

# Division of Clinical Neuropsychology Newsletter 40

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## President's Message

As President of Division 40, I have the pleasure and privilege of addressing the Division membership through this column. I would like to take advantage of that opportunity to tell you about some of the important initiatives that the Division is currently undertaking. I decided to do so because I think the Division leadership has not consistently informed the membership about all of the critical work that the Division does on their behalf. I am extremely proud of the efforts of the Division leadership, including our Executive Committee, Committee chairs, and their many members, who put in untold hours working on behalf of the profession of clinical neuropsychology. At the risk of sounding self-congratulatory, I believe we need to toot our own horn a bit more.

One initiative that the Division is undertaking is to re-examine its definition of a clinical neuropsychologist. The existing Division 40 "Definition of a Neuropsychologist" was first published in 1989 and has been reaffirmed by the Division leadership several times since then. However, in the ensuing 17 years, the science and practice of neuropsychology has shown dramatic change, which may not be reflected in the existing definition. To assist with this task, and in an effort to include as many viewpoints of its membership as possible, the Division has assembled a Task Force to study the issue. The Division is also working with APA Division Services and legal counsel to assure that any division definition satisfies applicable APA rules, including those adopted since 1989. Using an online survey, the Division has solicited professional and public comment to assist the Task Force in its consideration of whether an update to the Definition is warranted and whether approval by APA governance of any division definition is required. More information about the Task Force can be found on the Division 40 website at: <http://www.div40.org/def.html>. The Task Force has been asked to provide a report to the Executive Committee at its next meeting in February.

The Division is also participating in another initiative that focuses on education and training in clinical neuropsychology. More specifically, the leadership of the Division and that of the National Academy of Neuropsychology have engaged in discussions regarding the need for an Interorganizational Summit on Training and Education in Clinical Neuropsychology, the purpose of which would be to update,

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available on line at the Division 40 Archives

The URL address is:

<http://www.div40.org/newsletter.html>

From The Editor

The current issue of *Newsletter 40* introduces an interesting new format. I am very excited to now be able to include committee updates for the membership to enjoy. The inclusion of this section from this point forward should help keep members informed as to the most recent activities of each of our standing committees. In addition, each issue will continue to include one research piece as well as the ever-so-popular clinical corner! The current issue addresses two of today’s hot topics: functional near infrared spectroscopy – one of the newest neuroimaging tools - and the neuropsychological assessment of individuals with electrocution. These topics are of great interest to many of our members...so enjoy! As always, the winter-spring issue contains a message from our President. This Presidential message will certainly be appreciated by all of our members as it is sure to bring you up to date regarding some of the larger issues being faced by our profession and being confronted head-on by our leadership. I would like to thank all who have taken the time to contribute to this issue. We hope you enjoy this issue of *Newsletter 40* and look forward to seeing you at INS!

Nancy D. Chiaravalloti, PhD  
Editor

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## Clinical Corner

### A Case of Electrical Injury: Neuropsychological and Functional Imaging Considerations

Neil H. Pliskin, Ph.D., Alona Ramati, MS and John Sweeney, Ph.D.

#### Introduction

The evaluation and treatment of individuals who are survivors of trauma is an important component of the clinical practice of many neuropsychologists, with traumatic brain injury (TBI) being the most common form of trauma. Yet, a growing number of health care providers are being asked to evaluate and treat patients who have sustained trauma secondary to electrical shock injury (EI). Indeed, EI accounts for about 5000 injuries annually in the US, accounts for 5% of all occupational fatalities and is the second leading cause of fatality in the construction industry, which is why about 90% of EIs occur in males age 20-34.

Electrical injuries are most commonly caused by mechanical contact with an electricity source. While mechanisms of injury to peripheral nervous system exposure have been well established (Lee, 1997), the impact and pathway of electrical exposure into the central nervous system remains a subject of intense investigation and speculation. When electricity enters the body it can disrupt the electrical rhythms of the heart leading to cardiac arrest and anoxia. Still other injuries can occur in falls secondary to an EI, such as if an individual was on a ladder at the time of the electrical exposure. Finally, if physical circumstances dictate (i.e., the individual completes a circuit that causes them to be in the most direct pathway to the ground), electricity can arc over to an individual without there being direct mechanical contact. These arc injuries can also be accompanied by explosions as the air between the individual and the power source can become very superheated, leading to the eruption of an acoustic/vibratory blast. By whatever means, as electric current passes through the body it follows the path of least resistance, and is hypothesized to preferentially affect nerve tissue and blood vessels more so than skin, which has a higher resistance. As such, it is possible to see EI with little to no evidence of thermal injury or what are commonly thought of as entrance/exit wounds.

Although the clinical occurrence of EI is much less common than TBI, many clinical neuropsychologists appear to judge EI by similar parameters as they would a traumatic brain injury. That is, if there is no loss of consciousness or post-traumatic amnesia the injury is not viewed as real. The same could be said for the lack of presence of entrance or exit wounds. In our experience, however, the differences between these types of trauma can be quite dramatic. Neuropsychological deficits can and do occur following EI and can be hypothesized to reflect the effects of electrical exposure on brain functioning. Indeed, neuropsychological studies, including case reports, have indicated that electrical injury survivors often experience a broad range of neuropsychological complaints, although until recently objective neuropsychological changes had not been verified via controlled investigation. In a recent study by Pliskin et al (2006), EI patients performed significantly worse on composite measures of attention, mental speed and motor skills, which could not be explained by demographic differences, injury parameters, litigation status, or mood disturbance. Results from this and other recent studies suggest that cognitive changes can and do occur in patients suffering from electrical injury. Yet, important questions remain, such as where and how does electricity travel in the body? Moreover, to what extent can functional imaging of the brain provide further insights into the impact of electrical exposure has on central nervous system function?

The following case illustrates some of the challenges in the diagnosis and treatment of EI. The case comes from the annals of the Chicago Electrical Trauma program (ETP), a multidisciplinary group of investigators devoted to the evaluation and treatment of survivors of EI. The ETP is an interdisciplinary and

multi-institutional program comprised by a team of clinicians, epidemiologists, biologists, and engineers working towards a better understanding, improved diagnosis, and treatment of electrical injuries.

### Case Example

Mr. F is a 32 year old male who suffered an electrical injury in May 2003. He was digging a fence post using a one man auger in his backyard when he hit an underground electrical cable and short circuited a 7200 volt power line. Mr. F's recollection of the accident includes hearing a "pop" and being thrown 10-15 feet away. He landed on grass and cannot recall how he was thrown there. He is unsure if he lost consciousness.

When his wife returned home from work, she found him wandering around the yard in a confused state and shaking. His speech was incomprehensible and he was described as "talking gibberish". According to a neighbor, the power went out approx 20 minutes before his wife arrived home. Mr. F recalls having burning sensations in his hands and feet and was taken to the emergency room where blood studies were drawn demonstrating an elevated CPK and cardiac function was monitored. He was released the next day. He had not sustained entrance or exit wounds and his wife reported no evidence of thermal burns.

Since the accident, Mr. F noted a sharp decline in his stamina, being easily fatigued, increased sleep disturbance, persistent body soreness, and decreased upper body strength. Medical records indicated persistently elevated CPK (i.e., liver enzyme commonly associated with body trauma) levels (319 in June 2004, 193 in July 2004 and 182 in Aug 2004). Mr. F and his wife also noticed changes in his cognitive abilities, such as being forgetful (e.g., misplacing items), unclear thinking, concentration difficulty, stuttering, and not being able to complete sentences. Changes in personality and mood also occurred, including depression, mood lability, and having a "short-temper." Litigation was being pursued to cover medical expenses. Mr. and Mrs. F admitted to frustration about his medical care and a lack of understanding about his condition.

Mr. F was off work for 2 weeks as a technical supervisor for a cable company after the accident,

then returned to work full time, and was able to maintain his employment. He supervises a crew of 14 people and noted difficulty organizing his work. He did not perform very physical work except very occasionally and noted that he was exhausted afterward. Although his performance has been affected, his company has been accommodating to his fatigue issues.

Mr. F's past medical history was unremarkable as he reported a fractured finger as a child, and was otherwise healthy. He completed his high school education and reported having a happy childhood with no specific difficulties in school. He is married and lives with his wife and 2 children. Mr. F used to participate in many sporting activities including volleyball and softball leagues. He still does participate, but fatigues easily. He reported having one alcoholic drink per week, while use of illicit drugs and tobacco were denied.

### Other Clinical Studies

Mr. F underwent a *high-resolution MRI* of the brain using a standard 3T MRI protocol that demonstrated an unremarkable examination with normal brain perfusion and intact white matter tracts. An *occupational therapy evaluation* found that functional strength and sensation was within normal limits throughout the both upper extremities. However, *rehabilitation medicine* and *neurology* consultations detected periodic muscle twitching of the quadriceps muscles that were consistent with fasciculations. An *electromyography exam* was subsequently conducted and confirmed the abnormal fasciculations in the muscles of Mr. F's lower extremities. As a result, he underwent a muscle biopsy which showed some evidence of denervation (i.e., loss of nerve supply) in to the quadriceps muscles. Thus, despite the lack of any thermal injury, or entrance/exit wounds as part of his injury experience, Mr. F. had sustained nerve damage to his lower extremities. Finally, Mr. F. underwent a *neuropsychiatric evaluation* and was diagnosed with a mood disorder secondary to medical condition. Mr. F was treated with Wellbutrin, which both Mr. F and his wife agreed had helped to decrease his symptoms of depression and mood lability.

