



INTERNATIONAL NEUROTRAUMA *Letter*

Volume 4, No. 4, 2002

An Interview with Michael Pietrzak, M.D., FACEP, Executive Director, International Brain Injury Association (IBIA)

Dr. Nathan Zasler: Dr. Pietrzak, thank you for agreeing to talk with us today. I wanted to inform the readers of the *International NeuroTrauma Letter (NTL)* as to where exactly the organization is currently and I felt that one of the best people to do that would be you, as the executive director. Can you give us an update as well as tell us a little bit about your background with the organization? What is your current role within the organization?

Pietrzak: Well, first of all, Nathan, I would like to thank you for the opportunity to be able to say a few words about the organization and appreciate all the work that you have done with *NTL* and getting the information out to our valued members. I was brought into IBIA a few years ago by Dr. George Zitnay, primarily to work on guidelines and a few other projects. Over a period of time, I became more and more involved in the management of the organization. Dr. Zitnay had asked me to develop some long range strategic plans for the organization for he and the board to consider. While I was working on that, the opportunity came up to move into the acting executive director position and I took that opportunity. Since then, we have moved along and, in fact, have developed a new charter for the organization. The organization voted on the new charter at the Board of Governor's Meeting in Italy, in May of 2001. The primary change in the charter is that a new "executive" board was constituted that has only 7 members, as opposed to 30-some members. The executive board has legal and financial responsibility for the organi-

zation and the board of governor's retains the content and academic responsibility for the organization. The other part that was changed in the structure is that the presidency became an elected position and the president represents the membership and the membership activities. The president forms the various committees that the organization has and the executive director maintains the executive operational responsibility for the organization. Both the president and the executive director report directly to the board. That is the primary difference in the charter. Now, the principal reason that this was done was for better day-to-day financial and operational accountability to the board of directors.

Zasler: As far as the current goals of the organization, has the new charter effectuated any practical changes?

Pietrzak: The goals of the organization have been evolving over a number of years and the new structure has allowed us more input from both the board of directors and the board of governors in how the organization develops it's goals. Therefore, it is no longer a decision of just a few people. The input comes from a number of areas. Ultimately, the strategic plan is something that is developed and approved by the board of directors. The changes that have occurred are largely due to input from the meeting in Torino and other board meetings. There has been a major shift from working on legislative efforts in the United States to moving out of what we could call "legislative affairs activities," and more into the realm of providing academic content type of activities in terms of meetings, science into practice and providing best practices both for practitioners and for survivors and family members.

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Zasler: As far as the educational goals of the organization, do you see, as part of the strategic plan, any potential for offering educational opportunities beyond the every-other-year meetings?

Pietrzak: I think, certainly, there are opportunities there. In fact, one of the things that we are working on right now is a distance learning project that our education division is developing under a grant that was provided last year, and so, there may be some opportunities for distance learning. We looked into the possibility of doing a joint conference with the Uniform Services University. However, that was not able to be funded for this year. We are actively partnering with other organizations to look at opportunities to jointly put on conferences. We are actually making efforts to look at a number of other educational activities, other than the every two year IBIA Congress.

Zasler: Can you inform readers of *NTL* what efforts have been made to try to maintain an international flavor to the organization?

Pietrzak: Well, that's something to which the board has paid significant attention. First, we are very concerned about the composition about the board of governor's that it be geographically balanced. We are actively trying to ensure that our World Congress is geographically distributed in a way that would encourage membership from the broadest range of countries. We are looking at our outreach activities and the countries and continents in which we do our outreach activities and trying to make sure that those are appropriately geographically distributed. In terms of composition of the board of directors, two members are citizens of the United States and the other five are from other countries.

Zasler: So there is nice international representation?

Pietrzak: Yes.

Zasler: Can you update us on upcoming meetings as it relates to, in particular, the plans for Stockholm next year?

