"atypical trigeminal neuralgia." This was defined as constant aching pain between the acute bouts of pain. Such patients formed a substantial proportion of our own study sample in 1994, and they fared less well than other patients.¹⁰ Excluding these patients undoubtedly biased Barker *et al*'s results.⁹

Decompression does seem to do less harm to the nerve. In a review of the literature only 5% (40/841) of patients suffered from persistent sensory loss in the trigeminal area after the procedure.¹⁰ With thermocoagulation, all patients suffer loss of pain sensation but have only mild disturbances of touch perception. Troublesome dysaesthesia occurred in up to 4%.¹¹ In an elegant study Taha *et al* followed up 154 consecutive patients for a maximum of 15 years after thermocoagulation: nearly a quarter experienced dysaesthesia, but only 8% found this troublesome; 2% developed keratitis, which responded well to treatment; and 12% developed motor weakness of pterygoid or masseter muscles, but almost all of these resolved within a year.¹²

Both procedures achieve a high proportion of immediate relief. In Barker *et al*'s study 98% of patients were nearly completely free of pain (requiring only low dose analgesia) after decompression,⁹ and in our study the figure was 84% after two months.¹⁰ Meanwhile, Taha *et al* reported that 99% of their patients had immediate relief after thermocoagulation.¹² However, it is wrong to say that no recurrence will occur if a patient is pain free for a year. About 80% and 96% of patients were still almost completely free from pain one year after decompression and thermocoagulation respectively.^{9 10 12} After 10 years, these figures had declined to 68% and 77%.^{9 12} This means that some patients who were pain free after one year subsequently experienced recurrence.

The argument that prior thermocoagulation might negatively influence the result of a subsequent decompression in case of recurrence is weakened by the findings of Barker *et al*.⁹ A prior ablative procedure did not significantly increase the likelihood of a recurrence of trigeminal neuralgia, although the risk of developing postoperative dysaesthesia was increased.

In conclusion, it seems that decompression scores better in

terms of limiting harm to the nerve, while thermocoagulation scores better in terms of mortality (0.15% for decompression,⁹ 2 out of 14 000 for thermocoagulation¹¹) and invasiveness of surgery. The severity of persistent neurological deficit is hard to compare for the two techniques.

In 1994 we stated that, in the absence of a randomised controlled trial, the least invasive technique should have preference. At present both sets of protagonists seem to be resisting a randomised trial. Their belief in their own technique is so strong that they judge it unethical to withhold it from the patient. Our temporary solution is to discuss both techniques fully with patients and leave the choice to them.

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Welfare reform in the United States

Will have important impacts on the nation's health

The relation between economic status and health is well known, although the exact factors of the equation are less certain.¹ Recent work from the United States^{2 3} confirms British research suggesting that not only is low income associated with higher mortality and ill health but that the wider the range of income in a population the greater the impact on mortality.

US president Bill Clinton has signed a bill that will bring huge changes to the federal welfare system in the United States.⁴ The bill fundamentally changes the organisational framework of the delivery of welfare services. Federal welfare programmes will cease to exist, and savings will be allocated to individual states. Each state will then have the authority to determine who is entitled to benefits and what those benefits are.

However, the bill does not stop at reorganising the system. The current open ended entitlement to benefits will be replaced by limits to the time over which benefits will be paid and stricter eligibility criteria. For example, provisions in the bill include limiting lifetime welfare benefits to a five year maximum, restricting poor children's eligibility for financial aid, limiting free food vouchers for childless adults who are not working to three months in any three year period, requiring able bodied adults to return to work after two years of receiving welfare, and denying government health insurance

(Medicaid) to an adult who loses welfare benefits for not meeting work requirements. The penalties seem to be even harsher for those who are struggling most in society: cash aid and food stamps are to be denied to anyone convicted of felony drug charges, although pregnant women and those in drug treatment will be exempted.⁵

Political considerations aside, this legislation is a very alarming development in a country that has over 250 000 low birthweight babies born a year, where 20-30% of 2 year old children have not been adequately immunised, and 16% of low income children aged under 5 are growth retarded.⁶ These figures are a small example of huge underlying national problems in public health outlined in *Healthy People 2000*, the national health promotion and disease prevention objectives for the year 2000.⁶ This highlights people with low income as a group with pressing health problems and needs.

In 1991 the United States spent 13.2% of its gross domestic product on health care, a figure that is considerably larger than in other developed nations.⁷ In the same year the prevalence of poverty among black and white people aged 25-84 was 10.3%.⁸ This figure had risen from 9.2% in 1973. Despite having the highest per capita health spending of all countries in the Organisation for Economic Cooperation and Develop-

ment (OECD), in 1990 the United States had the fourth highest infant mortality of the 24 countries. This figure almost certainly reflects underlying social problems in addition to the country's lack of universal health care.

