Both Ataxia and general neurologic patients had same behavioral changes with more: Irascibility. Orthopedic patients had less: Energy.

These results support the neurobehavioral changes of neurologic insult/disease. Furthermore, results lend support to the cerebellar contribution to higher order behavioral change. Additional meaning is suggested for rehabilitation, patient-family education, and psychotherapy.

**Jung, R. E., Chiulli, S. J., Friedman, S. D., Brooks, W. M., & Yeo, R. A.**

*Magnetic Resonance Spectroscopy of Brain N-Acetylaspartate Predicts Neuropsychological Performance Following Traumatic Brain Injury.*

Although histological studies show widespread diffuse axonal injury (DAI) following head trauma, conventional imaging techniques do not provide sufficient resolution to visualize this damage. Proton Magnetic Resonance Spectroscopy (MRS) measures N-acetylaspartate (NAA), a marker of neuronal integrity in vivo. We hypothesized that MRS of NAA in normal appearing white matter would reflect diffuse injury found on neuropsychological testing following traumatic brain injury (TBI). Subjects with TBI were administered a brief battery of neuropsychological tests encompassing intellectual, attention, verbal and visual memory, sensory-motor, and frontal “executive” functioning. Subjects also underwent MRS to measure NAA in normal-appearing parieto-occipital white matter. A strong relationship between a composite of neuropsychological z-scores and N-acetylaspartate was found. Partialling out the influence of premorbid intellectual functioning strengthened the relationship. These results suggest that diffuse injury may play an important role in neuropsychological performance following TBI. Further, specific relationships between individual neuropsychological measures and NAA suggest that neuropsychological tasks that activate wide regions of the brain are most sensitive to diffuse injury found in normal-appearing white matter.

**King, J. H., Gfeller, J. D., Bloodworth, M. R., & Davis, H. P.**

*Detecting Simulated Memory Impairment with the WAIS-R.*

The effects of coaching simulated memory impairment were investigated using a seven subtest (information, digit span, vocabulary, similarities, block design, object assembly, and digit symbol) form of the Wechsler Adult Intelligence Scale-Revised (WAIS-R). Three levels of coaching were compared to a closed head injured (CHI) group and a normal control group. The CHI patients presented at a medical facility for neuropsychological evaluation and received a primary diagnosis of closed head injury and no psychiatric diagnosis. Undergraduate participants were randomly assigned to a control group, a simulator group without coaching, a simulator group with minimal coaching, or a simulator group with detailed coaching. The seven age-corrected scaled scores and three intelligence quotients from the WAIS-R served as the dependent variables. Initial analyses revealed no significant differences between the three simulating groups. When the three simulating groups were collapsed into one group, significant differences in WAIS-R performance were detected between simulators, normal controls, and CHI patients. The effects of coaching undergraduate participants to simulate memory impairment on the WAIS-R are discussed.

**Mothersead, P. K., & Whetstone, M.**

*Analysis of the Rey Auditory Verbal Learning Test in a Head Injury Population.*

The Rey Auditory-Verbal Learning Test (RAVLT) is composed of multiple measures of learning and memory. In addition to five learning trials, the RAVLT assesses a Learning Index, Proactive Interference, Immediate Memory, Best Learning, Delayed Recall, and Total Learning. These RAVLT indices were factor analyzed in a group of 123 head injured subjects. Factor analysis resulted in the identification of four factors reflective of Immediate Recall,