Pietrzak: We are very excited that the upcoming 5th World Congress is in Stockholm in 2003, and a lot of work has already gone into that. We are partnering with the Karolinska Institute, the respected neurological center in Sweden, and the prospects look very exciting. The steering committee and the scientific committee have been active already and a number of speakers have already committed to going. Our sponsorship is lining up nicely, the time of year being

the end of May, when Stockholm should be beautiful. The setting is very pleasing and we think the activities surrounding the congress will make it one of the most attractive places that we have ever had a congress.

Zasler: It should be a memorable meeting. Dr. Pietrzak, for people who might be interested in participating in a more "hands-on" manner with the organization but who currently are not involved, any suggestions on your part in terms of how they might become more involved?

Pietrzak: Well, one of the best ways to get involved is through the members on the board of governors who are involved in various committees. To be involved in the committees of the organization, let's say either the academics committee or the awards committee, or ethics committee, you do not have to be a member of the board of governors, you would simply need to express your interest to the president of the organization, Dr. Claudio Perino, who constitutes those committees with the board of governors. That is where a lot of the so-called "action" in the organization takes place through committee work. We are also going to be doing some outreach activities in Afghani-

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stan, after hostilities cease over there, to help establish some sustainable model TBI programs in Afghanistan. We would be very pleased to have people who are interested in being volunteers for that particular activity.

Zasler: So it sounds like IBIA is working on a number of different fronts. What is going on currently, if anything, in the area of support to families?

Pietrzak: Well, in terms of direct support to families, it is primarily in terms of our outreach programs and, of course, the program that we plan for Afghanistan will be largely focused on providing support to families.

Zasler: Are there other projects oriented to work families, either in terms of education or other aspects, outside of the Afghanistan project?"

Pietrzak: Well, we certainly make it a focus of all of our outreach programs. If you look at the congress in Italy, we had a very large family participation in that particular congress. In Sweden, we are looking at even integrating more of the family activity throughout the congress, as opposed to a family day, so I think you will see that trend continue.


Zasler: Where do you see IBIA in 5 years?

Pietrzak: Hopefully in 5 years, we will be a larger organization than we are now— with representation from countries all over the world. We hope to have more educational activities and, at the same time, we also hope to have a very diversified financial base, where the membership gets high value for its membership dues. We hope the membership will be large enough that it will sustain the operations of the organization. Additional funding from a variety of sources such as grants, donations, and research projects could allow the organization to grow in many ways.

Zasler: It sounds exciting and I look forward to hearing more positive things in the years to come. I hope that your leadership continues, given my own personal experiences with your involvement with the organization. I want to thank you on behalf of the *International NeuroTrauma Letter's* readership for your time and for sharing with us some of the exciting developments in the organization. Any parting comments, Dr. Pietrzak?

Pietrzak: No, I just want to thank the membership for their participation in the organization. In fact, the membership is the biggest asset of this organization and the reason that we are able to accomplish the things that we do. Our membership is recognized as a one of the premier groups of professionals that

represent the highest expertise in the field, and it is something that other organizations look up to.

Zasler: Again, thank you for all your hard work and taking the time to talk to us. 

5th World Congress on Brain Injury Scheduled for May 2003 in Stockholm, Sweden


Dear *NTL* Readers:

It is my pleasure to give you an update on the 5th World Congress on Brain Injury to be held in Stockholm, Sweden, May 23-26, 2003. The scientific planning committee and conference organizers are very excited about this conference which will bring together international experts in the field of acquired brain injury. Some of the areas to be addressed at the meeting include a special symposium on acquired brain injuries in children and adolescents, specifically focusing on pediatric neuro-oncological issues as well as mild traumatic brain injury. Topics to be covered during the main conference include:

1. Stem cell and bioengineering advances.
2. Updates on epidemiology and primary prevention of ABI.
3. Progress in functional imaging and plasticity research.
4. New information on early rehabilitation and prediction of outcome after traumatic brain injury.

