning as a way of life is just as important, if not more. It is equally important to introduce good methods of continuous assessment of performance.

The fact that most current models of continued medical education fall well short of the ideal has fostered the conceptually broader paradigm of continued professional development.⁴ While continuing medical education is largely designed to plug supposed gaps in knowledge, continuing professional development is rooted in self directed reflection and learning in practice. It thus involves multidisciplinary and organisational as well as individual learning. The fourth article in this series discusses the potential of programmes such as MOCOMP, a new computer based personal self learning system based on this approach. The authors propose that it could be used as the basis for a form of continuous recertification.

Such innovations warrant serious consideration. The profession must respond soon to the growing pressures for it to be more open about, and accountable for, maintaining professional standards. Continued education, learning, and professional development within an increasingly a multidisciplinary health care environment are pivotal. Those who are trying to persuade the profession of this obvious truth and point the way forward should be supported.

Tessa Richards *Associate editor, BMJ*

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