terion will not apply—an understandable, but perhaps ill thought through, discriminatory measure. Procedures for the most worrying offender patients are included but contained within sections relating to restriction orders and not pervading the act. Public safety will continue to trump all other issues in decisions on discharging restricted patients and comprehensive assessment in hospital will be necessary before such disposals are made.¹²

In a previous editorial Birmingham summarised the main proposals in the initial draft bill for England and Wales.² Superficially this draft bill and the Scottish act look similar, but important differences make most concerns about that bill inapplicable: to whom the act applies is strictly defined, with exclusion criteria; no over-emphasis on risk to others; inclusion of capacity; inclusion of ethically sound principles; no loss of discretion for services in applying procedures; comprehensive legislation on incapacity already in place; no compulsory treatment in prison; and genuinely responsive consultation by government. Clinicians and other stakeholders have been closely involved in the review and implementation processes in Scotland. The new draft bill for England and Wales only really addresses the concern about prison treatment; the other concerns remain valid, marking clear and persisting differences between legislative proposals in the two jurisdictions.

In Scotland concern remains about resources, bureaucracy, implementation, and training. Currently patients rarely contest detention, but new tribunal hearings will occur frequently, requiring personnel and infrastructure, and potentially disrupting clinical care. Tribunals will also consider appeals against being held in excessive security. This measure must start in May 2006 despite the likelihood that beds will be insufficient to cater for patients who no longer require care in a high security hospital.

The long term impact of complex legislation that allows much room for discretion is difficult to predict. The act on paper may not match the act in practice, so day to day reality may be different from the intention behind the policy. Funding for research on the opera-

tion of the new act is promised. Scotland will have ethically sound modern legislation, with principles supported by most stakeholders. In the United States, cycles of reform show that impact is less dramatic than predicted by optimists or pessimists.¹³ New legislation reflects, rather than changes, social, clinical, or political aspirations. In Scotland, unlike England and Wales, considerable harmony has existed between these. However, new legislation does not in itself provide improvements in clinical care or resources.

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- 1 Szmukler G. A new mental health (and public protection) act. *BMJ* 2001;322:2-3.
- 2 Birmingham L. Detaining dangerous people with mental disorders. *BMJ* 2002;325:2-3.
- 3 The Mental Health Foundation. *Mental health bill. Response by the mental health foundation and foundation for people with learning disabilities*. London: Mental Health Foundation, 2002. www.mentalhealth.org.uk/html/content/response_mhb_engwales_0902.pdf (accessed 3 Jun 2004).
- 4 Batty D. Mental health bill future in doubt. *Guardian* 2004 June 15. <http://society.guardian.co.uk/mentalhealth/story/0,8150,1239427,00.html> (accessed 29 Jun 2004).
- 5 *Royal Commission on the Law relating to Mental Illness and Mental Deficiency 1954-7*. Cmnd 169. London: HMSO, 1957.
- 6 Scottish Executive. *New directions. Report of the review of the Mental Health (Scotland) Act 1984*. Edinburgh: Scottish Executive, 2001.
- 7 Scottish Executive. *Renewing mental health law. Policy statement*. Edinburgh: Scottish Executive, 2001.
- 8 Darjee R. The reports of the Millan and MacLean committees: new proposals for mental health legislation and for high risk offenders in Scotland. *J Forens Psychiatry* 2003;14:7-25.
- 9 Scottish Executive. *Report of the committee on serious violent and sexual offenders*. Edinburgh: Scottish Executive, 2000.
- 10 Darjee R, Crichton J. The MacLean committee: Scotland's answer to the dangerous people with severe personality disorder proposals? *Psychiatr Bull* 2002;26:6-8.
- 11 Ward A. *Adult incapacity*. Edinburgh: W Green, 2003.
- 12 Crichton J, Darjee R, McCall Smith A, Chiswick D. Mental Health (Public Safety and Appeals) (Scotland) Act 1999: detention of untreatable patients with psychopathic disorder. *J Forens Psychiatry* 2001;12:647-61.
- 13 Appelbaum PS. *Almost a revolution. Mental health law and the limits of change*. New York: Oxford University Press, 1994.

Surgery for carotid artery stenosis

We need to screen populations to detect stenosis and treat it

The US Veterans' Administration study followed by the asymptomatic carotid artery stenosis study (ACAS) and now the asymptomatic carotid stenosis trial (ACST) have all affirmed that elective endarterectomy for patients carefully selected by neurologists and operated on by skilled surgeons can prevent stroke.^{1-2 w1} The results of ACST and ACAS are almost identical, with 5.4% absolute risk reduction for stroke in ACST compared with 5.9% for ACAS. The surgical advantage persists despite multimodal medical management with statins, platelet antiaggregants, and stringent control of risk factors. Moreover, nearly 20% of asymptomatic patients randomised to the medical management arm of ACST developed symptoms during the trial, often necessitating urgent surgery. These three ran-

domised trials all show that if medical management has failed elective endarterectomy performed by skilled surgeons is a worthwhile additional option for management of presymptomatic carotid stenosis that exceeds 60%, for otherwise healthy men and women regardless of their age, if medical management has failed.

On the other hand, using transient ischaemic attack or minor stroke as the marker for surgery entails a complication rate of about 6%. To be added to this figure is the additional hazard of contrast arteriography (about 1%). Advising patients with carotid stenosis to

Additional references w1-w6 are on bmj.com

await a transient ischaemic attack^{w2} or, even worse, an acute infarction for which an urgent endarterectomy is required^{w3} is therefore not good advice. However, others take a contrary view, perhaps because of a lack of facilities, excessive competition rates owing to poor selection of candidates, or inept surgery. Moreover, an attitudinal bias may also exist regarding prevention among doctors who have been trained to intervene only if malfunction of an organ becomes symptomatic.

