



INTERNATIONAL NEUROTRAUMA Letter

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INTERVIEW WITH DR. KEITH ANDREWS
Director of Medical and Research Services
Royal Hospital for Neuro-disability
United Kingdom

Dr. Zasler: Tell us a little bit about the clinical setting in which you practice and the types of patients that you see relative to their point in the recovery process.

Dr. Andrews: I work in a charity hospital of 280 beds, all for people with complex and chronic neurological disabilities. We have a 30-bed unit for people in the vegetative state and minimal conscious state. We have a Huntington's disease unit and a number of other units — a transitional living unit for cognitive retraining and a specialist unit for people with a combination of behavioral and severe physical disabilities.

Dr. Zasler: As someone who is familiar with your work over quite a number of years, I've always respected the types of patients that you've treated and the challenges that are inherent in working with this group of patients and their families. One of the issues that we want to focus on today in the interview is the broader topic of ethical issues within the confines of working with these types of patients with

chronic neurological disabilities. I'm sure there are a number of areas that we can address. Why don't you share with us some of your prospectives on what you consider to be the primary ethical challenges that we as clinicians, working with these types of individuals, face?

Dr. Andrews: One of the most important areas is to ensure that we allow individuals who are cognitively impaired and have difficulty with mental capacity to be fully involved in the decision making process. That involves not only treatment but also their involvement in research in the way that they are involved in our teaching programs and also in our publications. People who are cognitively impaired may well have the ability to make decisions provided we give them the right type of information in a way in which they can understand it. First of all, we all need information given to us in a way, which is easy to understand, and within the limits of our mental ability. We need that information to be able to understand what has been said to us. Once we understand that, then we use that information to make a decision and then we have to communicate that decision back to the clinicians. There are a large number of difficulties in people with complex disabilities. Some are due to their mental state. Some are due to their ability to communicate. There is no such thing, except in the vegetative state or minimal conscious state, whereby an individual has no mental capacity at all. In most cases, there is something for which they have sufficient mental capacity to make some decisions. This might be simply whether they want to wear a red jumper or a blue jumper, or it might be whether they go out or not, and that needs a very low level of mental ability to be able to have the capacity to make that decision. There may be some clinical areas where the patient may understand the decision pro-

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ABSTRACTS OF CURRENT LITERATURE

POSTTRAUMATIC STRESS DISORDER AND SPINAL CORD INJURIES. P Kennedy and J Duff. *Spinal Cord* 39(1): 1-10, 2001.

The authors provide a brief history of this disorder, originally termed Railway Spine, shellshock or combat neurosis. It was finally designated, in 1980, post traumatic stress disorder (PTSD). The authors compare definitional characteristics, taken from the two official definitions found in the DSM-IV and ICD-10. Separate tables list criteria for PTSD in the DSM-IV and ICD-10. Assessment, differential diagnoses, co-morbidity and general incidence and prevalence of PTSD are included in this review of PTSD and spinal cord injuries (SCI). Identification of two main features, intrusion and avoidance, are emphasized as critical to the assessment of PTSD symptoms with a spinal cord injured population. Because diagnosis of PTSD is based almost entirely on the patient's report of subjective symptoms, the need for evaluation of malingering may be considered. Whereas pure malingering is uncommon in PTSD cases, exaggeration of symptoms may be more likely. At present the MMPI, the authors affirm, is the most validated psychological test to detect malingering and mental illness.

Although varying by type of trauma and its frequency, the probability of PTSD, among those exposed to trauma, ranges from 10% to 15%. This translates to 28 seriously distressed persons per 1000 adults in the U.S. Data points to the fact that PTSD is a long-lasting disorder, with up to half who develop the disorder, having it decades later without treatment. In studies following spinal cord injury, from 29% to 44% met the criteria for lifetime PTSD. Increased risk of PTSD can be expected in children exposed to gunshots and violence and persons who sustain a closed head injury in addition to the spinal cord injury. Finally, the authors review current pharmacological and psychological treatment of PTSD. There is a need to recognize the issues of co-morbidity of PTSD, not only in terms of anxiety and depression, but of its role in the processes of adaptation, accessing social supports, and coping with a spinal cord injury.

HAND FUNCTION OF C6 AND C7 TETRAPLEGICS 1 - 16 YEARS FOLLOWING INJURY. LA Harvey, J Batty and J Crosbie. *Spinal Cord* 39(1): 37-43, 2001.