There will also be a session dedicated to pharmacologic and cognitive behavioral rehabilitation, as well as, a "best evidence analysis" from the WHO Collaborating Task Force on MTBI. We are also very excited about the planned workshops which will include, among other topics neurolysis for spasticity management, medicolegal issues, sports injuries, long-term support, computerized neuropsychological assessment, pediatric rehabilitation and practical aspects to insomnia evaluation and treatment. There will also be a family day on May 23, 2003, which will address the needs with persons with TBI and their families. We look forward to all the plenary and keynote presentations, as well as, the many excellent paper and poster presentations. We hope that all IBIA members, as well as, other interested clinicians, researchers, and individuals will join us for this exciting conference.

Nathan Zasler, M.D., FAAPM&R, FAADEP, CIME, DAAPM
Scientific Committee, Co-Chairperson
Editor, *NTL*

For more information on the Congress and abstract submission guidelines, visit:
www.internationalbrain.org. 

Absracts of Current Literature

LIFESTYLE RISKS FOR THREE DISEASE OUTCOMES IN SPINAL CORD INJURY. Davies D and McColl MA. *Clinical Rehabilitation* 16(1): 96-108, 2002.

In the past, research has primarily focused on descriptive accounts of lifestyle risks in the spinal cord injured (SCI) population, with limited attempts to define the relationships between morbidity and lifestyle risks. Consequently, little empirical evidence exists as a basis for lifestyle counseling and health promotion among individuals with SCI. Researchers undertook to examine the lifestyle risks of the top three causes of death among adults with SCI: cardiovascular, respiratory and urinary tract disorders.

Individuals who had incurred a SCI between 1972 and 1992 and not confirmed dead were mailed the questionnaire then followed-up by telephone interview. Cardiovascular morbidity was measured using the widely used London School of Hygiene Questionnaire on Chest Pain and Intermittent Claudication (LSH-QCPIC). Respiratory morbidity was assessed using the American Thoracic Society — Division of Lung Diseases (ATS - DLD) Questionnaire, designed to elicit information about chronic pulmonary morbidity and with demonstrated applicability in telephone interview studies. Due to the incidence of neurogenic bladder in the SCI population, urinary tract questionnaires used for general populations were inappropriate, therefore a urinary tract questionnaire was developed. Lifestyle risks were assessed using sections of McColl and Skinner's Lyndhurst Computerized Health Risk Assessment (LCHRA). These included physical activity, obesity, cigarette use, alcohol use and bladder management.

Ninety-seven participants responded to the questionnaires (out of 140). The questionnaires revealed 13.4% reported cardiovascular, 51.5% reported respiratory and 69.1% reported urinary tract morbidity. Logistic regression modeling, used a selection criterion of $p < 0.25$ and separate models for cardiovascular, respiratory and urinary tract morbidity

Researchers found age and duration of cigarette use were positively associated with cardiovascular morbidity. Risk of respiratory morbidity was positively associated with quadriplegia, number of cigarettes smoked in a day, and physical activity. Risk of urinary tract morbidity was negatively associated with monthly alcohol consumption, traumatic injury (possibly related to a lower postinjury time), and the interaction between alcohol consumption and a complete lesion.

Cigarette smoking proved to be the most damaging lifestyle behavior in the spinal cord-injured population.

It is clear that more research is needed examining chronic morbidity and lifestyle among individuals with SCIs.

FACTORS AFFECTING FUNCTIONAL OUTCOME IN PATIENTS WITH NONTRAUMATIC SPINAL CORD LESIONS AFTER INPATIENT REHABILITATION. van der Putten JJ, Stevenson VL, Playford ED and Thompson AJ. *Neurorehabilitation and Neural Repair* 15(2): 99-104, 2001.

Patients with nontraumatic spinal cord lesions (NTSCL) are a specialized group who are rarely addressed in outcome studies. This study sought to determine the factors predictive of their functional improvement in a rehabilitation program. Diagnostic groups included in this NTSCL study are those with: 1) space occupying lesions ($n=28$), that is, patients with either prolapsed intervertebral discs or tumors 2) spondylosis ($n=31$), those with degenerative spinal changes resulting in compression, 3) vascular lesions ($n=23$) including AV malformations and spinal infarctions, 4) inflammatory lesions ($n=11$) including patients with idiopathic transverse myelitis, tropical spastic paraparesis, sarcoid and other inflammatory processes, and 5) hereditary lesions ($n=7$).

