Transition from paediatric to adult neurological services

Dr C Tuffrey and Pearce are timely in their comments about the importance of structured transition to adult orientated services for young people with chronic neurological disease.1 We agree that this is a significant problem, and that proper transition (including pretransition planning, transition planning at the appropriate time and multidisciplinary working) must be achieved to maximise the young person’s integration into society. There is abundant evidence that those lost to follow up present later with treatable complications of their conditions.2 It is also known that health status and psychosocial factors have a proved impact on the social participation of young disabled adults.3

There are a number of well established and well researched models of multidisciplinary team care for young adults in transition with disabling conditions including neurological conditions, such as cerebral palsy, spinal bifida, and muscular dystrophies. The consultant in rehabilitation medicine is well used to working with multidisciplinary teams, in a manner analogous to the paediatrician. An evaluation of a team approach versus ad hoc health services for young people with physical disabilities, in six areas of the UK, which was published in The Lancet in 2002,2 demonstrated that participation in society was improved the field for no additional financial cost where organised transition services were involved, compared with non-organised care.

A team has been in place in Leeds for 14 years. It includes professionals including medical, nursing, occupational therapists, physiotherapists, occupational therapists, social workers, learning difficulties, including orthopaedics, urology, gastroenterology, respiratory medicine, and neurology. Their training allows them to identify and treat conditions that are well recognised health problems, including secondary musculoskeletal complications, pain, spasticity, and urological as well as neurological problems. They analyse gait and posture, and prescribe orthoses and specialised seating. They also prescribe assistive technology. Their paradigm of treatment is not restricted to disease per se, but addresses the whole spectrum of impairment, activity (disability), and handicap (participation).

Tuffrey and Pearce are right to point out that the survival of disabled children into adulthood is a challenge to the existing organisation of adult health services. It is our duty to maintain good standards of medical and health care and to enable such individuals to lead as full a life as possible. The evidence for the value of coordinated transition services for individuals with disabling condition exists and should be widely applied.

R M Kent, M A Chamberlain
School of Medicine, Rheumatology & Rehabilitation Research Unit, University of Leeds, Leeds, UK

References

1 Tuffrey C, Pearce A. Transition from paediatric to adult medical services for young people with chronic neurological problems. J Neurol Neurosurg Psychiatry 2003;74:1014–15.


Authors’ reply

We are grateful to Drs Kent and Chamberlain for their comments in response to our paper.1 Young adult teams (YATs) are indeed an effective way to provide coordinated medical care for some young adults with neurological conditions. Unfortunately as Chamberlain and colleagues correctly point out in their paper,2 this provision is currently only available in a few areas of the UK so for many young people referral to such a service is not an option. Although we do not dispute that rehabilitation physicians are skilled in dealing with many of the secondary complications of longstanding neurological conditions, young adults with additional moderate or severe learning difficulties may not be so well served.

Since YATs have been shown to enhance the quality of life of these young adults as well as being cost effective, it is essential that all areas of UK should be working towards providing similar services for all these young people. Paediatricians, physicians, and the various other professionals working with the different age groups can then work together to ensure that transition care pathways are developed and appropriately evaluated.

C Tuffrey
Paediatric Neurology, Department of Child Health, Southampton General Hospital, Southampton, UK

A Pearce
Community Child Health Department, North Bristol NHS Trust, Southmead Hospital, Bristol, UK

Correspondence to: Dr C Tuffrey; tuffrey@yahoo.co.uk
doi: 10.1136/jnnp.2003.033076

Effect of a multidisciplinary clinic on survival in amyotrophic lateral sclerosis

We write in relation to the article from colleagues at Beaumont Hospital, Dublin, who report that patients with amyotrophic lateral sclerosis (ALS) attending a multidisciplinary clinic had a better prognosis owing to better medical care than those attending general neurology clinics.1 In particular the survival of the bulbar onset patients was extended by 9.6 months if they attended the ALS clinic.

