medical profession is which specialty should train doctors in the rehabilitation of patients with brain injuries. Physicians, neurologists, neurosurgeons, and psychiatrists can contribute, but none of these is trained to provide all the skills required. In practice the setting up of a brain injury rehabilitation service requires a consultant in one of these specialties to acquire the full range of skills through strong interdisciplinary cooperation and mutual learning. A broad medical training makes a consultant the ideal team leader, but he or she must be prepared to learn continually from colleagues.

Recovery after brain injury is slow, and its mechanisms are poorly understood.⁶ The process of rehabilitation is correspondingly lengthy and as yet only partially evaluated.⁷ Intensive behaviour modification benefits some patients, but such resources are scarce.⁸ In these times of financial constraint what service developments can we reasonably recommend?

We believe that the needs of patients with brain injuries would be best met by a network of resources. Multidisciplinary teams based in regional specialist centres with 20 beds would deal with the most complicated cases, but they could not provide the whole service for a large area. Each district should have a head injury coordinator with access to the relevant local professionals and a case register. Coordinators should give advice on the care of patients during early recovery and help to prevent the development of avoidable behavioural problems. They should liaise between regional and district facilities and follow up patients in the community. Coordinators would need to be enthusiastic, energetic, and willing to learn; they might be recruited from several professional backgrounds.

Most patients with brain injuries live at home, cared for by their relatives and friends.⁹ This may be preferable to institutional care, but it is often achieved only at enormous emotional, physical, and financial cost to the carers. Families need much emotional and practical support from health, local authority, and social services.¹⁰

What are the prospects for the future? We have been encouraged by the Department of Health's initiative "Model services for the brain injured." This should result in a

systematic evaluation of specially funded projects ranging from acute aspects of management to long term consequences. The change to a purchaser-provider system of funding will present both opportunities and threats. Regional health authorities will no longer purchase this type of service on behalf of districts—which should see a compensatory increase in their funding. In the next few years weighted capitation will redistribute resources between districts and some will be losers. We fear that the purchase of brain injury services might be given a low priority by such authorities. This would prevent the establishment of a comprehensive national service for rehabilitating patients with brain injuries. Doctors can and should influence this process by taking every opportunity to impress on the Department of Health and purchasers the importance of providing for this large disadvantaged group and their carers.

DAVID SUMNERS
Consultant psychiatrist

Kneesworth House Hospital
Bassingbourn cum Kneesworth,
Royston,
Hertfordshire SG8 5JP

JONA LEWIN
Clinical lecturer

Division of Psychiatry of Disability,
Department of Mental Health Sciences,
St George's Hospital Medical School,
London SW7 0RE

- 1 Medical Disability Society. *The management of traumatic brain injury*. London: Development Trust for the Young Disabled, 1988.
- 2 Brooks N. Cognitive deficits after head injury. In: Brooks N, ed. *Closed head injury: psychological, social and family consequences*. Oxford: Oxford University Press, 1984:44-73.
- 3 Thomsen IV. Late outcome of very severe blunt head trauma: a 10-15 year second follow up. *J Neurol Neurosurg Psychiatry* 1984;47:260-8.
- 4 Royal College of Physicians of London. Physical disability in 1986 and beyond. *J R Coll Phys Lond* 1986;20:3-37.
- 5 Working Group of the Research Committee of Royal College of Psychiatrists. Services for brain injured adults. *Bulletin of the Royal College of Psychiatrists* 1991;15:513-8.
- 6 Gloag D. Needs and opportunities in rehabilitation: rehabilitation after head injury. I. Cognitive problems. *BMJ* 1985;290:834-7.
- 7 McClelland RJ. Psychosocial sequelae of head injury—anatomy of a relationship. *Br J Psychiatry* 1988;153:141-6.
- 8 Eames P, Wood R. Rehabilitation after severe brain injury. *J Neurol Neurosurg Psychiatry* 1985;48:613-9.
- 9 Bryden J. How many head injured? In: Wood R, Eames P, eds. *Models of brain injury rehabilitation*. London: Chapman and Hall, 1989:17-27.
- 10 Brooks N, Campsie L, Symington C, Beattie A, McKinlay W. The five year outcome of severe blunt head injury: a relative's view. *J Neurol Neurosurg Psychiatry* 1986;47:764-70.