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## Functional Near-Infrared Spectroscopy: Shining light on an emerging neuroimaging technique.

Gerald T. Voelbel, Ph.D., & Glenn R. Wylie, Ph.D.

Functional neuroimaging techniques such as functional magnetic resonance imaging (fMRI), positron emission tomography (PET) magnetoencephalography (MEG) and functional near-infrared spectroscopy (fNIRS) allow neuroscientists and clinicians an *in vivo* view into the brain while simultaneously examining human behavior. The utility of fNIRS as a functional neuroimaging tool has increased recently with new advances in the technology. FNIRS is a non-invasive optical neuroimaging technique that utilizes near infrared wavelengths of light, between 700-1000 nanometers, which passes through the scalp, skull, meninges and neural tissue. The near infrared light is produced by a laser diode, which is emitted through fiber optical cables (optodes) and received by detector optodes. The light is partially absorbed by hemoglobin. The detector, which is placed near the source on the scalp, receives the light that is not absorbed by the blood in the neural tissue.

As a functional imaging instrument, fNIRS detects changes in blood volume (CBV), blood flow (CBF), oxyhemoglobin (oxy-Hb) and deoxyhemoglobin (deoxy-Hb) concentrations (Boas et al., 2002; Villringer and Chance, 1997). Oxy-Hb and deoxy-Hb are the dominant light absorbing elements in the brain within the near infrared range and are differentially absorbed by different wavelengths. The changes in concentration of oxy-Hb and deoxy-Hb are due to brain activity and the metabolic demands that occur during cognitive, motor, visual and other behavioral tasks. Changes in the amount of light reaching the detectors correspond to changes in light absorption in the brain region located between the light sources and detectors (Villringer et al., 1993).

The first known study of NIRS for the application of measuring neural activity occurred in the late 1970's (Jobsis, 1977). More recent studies have provided evidence that fNIRS is a sensitive instrument for the measurement of cerebral hemoglobin changes associated with working memory (Tsujiimoto et al., 2004), problem solving (Fallgatter & Strik, 1998), verbal fluency (Hermann et al., 2003; Hock et al., 1997; Matsuo et al., 2003; Matsuo et al., 2004; Toichi et al., 2004), attention (Toichi et al., 2004), motor function (Wolf et al., 2002), and face perception (Csibra et al., 2004). Comparison studies between fNIRS and fMRI have demonstrated spatial agreement between activation sites detected by the two imaging techniques (Benaron et al., 2000; Miyai et al., 2001), homologous time course of the activation signals (Kleinschmidt et al., 1996) and similar abilities to detect changes in hemoglobin concentrations (Kleinschmidt et al., 1996; Mahagnoul-Schipper et al., 2002; Toronov & Webb, 2001). It has even been suggested that fNIRS may be superior to fMRI in detecting the changes in hemoglobin concentration due to higher temporal resolution (Strangman et al., 2002).

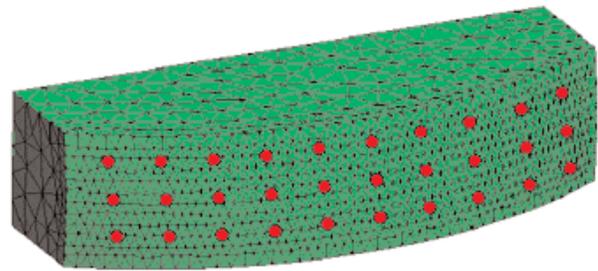
One of the benefits of using NIRS as a functional imaging technique is its low relative cost. The initial cost is approximately 10% of setting up an MRI scanner. Since fNIRS is a noninvasive functional neuroimaging method that is non-harmful to biological tissue, non-ionizing, and does not rely on nuclear medicine, NIRS scans can be repeatedly administered. FNIRS is also relatively insensitive to minor head movements, provided that the optodes maintain in contact with the scalp. In addition, persons receiving an fNIRS scan can be lying down or sitting up and hand and arm movements are not restricted (as they are in the bore of an fMRI scanner). This freedom to vocalize and to move the upper and lower extremities allows a greater range of cognitive tasks and paradigms to be administered. Such movement in an MRI scanner would create movement artifact, which could degrade the quality of the scans. Another benefit is that persons with ferromagnetic material in their bodies (such as shrapnel, pacemakers, or other metals), who are necessarily excluded from entering an MRI scanner, are now able to undergo functional neuroimaging with fNIRS because NIRS does not use magnetic fields.

fNIRS neuroimaging studies to date have primarily measured hemodynamic responses in healthy control groups. The use of fNIRS in clinical populations has been limited, but has been used with groups diagnosed with late onset depression, schizophrenia, and Alzheimer's disease (Hock et al., 1997; Fallgatter & Strik, 2000; Matsuo et al., 2005). These studies provide evidence that fNIRS measures hemodynamic responses due to neural responses in the cortical areas associated with cognitive performance in healthy control and clinical groups. Due to the lack of research with clinical populations, much work is still needed to understand the hemodynamic responses during various cognitive challenges in neurological and psychological disorders.

The advances in technology for fNIRS applications are growing at an enormous rate. These advances have made the fNIRS imaging system small enough to be a truly portable neuroimaging system. Some NIRS systems are so small that they are considered hand-held mobile neuroimaging devices, which have been developed to detect pooled blood in epidural, subdural, and intracerebral hematomas (InfraScan, Inc). From the smallest to the largest system, all are mobile and make it possible to perform neuroimaging scans on people that have difficulties getting to MRI and CT imaging centers. Specifically, fNIRS imaging systems allow for bedside functional neuroimaging. This is critical for people who are restricted to a bed, such as those in a coma or a minimally conscious state, those who are on oxygen or are attached to IV's, and those who have spinal cord injuries.

Besides the advances in the size and mobility of the NIRS neuroimaging systems, advances have also been made in image reconstruction methods. Image reconstruction techniques require overlapping measurements between multiple sources and detectors, and are based on algorithms that convert the data from the multiple source-detector pairs into an image. Figure 1 is an example of a model used to convert raw values of oxy- or deoxy-hemoglobin into a 3 dimensional block, and is used to reconstruct data from the frontal lobe (acquired over the forehead). The red dots are the locations of the optodes, each of which serves as both a source and a

detector. The co-located source and detector optodes are spaced one centimeter apart. The array shown in Figure 1 has 30 optodes. Therefore this array of optodes creates 900 source-detector pairs (30 sources x 30 detectors). Having multiple detectors around each source allows the algorithm to accurately reconstruct where greater and lesser absorption of the light occurred due to changes in the levels of oxygenated and deoxygenated hemoglobin.



**Figure 1.**  
**Three dimensional model of source-detector pairs.**

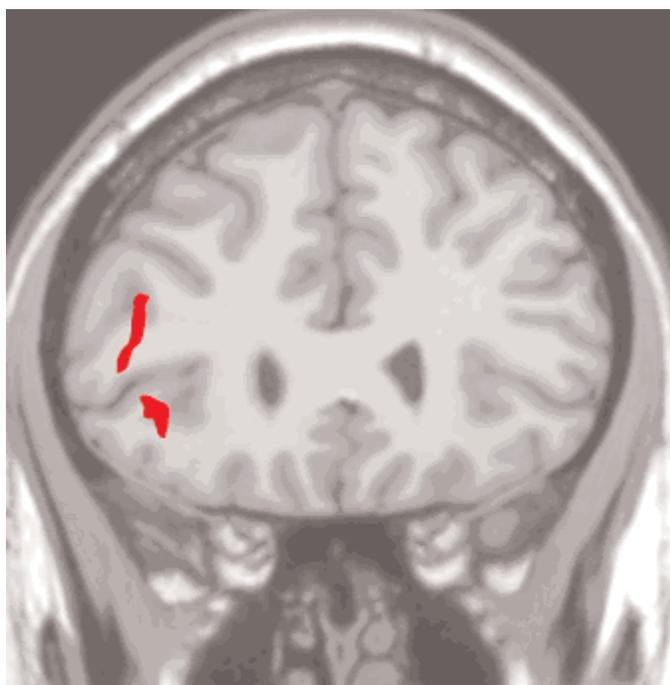


**Figure 2**  
**Frontal lobe activation during the N-Back test overlaid on top of an MRI image.**

One example of a reconstructed image demonstrating changes in oxyhemoglobin of the frontal lobe is shown in Figure 2 during the n-back task: a verbal working-memory task with multiple task loads. The n-back task used here had 4 conditions: 0-back, 1-back, 2-back and 3-back. During the 0-back condition the participant is told to tap the table when a specific target letter (e.g., n) is presented within a string of letters (e.g., c g o n r ...). In the 1-back condition, the participant is told to tap the table whenever the letter is the same as the letter “1-back” (e.g., c g o n r ...). This means when a letter is immediately repeated the participant needs to respond. In the 2-back condition, the participant is told to tap the table when the letter is the same as the letter that was presented two letters “back” (e.g., c g o r n r q ...). Finally, in the 3-back condition, the target letter is the one presented 3 letters previously (e.g., c g o r g n ...). Due to the varying amounts of information the participants need to maintain, the cognitive load also varies which produces differences in blood flow of oxy-Hb and deoxy-Hb within defined cerebral regions.