The inherent error in their conclusions relates to the manner in which the two populations were compared. Patients who were recruited to the ALS clinic group up to one year after diagnosis; the general neurology clinic population was recruited immediately from the time of diagnosis. Patients who die from ALS within some months of the diagnosis are not available to the ALS clinic cohort but these are included in the general neurology clinic population. It is probable that patients living further from the ALS clinic and those who are more disabled by ALS attend their local neurologist. Thus the ALS clinic treated a group of fitter ALS patients, whereas the general neurologists saw all ALS patients regardless of medical, social or economic factors. The authors corrected for some factors predictive of a poor outcome in ALS which were all overrepresented in the general neurology clinic population (increased age, bulbar onset, and shorter duration of illness at presentation); they did not correct for a measure of baseline disease severity.

The effect of the recruitment bias can be seen in the survival graphs (figs 1–3) comparing the two populations. In the ALS clinic group there were no deaths in the bulbar onset group for 250 days, whereas in the general neurology ALS patients it seems that deaths occurred within 30 days (fig 2). It is difficult to be exact about the latter figures because no survival tables are given in the article. If the patients at risk (or the percentage alive) had been reported below the graphs, this would have been of use to the reader.2 It is noteworthy that the subsequent rate of decline in survival of the two groups is exactly the same; the only differences between the groups in all the measures are that the survival of the multidisciplinary clinic group for about 200 days (whole group and bulbar subgroup) and 250 days (bulbar onset subgroup) is increased. The reason for this initial survival advantage is that in order to attend the ALS clinic one must be relatively well not requiring immediate hospital care. As the authors indicate in their discussion, even the ability to attend the ALS clinic on one
occasion or one year after diagnosis conferred a significant survival advantage with a 25% reduction in mortality (p = 0.01). The survival advantage of the ALS clinic group thus appears to reflect the increased mortality of the patients treated by general neurologists in the first 200–250 days; these patients are not well enough to attend the ALS clinic.

Inferior treatment by general neurologists is implied (for example, “less attention was paid to early introduction of gastrostomy feeding”—for which no evidence was produced) and is suggested as the reason for the increased mortality.

We accept that a multidisciplinary clinic is valuable in the management of ALS, but this paper is not scientific evidence for this view. The paper would have been useful if the authors had matched ALS clinic and general neurology clinic patients, even retrospectively, for age at onset, mode of onset, disability, and duration of illness. Patients should have been deemed to have entered the ALS clinic cohort only from the date of first attendance at the ALS clinic and not from the date of diagnosis, which may have been up to one year previously. A treatment effect of the ALS clinic can only be possible from the date of first attendance. Censoring early deaths in the clearly more ill general neurology cohort should also have been considered. By avoiding these biases one might have a possible estimate of the effect of attendance at the ALS clinic.

M Hutchinson
St Vincent’s University Hospital, Dublin 4, Republic of Ireland

R Galvin, B Sweeney
Cork University Hospital, Cork, Republic of Ireland

T Lynch
Mater Hospital, Dublin

R Murphy
Adelaide and Meath Hospital, Dublin

J Redmond
St James’s Hospital, Dublin

Correspondence to: Prof M Hutchinson; mhhutchin@iol.ie

References

Author’s reply
We welcome the opportunity to reply to the points raised by Hutchinson and his colleagues concerning our recent paper and to provide further scientific evidence that patients attending a multidisciplinary ALS clinic have improved survival compared with patients attending a general neurology clinic.

The key criticism is that the survival benefit derived from attending the ALS clinic is a result of referral centre bias. Hutchinson et al. maintain that the multidisciplinary ALS clinic selects for patients with milder disease, as only these patients live long enough to be referred to the ALS clinic. While we acknowledge that it is challenging to avoid referral bias when one is quantifying the effect of a referral centre, referral bias is not a prominent factor in our study, for the following reasons. First, survival analysis of patients diagnosed exclusively in the ALS clinic (that is, not referred from other neurologists) reveals a similar beneficial effect on mortality compared with the previously published data (median survival, 644 vs 448 days for the ALS clinic (n = 44) and general neurology cohorts, respectively; log-rank test, p = 0.02). Second, ALS patients who live more than a year from the time of diagnosis (and therefore have ample opportunity for referral) continue to experience a survival advantage from attending the ALS clinic.