The demographics of NTSCL patients are also different from traumatic SCI, being older with more female representation and different patient-related factors, such as mood and social situations not quantified in this study. Of the 100 patients included in this study, the population had a mean age on admission of 55 years (54% male) and a mean time between symptom onset and rehabilitation of 4.8 (range 0.1 - 32) years. Level of the lesion was cervical in 49%, upper thoracic in 21%, 22% in lower thoracic and lumbar, and was unknown in 8%. Multivariate analysis with transformation of FIM score and time between symptom onset and rehabilitation was used to identify predictors.

At the time of discharge, 45% of patients had improved neurologically during the rehab period (mean length of stay was 31.5 days. Functional improvements, measured by mean FIM motor change, were noted in four patient groups: • Space occ. = 14.0, • vascular = 16.4, • spondylosis = 17.7, and • inflammation = 24.4. Two factors accounted for 54% of the variance noted in the multivariate analysis: the admission FIM motor score and the time between symptom onset and rehabilitation.

It is not surprising that patients with a shorter time between onset of symptoms and rehabilitation had the largest functional gains. This pattern held true for those with chronic pathology with an acute decline, although

those with chronic diffuse pathology, such as those with hereditary spastic paraparesis, made very small functional gains (mean FIM change = 2.3). To summarize, neurologic recovery and a longer rehabilitation length of stay were associated with large functional improvements.

BRAIN DEATH WORLDWIDE: ACCEPTED FACT BUT NO GLOBAL CONSENSUS IN DIAGNOSTIC CRITERIA. Wijdicks EFM. *Neurology* 58(1): 20-25, 2002.

Brain death, or irreversible loss of whole brain function can be declared when "brainstem reflexes, motor responses, and respiratory drive are absent in a normothermic, non-drugged comatose patient with a known irreversible massive brain lesion and no contributing metabolic derangements." The criteria for brain death can differ by country or legal entity. This report presents the results of a survey of brain death guidelines throughout the world, noting relevant differences and countries without formal guidelines.

The author used a combination of PUBMED, the National Library of Medicine's search service, to identify published articles on brain death criteria from 1968 to 2000, and responses to a survey of international members of the American Academy of Neurology. Missing countries were completed by contacting international members listed in the *Congress of Neurologic Surgeons Directory*.

Major differences were found in the number of physicians required for a determination, their specialty preferences, level of experience and academic rank, and in recommendations and requirements for confirmatory tests. Fifty-five of 80 countries (69%) had official legal standards on organ donation in place. All recommended guidelines required strict definition of brainstem reflexes. However, the presence of apnea using a PCO₂ target value was recommended in only 59% of guidelines.

The author discusses unique criteria from various points of the globe. For instance, even though in the U.S. the Uniform Determination of Death Act in the United States mandates irreversible cessation of all functions of the entire brain and brainstem, in certain states this determination need not be done by a physician, but can be done by a registered nurse. At the other extreme, in Turkey, an organ harvesting law demands a cardiologist, a neurosurgeon, a neurologist, and an anesthesiologist to examine the patient followed by confirmatory testing, often requiring a combination of laboratory tests.

In the Middle East, while guidelines for brain death were approved by the Pan-Islamic Council on Jurisprudence in Jordan and later in Mecca (1988), official guidelines for brain death determination have not been drafted in many of these countries. In almost all African countries no legal provisions for organ transplantation exist. Mainland China, with one of the world's largest populations, has no legal criteria for the determination of brain death.

It is particularly interesting that the major differences are not so much in the acceptance of the concept of brain death, as many would think, but rather in the procedures physicians use to make the final diagnosis. Fairly uniform agreement exists on the neurologic examination with the exception of the apnea test. It is clear that worldwide standardization is needed.