Figure 2 is an axial slice of the oxyhemoglobin image data overlaid on an MRI image. The red areas represent greater absorption of light, whereas the green and yellow areas represent lower levels of absorption. Hence the red areas show areas associated with an increase in oxygenated hemoglobin compared to a baseline period when no behavioral task was being performed.

Through converting the reconstructed oxyhemoglobin and deoxyhemoglobin data into images that can be read by fMRI analysis software (e.g., SPM and AFNI) we are able to apply the relatively mature statistical methods developed for fMRI to this emerging technique. This allows us to statistically test whether there are differences in oxygenated blood concentration between conditions, and to correct for performing multiple statistical tests. Figure 3 shows areas in the frontal lobe that required more oxygenated hemoglobin during the 1-back condition, relative to the 0-back condition. The areas in red are statistical maps that represent a significantly greater level of activation in the 1-back condition than the 0-back condition.



**Figure 3.**  
**Greater bilateral frontal lobe activation during the 1-Back than the 0-Back tasks.**

fNIRS is still in the validation stage of development. Yet, significant advances in fNIRS technology have been achieved including the ability to detect both oxyhemoglobin and deoxyhemoglobin simultaneously, as well as the ability to convert fNIRS data into images that can be readily viewed and easily analyzed. These accomplishments make the fNIRS systems much more readily available for turn-key commercial use. Combining such characteristics with the additional advantages of fNIRS, such as mobility and relatively low cost may make it a widely used clinical tool of the future. Potential future applications include the possible detection of neurological disorders prior to the manifestation of a behavioral disorder (e.g., dementia), the possible disentanglement of cognitive disorders with a neurogenesis compared to a psychogenesis etiology, and the quantification of the severity of acquired brain injuries (e.g., stroke or traumatic brain injury).

There are endless possibilities for a mobile functional neuroimaging tool, such as fNIRS, for clinical research and clinical applications. In the Division 40 position paper on the clinical use of fMRI (APA Division 40 Executive Committee,

2004), it was pointed out that probably no professional group other than Neuropsychologists have the training and expertise to understand and realize the application of functional neuroimaging as a diagnostic tool for neurological and psychological disorders, or as an instrument to monitor changes in cerebral domains associated with cognitive rehabilitation or everyday activities. The mobility, low cost, and ability to non-invasively monitor cortical activity for long periods of time may make fNIRS neuroimaging systems ideal for clinical neuropsychologists to utilize as a functional assessment instrument in clinical populations.

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**President's Message**

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expand, and refine the Houston Conference policy statement. At this time, we have decided that additional data are needed to make an informed decision as to whether a summit is warranted. Input is needed from individual practitioners, professional organizations that are responsible for the training and education of neuropsychologists, and recently-graduated psychologists, many of whom were trained according to the Houston Conference guidelines. NAN and Division 40 therefore have invited representatives from various professional organizations within clinical neuropsychology to form a steering committee that will oversee the creation of a survey to be sent to the various stakeholders and constituencies that are involved in the training and education of neuropsychologists. Based on the results of the survey, decisions can be made whether and how to proceed with an Interorganizational Summit. The following groups have agreed to appoint representatives to the steering committee:

- American Academy of Clinical Neuropsychology
- American Board of Clinical Neuropsychology
- American Board of Professional Neuropsychology
- Association for Doctoral Education in Clinical Neuropsychology
- Association for Internship Training in Clinical Neuropsychology
- Association of Postdoctoral Programs in Clinical Neuropsychology
- Coalition of Clinical Practitioners in Neuropsychology
- Division of Clinical Neuropsychology (Div 40), American Psychological Association
- National Academy of Neuropsychology

Because NAN and Division 40 represent the largest number of clinical neuropsychologists among the groups invited, they will appoint two representatives each, resulting in a steering committee comprised of 11 members. The steering committee is expected to hold its first meeting in

February, during the meeting of the International Neuropsychological Society. I hope that the Division 40 membership will support this important effort on behalf of the profession.

Finally, I want to mention the efforts being made by the Division to address recent concerns about the implementation of the new CPT codes for psychological and neuropsychological testing. The Center for Medicare and Medicaid Services (CMS) has recently issued a bulletin regarding the codes that has problematic implications for clinical neuropsychologists who use technicians in their practices or who are involved in training students, interns, and postdoctoral residents

(<http://www.cms.hhs.gov/MLN MattersArticles/downloads/M5204.pdf>). The CMS bulletin effectively prohibits the CPT codes used to capture a psychologist's or neuropsychologist's time from being billed together with technician or computerized testing CPT codes for the performance or interpretation of the same test. The bulletin also prohibits payments for services represented by the technician CPT codes when performed by a student or a trainee. The Division, particularly its Practice Advisory Committee, is working hard with the APA Practice Directorate to mount an aggressive response to these rulings, which could have a very adverse effect on our practices and training programs (see [http://www.div40.org/Committee\\_Activities\\_Pages/Advisory\\_Committee/Practice/NCCI\\_CMS\\_Testing\\_Alert.pdf](http://www.div40.org/Committee_Activities_Pages/Advisory_Committee/Practice/NCCI_CMS_Testing_Alert.pdf)).

I believe these developments represent both the tremendous growth of our profession, but also the potential threats to its continuing success. The re-examination of the Division's definition of a clinical neuropsychologist and participation on a steering committee to consider the need for an Interorganizational Summit on Training and Education in Clinical Neuropsychology reflect the exciting advances that have occurred in the science and practice of clinical neuropsychology over the past decade. On the other hand, the recent CMS rulings have the potential to drastically and negatively alter the face of practice and training in clinical neuropsychology. I would like to assure the Division membership that its leadership will continue to promote our profession while remaining

vigilant to external threats that could jeopardize its growth. For more information, I urge you to visit the *Practitioner's Corner* recently created on the Division 40 website for the latest updates on practice issues and federal advocacy

([http://www.div40.org/Committee\\_Activities\\_Pages/Advisory\\_Committee/prac\\_corner.htm](http://www.div40.org/Committee_Activities_Pages/Advisory_Committee/prac_corner.htm)). To be most effective, though, the Division leadership needs your help. I would like to echo my recent predecessor as President, Rus Bauer, by encouraging "...a renewed commitment on the part of all neuropsychologists to become vocal advocates for issues that affect the Division 40 membership family." We will only succeed if we all act as active, informed, and vocal proponents for our profession. I look forward to working along with you.

Keith Yeates, Ph.D., ABPP/CN  
President, Division 40, APA

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**Neuropsychological Evaluation**

As part of his Electrical Trauma Program evaluation workup, Mr. F was referred for an evaluation of current neuropsychological functioning due to his complaints of forgetfulness and thinking difficulty, depression, and emotional lability. His test results are presented in Table 1 below:

**Table 1: Mr. F’s Neuropsychological Test Score**

<b>Domain</b>	<b>Score</b>
<b>Effort</b>	
<b>Raw</b>	
TOMM Trial 1	49/50 Valid
TOMM Trial 2	50/50 Valid
VSVT # Easy	24/24 Valid
VSVT # Hard	23/24 Valid
<b>Global Intellectual (WAIS-III)</b>	
<b>Standard Score</b>	
Full Scale IQ	89
Verbal IQ	84
Performance IQ	97
Verbal Comprehension Index	80
Perceptual Operations Index	105
Working Memory Index	88
Processing Speed Index	103
<b>Estimated Premorbid IQ</b>	
<b>Standard Score</b>	
WTAR Reading	84
WRAT-III Reading	82
<b>Academic Achievement</b>	
<b>Standard Score</b>	
WRAT-III Arithmetic	81
<b>Verbal Memory Immediate Recall</b>	
<b>Z Score</b>	
CVLT-II Trial 1	-.5
CVLT-II Trial 5	.5
CVLT-II Total (trials 1-5)	52 (T score)
CVLT-II Free Recall Short Delay	.5
CVLT-II Cued Recall Short Delay	0
WMS-III Logical Memory I	9 (scaled score)
<b>Verbal Memory Delayed Recall</b>	
<b>Z Score</b>	
CVLT-II Free Delayed Recall	.5
CVLT-II Cued Delayed Recall	0
Yes/No Recognition True Positives	-1
Yes/No Recognition False Positives	-.5
Discrimination	0
WMS-III Logical Memory II	11
<b>Visual Learning and Immediate</b>	
<b>T Score</b>	
BVMT-R Trial 1	41
BVMT-R Trial 3	46
BVMT-R Total (trials 1-3)	44
WMS-III Visual Reproduction I	9 (scaled score)
<b>Delayed Visual Memory</b>	
<b>T Score</b>	
BVMT-R Delayed	49
WMS-III Visual Reproduction II	10