The ability to effectively use a hand is critical to independence and quality of life. Despite extensive paralysis, C6 and C7 tetraplegic patients, with paralysis of finger and thumb flexor muscles, can retain voluntary control of wrist extensor and sometimes wrist flexor and

finger extensor muscles, such that they are generally able to hold and manipulate objects. This study is the first to quantify information regarding hand function attained by a large and representative cohort of C6 and C7 tetraplegic patients long after injury.

Patients included in the study were admitted to Prince Henry Hospital Spinal Injuries Unit in Sydney between 1984 and 1999. All complete or incomplete C6 and C7 tetraplegics with grade 2/5 or less strength in the finger flexor muscles at approximately 3 months after the onset of tetraplegia (following trauma, surgery or a medical condition) were included in the study. Both hands of 42 patients and one hand of 23 patients met the inclusion criteria. Unilateral hand function was assessed using the Grasp and Release Test (GRT) and a 10-item Activities of Daily Living (ADL) Test. All hands except one had been managed without surgical intervention.

Median number of objects successfully manipulated in the GRT was 3/6 with median ADL tasks successfully completed, 9/10. Lateral grasp was found to be poor, with approximately three-fourths of hands not able to use a lateral grasp to move a paperweight or depress a fork in the GRT. However, subjects often used novel and

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ingenious ways to perform ADL tasks without utilizing lateral or palmar grasps, such as rotating the object and cradling it the palm of the hand. Prevalence of contractures was low, though not related to ability to manipulate objects, with some subjects with contractures attaining high GRT and ADL scores. Currently there is little consensus about optimal management of the C6 and C7 tetraplegic hand due to a lack of clinical trials and difficulties associated with research in this area. This study can be used to quantify the level of hand function that can be generally expected when managed conservatively and to quantify the effectiveness of different interventions.

BOWEL DYSFUNCTION FOLLOWING SPINAL CORD INJURY: A DESCRIPTION OF BOWEL FUNCTION IN A SPINAL CORD-INJURED POPULATION AND COMPARISON WITH AGE AND GENDER MATCHED CONTROLS. AC Lynch, CWong, A Anthony, BR Dobbs and FA Frizelle. *Spinal Cord* 38(12): 717-723, 2000.

Most patients following spinal cord injury (SCI) achieve adequate bowel management strategies, but the issues of time, dependency, and the unpredictability of episodes of fecal incontinence make bowel function a major physical and psychological problem for SCI patients. Researchers from Burwood Spinal Injuries Unit, Christchurch, New Zealand conducted this descriptive and comparative questionnaire study by sending out questionnaires to 1200 SCI patients and 1200 controls. Results were based on returns of 467 completed questionnaires from SCI patients and 668 age and gender matched controls selected from electoral rolls. The questionnaire queried on general bowel function, influence of bowel problems on everyday life, incidence of incontinence and, for SCI patients, methods of defecation.

Mean Faecal Incontinence Score (FIS), based on type of incontinence (i.e., solid, liquid, gas, pad wearing, and lifestyle alteration) was higher for SCI patients than controls ($p < 0.0001$) and for complete compared with incomplete injury ($p < 0.002$). Neither age of respondent nor time since injury affected FIS. Fecal urgency and time spent at the toilet were also significantly higher for the SCI group. More SCI patients required bowel related medication on a regular basis, such as laxative use (39% of SCI patients versus 4% of controls). As expected, digital stimulation and manual evacuation were the commonest methods of defecation for patients with high complete SCI. Also, hemorrhoids were more common following SCI, especially in those requiring manual evacuation. Finally, incontinence affected quality of life for 62% of SCI patients in comparison with only 8% of con-

trols. Researchers concluded that SCI has a significant effect on bowel function in regards to fecal incontinence, urgency, and toileting methods with a resultant marked impact on quality of life. Most patients with poor function can be identified early, facilitating early intervention, such as colostomy or ACE procedure, in those with potential significant bowel problems.

PARALYSIS FROM SPORT AND DIVING ACCIDENTS.

H Schmitt and HJ Gerner. *Clinical Journal of Sports Medicine* 11(1): 17-22, 2001.