PREDICTORS OF FUNCTIONAL DISABILITY AND MORTALITY AFTER STATUS EPILEPTICUS. Claassen J, Lokin JK, Fitzsimmons B-FM, et al. *Neurology* 58(1): 129-142, 2002.

Status epilepticus (SE), a series of rapidly repeated epileptic convulsions without a period of consciousness between them, is a potentially fatal condition seen in the emergency department. The researchers used multivariate analysis to identify independent risk factors for functional disability and mortality in a retrospectively studied cohort of patients admitted and treated for status epilepticus. Study populations included adult patients, 18 years and older, admitted to Columbia Presbyterian Medical Center with a diagnosis of status epilepticus, selected by ICD-9 codes from January 1994 to March 1998.

Criteria for a diagnosis of SE included continuous seizures for ≥ 10 minutes, or intermittent seizures without return of consciousness for ≥ 30 minutes. Using these criteria, 83 of 130 admissions for status epilepticus (74 patients) were confirmed (ages ranged from 21 to 97 yrs). Causes of SE included epilepsy-related, acute stroke, toxic-metabolic derangement, cerebral hypoxia, CNS infection, brain tumor, cerebral sarcoidosis, and traumatic brain injury. At the time SE was diagnosed, most patients (88%) had intermittent seizures; the remainder had continuous tonic seizures.

In 23% of nonfatal episodes of SE (16/69), functional outcome at discharge had deteriorated. Researchers identified 10 variables associated with functional disability in the univariate analysis: acute symptomatic seizures, epilepsy not identified as the primary cause of status

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epilepticus, global hypoxia-ischemia identified as the primary cause of status epilepticus, prolonged seizure duration, refractory status epilepticus, length of hospital or ICU stay, intubation, and two hospital complications (hypotension, anemia). Multiple logistic regression identified two independent predictors of functional disability: acute symptomatic seizures (odds ratio (OR) =3.9) and length of hospitalization (OR=1.04).

Twenty-one percent (14/85) of SE episodes were fatal. Researchers identified eight variables associated with mortality in the univariate analysis: older age, no prior diagnosis of epilepsy, acute symptomatic seizures, epilepsy not identified as the primary cause of status epilepticus, high APACHE II scores, and three hospital complications (hypotension, arrhythmia, and multi-organ failure). Multiple logistic regression analysis identified two independent predictors of mortality: increased age (OR=1.1, 95%CI, 1.0 to 1.1) and acute symptomatic seizures (OR=6.0).

INFLUENCE OF ApoE GENOTYPE ON CEREBRAL AMYLOID ANGIOPATHY AFTER CLOSED HEAD INJURY. Leclercq PD, Graham DI, Nicoll JA and Gentleman SM. *Neuropathology Applied Neurobiology* 28(2): 161-162, 2002.

Editor's note: The following is a review of an abstract of a presentation at the Proceedings of the 102nd Meeting of the British Neuropathological Society held in London, January 2002.

The epsilon4 ($\epsilon 4$) allele of the apolipoprotein E gene is a known genetic risk factor for Alzheimer's disease. It has also been linked to other brain disorders including traumatic brain injury, dementia pugilistica and stroke. The researchers investigated the pathology of a cohort of 88 patients following fatal closed head injury and confirmed the original qualitative findings made by Nicoll et al (*Nat Medicine* 1995). The present study was able to quantify the presence of amyloid-beta ($A\beta$) pathology in these individuals with TBI and determine that the amount of $A\beta$ pathology correlated with the $\epsilon 4$ gene dose.

A finding of perhaps greater significance was that the presence of cerebral amyloid angiopathy (CAA) was very strongly associated with the possession of the $\epsilon 4$ allele. Seven out of eight TBI cases with CAA were $\epsilon 4$ carriers and half of them were $\epsilon 4$ homozygotes.