Treating hyperhidrosis

Endoscopic transthoracic sympathectomy may be the best treatment

Primary palmar and axillary hyperhidrosis—sweating that exceeds that needed for thermoregulation—affects between 0.6% and 1% of the population.¹ Usually no cause is found, although it may be secondary to an underlying endocrinological abnormality (such as hyperthyroidism, pheochromocytoma, diabetes mellitus, acromegaly, hyperpituitarism, or the carcinoid syndrome) or inflammatory condition (such as chronic infection, autoimmune neuropathy, or gout). It may easily be overlooked, especially in men. Most patients are young women, some of whom suffer severe and obvious dripping of the hands. The condition brings psychological, social, educational, and occupational problems.

Medical regimens should be tried,² but these are rarely effective when the hyperhidrosis is severe. In mild cases topical saturated aluminium chloride hexahydrate in absolute alcohol has been used with some success. Mild reaction from such treatment may be reduced by a weak topical steroid. Anticholinergic drugs are helpful in some cases but in others

troublesome dry mouth and blurring of vision prevent their use. Iontophoresis with plain tap water³ or with induction of anticholinergic agents into the skin may be used with relief for four to six weeks, but the treatment is messy and time consuming. Calcium channel blocking with diltiazem has been recommended for hereditary emotional hyperhidrosis.⁴

In the 30% of patients who remain appreciably disabled only surgery can provide permanent improvement. For hyperhidrosis affecting only the axilla subcutaneous curettage or excision of the skin bearing the eccrine glands at the apex of the axilla has been used for years, but these procedures fail in one fifth of cases⁵ and may cause permanent scarring and loss of arm mobility.

When the condition affects the hand and axilla upper dorsal sympathectomy is now the treatment of choice. A clear understanding of the distribution and severity of the sweating is required by both surgeon and patient if a satisfactory outcome is to be achieved. The operation may be preceded by

temporary stellate block to show the patient the likely outcome in the limb and the effect of Horner's syndrome (which should be a minimal risk). Dorsal sympathectomy may be performed by various "open" operations. The complications of open operations include Horner's syndrome, incomplete denervation of T3 and T4 segments, contusion of the brachial plexus, vascular injury, recurrent laryngeal nerve paralysis, and cosmetic problems. These complications outweigh the potential benefits, and many doctors consider open operation to be out of date.

The recent development of minimally invasive techniques, which have included percutaneous phenol injection⁶ and percutaneous radiofrequency ablation⁷ guided by computed tomography, have provided safer alternatives, but long term effects are unknown. Currently, the most commonly used minimally invasive technique is endoscopic transthoracic sympathectomy,⁸ which, for the first time, offers a simple and effective treatment for those disabled by severe localised upper limb hyperhidrosis.⁹⁻¹¹ The original technique was described well before laparoscopic cholecystectomy but has gained in popularity after the advances in all types of laparoscopic surgery. The first international conference devoted entirely to this operation takes place later this year.

The cosmetic result is very good. There is little post-operative pain, and patients need to stay in hospital for less than 48 hours. Bilateral sympathectomies can be carried out at the same operation.

Long term complications are similar to those of conventional dorsal sympathectomy, and patients should be warned of these risks. The commonest is compensatory sweating, which may occur in 37-75% of patients.¹⁰ We do not know how to treat this unfortunate consequence, and selecting only severely disabled patients for surgery is essential. If the upper limbs are only mildly affected severe postoperative hyperhidrosis of the trunk, though uncommon, may be even worse. Gustatory sweating is also possible but is only a minor

nuisance. Intercostobrachial neuralgia may occur, but Horner's syndrome should be rare. Long term studies of recurrence rates are awaited; for conventional sympathectomy they range from zero to 5%.

Endoscopic sympathectomy is an appreciable advance in the treatment of severe upper limb hyperhidrosis and is the surgical treatment of choice. It may have a role in other conditions, but there is a danger that the operation will be recommended even when sympathectomy is of uncertain benefit—as in critical ischaemia and sympathetic dystrophy—or when it is known to have only a transient effect—as in vasospastic disease. Careful selection of patients (bearing in mind the lessons learnt from open sympathectomy) and endoscopic technique offer immediate benefit with minimum risk.