This article examines the causes of sports-related spinal cord injuries that developed into paraplegia or tetraplegia, comparing the type and location of injuries, sports causes of injuries, contributing factors, and keys to prevention of future injuries. This study, from the University of Heidelberg, Germany, examined 1016 cases of traumatic spinal cord injury that presented between 1985 and 1997. Of the total traumatic spinal cord injuries, 7.7% were caused by diving accidents and 6.8% were caused by other sports. Ages of the mostly male (83%) patients ranged from 9 to 52 years. Tetraplegia developed in 77% of patients and paraplegia in 23%.

A breakdown by site of injury indicated that diving accidents produced a distribution of level of paralysis from C3 to C7. Other sports accidents produced a trimodal distribution of level of paralysis from: a) C3 to C8; b) T4 to T8; c) and T10 to T12 and L1 to L3. Most of the sports accidents resulting in spinal cord injury occurred from downhill skiing (23%). External causes of injuries included poorly groomed or overcrowded slopes, faulty equipment and unfavorable weather conditions, approach and lift transportation. Internal causes identified included "lackadaisical behavior" and inattention when skiing, high-speed skiing that resulted in loss of control, although alcohol did not seem to play a role in injuries. Other sports accidents included paraplegias from horseback riding, hang gliding and paragliding. Accidents resulting in paraplegia or tetraplegia occurred in gymnastics, trampolining, competitive motocross, cycling, soccer, toboggan riding, scuba diving, hiking, as well as climbing, wrestling, rugby, high diving, sailing, and water-skiing. The authors highlight each sport, examining type of injury, causes of injury, such as improper equipment, weather conditions, inexperience and fatigue. Prevention aspects are also highlighted, such as the decrease in incidence of injuries from trampolining as a result of its exclusion from schools. In some sports that have become recently popular, such as hang gliding, most cases occurred because of insufficient instruction and overestimation of the ability of the participants.

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EARLY POST-TRAUMATIC SEIZURES IN CHILDREN WITH HEAD INJURY. A Chiaretti, R De Benedictis, G Polidori, M Piastra, A Iannelli and C Di Rocco. *Child's Nervous System* 16 (12): 862-866, 2000.

Early post-traumatic seizures (PTS) in children, occurring within one week of injury, are generally associated with severe head injury but they may also occur among children with mild or moderate brain injury (BI). They may play an important role in the onset of secondary brain damage, through increased metabolic requirements, raised intracranial pressure, cerebral hypoxia and excessive release of neurotransmitters. Researchers from the Catholic University of Rome evaluated the incidence of early PTS and sought to identify potential risk factors for their onset in children hospitalized for head injury.

Records of all children hospitalized for head injury at the Gemelli Hospital in Rome from November 1992 to November 1998 were retrospectively reviewed (n = 125, mean age = 6.7 + 4.5 years. On admission, 48 children were diagnosed with mild BI, 33 with moderate BI and 44 with severe BI. Early PTS was diagnosed in 15 children (12.0%), with 11 developing PTS within the first 24 hours (immediate PTS). In children with severe BIs, PTS occurred in 22.7%, 12% in moderate and only 2% in mild BIs. The EEGs of children with early PTS, recorded in seizure-free periods, did not differ from the EEGs of children without early PTS. CT scans of the children with early PTS revealed that the most common lesions were cerebral edema (53.3%) and single or multiple hemorrhagic foci (73.3%).

Severity of injury was found to be a significant risk factor for PTS. Other risk factors that significantly influenced the onset of early PTS were age and severe cerebral edema. Sixty percent (60%) of children with early PTS were less than 3-year-old. Children with early PTS had a significantly worse outcome than children without PTS. Therefore because PTS can strongly influence outcome, the researchers concluded, suitable management of children with head trauma must include adequate and early prophylaxis with antiepileptic medication for both immediate and early PTS.

PULMONARY FUNCTION IN CHRONIC SPINAL CORD INJURY: A CROSS-SECTIONAL SURVEY OF 222 SOUTHERN CALIFORNIA ADULT OUTPATIENTS. WS Linn, RH Adkins, H Gong and RL Waters. *Archives of Physical Medicine and Rehabilitation* 81(6): 757-763.