Hutchinson et al. suggest that the parallel nature of the survival curves (that is, the similar rate of decline of both cohorts) stems from the overrepresentation in the general neurology clinic of more disabled patients who die in the first 250 days and “are not well enough to attend the ALS clinic.” Consequently, the perceived difference in mortality is artefactual. In reality, the parallel nature of the survival curves provides the strongest proof of a robust improvement in survival along ALS patients attending the ALS clinic—a finding that would have been missed if rates of early deaths were different between the ALS cohorts. By avoiding these biases one might have a possible estimate of the effect of attendance at the ALS clinic.

M Hutchinson
St Vincent’s University Hospital, Dublin 4, Republic of Ireland

R Galvin, B Sweeney
Cork University Hospital, Cork, Republic of Ireland

T Lynch
Mater Hospital, Dublin

R Murphy
Adelaide and Meath Hospital, Dublin

J Redmond
St James’s Hospital, Dublin

Correspondence to: Prof M Hutchinson; mhhutchin@iol.ie

References

Outcome of contemporary surgery for chronic subdural haematoma: evidence based review
We read with interest the report by Weigel et al. on the outcome of contemporary surgery for chronic subdural haematoma, and commend the authors for attempting to review such an extensive and diverse range of publications. The paper ably demonstrates the lack of quality evidence for the management of this common condition. However, we are concerned about the description of the paper as “evidence based”. Exclusion criteria were broad, and fewer than 5% of papers found in the Medline literature search were included in the final analysis. Correspondence with the original authors for further data or clarification is an acceptable and expected part of evidence based analysis, as would have increased papers and patient numbers significantly. The data examined do not appear to have been paired, as age and comorbidity will have dramatic effects on outcome, irrespective of surgical technique. In this context, unpaired univariable analysis is unable to produce meaningful significance. Further detracting factors include limited search procedures, absent...
Mesodiencéphal targeting of stimulating electrodes in patients with tremor caused by multiple sclerosis

The review of deep brain stimulation (DBS) for tremor in patients with multiple sclerosis by Wishart and colleagues is a good summary of the current literature, its shortcomings, and the problems associated with this type of surgery. We have recently published a report on the ‘difficulties involved’ and would like to add a comment about targeting the site of DBS implantation in the mesodiencéphal in this patient group.

An earlier review of stereotactic ablative and DBS surgery showed that a range of different thalamic subnuclei and mesodiencéphal areas has been targeted, with variable success. Although a target in the thalamic nucleus ventromedialis (Vim) is often cited, we have found—like Aziz’s group—that a more anterior and ventral electrode placement was most likely to reduce the tremor. In the 12 patients implanted in our series, the median coordinates of the site of optimal intraoperative tremor suppression were 13.5 mm lateral to the midline, 2 mm behind the AC–PC (anterior commissural-posterior commissural) midpoint, and 1.5 mm deep to the AC–PC plane. These coordinates suggest a subthalamic–zona incerta target, which would interrupt the dentato–Vim projections. The deepest of the quadripolar electrodes was inserted at this site, suggesting that the remaining rostral electrodes straddle the Vim or nucleus ventro-oralis posterior, which lies anterior to the Vim.

Although our targets are not dissimilar to those reported by Aziz’s group, we have not done intraoperative microelectrode recordings or postoperative magnetic resonance imaging to confirm our intraoperative targeting. Furthermore, most patients with tremor caused by multiple sclerosis have major brain distortions because of demyelination, plaque formation, and vacuolar hydropothesis when they come to stereotactic surgery. It is difficult, therefore, to know how their mesodiencéphal anatomy conforms to a stereotactic atlas. This may explain why, in our experience, targeting in patients with multiple sclerosis is considerably more demanding than in patients with either Parkinson’s disease or essential tremor.