<b>Attention and Mental Speed</b>	<b>T Score</b>
Stroop Word	32
Stroop Color	39
Stroop Color-Word	39
Stroop Interference	50
Trails A	53
Trails B	35
CPT-II Omissions	41
CPT-II Commissions	38
Gordon Vigilance Hits	-1.34 (Z score)
Gordon Vigilance Commissions	.18 (Z score)
Gordon Vigilance RT	.54 (Z score)
Gordon Distractibility Hits	.56 (Z score)
Gordon Distractibility Commissions	-.68 (Z score)
Gordon Distractibility RT	-.32
<b>Executive Functions</b>	
<b>T Score</b>	
WCST % Errors	33
WCST % Preservative Responses	37
WCST % Preservative Errors	36
WCST % Conceptual Level Responses	32
TOL Moves	102
TOL Correct	96
TOL Rule Violations	104
TOL Total Time	102
<b>Motor</b>	
<b>T Score</b>	
Grip Strength Dominant Hand	36
Grip Strength Nondominant Hand	41
Grooved Pegboard Dominant Hand	33
Grooved Pegboard Nondominant	41
<b>Emotional/Personality</b>	
<b>T Score</b>	
BDI-II	24 (raw) moderate depression
MMPI-II F	48
MMPI-II L	52
MMPI-II K	60
MMPI-II HS	84
MMPI-II D	89
MMPI-II HY	91
MMPI-II PD	69
MMPI-II MF	44
MMPI-II PA	42
MMPI-II PT	98
MMPI-II SC	82
MMPI-II MA	41
MMPI-II SI	75

**Summary of Neuropsychological Test Findings**

Test findings indicated that Mr. F is a man of low average premorbid intelligence, with stronger nonverbal abilities than verbal abilities, a likely longstanding pattern for him. He evidenced low average sight reading ability and mildly impaired arithmetic skills. Mr. F’s verbal and visual learning and memory was average, though he experienced difficulty in the subsequent recognition of the learned visual information. Simple attention was intact while sustained attention was in the low

average range. Divided attention, set shifting, and cognitive flexibility, however was mildly impaired. Higher-order problem solving and abstract reasoning abilities remained generally intact. A weakness was consistently demonstrated in Mr. F's dominant hand on motor tasks. Self-report measures and clinical interview indicated that Mr. F was experiencing emotional distress related to his electrical injury, including depression, mood lability, intense fatigue, health concerns and social isolation. He endorsed an avoidant coping style for dealing with his difficulties and other features suggestive of possible Post-Traumatic Stress Disorder.

Mr. F. demonstrated the types of cognitive changes observed in many EI patients. That is, he demonstrated subtle deficits in divided attention, mental slowing, shifting cognitive set and cognitive flexibility that could not be attributed to a lack of effort or interference from emotional disturbances or obvious fatigue given that other equally challenging tasks were completed successfully during the course of the single day evaluation. Unlike TBI, this EI patient, like many others, did not manifest a primary impairment in learning or memory. The problem remains, however, that neuropsychological testing alone has not proven to be informative in addressing the issue of underlying basis for these cognitive changes. Thus, the question remains how to best "image" the hypothesized changes in brain function that neuropsychological assessment appears to reflect. This has led us to develop a functional neuroimaging protocol that was applied to this patient and is described below.

### **Functional Neuroimaging Evaluation**

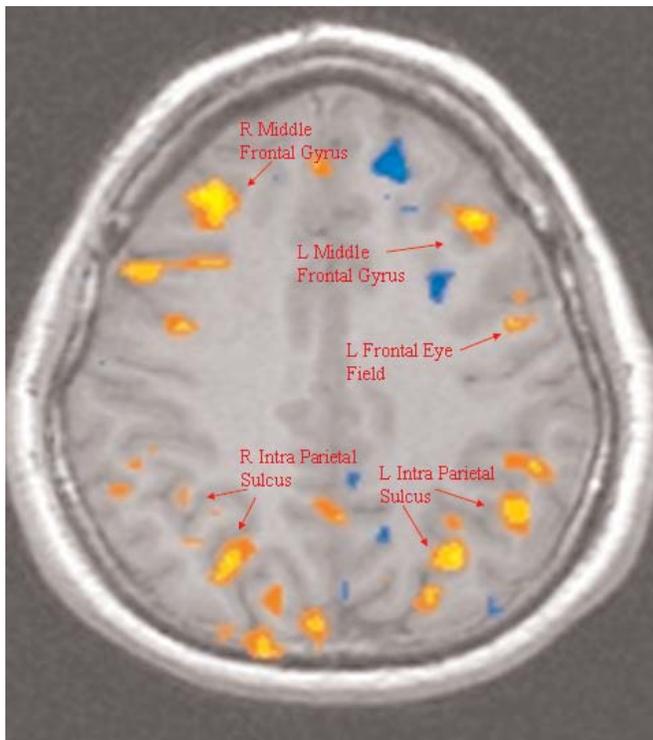
In order to investigate the functional integrity of neural substrates supporting cognitive abilities, we administered two oculomotor cognitive activation tasks during a functional MRI scan. The tasks used were a memory-guided saccade task, tapping into the neurocircuitry underlying spatial working memory (Sweeney et al., 1996), and a predictive-saccades task, tapping into the neural network involved in implicit learning (Simo et al., 2005).

Cognitive paradigms using oculomotor tasks have been shown to robustly elicit brain activation in multiple brain regions simultaneously. As such, they

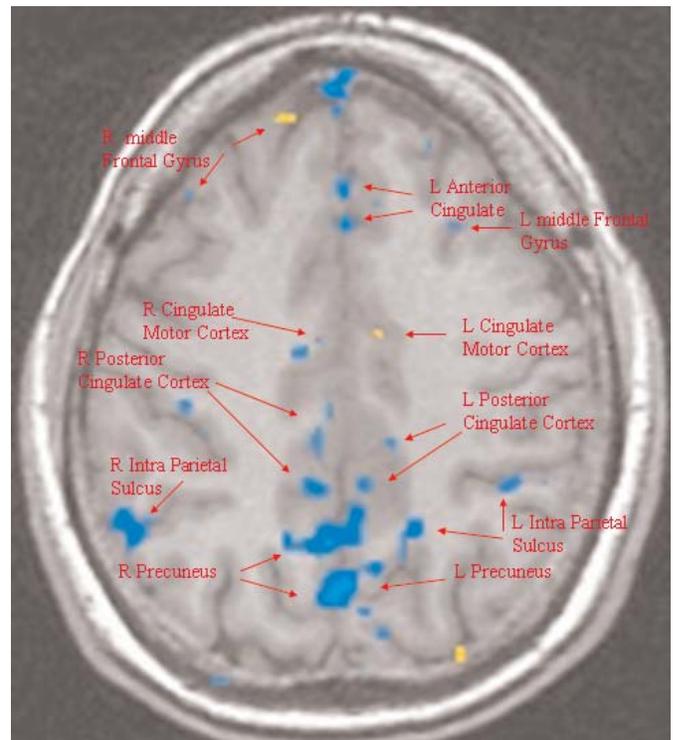
provide useful, noninvasive tools to assess the functional integrity of widely distributed neural networks. In the spatial working memory task, subjects were asked to covertly attend to and learn the location of a briefly presented peripheral target stimulus, while maintaining their fixation onto a central cue. When the fixation cue was extinguished, subjects were asked to immediately direct their gaze to the remembered location of the peripheral target stimulus based on their memory of the target location prior to the delay period. Thus, this is a delayed response task in which subjects need to maintain a cued spatial location in working memory over time. In the implicit learning task, subjects were asked to direct their gaze onto a target that alternated between two locations in a fixed, predictable manner, but it was left up to the subject to learn that the stimulus presentation is predictable and utilize this implicitly learned information to guide their saccades more quickly to targets.

Using the subtraction method, patterns of activation on each task were compared to those obtained during a simple sensory processing task, in order to isolate the specific neural networks involved in spatial working memory and implicit learning. Mr. F's activation maps compared to a demographically matched control subject are presented in Figures 1-4 below.

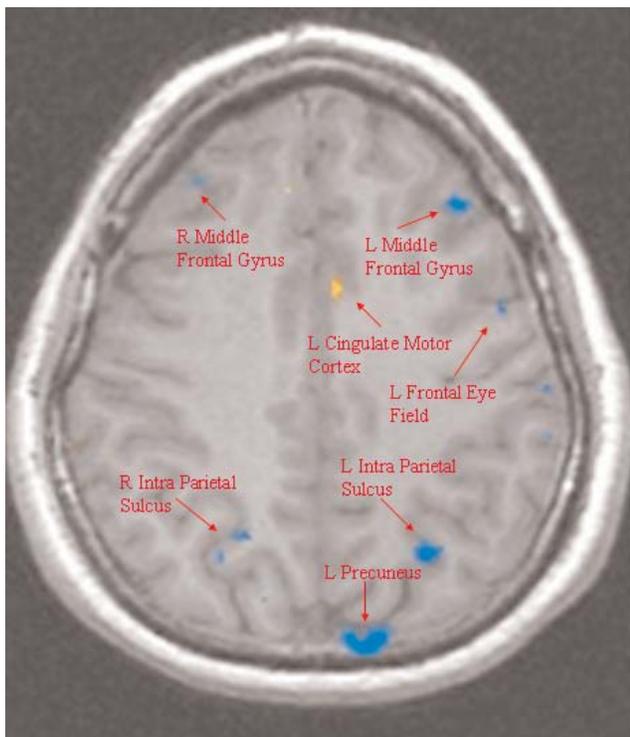
The findings demonstrate different patterns of brain activation on both tasks between Mr. F and a demographically-matched control subject. Specifically, during the spatial working memory task, Mr. F exhibited increased activation in prefrontal cortices including bilateral middle frontal gyri, and left frontal eye fields, as well as increased activation in posterior cortices relevant to sensory processing including bilateral intra-parietal sulci (Figure 1). Conversely, during the spatial working memory task, the control subject exhibited a much more concise pattern of activation with a small cluster of increased activation in the right middle frontal gyrus (Figure 2). An opposite pattern of findings emerged from the implicit learning task. During this task, Mr. F demonstrated a small cluster of increased activation in the left cingulate motor cortex (Figure 3), while the control subject exhibited a widely distributed network of activation in