Following spinal cord injury (SCI), paralysis of the respiratory muscles can restrict the maximum inflation of the

lungs. In addition, the ability to cough can be impaired resulting in retained mucus secretions and atelectasis. Obstructive pulmonary dysfunction (secondary to collapse and/or constriction) and bronchial hyper-reactivity (frequently seen in higher-level SCI), as well as many other accompanying factors can further reduce function in the person with SCI. This study from southern California, largest of its type to date, undertook to evaluate risk factors for respiratory morbidity in chronic SCI. A group of 187 men and 35 women, predominantly Hispanic, outpatients with SCI of more than a year's duration, was examined at a metropolitan rehabilitation facility. Participants included 98 with tetraplegia (62 with complete and 26 with incomplete motor lesions) and 124 with paraplegia (87 with complete and 37 with incomplete motor lesions). Pulmonary function tests included forced vital capacity (FVC), forced expired volume in 1 second (FEV1), and peak expiratory flow rate (PEFR) measured in the supine and erect seated positions. Researchers found pulmonary function to be compromised by most lesions of the spinal cord with effects relative to the level of the lesion. PEFR decreased with rising SCI level. Although persons with low level paraplegia who had never smoked had normal FVC and FEV1, both decreased with rising SCI level. This was even more marked in those with tetraplegia. Individuals with SCI who were smokers at the time of evaluation, showed a striking excess function loss, except for those with high tetraplegia. The authors felt this finding explainable by selection bias, because high tetraplegia itself can impose such a significant function loss sufficient to overwhelm the typical smoking-related loss.

Persons with incomplete tetraplegia, regardless of injury level, showed significant preservation of function relative to those with complete tetraplegia, contrary to previous studies. Pulmonary function testing suggested that airway obstruction was clinically insignificant in this population in comparison with restrictive dysfunction. As time since injury increases, the data suggest that pulmonary function decreased for the entire study population. This was particularly true for middle-aged persons with tetraplegia. However, without longitudinal studies, interpretation of this finding is difficult due to survivability effects. The authors recommend high priority for efforts to help patients with SCI minimize respiratory complications, particularly assistance in cessation of smoking and maximizing function by maintenance of a supine position. Although initial sample size appears large, this study was actually limited by small sample sizes because of the need to subdivide by SCI characteristics, nevertheless, it has indicated potentially important function deficits even at relatively low levels of paraplegia. **NTL**

BOOK REVIEW

Forensic Neuropsychology: Fundamentals and Practice

Jerry J. Sweet (Ed).
Swets & Zeitlinger; 1999.
Hardcover, 535 pages.

The phenomenal growth of Clinical Neuropsychology over the last decade owes to its unique integration of recent developments in the clinical neurosciences with behavioral and medical knowledge. The understanding of brain behavior relationships derived from this integration has naturally led to neuropsychologists playing an increasingly important role in the courts, especially for medicolegal cases involving personal injury, worker's compensation and disability determination. Growing along with the developing subspecialty of forensic neuropsychology is the need for special guidelines and standards for Clinical Neuropsychologists engaged in medicolegal work. Recently, a number of texts have appeared which attempt to elucidate guidelines and standards of practice for neuropsychologists engaged in forensic work. Jerry Sweet's edited volume is one of the most recent of these, and clearly stands out among them. In a manner that reflects an increasing maturity, Jerry Sweet's book reflects a non-defensive self-examination in the service of a significant scientific advancement of the field. Sweet's book very eloquently accomplishes its mission of developing a scientist practitioner model for integrating relevant clinical neuropsychological knowledge and focused applications of clinical practice methodologies within the context of adversarial legal proceedings.

The highest standards are applied by this text in defining the objective scientific practice of Forensic Neuropsychology and presenting a scientist practitioner model for Clinical Neuropsychology more generally. The contributors were thoughtfully selected and represent state-of-the-art thinkers in the most relevant areas. They uniformly offer critical-self examination and a mature appreciation of complexity and practical guidelines for objective scientific practice and advancement and do an excellent job of combining expertise from Forensic Neuropsychology with Clinical Psychology.

The book is organized according to four sections: Fundamentals, Practice Expertise, Relevant Populations, and Parameters of the Forensic Arena. Chapters are thorough, well conceived, stimulating and sometimes even entertaining. The first section reviews fundamental psychometrics, including a thorough and current review of premorbid functioning and variables that can influence neuropsychological findings, as well as too

often neglected symptom base rates, and sets the stage for the rest of the chapters. The second section surveys the field and a model for neuropsychological evaluations that includes evaluation of the biological and behavioral factors, including empirically supported guidelines for thorough assessment of personality and emotional functioning, that can produce abnormal neuropsychological test findings, and guidelines for interpretation. A comprehensive understanding of multiple determinants in interpreting apparent deficits from neuropsychological test scores are offered along with an interactional neuropsychological model of functional disability. Malingering is reviewed in terms of the latest clinical research, including strategies for deception, a sophisticated conceptualization, and useful suggestions regarding detection methods. Additional chapters present well integrated reviews of executive functioning, consideration of ecological validity with suggestions for enhancing the utility of predictions of everyday and vocational functioning, and an illustration of improved assessment of malingered cognitive deficits from combining neuropsychological and psychophysiological methods.