Assessing tremor reduction and quality of life following thalamic deep brain stimulation for the treatment of tremor in multiple sclerosis

We read with interest the paper by Wishart et al. on chronic deep brain stimulation (DBS) for the treatment of tremor in multiple sclerosis. We would like to highlight two important points.

First, reduction in tremor should not be the ultimate goal of this surgery. It is a means to an end. The most important outcome for the patient must be improved function. Surgery that reduces tremor but does not improve limb function (for example, residual ataxia) is of questionable benefit for the patient, although surgeons may much prefer it as “successful” if only they assess tremor. The authors’ review of the literature outlined many papers that focused on tremor but made no mention of function. In the authors’ own series of four patients, improvements in tremor “translated into improvements in aspects of daily functioning” but no details were provided on how this was measured. We addressed this point in a recent paper dealing with thalamic DBS for 12 patients with multiple sclerosis and tremor but unfortunately this was not included in the authors’ review.

Second, the option of unilateral thalamic DBS in a patient with unilateral upper limb tremor should be discussed. We have found that, following DBS control of their dominant hand, some patients decide they do not need (or want) the other side done. If they have significant head tremor, however, bilateral surgery is required.

I R Whittle, Y H You, J Hooper
Department of Clinical Neurosciences, Western General Hospital, Croyde Road, Edinburgh EH4 2RU, UK

Correspondence to: Professor I R Whittle, irw@skull.dcn.ed.ac.uk

References
regret that it was not included in our references. We targeted mainly English language outcome studies; an additional reference of note is that of Fernández-González and colleagues.

References

BOOK REVIEWS

The Oxford dictionary of medical quotations

There are Oxford dictionaries of practically everything but not until now of medical quotations. The literary minded doctor need no longer be limited to the 15 or so entries in the regular Oxford University Press Dictionary of quotations when searching for something with which to get started a medical thesis, or display learning at lectures to rotary clubs or to multiple sclerosis: a prospective study of tremor due to multiple sclerosis. The dictionary is very well written with admirably quick comprehension. The authors modestly say that this is more of a revision or review text rather than a comprehensive textbook. However, the core curriculum is well served by such a textbook and if a medical student knows the basic science in each area and then addresses the implications of this along side. It is nicely structured in a way that is comprehensive to medical students and sits well with most course structures. For example, it has five main headings, such as the anatomical and functional organisation of the nervous system, sensory systems, motor systems, and so on. Each sub-system is then divided into appropriate sub-sections, for example the cerebellum, the cortical motor areas, and so on. Each chapter has one A4 set of diagrams pictorially illustrating the subject with text on the facing page. All of this makes for easy reading and quick comprehension. The authors modestly say that this is more of a revision or review text rather than a comprehensive textbook. However, the core curriculum at my institution would be well served by such a textbook and if a medical student knows the basis of this book he or she will be well ahead of peers.

I took the opportunity of showing this textbook to a number of my students who in fact had already had the first edition and were very familiar with the book. All were whole heartedly approving. The only minor quibble I have with the book is that the epilepsy section is particularly scanty. While the pathogenesis of epilepsy is still largely unknown, there is considerable room in the text for a better elucidation of some of the more up to date theories. For example, the new genetic advances have thrown light on disorders of ion channels in idiopathic generalised epilepsies, and the way mesial temporal sclerosis leads to neuronal network reorganisation.

Otherwise, I can’t commend the book highly enough and it should be on bookshelves of all medical schools in the UK.

O C Cockerell

Mild cognitive impairment: aging to Alzheimer’s disease

It is hard to avoid the cliché “timely” to describe this book. The past few years have seen very considerable upsurge of interest in the very early pre-dementia stages of Alzheimer’s disease. The editor of the present book, Ronald Peterson, has been at the forefront of this initiative and his term, mild cognitive impairment (MCI), to describe this early prodromic stage, has been adopted around the world. It is highly appropriate, therefore, that he should edit a book on mild cognitive impairment bringing together major contributors. The book is conventional in form, containing chapters on clinical features, neuropsychiatric symptoms, neuropsychology, and structural and functional brain imaging, as well as pathology, biological markers, and treatment options. All of the chapters are very well written with admirably up to date referencing. The book will be of considerable interest to behavioural neurologists, neuropsychologists, and brain imagers.