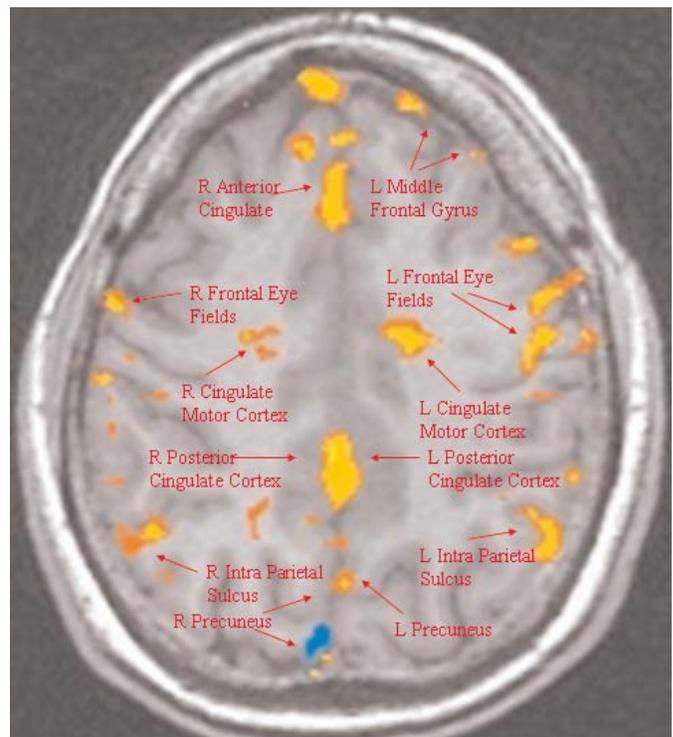
**Figure 1:**  
EI Subject Working Memory Task



**Figure 2:**  
Control Subject Working Memory Task



**Figure 3:**  
EI Subject Implicit Learning Task



**Figure 4:**  
Control Subject Implicit Learning Task

**Yellow = increased activity during the spatial working memory task**  
**Blue = increased activity during the simple sensory processing task**

multiple brain regions including the left middle frontal gyrus, bilateral frontal eye fields, bilateral cingulate cortices and bilateral posterior cortices (Figure 4).

These findings suggest system-level, task-dependent differences in activation between Mr. F and the demographically matched control subject. These effects are similar to those we have observed in a larger sample of patients. The differences in activation during the spatial working memory task may reflect a “spill over” effect or compensatory mechanisms, in such that Mr. F requires more brain resources in order to perform the task. Indeed, many of our EI patients complain that this issue isn’t that they cannot concentrate, but rather they must expend much more energy to do so. On the implicit learning task, the findings may indicate a failure to engage in or initiate neural networks involved in implicit learning of the predictable target movement sequence. The dissociation between the two tasks (i.e., overactivation on the working memory task and underactivation on the implicit learning task) effectively rule out the general effects of medication or psychiatric symptomatology as the primary bases for these findings.

Efforts to further elucidate the manner in which electrical injury alters brain functioning continue, and clearly these findings are those of one subject. The ETP is in the process of conducting a large scale fMRI investigation into the effects of EI on brain functioning in a large sample of electrical injury patients and a demographically-matched control group. We hope that the findings will contribute to existing literature by clarifying the neurocognitive sequelae of electrical injury and the extent to which they reflect alterations in central nervous system function.

### **Final Comments and Future Directions**

The neuropathological mechanism mediating electrical exposure and the observed neuropsychological dysfunction is not yet clear. In order to improve current clinical care of EI patients and advance our knowledge regarding the effects of electrical exposure on brain integrity, it will be important to clarify the source of the observed neuropsychological dysfunction following EI.

Neuropsychological abnormalities in the areas of attention and mental processing speed develop in some EI patients, and in the present case of Mr. F, we identified functional differences in his neural activation during spatial working memory and implicit learning oculomotor tasks compared to a matched, healthy control. However, at this point, it remains to be conclusively shown in a larger group of EI patients that observed neuropsychological dysfunction is the result of current-induced brain changes in neuronal substrates subserving cognitive abilities. Nevertheless, in the case of Mr. F., he had nerve damage to his legs with no obvious entrance/exit wounds. He experienced neuropsychiatric changes despite no prior psychiatric history, and his pre-accident medical history was unremarkable. He passed all symptom validity testing and evidenced neuropsychological changes without any obvious loss of consciousness. Cases such as Mr. F. highlight the fact that EI is not synonymous with TBI, and should not be judged clinically by the same standards.

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## Division 40 Committee Reports

### Science Advisory Committee (SAC)

**Chair: John A. Lucas, Ph.D.**

The Science Advisory Committee (SAC) facilitates the scientific mission of Division 40 (Div40) by communicating and promoting the integration of scientific goals within the Division, within APA, and across professions. Specific goals of the SAC include promoting the study and application of knowledge regarding brain-behavior relationships, advocating for the recognition of Div40 as a science division of APA, recognizing and encouraging student research in neuropsychology, and addressing scientific issues raised by the membership.

#### Interface with APA

Over the past several months, the SAC has provided commentary to APA on a draft guide to future research priorities authored by the Centers for Disease Control, and on the training needs of professionals working with oncology patients. Dr. Mark Kelly of Walter Reed Army Medical Center was appointed to represent Div40 on an Interdivisional Grants Project Proposal entitled "Psychological Care of Returning Military Service Members from Operation Enduring Freedom and Operation Iraqi Freedom". If funded, this grant will support development of a pre-convention continuing education workshop and two state-of-the-art symposia at the 2007 APA Convention in San Francisco. Dr. Bonny Forrest has been appointed the SAC liaison to the APA Board of Scientific Affairs (BSA) and will represent Div40's interests at these meetings.

#### The SAC at INS

Be sure to mark your calendars for two SAC activities planned for the upcoming INS conference in February 2007 in Portland, OR.

1) Open Meeting of the Transdisciplinary Research Subcommittee. In February 2006, the SAC created the Transdisciplinary (TD) Research subcommittee to examine the growing role of neuropsychology in cross-cutting research. Dr.

Liza Kozora, chair of the TD subcommittee, will hold an open TD subcommittee meeting to discuss the Transdisciplinary Future of Neuropsychology. Div40 members who are interested in learning more about the nature and importance of TD research, as well as its challenges, are welcome to attend this open meeting. NIH program directors will be available to answer questions about funding opportunities and strategies for TD research. This meeting will take place on Friday, February 9, from 8-9am. Room location TBA. For more information, please contact Liza Kozora at [KozoraE@njc.org](mailto:KozoraE@njc.org).

2) Advocacy Training. Under the direction of Dr. Bonny Forrest, the SAC is embarking on an ambitious new project to educate legislators and policy makers about the role of neuropsychologists in science, and how our research may be utilized to inform important legislative decisions. Over the coming months, the SAC plans to assemble a database of the science membership willing to serve in policy positions, testify, and/or speak with local, state or federal officials on topics related to their work. As part of these efforts, the SAC and representatives from the APA Science Directorate will conduct a free Advocacy Training workshop for interested members at the INS meeting on Wednesday, February 8th, from 8-12. Room location TBA. For more information, please contact Bonny Forrest, at [bonforrest@aol.com](mailto:bonforrest@aol.com).

## Division 40 Committee Reports

### **Public Interest Advisory Committee (PIAC)**

**Chair: Doug Johnson-Greene, Ph.D.**

It has been a busy year in PIAC thanks to the hard work of our subcommittee chairs and members, liaisons, and monitors. There have been several personnel changes within PIAC as members and chairs completed their terms in August following the APA conference in New Orleans. Drs. Monica Rivera-Mindt and Tony Wong end their terms as co-chairs of the Ethnic Minority Affairs Committee (EMA) in August 2006 and that subcommittee is now chaired by Dr. Desiree Byrd. Dr. Cynthia Kubu ended her term as chair of the Women in Neuropsychology subcommittee (WIN) and the committee is now chaired by Dr. Cheryl Luis. Other members ending their term of service as a committee member, liaison, monitor, or advisor include: 1) EMA: Desiree Byrd, Ph.D., 2) WIN: Jill Fischer, Ph.D. and Paula Shear, Ph.D., 3) Ethics Committee: Steve Macchiocchi, Ph.D., 4) Bernice Marcopulos, Ph.D., liaison to APA Committee on Rural Health (RH), 5) Deborah Cahn-Weiner, Ph.D. Monitor, APA Committee on Aging (COA), and 6) Jovier Evans, Ph.D. PIAC Advisor. We are grateful to these colleagues who have given so generously to the division their time and leadership. Division 40 members who are interested in any of these committees or posts are encouraged to contact the PIAC Chair. Other recent highlights for PIAC include the following:

- PIAC had excellent representation at the APA spring consolidated meetings with five liaisons attending the three-day conference in Washington D.C. with their respective committees on behalf of division 40. Way to go PIAC!!
- PIAC is in the process of translating our Clinical Psychology and Pediatric Neuropsychology brochures into Spanish and they should be available shortly as a PDF via the division 40 website.