M S QURAISHY

Research fellow

A E B GIDDINGS

Consultant surgeon

Royal Surrey County Hospital,
Guildford GU2 5XX

- 1 Adar R, Zurchin A, Zweig A, Mozes M. Palmar hyperhidrosis and its surgical treatment: a report of 100 cases. *Ann Surg* 1977;186:34-41.
- 2 Simpson N. Treating hyperhidrosis. *BMJ* 1988;296:1345.
- 3 Hozle E, Alberti N. Long-term efficacy and side effects of tap water iontophoresis of palmo-plantar hyperhidrosis—the usefulness of home therapy. *Dermatologica* 1987;175:126-35.
- 4 James WD, Schoemaker EB, Rodman OG. Emotional eccrine sweating. *Arch Dermatol* 1987;123:925-9.
- 5 Keaveny T, Fitzgerald P, Donnelly C, Shanik G. Surgical management of hyperhidrosis. *Br J Surg* 1977;64:570-1.
- 6 Dondelinger RF, Kurdziel JC. Percutaneous phenol block of the upper thoracic sympathetic chain with computed tomography guidance. A new technique. *Acta Radiol* 1987;28:511-5.
- 7 Wilkinson H. Radiofrequency percutaneous upper thoracic sympathectomy. *N Engl J Med* 1984;311:34-6.
- 8 Weale FE. Upper thoracic sympathectomy by transthoracic electrocoagulation. *Br J Surg* 1980;67:71-2.
- 9 Byrne J, Walsh TN, Hederman WP. Endoscopic transthoracic electrocautery of the sympathetic chain for palmar and axillary hyperhidrosis. *Br J Surg* 1990;77:1046-9.
- 10 Edmondson RA, Banerjee AK, Rennie JA. Endoscopic transthoracic sympathectomy in the treatment of hyperhidrosis. *Ann Surg* 1992;215:289-93.
- 11 Adams DCR, Wood SJ, Tulloh BR, Baird RN, Poskitt KR. Endoscopic transthoracic sympathectomy: experience in the south west of England. *Eur J Vasc Surg* 1992;6:558-62.

Screening: reasons to be cautious

Stringent criteria must be met before implementation

Papers advocating the adoption of new screening procedures appear from time to time in the medical press. These are usually followed by a vituperative exchange of opinions in the correspondence columns on the advantages, disadvantages, and ethical, psychological, and economic consequences of such procedures.¹⁻⁴

Screening for disease has become extremely popular. There seems to be an assumption in some quarters that if undiagnosed conditions exist it is the medical profession's responsibility to hunt them down. Many industrial firms provide free screening examinations, either in house or through private medical organisations, as part of an employment contract, and the new contract for general practitioners also encourages such checks. Such evangelism prevails despite the lack of evidence that some of the procedures are of benefit⁵ and positive evidence that they may lead to increased anxiety, illness behaviour, and use of scarce health service resources.⁶

One recent example of advocacy of screening has been the use of prostate specific antigen concentration or transrectal ultrasonography to detect prostatic cancer. Unfortunately, its advocates have not taken into account the problems of

sensitivity, specificity, and predictive power—which make these tests inadequate as screening procedures.⁷ As important as these criteria is the outcome of treatment. Some 95% of prostatic cancer occurs in people aged over 65, and 97% of deaths from the condition occur in this age group.^{8,9} The current average life expectancy in men in this age group in Britain is eight years. Yet it seems that patients with prostatic cancer detected before metastasis and treated have only an equal expectation of survival—eight years. Clearly, therefore, before any programme of screening for this condition is considered seriously, properly conducted randomised controlled trials of screening and treatment compared with a policy of "wait and see" are essential even with all the difficulties. A recent government report has commented on the need to introduce better scientific assessment of and advice on screening procedures.¹⁰

But for it to improve health there are certain basic requirements. Firstly, better population registers must be devised for use in any screening programme. The importance of an accurate database is fundamental and cannot be overemphasised. Secondly, accurate information is required on the availability and quality of local facilities for diagnosis,