I have only one or two quibbles with this otherwise excellent book, all of which reflect my own biases. There is an inherent view that MCI represents a clinically homogeneous syndrome, yet the current clinical definition is sufficiently wide to encompass the early stages of many forms of degenerative or even vascular brain disease. Consideration of the features that might separate those with early Alzheimer’s disease from those with early frontotemporal dementia, dementia with Lewy bodies, or vascular dementia is largely lacking. The neuropsychological sections were somewhat disappointing in that they neglect important work from the London group on the earliest cognitive markers for Alzheimer’s disease in subjects with known gene mutations. There is also important work from Melbourne on the value of computerised tests of visual paired associate learning that is not mentioned. The book in general is rather biased towards North America, with only two of the chapters containing contributions from European workers. These are, however, minor quibbles.

All multi-authored books suffer from a variable quality. Overall this is an excellent and important contribution that will be a standard reference for some time to come. It is also extremely reasonably priced.

J R Hodges

Neuroscience at a glance, 2nd edn

As the organiser of an integrated neuroscience course for undergraduates it was with great interest that I reviewed this book. The module is one of the few curriculum areas that has moved forward in most medical schools in the UK has followed on from the model developed in the US. The principle behind this is to integrate clinical and basic science material all through the course so that students learn the significance of basic science core knowledge in a clinical context and visa versa.

This textbook is ideal for integrated course teaching. It sets out the basic science in each area and then addresses the implications of this along side. It is nicely structured in a way that is comprehensible to medical students and sits well with most course structures. For example, it has five main headings, such as the anatomical and functional organisation of the nervous system, sensory systems, motor systems, and so on. Each sub-system is then divided into appropriate sub-sections, for example the cerebellum, the cortical motor areas, and so on. Each chapter has one A4 set of diagrams pictorially illustrating the subject with text on the facing page. All of this makes for easy reading and quick comprehension. The authors modestly say that this is more of a revision or review text rather than a comprehensive textbook. However, the core curriculum at my institution would be well served by such a textbook and if a medical student knows the basis of this book he or she will be well ahead of peers.

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O C Cockerell

Behavioral neurology & neuropsychology, 2nd edn

With the recent growing interest in cognitive or behavioural neurology among neurology
trainees in the UK, there is also need for a good text—one that conveys information accurately and swiftly, but also gets over the excitement of the subject. The second edition of this book is well worth looking at if you're trying to find such a text.

The editors have made a good job, at least in most cases, of keeping their contributors to the point and confined to relatively short chapters. As a result, they have been able to cover a wide range of topics, some from a clinical perspective, others from a more scientific stance. Impressively, although the chapters are short they are usually well referenced. Whatever your particular interest, I think most clinicians would find this a useful and informative text that covers the major neuropsychological syndromes well.

Where it perhaps could do better is on the subject of how to assess patients. This is never covered very well in most such texts, but I think it deserves far more space than given here. Also, the American perspective of some of the clinical examples may not be to everyone’s liking. There are some chapters where one might be left with the erroneous impression that research on this topic happens only in the USA! Despite such irritations, I would recommend more than a glance at this text. It certainly deserves to be on the shelves of most medical libraries.

