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Neuropsychological Assessment

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Neuropsychological Assessment. Clinical neuropsychology is primarily concerned with how expressions of behavior are affected by brain dysfunction (Lezak, 1995). A neuropsychological assessment consists of a series of systematic clinical diagnostic procedures used to determine the extent of behavioral or cognitive deficits after a person sustains brain injury or damage (*see* Brain Injuries). It initially involves a clinical interview in which detailed information about the patient's history, premorbid functioning, and factors surrounding the precipitation of the dysfunction or damage are gathered. Often a mental status examination is then performed, in which a brief assessment is made of appearance and behavior, speech and communication processes, thought content, cognitive and memory functions, emotional functioning, insight and judgment, and orientation (Gregory, 1996).

Depending on the reason for the referral of the patient, the next step includes the administration of various neuropsychological tests that tap into the specific concerns of the patient. These procedures vary from a few specific standardized tests to a full-length battery; it depends on the questions that need to be answered about the patient's functioning as well as the particular approach of the neuropsychologist. The patient-centered or flexible approach uses an individualized test battery based upon the patient's presenting problems, reason for referral, and initial assessment (Gregory, 1996). The fixed battery approach uses a battery of tests that measure neurocognitive functioning in a variety of areas: attention and concentration, learning and memory, receptive and expressive language, executive functions (logical analysis, planning ability, reasoning ability, conceptualization, and flexibility of thinking), visuospatial and visuoconstructional abilities, sensory-perceptual abilities, and psychomotor speed and strength.

Often intelligence and personality tests are also administered to determine general intellectual functioning and personality style and mood. An example of a fixed battery is the Halstead-Reitan Neuropsychological Test Battery. The Halstead-Reitan consists of five measures: the category test, the tactile performance test, the speech sounds perception test, the rhythm test, and the finger tapping test. Other tests usually included in the battery, which takes about six to eight hours to administer, include trail making A and B, grip strength, tactile form recognition, the sensory-perceptual examination, the aphasia screening test, the Wechsler Adult Intelligence Scale (WAIS), and the Minnesota Multiphasic Personality Inventory-2 (MMPI-2) (Lezak, 1995; Reitan & Wolfson, 1985). A Halstead-Reitan Neuropsychological Test Battery has also been de-

veloped to assess brain dysfunction in older children between 9 and 14 years of age (Reitan & Wolfson, 1992).

Some neuropsychologists prefer the process approach to neuropsychological assessment in comparison with the fixed or flexible battery approaches because less emphasis is placed on the correctness of responses (achievement) and the focus is on the observation and monitoring of the step-by-step procedure the patient carries out in order to achieve the solution (process). The standardized and experimental tests are not scored in the standardized fashion and in some cases are not administered in the standardized manner. The quality of the patient's performance is also captured by his or her problem-solving behavior (Kaplan, 1988). Lezak (1995) noted that prerequisites to doing a thorough job in the neuropsychological assessment are excellent clinical skills; knowledge of psychometrics; knowledge of neuroanatomy; and knowledge of neuropathologies and their behavioral expressions.

A neuropsychological assessment may be prompted by four different purposes: diagnosis; patient care; treatment; and research. In terms of diagnosis, a neuropsychological assessment can distinguish psychiatric and neurological symptoms, identify possible neurological disorders in a patient without psychiatric problems, differentiate various neurological conditions, and provide behavioral information in order to determine the site of a lesion (Lezak, 1995). However, it must be noted that accurate diagnosis, which includes the specific site of the lesion, must include examination by a neurologist and by neurologic AIDS such as a computer tomography (CT) scan, positron emission tomography (PET), or magnetic resonance imaging (MRI). In some cases, such as patients with dementia or mild head trauma, neuropsychological assessments have proven to be crucial diagnostically.

In terms of patient care and planning, a neuropsychological assessment is often useful in providing detailed information about the cognitive functioning and personality characteristics of patients that helps caregivers to understand how the neurological problems are affecting the patient's behavior. The assessment provides information about the patient's capabilities and limitations, the various psychological changes they are experiencing, and the impact of these changes on their behavior and self-concept. Findings from the neuropsychological assessment also provide information about the patients' capacity to care for themselves, to follow through on treatment recommendations, and to handle various emergency situations and money, comprehension of the patients' responses to their deficits and how compensation can occur, and the development of a rehabilitation program. Periodic neuropsychological assessments also assist in monitoring the course of neurological diseases (Lezak, 1995).

Neuropsychological assessments are especially useful in the evaluation of rehabilitation and treat-

Neuropsychological Assessment

ment, in that they provide valuable information that is shared by professionals from the various disciplines who work with the patients. In terms of research, neurological assessment has been used in the study of the organization of brain activity and its relationship to behavior and the workings of various brain disorders and behavioral problems (Lezak, 1995).

Neuropsychological assessments have proven to be useful with individuals who have experienced a head injury, epilepsy, stroke, or dementia. They are also helpful in the diagnosis of AIDS dementia complex (*see* AIDS). In educational settings, neuropsychological evaluations can identify various developmental and learning disabilities and assist in designing educational programs to assist with remediation. A formal written report of the evaluation is usually sent to the referring professional, and oral feedback is given to the patient and/or family.

References

- Gregory, R. J. (1996). *Psychological testing: History, principles and applications*. Boston: Allyn & Bacon.
- Kaplan, E. (1988). A process approach to neurological assessment. In T. Boll & B. K. Bryant (Eds.), *Clinical neuropsychology and brain function: Research, measurement, and practice*. Washington, DC: American Psychological Association.
- Lezak, M. D. (1995). *Neuropsychological assessment* (3rd ed.). New York: Oxford University Press.
- Reitan, R. M., & Wolfson, D. (1985). *The Halstead-Reitan neuropsychological test battery*. Tucson, AZ: Neuropsychology Press.
- Reitan, R. M., & Wolfson, D. (1992). *Neuropsychological evaluation of older children*. Tucson, AZ: Neuropsychology Press.

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