The authors concluded that over the entire TBI cohort, $\epsilon 4$ carriers were 8.75 times more likely to develop CAA after their TBI than non- $\epsilon 4$ carriers.

HYPOMANIA INDUCED BY HERBAL AND PHARMACEUTICAL PSYCHOTROPIC MEDICINES FOLLOWING MILD TRAUMATIC BRAIN INJURY. Spinella M and Eaton LA. *Brain Injury* 16(4): 359-67, 2002.

Psychopharmacologic agents, such as selective serotonin re-uptake inhibitors (SSRIs), are frequently prescribed for individuals who experience depression following traumatic brain injury (TBI). Approximately 40% of the population in the United States uses complementary or alternative medicine, including herbal medicines. Many are considered safe and are purchased over the counter. However, alternative medicines can pose a serious risk when individuals, who are post-TBI or stroke, take psychopharmacologic agents and self-medicate with herbal medicines such as St. John's wort or Ginkgo biloba.

St. John's wort (*hypericum perforatum*) has gained popularity as an antidepressant. Although the exact mechanisms are unknown, the authors point to studies showing a combination of actions that increase monoamine activity. The authors discuss previous cases of hypomania reported in individuals post-TBI or post-stroke who took St. John's wort concurrently with prescription psychotropic medications. Ginkgo biloba is known for its potential for both cognitive and mood-altering effects. While ginkgo extract does contain some monoamine oxidase (MAO)-inhibiting constituents, these are generally not potent enough in oral doses. However, long-term treatment with ginkgo has been shown to alter monoamine receptors and reduce the production of glucocorticoids.

This report presents the case of a 42-year-old nurse (with no prior psychiatric history, drug or alcohol use) 17 months after sustaining a TBI. Neuropsychological evaluation performed 10 months post injury showed cognitive deficits, including impairments of memory, processing and executive function. Three months after the injury, she began to experience emotional difficulties. On seeing a psychiatrist, the patient presented as anxious, depressed, complaining of being "overwhelmed," having hypersomnia, increased appetite and weight gain. She was placed on fluoxetine (20 mg bid) and buspirone (15 mg bid).

However, a little more than two months later, she became hypomanic, noncompliant with assignments, appeared anxious, agitated and hyper verbal. She scored within the severe range for symptomatology on Beck's Anxiety Inventory. When asked, she revealed that she had been taking St. John's wort, Ginkgo biloba extract, and melatonin in addition to her prescribed medication. She was instructed to discontinue all non-prescription medications. Subsequently, her hypomania and anxiety diminished.

Considering the commonality of monoamine mechanisms between SSRIs and St John's wort, the risk for potentiation of antidepressant effects is possible. This case highlights the importance of giving patient and family education and guidelines regarding the use of herbal and over the counter medications.

PSYCHIATRIC ILLNESS AND SUBSEQUENT TRAUMATIC BRAIN INJURY: A CASE CONTROL STUDY.

Fann JR, Leonetti A, Jaff K, et al. *Journal of Neurology, Neurosurgery, and Psychiatry* 72(5): 615-620, 2002.

While known risk factors for sustaining a traumatic brain injury (TBI) include such factors as age 15-24 years, male sex, increased blood alcohol concentration, and lower socioeconomic status, it is uncertain whether psychiatric illness is a risk factor for subsequent TBI. Previous studies examined either small or select populations, a narrow range of psychopathology or did not specifically address TBI as an outcome.

This paper reports a large case-control study to determine whether markers of pre-existing psychiatric illness were risk factors for subsequent TBI among members of a large health maintenance organization (HMO). Data were derived from the HMO's computerized databases, covered 450,000 members, which maintain a continuum through employment/ re-employment. Ninety-five percent (95%) of all visit records contained recorded diagnoses. Psychiatric illness (in the year before the reference data) was determined by three separate criteria: 1) presence of a psychiatric diagnosis (using ICD-9-CM codes), 2) filling of a prescription for a psychiatric medication (antipsychotics, lithium or psychostimulants, antidepressants given within 60 days of a depression diagnosis, or anxiolytics within 60 days of an diagnosis of anxiety), or 3) utilization of a psychiatric service.