The poor are eligible for Medicaid, but eligibility varies from state to state and often a revolving door situation develops—a family has insurance for a short time but then loses eligibility until a further crisis occurs. Those in poorly paid and part time jobs do not normally receive employment related healthcare benefits, yet they are not eligible for Medicaid. The welfare bill has one provision that potentially improves this situation: Medicaid will be continued for one year for those people who leave welfare to go to work.

Problems such as poor maternal and child health and high rates of drug abuse, road traffic accidents, and gunshot wounds cannot be attributed to the lack of universal health care. These are problems that result from poverty, poor housing and environmental conditions, and lack of opportunity. Welfare benefits are not a panacea for any of these problems. Proponents of this bill argue that it will provide incentives for greater personal responsibility and motivate people to return to work. President Clinton hailed the legislation as a "historic opportunity to make welfare what it was supposed to be, a second chance, not a way of life."

This abrupt end to welfare benefits removes the safety net for those most in need. The withdrawal of these entitlements adds a further burden to a population that is already underserved in terms of health care. There is a real risk that the gap between rich and poor in the United States will widen even further. The objectives stated in *Healthy People 2000*, which have less than four years to be realised, now seem to be dreams rather than achievable goals.

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The Babinski sign: 100 years on

Still rivals current technology in its precision, reliability, convenience, and cost

In this age of information explosion and high technology, the neurological examination is still the gold standard for defining clinically relevant neurological disease. This is the centenary of the Babinski sign, known to every medical student and almost synonymous with the neurological examination.

Before Joseph Babinski's discovery in 1896, knowledge about reflexes was limited. Although reflex activity was recognised as an involuntary response of the nervous system by Descartes as early as 1662, it was not until the 19th century that clinicians began to understand the underlying mechanisms. Motor and sensory roots were described in 1811, followed by the neurone theory in the latter half of the century. Cutaneous and tendon reflexes were defined in rapid succession from 1875. Flexion reflex withdrawal of the lower limb was recognised as indicative of a pyramidal syndrome, but little attention was given to the movement of the toes.

Thus the stage was set for Babinski's eloquent and lucid discovery described in two presentations in 1896 and 1898.^{1,2} The abstract dated 1896 and the paper dated 1898, which was recently translated and published in English,³ differ in their description of the manoeuvre for eliciting the sign. Babinski changed from recommending a pin prick to stroking the sole. In the paper he emphasised the site, the predominance of the first two toes in dorsiflexion, the transient appearance of the sign in epileptic seizures, and its value in excluding hysterical paralysis. He also stated that it occurs only in pyramidal lesions, which may be severe or transient, and appears in normal infants due to an immature pyramidal system.

The paper was followed by worldwide confirmation, and so popular was the sign that no less than 14 rival or alternative methods of eliciting it appeared in the literature over the next few years. Physicians trained during the era of eponyms will smile in recollection of the Chaddock, Gordon, Oppenheim, and Gonda signs. Bitter controversy raged for a decade, in large part due to the recent descriptions of the "neurone doctrine and the spinal reflex,"⁴ which defined the reflex arc from sensory fibres to spinal cord neurones to motor fibres.

Controversy erupted again on the occasion of the 60th anniversary of Babinski's discovery, when several authors disputed "the relationship of the sign of Babinski to pyramidal defect."⁵⁻⁸ Sir Francis Walshe, the renowned British neurologist, was quick to point out the errors in these criticisms.^{8,9} He subsequently indicated that the literature had been inadequately reviewed by these critics and that there was ample evidence that focal demyelination without tract degeneration was sufficient to produce pyramidal dysfunction.

Today it is well accepted that a positive Babinski sign is indicative of dysfunction of fibres within the pyramidal tract.³ The fibres that control the foot and toes are the most likely to be dysfunctional if the Babinski sign is present, and over 90% of patients will have some degree of motor deficit in the foot.¹⁰ These fibres probably terminate at or near the motor neurones because they are responsible for independent and fast movement of the toes and foot.¹¹ That such precise localisation can be achieved so reliably, easily, and inexpensively makes one wonder if the current technology will endure the next 100 years as well as the Babinski sign has.

Although a student of Charcot, Joseph Babinski devoted his clinical and research career to establishing findings that distinguished organic disease from hysterical paralysis. In this context he disagreed with his teacher and claimed the difference between the two was "not a ditch but an abyss." His brother Henri was his lifelong friend, valet, secretary, chef, and companion, and they lived together until their deaths one year apart in 1931 and 1932.³

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