



FACT SHEET: WHAT IS A NEUROPSYCHOLOGICAL EVALUATION?

By Calvin and Tricia Luker

- A. A neuropsychological evaluation is the study of the relationship between brain functioning and observable behavior. Neuropsychologists attempt to systematically gather behavioral data through the use of structured observations, historical information, and standardized cognitive and academic tests. A pediatric neuropsychologist is trained to interpret this data relative to research findings about the early developmental changes in brain growth.
- B. Most behaviors are the product of communication between several centers of the brain. If there is a problem with one communication pathway, the behavior can be produced by developing a different pathway. When a child does not exhibit a behavior in the usual manner, then the possibility exists that there is an alteration in a primary center of the brain or that there is an alteration in the inter-center communication pathways. Neuropsychologists attempt to understand how a particular child processes various types of information by gathering behavioral samples, which can be combined to develop a profile of personal strengths and weaknesses. This profile can lead to hypotheses about how the brain is working. More importantly, this information can be used to develop a plan for helping the child use their strengths to compensate for areas of identified weaknesses.

WHAT IS THE PROCESS METHOD OF NEUROPSYCHOLOGICAL EVALUATION?

- A. Using the process method, the examiner chooses a flexible battery of tests depending upon the specific needs of each child. For example, if the development of language skills and attention skills have been identified as primary areas of concern, then the battery would include more extensive testing in each of these areas. This battery yields results, which can be used to plan interventions for the child based upon identified strengths and weaknesses.
- B. In contrast to batteries, which rely more heavily on factor scores and standardized results, the Process Method has at its core a comparison of strengths and weaknesses within each child. There is less of an emphasis on comparing the child with a normative sample of other children. These more global comparisons are included as only one preliminary step in the evaluation. For example, it is only marginally helpful to know that a child's performance in math is a year behind his/her peers. What is more helpful is to know the information-processing weaknesses which have resulted in this lag and then to identify strengths which can be used to present mathematical concepts in a way that the child can more fully understand.

WHEN SHOULD A CHILD BE REFERRED FOR A NEUROPSYCHOLOGICAL EVALUATION?

- A. When complex learning challenges and behavioral management issues have been identified.
- B. When there is a known or suspected history of organic problems such as seizures, birth trauma, brain injury, genetic disorders which affect learning, and environmental contaminants.
- C. With children who exhibit a pattern of failure to progress in their development or who appear to lose skills, which were once within their repertoire.
- D. With children who exhibit a pattern of significant and unexplained scatter in their development across time and between skills at any one point in time.

HOW CAN A NEUROPSYCHOLOGICAL EVALUATION HELP US TO BETTER UNDERSTAND CHILDREN WITH ATTENTION-RELATED DIFFICULTIES?

- A. Children who present with attention-related difficulties frequently have co-occurring challenges in the areas of learning, socialization, emotional development and behavior management. As a result, their development over time shows more peaks and valleys rather than the typical steady growth curve. Many of their daily challenges are thought to be related to their neuropsychological functioning. Knowing that a child has problems focusing and sustaining attention does not necessarily lead to a specific plan for supporting his/her educational and social-emotional development. More detailed information may be needed about his/her ability to process language, memorize and recall facts, coordinate visual input with motor output, process non-verbal cues, including those cues relevant to comprehending social interactions, etc. Every child with attention-related challenges is unique. They each have particular strengths, which must also be identified to assist them in systemically tackling their special learning needs.

LIMITATIONS OF THE NEUROPSYCHOLOGICAL EVALUATION:

- A. The neuropsychological evaluation should never be used as the only source of information in understanding a child. Behavioral observations, historical information, educational data, medical evaluations and evaluations by other health care professionals - - e.g., occupational and physical therapists - - should always be considered and included where appropriate. Good teamwork is a must.