Patients with TBI included 1440 (of 2250) HMO members who had TBI diagnosed in 1993 and who had been enrolled in the HMO the previous year, when no TBI had been incurred.

Results showed an increased risk for patients: 1) with a psychiatric diagnosis the prior year (1.7), 2) who utilized psychiatric services (1.3), and 3) who filled a psychiatric medication prescription (1.6).

Complex causal pathways contribute to the increased risk found between psychiatric illness and TBI. Certainly, the use of antidepressants, anxiolytics and antipsychotics can contribute to an increased risk of motor vehicle collisions and falls. Motor impairment, dizziness and other factors such as agitation, depression, shakiness and fatigue can each contribute to events that can cause injury. Despite the limitations in this study, the results indicate that psychiatric illness appears to be associated with an increased risk for TBI.

NTL

Book Review

Matter of Mind: A Neurologist's View of Brain-Behavior Relationships

Kenneth M. Heilman, M.D.

Oxford University Press, 2002, 224 pgs.

ISBN 0-19-514490-2

Price: \$55.00

Those who work in the field of brain injury rehabilitation rarely speak of the "mind." Nevertheless, Kenneth Heilman, M.D., Distinguished Professor of Neurology and Program Director at the University of Florida School of Medicine, Gainesville, has titled his new work *Matter of Mind: A Neurologist's View of Brain-Behavior Relationships*. Dr. Heilman has spent nearly 40 years studying brain function by observing patients following their brain injuries and by using other approaches such as electrophysiological recording and functional imaging.

Heilman's introduction to *Matter of Mind* gives an interesting evolution of our science of brain structure and function from very early to contemporary views. Dr. Heilman has written this book as a very readable commentary on changes in human behavior due to acquired brain injuries and, thereby, enables the reader to better understand the functions of the brain.


Heilman divides the text into eight major functions or mental faculties: 1) language, 2) emotions, 3) attention, 4) self-awareness, 5) memory, 6) cognitive-motor skills, 7) sensory perception and recognition and 8) conation (drive) and intention. He uses each section to teach important principles, about diseases, syndromes, and specific types of brain damage and function by presenting glimpses of unforgettable patients with unique sequelae or behavior. His sections on language and emotions, two areas whose complexities confuse the best of scientists, are truly 'gifts.' Medical history buffs will especially appreciate that this text is peppered with a presentation of classic cases that have literally defined the field of neuropathology and neuropsychology.

Dr. Heilman has written this text so that little or no background knowledge is required to understand and enjoy it. So, whether the reader is an expert in brain pathophysiology or someone with simply a passing interest in human intellect, this book can be read and enjoyed. Heilman draws on a lifetime of interaction with patients who have had selective damage to their brains, such as the gentleman who had carbon monoxide poisoning who could not name, but could repeat everything said to him perfectly, whether he wanted to or not! Or the wife with

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right hemispheric cerebral damage who could understand speech and verbally communicate, but had totally lost the ability to perceive the emotional context of communication. Consequently, she could no longer sympathize or empathize with her spouse, a problem that almost led to their divorce.

Whether addressing pure word deafness, cortical blindness or the inability to recognize familiar faces, *Matter of Mind* helps to make one of the universe's unique masterpieces a bit more understandable. This book is highly recommended for professionals in the field of neurotrauma as well as family members who deal with behavioral differences on a daily basis. For neurology or neurosurgery residents and those preparing for a vocation in speech-language pathology, this text will definitely hold your attention.

Review by Linda L. Thoi, DrPH 

News You Can Use

Recent research may have discovered an important link to the regeneration of severed spinal cord tissue. The discoveries were described this spring in Orlando, Florida at the annual meeting of the American Chemical Society by Ronald L. Schnaar, professor of pharmacology and neuroscience at the Johns Hopkins University School of Medicine in Baltimore.

