constructs. For example in previous research, measures of executive function correlated with factors I and II and in the current study tests measuring executive function correlated with II and III. Correlations were modest, in the .3 to .5 range, suggesting that WAIS-R factors may be useful in generating hypotheses or selecting Halstead-Rietan tests for a more thorough neuropsychological evaluation, but should not be utilized exclusively to make clinical inferences.

Bergloff, P., Sherer, M., High, W., Gollaher, K., & Kearney, J.

*Prediction of Long-term Productivity Outcome Following Postacute Traumatic Brain Injury Rehabilitation.*

Previous studies of predictors of long-term productivity outcome following traumatic brain injury have identified preinjury, neurologic, neuropsychologic, and postinjury variables that are associated with patients’ productivity status at follow-up. While some of these studies have investigated prediction of outcome of patients treated in postacute brain rehabilitation programs, most have not been restricted to this subject population. Given the selection factors that determine admission to such programs, it is possible that factors predictive of outcome within a broader population of traumatic brain injury survivors will not be predictive in this selected population. To address this issue, we studied predictors of productivity outcome in a sample of 73 traumatic brain injury survivors (mean age = 33.3 years + 13.0, mean education = 12.6 years + 2.4, mean time since injury = 12.5 months + 11.7). Possible predictors studied were preinjury employment status, preinjury education, preinjury substance use, severity of brain injury, Rancho level at admission to postacute rehabilitation, and need for physical, cognitive, and behavioral supervision at discharge from postacute rehabilitation (these were 3 separate scores). Correlational analyses revealed that preinjury substance use and the three supervision ratings were associated with long-term productivity outcome (mean interval from discharge to follow-up = 7.0 months + 4.6). Discriminant analysis using these 4 variables correctly predicted the employment status of 70% of the sample. Results indicated that in this population, preinjury adjustment and postinjury functional status are more powerful predictors of long-term productivity outcome than neurologic severity of injury.

Betz, B., Ryan, L. M., O’Jile, J. R., Parks-Levy, J., & Gouvier, W. D.

*Information Processing Following Mild Head Injury.*

Previous studies have made use of the Paced Auditory Serial Addition Test (PASAT) to examine attention, concentration, and speed of information processing in mildly head injured subjects. Research by Ponsford et al. (1992) has indicated that the difficulty in performing sustained attention tasks experienced by mild injury subjects may result more from a slowed speed of processing than from attentional deficits. In addition, speed of performance has been found to be reduced for head injured participants without a significant reduction in accuracy of performance (Stuss et al., 1985). Fatigue and/or stress have been shown to further compromise the processing speed of those with mild head injury (Ewing et al., 1980; Wood et al., 1984). In the present study, the PASAT was administered at the beginning and end of a 4-hour experimental protocol to determine whether an extended period of cognitive processing, thought to result in a mild level of fatigue, would result in a greater degradation of PASAT scores for mildly head injured participants. The subjects were college undergraduate students who comprised 2 groups: a head injured group (HI) consisted of those reporting having sustained a head injury with brief loss or alteration of consciousness (n = 67) and a control group (NHI) consisted of those denying ever experiencing a head injury. There were no significant differences between the groups for PASAT raw scores. Overall a significant improvement in scores was found between the 1st and 2nd administration for both groups.
However, trial by administration analysis revealed significant improvement for all trials for the NHI group but only for 3 of the 4 trials for the HI group. Specifically, there was no improvement among HI subjects for the most demanding speeded trial (1.2 seconds). Analysis of difference scores for trials by administration between groups demonstrated a significant between group difference for only the 1st trial with the head injured subjects showing significantly less improvement/practice effects. Although not significant, the head injured subjects did show less of a practice effect than controls for all trials. Thus it appears that the head injured participants were slower to regain a means of efficiently processing rapidly presented information after a mild level of fatigue.

Blonder, L., Hodes, J., Schmitt, F., Ranseen, J., & Kirkpatrick, A.  
Neuropsychological Outcome following Gamma Knife Radiosurgery for Arteriovenous Malformations.
Gamma Knife radiosurgery is a technique whereby highly focused beams of radiation are directed at the nidus of the arteriovenous malformation (AVM), sparing the normal tissue. To our knowledge, no studies of neuropsychological outcome following this procedure have been reported. We examined neuropsychological performance in ten patients pre and post-radiosurgical treatment of difficult to access AVMs using the Leksell cobalt-60 Gamma Knife unit. The patients included seven right-handed women and three right-handed men. The mean age of the patients was 45.4 years (range 31 to 62 years) and the mean education level was 12 years (range 7 to 18 years). Of the 10 patients, three had left hemisphere AVMs, four had right, and three had midline AVMs. Pre-treatment AVM diameter as measured on magnetic resonance scans ranged from 1.6 to 6.5 centimeters. Post-treatment, two AVMs disappeared, four remained unchanged in size, and four showed slight decreases. Each patient was given a battery of neuropsychological tests within one week prior to Gamma Knife radiosurgery. Neuropsychological testing was repeated an average of 11.4 months post-treatment (range 6 to 24 months). Four clinical neuropsychologists, two of whom were blind to hypotheses, rated changes in memory, concentration, motor abilities, and global functioning on a 7-point scale with “1” signifying marked improvement, “4” signifying no change, and “7” signifying marked worsening. These ratings were based on scores on the Rey Auditory Verbal Learning, Visual Reproduction subtests of the Wechsler Memory Scale-R, Symbol-Digit Modalities, Trails A and B, Grooved Pegboard, Western Aphasia Battery, and Benton Line Orientation. Effective interrater reliability (r) was .94 for memory, .94 for concentration, .97 for motor, and .96 for global functioning. Mean ratings for each function were as follows: Memory, 3.3; concentration, 3.7; Motor, 4.2; General Cognitive, 3.6; Global, 3.6. In sum, Gamma Knife radiosurgery for the treatment of AVM resulted in minimal improvement in cognitive abilities and minimal worsening in motor function. Individual neuropsychological changes will be plotted against changes in lesion volume to examine the effects of radiosurgery on a case-by-case basis.

Bokensaum, S.  
Disorientation to Person: A Case Report.
By convention, neuropsychologists and other health care workers have reported patients’ orientation to person, place, time, and situation to indicate an overall sense of mental intactness. While aspects of these indices may be associated with functional cortical systems, e.g., orientation to time and date may be correlated with recent memory and consequently frontal and mesial temporal structures, the four traditional orientation indices do not generally represent discrete cerebral geographic systems. Occasionally, beyond the cortical diffuseness of mental states of confusion and/or lowered arousal, an analysis of a patient’s qualitative errors may point toward a more identifiable neuropathological substrate. For