The third section includes well-conceptualized, comprehensive and useful chapters on Mild Traumatic Brain Injury, Neuropsychological Toxicology, and Pediatric applications in the schools. The fourth section begins with a succinct and insightful summary of the legal environment germane to Clinical Neuropsychology and is followed by a delightfully irreverent chapter by Lees Haley and Cohen on expert witness credibility that offers useful relevant guidelines. They, along with Sweet, in his conclusion chapter, and a few others, offer the most useful available guidelines for defending and promoting the scientific, ethical, objective and reasoned practice of Forensic Neuropsychology in an adversarial environment with contradictory ethics and influences.

This text earns few criticisms. Perhaps a few areas that were well covered could have been expanded even further (e.g., ethics), but any work can be improved. Overall, *Forensic Neuropsychology: Fundamentals and Practice* is an exceptional text. It reviews the best models and practices in the field and presents a scientist practitioner approach to integrating relevant clinical neuropsychological knowledge and focused applications of practice methodologies for forensic settings. In this reviewer's opinion, this text defines the objective scientific practice of Forensic Neuropsychology that should also be the model for practice of clinical neuropsychology generally. It is Daubert-friendly and

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cess. For instance, patients may understand having an operation on their big toe for an ingrown toenail, but they may not be able to make a decision about something more complex, like having an operation for an appendix or for the placement of a gastrostomy tube. In most cases, people, as long as they are not entirely mentally incapacitated, can have the information presented to them in an appropriate way so that they can make decisions. We have to make sure, for instance, that we provide the optimal environment for that decision making process. So, first of all, we've got to make sure that they are not anxious, that they are not sedated, that they are given the information in a language in which they can understand, and when they need to communicate that information, they are given every help in expressing their views. In my own unit this often requires, first of all, identifying when during the day is the best time to talk with a patient because we all tend to be more awake at some times rather than at other times during the day. It will then usually involve a speech and language therapist, speech pathologist, clinical psychologist, neuropsychologist, nurse, and physician. All of this will take place with the assistance of the family where they are available. We do not ask the families to make the decision on behalf of the patient. This is different in different parts of the world; in Britain families have no legal right to have a say in the clinical management of an individual.

Dr. Zasler: Even in the context where it's been determined clinically or legally that that person is incapable of making decisions?

Dr. Andrews: Even in those situations, the family has no legal right to a say. This may well change in the next few years, and certainly Britain has been looking at America's system of guardianship laws. We have guardianship laws for children, but not for adults. At the end of the day a decision must be made at a level, which could be defended in court. Theoretically no one, not even a judge, can make a decision on behalf of a mentally incapacitated patient. The decision in Britain is made on the grounds of best interest, and that's a very difficult concept to be able to understand. It means that we have to put a lot of effort into finding out whether the individual has ever expressed a view about the particular situation that we are dealing with. That's usually unlikely when we're dealing with young people who have not made living wills or advance directives. The next stage is to try and find out whether there is

anything else in their lifestyle which might have had an impact on a similar decision making process. For instance, those people whose religious beliefs include not receiving blood would give some indication as to what are the levels of treatment they would require or be prepared to accept. The third level is that we would seek from the family their views about what the individual would have said if they had the mental capacity to do so. Although that is not a very reliable method - it's probably the best we have, but there is considerable research evidence to show that relatives are not always in tune with the wishes of an individual. This has been demonstrated for instance with cancer patients where when families are asked what their relative with cancer would want, they have come up with a different answer than the person who had the cancer. So, the same thing probably applies to people who are mentally incapacitated due to brain damage.

