ILLiad TN: 319466
Call #: Tompkins-McCaw Library Bound Journals
Location:
Journal Title: Clinical neuropsychology.
Volume: 4
Issue: 
Month/Year: 1983
Pages: 45
Article Author:
Article Title: Yeo, Turkheimer, & Bigler; Computer analysis of lesion volume; reliability and utility
Borrowing Notes; SHIPPING; Loans by 1st class or express. Copies by Odyssey or Ariel, e-mail, express mail. * If you don't use 1st cl or better; UPS V8E197 (Ground), 160 N. McCormick Rd. Send title-pg. with copies. Give 'Reason for No' if unfilled.

20071212

ILL Number: 37945866
Borrower: VA@
Lending String: "VRC,VRC,WVU,TMA,TXA
Patron: Horn, Erin

Charge
Maxcost: $40IFM

Shipping Address:
Univ VA, Alderman Library
Interlibrary Loan
160 N. McCormick Rd
Charlottesville, VA 22904

Fax: 434-924-4337
Ariel: 128.143.166.41
Odyssey: uva.hosts.atlas-sys.com

20071212

If there are problems with this document, please return this page to us via ARIEL or FAX. We will correct the problem as soon as possible. Thank you.

Missing Pages: Page #s: ____________

Edges cut off: Page #s: ____________

Unable or difficult to read: Page #s: ____________

Date Requested: _______________________

Date Resent: _______________________

Tompkins-McCaw Library
Virginia Commonwealth University Libraries
509 N. 12th Street, Box 980582
Richmond, VA 23298-0582

Voice: 804-828-0630
Fax: 804-828-2260
Ariel: 128.172.94.10
OCLC: VRC
DECLINE: VAUTMC
FEIN-54-6001758

DO NOT PAY UNTIL INVOICED
School of Medicine. The evaluation of the nature and extent of neuropsychological deficits which result from closed head injury and their resolution over time has received little systematic attention. The determination of which neuropsychological tests are sensitive to the deficits produced by closed head injury and the delineation of recovery of function from practice effects definitely are needed.

The Halstead-Reitan Neuropsychological Test Battery, the Wechsler Adult Intelligence Scale and the Russell revision of the Wechsler Memory Scale were administered to ten (10) patients with closed head injury who were referred for a neuropsychological evaluation. The patients were reevaluated with the same tests after an average of 18 weeks.

The Rhythm Test and the Speech Sounds Perception Test were not sensitive to the effects of closed head injury. Substantial improvement in performance was seen on the Wechsler Memory Quotient and the Category Test, which appeared to reflect practice effects rather than an overall improvement in functioning. In general, motor tasks demonstrated the largest improvement and memory tasks, other than the Memory Quotient, demonstrated the least improvement.

Specification of the “Working Memory” Deficit Following Serious Closed Head Injury. By Morris E. Eson, Ph.D., State University of New York at Albany and Albany Medical College, and Robert S. Bourke, M.D., Albany Medical College, Albany, New York. Follow-up studies have shown that about 75 percent of severely head-injured patients could be rated on the 1981 Glasgow Outcome Scale as having achieved good or moderate recovery. These patients show good clinical recovery but they are incapable of resuming productive life and self support. Scores on intelligence tests and standard neuropsychological assessment procedures do not provide evidence that could account for these severe functional disabilities.

Information obtained in interviews with patients and their families and careful observations of patients on particular kinds of tests, suggested that the specific cognitive deficit underlying the incapacity is one of “working memory.” This involves keeping information in mind necessary for guiding an action to its completion. The information may include an intention, a rule of procedure, or data regarding a target for continuing attention. The tests in the battery that assess the degree of “working memory” deficit are: Matrix Reading, Trail Making, Digit Symbol Substitution, Paced Auditory Serial Addition Test, Test of Combinatorial Reasoning. A clear relationship between severity of “working memory” deficit and the level of restitution of function was demonstrated.

Computer Analysis of Lesion Volume: Reliability, Utility and Neuropsychological Applications. By Ronald A. Yeo, Eric Turkheimer & Erin D. Bigler, University of Texas. A major determinant of scientific progress is the refinement of measurement techniques. For neuropsychology, the development of the CT scan has made possible the quantification of brain lesion parameters, greatly facilitating our effort to elucidate brain-behavior relationships. Lesion volume may be determined with the actual digital pixel data, but such methods require both CT equipment and the original floppy disk. Using only CT films, which are more widely available to researchers, an alternative method for quantifying lesion volume was developed. The procedure involved the tracing of the relevant structures by a clinician, and subsequent digitization of the tracings for computer input. Areas of regions in each slice of the brain were computed, and these areas were used to compute volumes. The reliability of the procedure was assessed, across both tracing and digitizing steps. For each step and overall, the reliability of the procedure approached unity for the volumes of both lesions and brains. In order to assess the importance of quantitative estimates of lesion size, two measures of lesion size (volume, largest area) were compared in terms of their ability to predict cognitive impairment (as measured by the WAIS, the Wechsler Memory Scale, and Trail Making Tests). Other potential applications of the procedure were discussed, including the production of computer drawn schematic diagrams of the brain.

Post concussion Symptoms: Their Relation to Severity and their Role as a Guide to Rehabilitation Following Closed Head Trauma. By Kurt A. Moehle, Tom Novack, and Charles J. Long, University of Tennessee/Memphis State University, Neuropsychology Laboratory. While the severity of cognitive sequelae following closed head trauma is positively correlated with injury severity (duration of post-traumatic amnesia), the incidence and severity of post-concussion symptoms (headache, dizziness, memory problems, irritability, etc.) is often reported to be inversely related. Consequently, the persistence of such symptoms is often taken as evidence of malingering or as being related solely to emotional factors. The current research reviews the incidence of post concussion symptoms with regard to injury severity and other factors and outlines a model from which organic, emotional, cognitive, and situational factors can be investigated. This model utilizes a multilevel classification system which includes four basic dimensions, or levels, and four basic post-concussional outcome categories. The four dimensions are: developmental factors, personality, or habitual coping style, factors, peri-trauma factors (pretrauma and posttrauma), and trauma parameters, e.g., injury severity. Data obtained from these dimensions would then be used to predict the particular outcome category into which a particular patient is most likely to fit. The four outcome categories are: 1) Normal recovery, 2) Reactive Post-concussional Syndrome (PCS), 3) Primary PCS, and 4) Secondary PCS. Treatment recommendations can then be generated based on these classifications. This model takes into consideration recent literature indicating post concussion symptoms result from an interaction of a number of major factors.

The Relationship Between MMPI Scores, Post concussion Symptoms, Neuropsychological Performance and Severity of Head Injury. By Thomas Novack, Michael Daniel, and Charles Long, University of Tennessee/Memphis State University, Neuropsychology Laboratory. Several physical and psychological sequelae of closed head injury have been identified and, in most cases, greater injury severity is associated with increased impairment. However, head-injured individuals often complain of certain somatic and psychological symptoms, referred to as post concussion