The degree of stenosis is measured by different methods, and for most specialists 60% stenosis is the cut-off point for selecting patients for endarterectomy. This has led to an erroneous concept that a minimum of 60% stenosis of the internal carotid lumen is the essential criterion.³ However, other key indicators are turbulent flow caused by stenosis, sludge due to eddy currents, particulate microemboli, and wall abnormalities that are resistant to medical management.⁴

Screening for asymptomatic carotid atherosclerosis by using auscultation for bruits and duplex ultrasonography is feasible and is currently the best way of identifying preclinical atherosclerosis.⁵ Patients identified by preliminary screening to determine flow dynamics, arterial wall characteristics including stenosis and ulceration, and microemboli, to identify those for whom medical management is needed and to assess the effect of medical remediation.^{6 w4} If medical intervention fails, ACST has proved once and for all that carotid endarterectomy can be worth the risk if surgical and anaesthetic skills are such that operative complications are rare.⁷

International collaborative studies such as these require a huge investment of time, skill, and money and are an endorsement of evidence based medicine first promulgated by Austin Bradford Hill and Sir Richard Doll.^{8 w5} For the field of stroke, the baseline from which they evolved were the autopsy findings of Miller Fisher,^{w6} followed by the landmark report by Eastcott, Pickering, and Robb at St Mary's Hospital in London.⁹ Carotid endarterectomy has now come full circle, having been validated by Halliday, Thomas, and colleagues of the same institution.² Their multinational effort continues the search for better methods by which to identify people with atherosclerosis who should be considered for medical and surgical intervention.

So far, differentiating symptomatic from asymptomatic stenosis of the carotid artery has traditionally been the way to decide on treatment. But this requires a doctor skilled in neurology to make the judgment. Moreover, the occurrence of transient ischaemic attacks is not a satisfactory means of categorisation because they are very seldom witnessed, cannot be assessed objectively, are confounded by many other transitory phenomena, and may occur during sleep when they cause no recognisable phenomena or in parts of the brain that do not produce symptoms or signs.^{10 11} Moreover, 3-10% of people older than 65 have asymptomatic infarcts visible on brain imaging.¹²

Depending on transient ischaemic attacks for categorising patients is therefore unacceptable as the sole criterion for choosing treatment, and preclinical stenosis and unrecognised transient ischaemic attacks need to be identified by screening.

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- 1 The Executive Committee for the Asymptomatic Carotid Atherosclerosis Study. Endarterectomy for asymptomatic carotid artery stenosis. *JAMA* 1995;273:1421-8.
- 2 MRC Asymptomatic Carotid Surgery Trial (ACST) Collaborative Group. Prevention of disabling and fatal strokes by successful carotid endarterectomy in patients without recent neurological symptoms: randomized controlled trial. *Lancet* 2004;363:1491-502.
- 3 Toole JF, Castaldo JE. Accurate measurement of carotid stenosis. Chaos in methodology. *J Neuroimaging* 1994;4:222-30.
- 4 Fisher CF. Transient ischemic attacks. Perspective. *N Engl J Med* 2002;347:1642-3.
- 5 Toole JF, Chambless LE, Heiss G, Tyroler HA, Paton CC. Prevalence of stroke and transient ischemic attacks in the atherosclerosis risk in communities (ARIC) study. *Ann Epidemiol* 1993;3:500-3.
- 6 Chambless LE, Heiss G, Shahar E, Earp MJ, Toole J. Prediction of ischemic stroke risk in the Atherosclerosis Risk in Communities Study. *Am J Epidemiol* 2004;160:259-69.
- 7 Toole JF. Quality-based medicine. *Arch Neurol* 1997;54:23.
- 8 Doll R. Controlled trials: the 1948 watershed. *BMJ* 1998;317:1217-20.
- 9 Eastcott HHG, Pickering GW, Robb CG. Reconstruction of the internal carotid artery in a patient with intermittent attacks of hemiplegia. *Lancet* 1954;264:994-6.
- 10 Fisher CM. Transient ischemic attacks. Perspective. *N Engl J Med* 2002;347:1642-3.
- 11 Toole JF. The Willis Lecture: transient ischemic attacks, scientific method, and new realities. *Stroke* 1991;22:99-104.
- 12 Brott T, Thomsick T, Feinberg W, Johnson C, Biller J, Broderick J, et al for the Asymptomatic Carotid Atherosclerosis Study Investigators. Baseline silent cerebral infarction in the asymptomatic carotid atherosclerosis study. *Stroke* 1994;25:1122-9.

Forensic science in the dock

Postmortem measurements of drug concentration in blood have little meaning

Investigations into the circumstances surrounding the death of David Kelly have led to the exchange of acrimonious views including allegations of conspiracy and murder. David Kelly, a government scientist and weapons expert, committed suicide by cutting his wrist and taking painkillers after he was identified in newspapers as the man the UK government believed was the source for a BBC report on Iraq. Impetus for the debate stems mainly from conflicting views about the cause of death, including issues that relate to postmortem toxicology results and their interpretation. Controversy occurs from the mistaken notion that postmortem laboratory meas-

urements, taken in isolation, can be interpreted effectively.

The current controversy illustrates some universally held, but mistaken, notions about the process of death investigation in the United Kingdom and elsewhere. Many assume that forensic pathology is as evidence based as other branches of medicine. This assumption is not accurate.

In the course of caring for living patients, doctors who interpret hospital laboratory tests know, or can quickly find out, the "normal" value for any particular drug. But most doctors (as well as the general public) would be surprised to learn that there are few if any

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