**Neurologic emergencies. A symptom orientated approach, 2nd edn**


This is the second edition of *Neurologic emergencies*, a book which I imagine is aimed at physicians responsible for the emergency care of neurological problems, although this is never explicitly stated by the authors. It has a refreshingly practical approach and my initial irritation at the title was quickly dispelled by a preface pronouncing that ‘‘the days of the knee jerk CT may be drawing to a close’’. I live in hope. The first few chapters set out the basic background to the evaluation of neurological symptoms but thereafter they are symptom based with sections on acute weakness, headache, visual disturbance and loss, psychogenic symptoms, dizziness, and seizures. I am sure this is the right approach but it does occasionally lead to problems with cross referencing. For example, pitting apoplexy, which rightly appears as a cause of acute headache mimicking subarachnoid haemorrhage. Similarly, non-organic seizures are discussed in the very good chapter dealing with psychogenic neurological symptoms but is hardly mentioned in the epilepsy section where they might be more appropriately placed. The book has some odd omissions—no mention of the usefulness of deep tendon reflexes in determining the level of spinal cord disease or of measuring prostate specific antigen in metastatic disease of the spine. The authors also assert that arterial dissection is a rare event, which is not my experience from managing an acute neurological intake. However, these criticisms are in the detail and overall I thought this was a comprehensive account of neurological emergencies and their management. I particularly liked the chapter on psychogenic neurological symptoms, which articulates something we are perhaps rather reluctant to admit to. ‘‘It is a legitimate use of the neurological examination to communicate to the patient that the examiner does truly possess a sophisticated knowledge of the nervous system which will in turn lead to trust and confidence in the examining physician’’. This book will be useful to all those who deal with neurological emergencies. In the UK I can see it appealing to casualty officers and physicians in training but I suspect a neurological readership would find it unfulfilling.

**Quick cognitive screening for clinicians. Mini mental, clock drawing and other brief tests**


What is the most effective way to screen for cognitive impairment in a busy clinic, or at the bedside? This is a question that most clinicians might contemplate, even if momentarily, in their busy schedules. In this brief text, Shulman and Feinstein take the reader briskly through the arguments for and against some common screening instruments.

There are several good aspects to the book. Firstly, before immersing themselves in the tests, the authors ask what one might want from an ideal screening test. Importantly, they cover—albeit rapidly—the application of signal detection analysis to clinical methods in the form of receiver operating characteristic (ROC) curves, together with the concepts of sensitivity and specificity. This lays the groundwork for much of what follows.

Secondly, several of the tests that are scrutinised (for example, Mini Mental State Examination) are critically assessed, with both their potential advantages and pitfalls discussed. Thirdly, I was particularly pleased to find that the authors have included a chapter specifically on assessing frontal lobe function, because many standard screening instruments are poor at revealing such dysfunction. It was also useful to see a chapter devoted to structured means of interviewing informants—often a critical part of the cognitive assessment. Finally, for a small text, this book has a very good list of references, directing the reader well to the primary sources.

If there are any deficiencies, perhaps one might quibble that neurological emphasis given by the authors to clock drawing, or the relative paucity of discussion on the use of combining tests. Similarly, the neuropsychiatric interests of the authors may not quite fit those of clinical neuropsychologists. But overall this is an interesting and useful review of the methods available for screening cognitive impairment, which can be read quickly and efficiently, even by the busiest of clinicians.

**Disorders of body image**


This collection of review chapters has a predominantly American–Australian provenance, with further contributions from Britain and South Africa. The central emphasis is on disorders of body image as they present to clinical psychiatrists and psychologists and four of the 10 chapters deal with these subjects. As stated, a refreshingly practical approach to the subject of how to assess patients. This is never explicitly stated by the authors. It has an acute neurological intake. However, these criticisms are in the detail and overall I thought this was a comprehensive account of neurological emergencies and their management. I particularly liked the chapter on psychogenic neurological symptoms, which articulates something we are perhaps rather reluctant to admit to. ‘‘It is a legitimate use of the neurological examination to communicate to the patient that the examiner does truly possess a sophisticated knowledge of the nervous system which will in turn lead to trust and confidence in the examining physician’’. This book will be useful to all those who deal with neurological emergencies. In the UK I can see it appealing to casualty officers and physicians in training but I suspect a neurological readership would find it unfulfilling.

**D J Dick**
Outcome of contemporary surgery for chronic subdural haematoma: evidence based review

A Brodbelt and P Warnke

J Neurol Neurosurg Psychiatry 2004 75: 1209-1210

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