Schnaar and his colleagues discovered the interaction of two chemicals, *myelin-associated glycoproteins* (MAG) and *gangliosides*. When the myelin sheath covering the axon of nerve cells is damaged, these chemicals are released and bind together. Once bound, the chemicals prevent the regeneration of nerve cells such as the damaged nerve cells found in a severed spinal cord.

Neural cells are rich in the complex carbohydrates, gangliosides, found on the surface of the cell. Dr. Schnaar believes that cell-to-cell recognition is initiated when MAG binds to gangliosides on the cell surface. This is important in long-term maintenance of myelin, the essential insulation surrounding nerve cell axons. A similar breakdown in the maintenance of the myelin insulation surrounding the nerve axons is seen in diseases such as multiple sclerosis.

An important discovery occurred when Schnaar and colleagues prevented the two chemicals from bonding: injured nerve cells were observed sprouting new axons. Plans are underway to repeat these studies in animal model.

For more information, see visit the Johns Hopkins University Medical School website: www.jhu.edu/schnaar/.



International Conferences and Meetings

JANUARY - 2003

11 - 13 — 4th Tsukuba International Conference on Memory, Tsukuba, Japan. Contact: Nobuo Ohta, Univ. Of Tsukuba by e-mail: nobohta@human.tsukuba.ac.jp or visit their website: www.human.tsukuba.ac.jp/tic4.

17 - 19 — Headache Now, The Ritz-Carlton, Cancun, Mexico. Contact MR Bishop, Sr. Meeting Mgr., by phone at 856/423-3195 or fax at 856/423-0082.

23 - 25 — Clinical Trials in Neuroprotection: A Multidisciplinary Approach to New Strategies, Sonesta Beach Resort, Key Biscayne, FL. Sponsored by the Mahoney Institute of Neurological Sciences of the University of Pennsylvania. Contact R Locke at 215/898-8708 or M Dichter at 215/349-5166 or visit the website: www.savethebrain.org.

MARCH - 2003

22-25 — 8th Prague International Symposium of Child Neurology, Prague Czech Republic. For info, contact Conference Partners by phone at +420 2 2426 2110 or visit: www.conference.cz/childneurology.

29 - Apr 5 — 55th Annual Meeting of the American Academy of Neurology, Honolulu, Hawaii. For more details, visit the AAN website: [ww.aan.com](http://www.aan.com).

APRIL - 2003

9 - 12 — International Association of Forensic Mental Health Services, 3rd Annual Conference, Miami Beach, Florida. Contact T. Moropito by e-mail: info@iafmhs.org or visit their website: www.iafmhs.org

MAY - 2003

13 - 15 — 5th Annual Meeting for ASENT (American Society for Experimental Neurotherapeutics), Capital Hilton Hotel, Washington, D.C. Contact ASENT by phone 414/273-8290 or visit the website: www.asent.org.

18 - 22 — 2nd World Congress ISPRM Meeting, Prague, Czech Republic. For more information, visit: www.kenes.com/physical/tt.htm.

22 - 25 — VIII European Conference on Traumatic Stress, Berlin, Germany. For information, contact VIII ECOTS by phone at 49-30-300-66-90 or visit their website: www.estss.org.

23 - 26 — 5th World Congress on Brain Injury, Stockholm, Sweden. Sponsored by the International Brain Injury Association. For more information, visit the IBIA website: www.internationalbrain.org.

AUGUST - 2003

7 - 10 — 111th Annual Convention of the American Psychological Association, Toronto, Ontario, Canada. For more info, visit the website: www.apa.org.

30 - Sept 2 — 7th Congress of the European Federation of Neurological Sciences, Helsinki, Finland. (Abstract deadline: February 15, 2003). For information, visit website: www.kenes.com/efns2003/ or call Global Congress Organizers at +41 22 908 488.

JUNE -2004

23 - 26 — 5th World Stroke Congress, Vancouver, BC, Canada. Contact D Huber by phone at 416/386-0844 or visit the website: www.kenes.com/stroke2004.