- PIAC subcommittees were very active at the APA conference in New Orleans in August. WIN hosted two events, a seminar titled “Keeping Active in Research (Even When It Seems Impossible),” and a discussion hour on developing and maintaining a productive research career. Following their successful mentoring event at INS 2006, the EMA hosted another ethnic minority mentoring breakfast, this time in conjunction with our colleagues in Division 22. The event was partially funded by an APA Interdivisional grant awarded to the EMA. All events were well attended and we are thankful to the committees for their continued efforts to be responsive to the division members through their offering of these events.

### **Program Committee**

**Chair: Julie A. Bobholz, Ph.D.**

APA 2007 will be held in San Francisco, California and the deadline for proposals ended December 1<sup>st</sup>, 2006. While APA is clearly a large meeting and to some may seem overwhelming, the Division 40 program has been quite impressive over the past few years, as leaders in our field have presented cutting edge science. We continue to move with this tradition in 2007, so if you have been hesitant to attend APA in the past, consider attending this upcoming year! Unlike previous years, the meeting will be held over a weekend, Friday-Saturday-Sunday-Monday (August 17-20, 2007) and this may be more accommodating to work schedules. For details regarding the annual meeting, please go to [www.apa.org](http://www.apa.org).

## Division 40 Committee Reports

### **Education Advisory Committee (EAC)**

**Chair: Douglas Ris, Ph.D.**

The EAC is comprised of representatives from major training organizations at all levels and meets at both APA and INS. In the recent past, the EAC has teamed with other organizations and committees to sponsor speakers, round-table discussions, and symposia on training issues, the most recent being a symposium organized by ANST entitled “Becoming a Neuropsychologist: From Graduate School to Board Certification” which was held at the New Orleans APA meeting, August, 2006. For the last two years, in partnership with the Publications and Communication Committee, the EAC has helped develop an interactive website for the listing of training programs in clinical neuropsychology. This will replace the old “Cripe List”, will be continually updatable by training program directors, and will be widely available through the Division 40 Website. The projected roll-out of this new interactive web-based listing is November 2006. Finally, over the past few years, the EAC has worked closely with the D40 student organization, ANST, to facilitate the growth of this organization as a body that represents the interests of trainees ranging from graduate students to postdoctoral fellows/residents.

### **Publication and Communication Committee (PAC)**

**Chair: William B. Barr, Ph.D.**

The Division 40 website listing of Neuropsychology Training Programs has undergone a significant revision [<http://www.div40.org/tprograms.html>]. The new interactive website is a result of joint efforts of the Education Advisory and Publication and Communication Committees to provide the most updated information to individuals seeking training opportunities at the doctoral, internship, and postdoctoral level. Training programs requesting placement on the website will submit an online application that will be processed by members of the Education Advisory Committee. Program directors will then receive a password that will enable them to enter the system to update information regarding their respective programs on an ongoing basis. Students and candidates interested in accessing the website for information on training programs can search the online database by level of training (doctoral, internship, postdoctoral), type of program (adult, pediatric), and location (by state). A launch of the updated website is planned for November 2006. Feedback and comments are welcome and should be addressed to committee chairs William B. Barr, Ph.D. (P&C) [[william.barr@med.nyu.edu](mailto:william.barr@med.nyu.edu)] and/or Douglas Ris, Ph.D. (EAC) [[Douglas.Ris@cchmc.org](mailto:Douglas.Ris@cchmc.org)].

**APA Division 40 Executive Committee  
Meeting Minutes**

**Wednesday, February 1, 2006 8:00-11:30 AM  
Marriott Copley Place, Wellesley Room  
Boston, MA**

Present: Drs. Adams, Attix, Barr, Bauer, Cullum, Donders, Fennell, Fischer, Ivnik, Johnson-Greene, Lucas, Manly, Pliskin, Ris, Shear, Silver, Sweet, Wilson, Yeates

Invited Guests: Drs. Glen Getz and Deborah Weber (ANST); Gerry Gioa and Shelley Heaton (PIAC)

The meeting was called to order by Dr. Bauer at 8:00 AM. He thanked the Division 40 Executive Committee (EC) and the Committee Chairs for attending this morning's meeting and for all of their work in the preceding months.

Secretary's Report: The minutes of the August 2005 EC meeting were reviewed and approved. Dr. Shear reported on the status of the new DIV40ANNOUNCE listserv for our general membership. APA has changed their procedures for adding members to divisional listservs; we are now permitted to add our full membership list to ANNOUNCE, without requiring that individual members ask to be enrolled. After discussion, it was decided to implement this new procedure after we have had the opportunity to notify division members of this change in the fall mailing. Members will easily be able to be removed from the list if they request to be removed

Treasurer's Report: Dr. Fischer reported that Division 40 ended FY2005 in a strong financial position. As of November 2005, our ending Fund Balance was \$293,224.74, yielding a net gain of \$75,886.00 for FY2005. This is attributable in part to a philosophy of conservative spending by elected officers and committee chairs, but is in part an artifact of delayed billing by Division Services, resulting in much lower expenses than budgeted for the Secretary's office. Even after allowing for anticipated late invoices from Division Services (estimated at \$15,000), Division 40 will replenish its reserves for the second fiscal year in a row. The EC discussed the goal of balancing fiscal conservatism with encouragement to committee chairs to use the funds available to them to plan and implement novel initiatives for 2006.

The FY2006 budget approved by the Division 40 Executive Committee was subsequently modified as follows: \$1500 was added to the SAC budget so that all student awards will be \$1000 each; a one-time budget amount of \$3000 was added to the Membership budget for brochure translation; and the

Miscellaneous budget was increased from \$2000 to \$3500 in anticipation of upcoming donations. The EC voted unanimously to approve this budget reallocation.

Report of Representatives to Council: Drs. Adams, Fennell, Sweet and Wilson reported that they have recently received the agenda for the February meeting, which will not take place until after INS. The recommendations of a task force entitled the Commission on Education and Training Leading to Licensure, which is focused on steps that would permit licensure of psychologists earlier in their careers, will be discussed at the upcoming Council meeting.

Membership: Dr. Bradley Axelrod reported that, as of January 1, 2006, the Division had gained 30 new Members and 48 new Affiliates (46 Students, 2 International) for 2006. Our current numbers, both paid and unpaid for 2006, include 107 Fellows, 3462 Members, 90 Associates, and 247 Affiliates. An additional 311 are dues exempt. The total number of individuals associated with Division 40 is 4217. The division has waived annual dues for individuals who reside in areas of the country affected by Hurricane Katrina.

Nominations and Elections: Dr. Robert Ivnik reported the slate for the upcoming election of officers. President-Elect: Munro Cullum and Tom Hammeke; Secretary: Paula Shear and Monica Mindt; Treasurer: Jacobus Donders and Maria Schultheis; Member at Large: Kimberly Espy and Leslie Rosenstein; Representative to Council (two positions): Bradley Axelrod, Deborah Attix, Jennifer Manly and Joel Morgan. The Conflict of Interest Committee (Dr. Erin Bigler, Chair) reviewed conflict of interest reporting forms for all candidates and did not identify any concerns. Election ballots will be mailed from APA in mid-August.

Fellows: Dr. Eileen Fennell, chair of the Fellows Committee, offered her congratulations to the following individuals who were approved as new Fellows at the August Council of Representatives meeting: Drs. Daryl Fujii, Rosemarie Moser, Shane Bush, Ruben Echemendia, and Glenn Smith. Drs. Mitchell Rosenthal and John Schinka were approved as fellows from other divisions.

Program Committee Report: Dr. Jacobus Donders provided a report on the scientific program. He and program co-chair Dr. Julie Bobholz expressed their thanks to the other members of the 2005-06 program committee (Drs. Jill Caffrey, Jane Cerhan, Sally Frutiger, Joanne Hamilton, Scott Hunter, Tara Lineweaver, Susan McPherson, Paul Malloy, Karen Mason, Stephen Miller, Anna Bacon Moore, Ted Peck, Robert Perna, Emily Richardson, Tresa Roebuck, Elizabeth Ryan, Bradley Sewick, Beth Slomine, and Steven Paul Woods). In selecting

new members for the program committee, efforts were made to maintain diversity of the committee in terms of demographic characteristics and areas of expertise.

Division 40 received 97 poster submissions, which represents a 25% drop compared to 129 in 2005; and 11 submissions for symposia (9), workshops (1) and conversation hours (1), which represents a 31% drop as compared to 16 in 2005. The impact of hurricane Katrina and the associated prolonged uncertainty regarding timing and location of the convention are thought to be responsible for the drop in submissions. 74 of the 91 poster submissions (81%) and 10 of the 11 symposium / workshop / conversation hour submissions (91%) were accepted, for an overall acceptance rate of 83% (compared to 88% in 2005). The Program Committee has made arrangements for 2 keynote addresses and 10 invited addresses, which span a wide range of areas of study. CE credits are being arranged for most of the symposia, keynote, and invited addresses.