Dr. Zasler: Clearly the process you're describing sounds like a relatively labor-intensive process. My own experience, looking at not only what I have seen in the States, but also on a broader level internationally, is that in most cases that process doesn't occur and assumptions are made about capacity and when there's even the slightest inclination that someone's capacity is impaired, those rights are seemingly transferred to other individuals to make the decisions that you're referring to. So, I think the whole endeavor that you're advocating for is unique in terms of what my experiences have been, and I'm curious whether you would agree with that or whether you see this process as a common denominator in many other programs or in terms of talking with other clinicians from other programs internationally.

Dr. Andrews: I think you're right — that to a larger extent very few people will go through this process. That does not mean to say that we should not be going through this process. And, certainly in Europe, with the European laws on human rights, we are now having to take a process of protecting an individual by ensuring every effort is made to protect their rights of confidentiality, their rights of access to treatment, and their access to the decision making process. It is too easy for clinicians to be autocratic because it is quicker, but it is not necessarily acting in the best interest of the patient. And, in fact, to do so is probably an assault on the individual if we carry out things without their consent when they actually have the ability to consent if the information is presented in a simple enough way.

Dr. Zasler: One of the dilemmas that we as physicians in the United States face is that there's a combination of factors that I think creates a suboptimal environment for moving forward in the direction that you're advocating, part of that driven by lack of reimbursement for taking the time to do many of the things that you're advocating. At least what I have seen in the States is that if physicians aren't getting reimbursed, they tend not to take the time to make the effort, and that's unfortunate, but I think that's how our own system seemingly is working.

Dr. Andrews: Lack of time itself is not a good reason for overriding the rights of an individual. In fact, the amount of time it takes is not all that considerable once one knows the patient and has learned how to communicate. That is why we bring in the speech and language therapists, because they have the skills to get that information quicker in many ways than the physician. But, overall, no matter how much time and work it takes, the individual still has rights to be protected against unnecessary clinical activity, which they would otherwise not wish to accept if they were at mental capacity to have a more formal say.

Dr. Zasler: Let's move on to a different topic if we may, and that is the use of the phrase "Quality of Life." We see it in the literature, we talk about it in the context of clinical care with patients, with family members, and between fellow professionals. I often think there are multiple faces to quality of life, and I was curious what your current thoughts on that are, particularly as it relates to some of the ethical implications that quality of life determinations may take on in the context of research and the context of practical decision making in clinical care, etcetera.

Dr. Andrews: Quality of life is an interesting concept. It is not possible for anyone to say whether another person has a good "Quality of Life" or not. If I tell you that my quality of life is extremely poor, and you look at the way that I have a very good time touring the world and attending conferences and having good food and having a good house, etc., who is right if you say I have a good quality of life and I say I have a bad quality of life? At the end of the day, I am right, because only I can tell you what my quality of life is. The same actually goes for dignity. We talk about "giving dignity" or a patient does not have "a dignified existence". Dignity again depends on the personal views of the individual and the background from which they came, the culture and that person's philosophy. And, I think in many of

these situations, all we can do is have respect for an individual in the same context that we would not drag a dead body down a set of stairs with the head banging against the steps just because they could not be aware because we have respect for the individual — it has nothing to do with quality of life and it has nothing to do with dignity, it is because we have respect for that body or the person that was there. The same thing applies to people with mental incapacity, even in a vegetative state. We have to do things for them, which acknowledges this respect. The measurement of quality of life is also an issue often with the attempt to produce scales or scores, but at the end of the day the only true assessment of quality of life is whether somebody says they have a good quality of life or not. Recent research in our own unit into people with profound physical disabilities and often communication difficulties but who are mentally alert, shows that even those with disabilities which most of us would regard as creating a poor quality of life, many, if not most, regard themselves as having a good quality of life, not even an average quality of life, but a good quality of life. The major difference between those who regarded themselves as having a good quality of life and those with a bad quality of life was their ability to control their own lives, to control decision making. If I can make a decision about what I do, what I wear, what music I listen to, whether I go out for a meal or what food I have, even if I'm profoundly physically disabled and can't communicate, then that will give me the potential for a quality of life. If I have no control over those, then my quality of life becomes poor.

Dr. Zasler: The latter point that you mentioned, I think is both interesting and extremely important with regard to the implications that it has for how traditional rehabilitation occurs, which at least in my own view, and I think you share it without giving that patient the control that you're referring to, and the locus of control being with the providers and not with the patient and family. Tell us a little bit about your thoughts and experiences in terms of the polarity that that may bring relative to eventual outcomes with locus of control being with providers versus locus of control being a more shared or patient-oriented process.