The Student Blue Ribbon award will go to Kristina Wilson and her colleagues from the University of Cincinnati for their paper "The effects of coaching on detection of malingering." The Non-Student Blue Ribbon awards will go to Steven Woods and colleagues (UCSD; "Effect of interval delay duration on prospective memory in HIV-1"); Angelle Sandor and colleagues (Baylor; "Perceived roles of neuropsychologists and speech-language pathologists in rehabilitation"); and Alexander Alexander (Lewisville Independent School District; "Relationship between everyday executive functioning and adaptive behavior"). The Benton lecture will be given by Dr. Brenda Milner.

On behalf of the Executive Committee and the membership, Dr. Bauer thanked Drs. Donders and Bobholz for their exemplary work in composing an outstanding scientific program for 2006.

**Publications and Communications:** Dr. William Barr was recently appointed as the new chair of this committee. He is working to compose a subcommittee to help guide the group's initiatives. Dr. Barr completed an extensive review of our own newsletter as well as those of 47 other APA divisions. On the basis of this information, as well as earlier discussions in the EC, goals for the Division 40 Newsletter include a 25% reduction in page length, the elimination of non-peer-reviewed research papers, and an increase in the number of reports from committee chairs and division officers. After discussion, the EC decided to continue to make all newsletter content available to members in print version as well as on the website, rather than converting some of the content to a web-based

format only. Dr. Barr is working actively to update and maintain our website and to update the training directory. In addition, a mechanism will be developed to determine what content will be placed in the division archives and how it will be updated on a prospective basis.

**Practice Advisory Committee:** Dr. Neil Pliskin reported on the activities of the PAC. Technicians: The issue of legislation to limit the use of technicians in assessment continues to be a primary focus in the PAC. Dr. Pliskin reported that the APA Practice Organization has been strongly supportive of this practice concern, and we deeply appreciate the efforts of Drs. Phelps and Hinnifield in that office. The State of New York continues to be the major area of concern, and a NYSPA subcommittee has proposed a legislative approach to addressing the problem. (This approach was selected after it became clear that efforts to request a reinterpretation of the scope of practice law would not be successful.) Dr. Pliskin continues to work closely with NYSPA on this issue. The PAC is also closely monitoring technician-related issues in other states.

**CPT Codes:** The committee is working actively with the APA Practice Directorate to address difficulties with local insurance carriers that are not honoring the revised CPT codes, either because the codes are not incorporated into their reimbursements system or because they have policies to not pay or to undervalue the codes. Members whose billings under the new CPT codes are denied by insurance carriers are encouraged to contact Diane Pedulla at APA, with a copy to Dr. Pliskin.

**Other Committee Activities:** Dr. Pliskin reported on developments within the APA Committee for the Advancement of Professional Psychology (CAPP). Drs. Steve Honor and Rick Campbell represent Division 40 on the Interdivisional Healthcare Committee and reported on that group's discussion of the CPT codes and other issues. Dr. Pliskin reported in his role as Federal Advocacy Coordinator about work related to the CPT codes and about hurricane relief efforts as they affect provision of mental health services.

On behalf of the Executive Committee, Dr. Bauer expressed his thanks to Dr. Pliskin for his extraordinary efforts on behalf of the Division.

**Public Interest Advisory Committee:** Public Interest Advisory Committee: Dr. Douglas Johnson-Greene (chair) reported on the activities of the PIAC. The PIAC chair and subcommittee chairs are currently developing a document outlining updated long-term objectives and goals.

There are currently two brochures produced by Division 40, one pertaining to general neuropsychology and one specific to pediatric

neuropsychology. English versions are now available in .pdf form on the division website as well as in a printed version from APA Division Services. Currently, a French translation of the pediatric NP brochure is in process. The EC discussed how to gather information about the demand for future translations, to guide decisions about how resources should be allocated to this project.

The PIAC and the Div40 Ethics Subcommittee are working with APPCN on a joint ethics project draft of an outline to deal with requests to release test data/materials to non-psychologists. Dr. Koltai-Attix is chairing the task force and other PIAC members include Drs. Johnson-Greene, Harris, and Grote.

Co-Liaisons, Committee on Ethnic Minority Affairs (CEMA); Co-Chairs, Div40 EMA Subcommittee, Drs. Monica Rivera-Mindt and Tony Won. The EMA steering committee has met either in person or by teleconference on several dates. The EMA sponsored two conversation hours at the 2005 APA Convention: the first was cosponsored with WIN, and the focus of the conversation hour was racial and gender discrimination and harassment for persons at all levels of training. The second conversation hour was cosponsored with Div. 22 (Rehabilitation Psychology), and the focus of the conversation hour was professional development (ABPP preparation). Both conversation events were well attended, with active participant discussion. Twenty-two follow up surveys from participants suggest that the event was viewed quite favorably overall. The EMA will be hosting a mentoring session at the INS conference. Extensive efforts are being made to attract ethnic minority undergraduate students to the event in order to provide more information on pursuing graduate study in clinical neuropsychology. During a previous reporting period, the EMA steering committee was awarded a CEMRRAT (Committee on Ethnic Minority Recruitment, Retention, and Training in Psychology) grant, focused on a program to promote recruitment and retention of potential ethnic minority neuropsychologists. The group is actively working on these initiatives. Dr. Desiree Byrd will serve as the next EMA chair, effective in August 2006.

Monitor, Committee on Disability Issues in Psychology (CDIP), Felicia Hill-Brigg, Ph.D.: There is continued work on a best practices document relating to work with persons with disabilities "Best Practices in Professional Training, Research, and Services Involving Persons with Disabilities," and the committee has requested funding for this project from BAPPI. Of interest to the D40 membership will be sections on the assessment of disability and assessment of persons with disabilities, such as best practices for conducting vocational assessments,

cognitive assessments, and educational assessments. A short list of potential task force members has been compiled. The names of several persons with backgrounds in neuropsychology were included on the list. CDIP's request for funding from BAPPI has been approved to support a Task Force on Training Issues for Graduate Students with Disabilities in Testing and Assessment. The initial charge of the task force shall be on how to best facilitate the acquisition of test manuals in electronic format suitable for visual viewer software for graduate students with visual impairments who are mandated to meet training requirements in testing and assessment.

Chair, Ethics Subcommittee, Josette Harris, Ph.D.. We would like to thank Dr. Michelle Macartney-Filgate for her leadership as the former chair of this committee, as well as former members Drs. Shane Bush, Doug Johnson-Greene, Tom Ryan, and Dan Tranel. The committee is considering the addition of a student representative.

Chair, Subcommittee, Committee on Women in Psychology (CWP), Cynthia Kubu, Ph.D. The Steering Committee for the Women in Neuropsychology (WIN) Interest Group meets at the APA Convention and the North American meeting of the International Neuropsychological Society. WIN collaborated with The Division 40 Committee on Ethnic Minority Affairs (EMA) and jointly sponsored a well-attended panel discussion on Harassment and Discrimination in the Workplace, at the 2005 APA annual conference in Washington, DC. The feedback from this event was very positive. WIN is hosting two activities at the upcoming INS meeting in February 2006: a panel discussion entitled "Women Pioneers in Neuropsychology: A Perspective from the Beginning," followed by a reception in honor of the discussants, and another panel discussion entitled "Balancing Career and Family Responsibilities: Survival Tips." WIN will sponsor a research mentoring activity at the upcoming APA annual conference. WIN is continuing to seek out grant funding opportunities to help support future events. Dr. Kubu attended the CWP Network meeting at the 2005 APA Convention.

Bernice Marcipolos, Ph.D. serves as liaison to the APA Committee on Rural Health (CRH), and reports that she has been asked to help the CRH draft a screening/referral tool to help rural providers make appropriate neuropsychology referrals. Dr. Rex Swanda continues to monitor the APA Committee on Lesbian, Gay, & Bisexual Concerns and reports no changes since the last report. Dr. Fred Unverzagt is the liaison to the APA Committee on International Relations in Psychology and reports that members may be interested in submitting their work for an

upcoming issue of the American Psychologist that will feature articles about culture and gender. Dr. Hunter continues to monitor the APA Office on AIDS (COPA) and reports no new activity. No reports are available from the Liaison to the Children, Youth and Families (CYF) Committee, or the Monitor to the APA Committee on Aging.

Education Advisory Committee: Dr. Douglas Ris reported on the activities of the EAC. The committee has been meeting regularly the INS conference and the APA Convention.

Association of Neuropsychological Students in Training (ANST): ANST organized a program at INS with APPCN. They have also submitted a proposal for an APA program. ANST has been organizing the local Chapters and is preparing to recruit student leaders for the national level through these chapters. They have also been restructuring the guidelines within ANST to be a closer parallel to those of the division. ANST has also been actively involved, through the EAC, in preparing to update the website for the listing of training programs. The ANST sponsored a successful social hour at APA 2005. Thank you to Dr. Glen Getz for an excellent job during his tenure as chair of ANST. Dr. Deborah Weber is the current chair.

Training Programs: The Publications and Communications Committee will provide set-up and ongoing technical support for the updated training program listing on the D40 website, while the Education Advisory Committee will be responsible for the content of the list.