Dr. Andrews: One of the definitions of rehabilitation is the planned withdrawal of support. And, in fact, much of the rehabilitation program, at least in theory, should move from the professional having the control to the individual gradually taking over that level of control. In fact, rehabilitation itself is a training module

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rather than a medical model, and under those circumstances it should theoretically be that the individual is taking over control because that is the purpose of rehabilitation. I think we would both agree that there are many, many units where that is not allowed to take place, and it is all held tightly within the control of the professional. I think one interesting paper from the Brazil conference was that by Lucio Braeger, who demonstrated that rehabilitation carried out by family who had been trained how to provide the rehabilitation program was actually more effective than rehabilitation programs carried out just by professionals. The need to involve families and individuals much more in their rehabilitation program and for them to have more control has been coming out more and more, in many of the presentations that we heard in this conference.

Dr. Zasler: Well, hopefully, some of that shared information will impact what we do when we go home to our own units and programs.

I want to thank Dr. Andrews for his time, expertise, and knowledge, and we'll sign off here. This interview was conducted at the IBIA Conference in Brazil.

Dr. Keith Andrews is the Director of Medical and Research Services, Royal Hospital for Neuro-disability, West Hill Putney, London, United Kingdom. E-Mail: kandrews@royal-neuro2.demon.co.uk **NTL**

Book Review, continued from page 5

full of useful guidelines and recommendations consistent with objective scientific practice. It should be considered required reading for all neuropsychologists.

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Martelli, M.F. (2000). Book Review of J.J. Sweet (ed.) *Forensic Neuropsychology: Fundamentals and Practice* (Exxton, PA: Swets & Zeitlinger, 1999). *Journal of Head Trauma Rehabilitation*, 15, 4, 1073-1075.

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International Conferences and Meetings

June - 2001

June 6 - 10 — 25th Annual Williamsburg Traumatic Brain Injury International Conference, Williamsburg, Virginia, USA. For more information, contact: Continuing Education Department, VA Commonwealth University (800) 413-2872.

June 17-21 — 17th World Congress of Neurology, London, England. Contact: WCN 2001, Concorde Services Limited by email: wcn@concorde-uk.com or phone (44) 0 181 743 3106.

July - 2001

July 7-13 — 1st World Congress of the International Society of Physical and Rehabilitation Medicine. Contact: Congress Secretariat Eurocongress Conference Management, Jan van Goyenkade II, 1075 HP Amsterdam, The Netherlands; email: eurocongres@rai.nl

July 28-31 — Brain Injury Association's 20th Annual Symposium, Sheraton Atlanta Hotel, Atlanta, Georgia, USA. For more information, contact: (703) 236-6000, or see BIA's website: www.biausa.org.

August - 2001

August 26-31 — Joint Meeting of the International Society of Neurochemistry (ISN) and American Society of Neurochemistry (ASN), Buenos Aires, Argentina. Contact: SA Moreno, Congresos Internacionales, Argentina by email: conginte@congresos.com.ar or fax 54-11-4331-0223.

September - 2001

September 9-14 — 23rd International Congress of Pediatrics, Beijing, China. Contact: Dept. Foreign Relations, Chinese Medical Association, Beijing by phone at +86-10-6525-0394 or fax +86-10-6512-3754.

September 13-16 — 4th Congress of the European Paediatric Neurology Congress, Baden-Baden, Germany. Contact: Prof. Dr. Dr.h.c. F Hanefeld, Georg-August-Universitat by email: hanefeld@med.uni-goettingen.de or phone +49-551 398035.

July - 2002

July 7-12 — 10th International Congress on Neuromuscular Diseases, Vancouver, Canada. Contact: Xth ICNMD Congress Secretariat, by email: congress@venuewest.com or telephone (604) 681-5226.

September - 2002

September, 20-25 — 9th International Child Neurology Congress, Beijing, China. Contact: Jiang Yu-Wu, M.D., Local Organizing Committee, Pediatrics, 1st Hosp., Beijing Med Univ by email: jiangyw@bj.col.com.cn or fax: (86010) 66176450.

October - 2002

October 26-29 — 6th Congress of the European Federation of Neurological Societies, Vienna, Austria. For information, contact: EFNS Head Office, NKH Rosenh, gel, Riedelgasse 5, A-1130, Vienna, Austria or email: headoffice@efns.org or phone + 43 1 880 00 270.