Science Advisory: Following the August 2005 Executive Committee Meeting, Dr. Lucas assumed the position of Chair of the SAC. A feasibility study is underway to determine the logistics and cost of developing and maintaining a searchable Division 40 database that will serve the function of raising APA's awareness of Division 40 as a Science. The database would contain listings of division members and the topic areas in which they are NIH funded, serve on study sections or review committees, and/or have a body of programmatic research and publications. The database would provide a resource by which APA and Division 40 leadership can identify Division 40 members with expertise to serve on committees or to assist with advocacy work, lobbying, or media interactions. A SAC transdisciplinary subcommittee is charged with gathering resources for Division 40 members who are interested in developing, or currently engaged in, funded research across medical and psychological disciplines. The SAC reviewed and provided a critique of a document authored by the Centers for Disease Control as a draft guide for future research priorities. Commentary was provided regarding the

need for inclusion of neuropsychological studies in the guide. The EC provided input and approved the final, edited version of the critique, which was submitted by Dr. Bauer to Dr. Pat Kobor of the APA Science Directorate.

The awards subcommittee has selected Dr. Tanis Ferman as the recipient of the 2006 Robert A. and Phyllis Levitt Early Career Award. The SAC Award for excellence in cognitive neuroscience research will go to Emily King, BS, University of Florida, "Relationship among virtual navigation measures of spatial ability and psychometrically-defined spatial ability." SAC Award for excellence in applied neuropsychological research will go to: E. Zoe Proctor-Weber, PsyD, JAHVA Medical Center, Tampa, FL, "Predictors of susceptibility to proactive and retroactive interference." The Harcourt awards will go to Jennifer Iudicello, "Verbal fluency in HIV-1 disease: A meta-analytic approach," and to Rebecca Roush, "The relationship of amnesia to cognitive impairment following sports-related concussion." Dr. David Loring will succeed Dr. Lee as chair of the awards subcommittee in August 2006.

The EC voted to approve increased award stipends so that, effective immediately, all student awardees will receive the same financial award.

Committee on APA Relations (CAPAR): Dr. Deborah Koltai Attix chairs this committee. She is working to become established as a liaison with the APA Committee on Division/ APA Relations (CODAPAR). Together with Dr. Johnson-Greene, Dr. Attix will be presenting a PIAC/CAPAR Training meeting for PIAC liaisons, monitors, and subcommittee chairs to address effective interactions with Division-APA relations.

Conflict of Interest Committee: Dr. Erin Bigler chairs the COI committee. This group reviewed COI disclosures for all current members of the EC and all individuals on the current slate of candidates, and they did not find any irregularities.

There was a discussion of the fact that some master's level school psychologists are now practicing neuropsychology in the schools. Division 40 reaffirms previous statements that entry level neuropsychology practice requires a doctorate as well as specialty training, in keeping with existing training and practice guidelines for neuropsychologists. Dr. Pliskin will be providing background information about this issue to the APA Practice Directorate

Dr. Bauer adjourned the meeting at 11:30 AM.

Respectfully submitted,

Paula K. Shear, Ph.D.

Secretary, APA Division 40

## Announcements

### **Position Opening Research Scientist, Outcomes Research**

Kessler Medical Rehabilitation Research and Education Corporation (KMRREC), a non-profit medical rehabilitation research organization located in West Orange, NJ, affiliated with the Kessler Institute for Rehabilitation and the UMDNJ – New Jersey Medical School, seeks a PhD-level scientist to work in a medical rehabilitation research organization that focuses on enhancing the quality of patient care and optimizes quality of life for persons with physical disabilities and musculoskeletal, neurological and chronic health conditions.

The successful applicant will provide consultation and assistance in proposal development, hypothesis formation, grant writing, data analysis, writing and other activities focusing on rehabilitation outcomes experienced by persons with physical disabilities. As such, the outcomes research scientist will work closely with scientists from other KMRREC laboratories, including Neuroscience/Neuropsychology, Traumatic Brain Injury, Spinal Cord Injury, Stroke, Human Performance and Movement Analysis and Rehabilitation Engineering.

The scientist is also encouraged to develop new research in the areas including outcomes, value and cost-effectiveness of medical rehabilitation interventions for individuals with disabilities, and health services research. Responsibilities also include study coordination, recruitment and screening, data management/analyses, preparation of findings for publication, and supervision of research assistants. The successful candidate will be recommended for an appointment at the University of Medicine and Dentistry of New Jersey/NJ Medical School, Department of Physical Medicine and Rehabilitation.

Qualifications include two to three years of post-doctoral experience, with a promising record of publishing and grant writing, as well as a background in medical rehabilitation or health-related research. Experience in outcomes research, strong writing skills, and strong statistical and data management skills preferred.

We offer a competitive salary and a comprehensive benefits package. Qualified candidates should submit a letter outlining their career goals and interests, CV, three letters of recommendation, and reprints of representative publications to [careers@kmrrec.org](mailto:careers@kmrrec.org). Ideally, the start date is no later than July, 2007.

EEO/M/F/D/V.

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### **Learning More About Practice Issues**

This has proven to be a very challenging year for those of us who work as practicing clinical psychologists and clinical neuropsychologists. We are confronted with issues relating to reimbursement of our testing CPT codes, how to determine the most appropriate National Provider Identification Number, the growing trend of “Pay for Performance” and the serious challenge with regard to the use of testing technicians in New York State. To learn more about these and other practice issues relevant to our field and specialty, as well as obtain regular advocacy updates and learn about the progress of your Division 40 Practice Advisory Committee, please visit the Practitioner's Corner on the APA Division 40 webpage ([www.Div40.org](http://www.Div40.org)).

### 2007 Neuropsychology Postdoctoral Match

The Association of Postdoctoral Programs in Clinical Neuropsychology [www.appcn.org](http://www.appcn.org) wishes to announce upcoming dates for the 6<sup>th</sup> annual match. The match is conducted by National Matching Services (NMS). Full information is available at [www.natmatch.com/appcnmat/](http://www.natmatch.com/appcnmat/)

The basic steps in the Neuropsychology match are:

1. Both applicants and programs must register with NMS. Registration instructions for applicants are at [www.natmatch.com/appcnmat/nerreg.htm](http://www.natmatch.com/appcnmat/nerreg.htm)

Programs must submit a registration packet to NMS using the contact information at [www.natmatch.com/appcnmat/nerhowto.htm](http://www.natmatch.com/appcnmat/nerhowto.htm)

2. In late November 2006, a listing of registered programs will be posted at [www.natmatch.com/appcnmat/instdirp/nerindir.htm](http://www.natmatch.com/appcnmat/instdirp/nerindir.htm)

The listing will include program contact information and will be updated as more programs register. The listing will remain up through at least March 2007.

3. Applicants must directly contact the programs that they are interested in. Each program sets its own deadlines and can require different application materials. Answers to common applicant questions are at <http://appcn.org/FAQmatch.html>

4. Applicants and programs proceed through interviews as usual. Generally, applicants can interview with registered programs during the Portland INS meeting, February 6-10, 2007.

5. March 2, 2007 is the deadline for applicants and programs to submit rankings to NMS. Rankings are submitted via the NMS website, just like for the APPIC match.

6. Monday, March 12, 2007 is “match day” when results will be emailed to programs and

applicants.

7. Immediately afterward, unmatched applicants and programs with unfilled positions will have access to a clearinghouse database.

APPCN encourages all postdoctoral programs that follow the Houston model to participate in the match. Programs that are not members of APPCN are welcome to participate if they meet the minimal criteria listed at [www.natmatch.com/appcnmat/nonmqual.htm](http://www.natmatch.com/appcnmat/nonmqual.htm)

Briefly these are

- program director is a licensed psychologist meeting the Division 40 definition of a clinical neuropsychologist [www.div40.org/def.htm](http://www.div40.org/def.htm)
- activities are at least 50% clinical (Houston requirement)
- 2-year duration of full-time training or equivalent (Houston requirement)
- residents are paid a reasonable stipend
- supervision satisfies state psychology licensure requirements

In addition, programs must pay a registration fee and agree to abide by the match rules.

Please address questions to [appcnmat@natmatch.com](mailto:appcnmat@natmatch.com) or one of the APPCN officers:

Corwin Boake, PhD, President  
[corwin.boake@uth.tmc.edu](mailto:corwin.boake@uth.tmc.edu)  
 Jacobus Donders, PhD, Vice President  
[jacobus.donders@maryfreedbed.com](mailto:jacobus.donders@maryfreedbed.com)  
 Robin Hanks, PhD, Secretary-Treasurer  
[rhanks@dmc.org](mailto:rhanks@dmc.org)

## Newsletter

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Newsletter 40 is the official publication of Division 40. The Editor is Nancy Chiaravalloti. Dr. Chiaravalloti's address is: Neuropsychology Laboratory, Kessler Medical Research Rehabilitation and Education Corporation, 1199 Pleasant Valley Way, West Orange, NJ 07052. Email: [nchiaravalloti@kmrrec.org](mailto:nchiaravalloti@kmrrec.org). Division 40's Website is: [www.div40.org](http://www.div40.org).  
Webmasters William B. Barr Ph.D.  
Michael Cole, Ph.D.

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## Newsletter

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