

What is Clinical Neuropsychology?

Clinical neuropsychology is a specialty profession that focuses on brain functioning. A clinical neuropsychologist is a licensed psychologist with expertise in how behavior and skills are related to brain structures and systems. In clinical neuropsychology, brain function is evaluated by objectively testing memory and thinking skills. A very detailed assessment of abilities is done, and the pattern of strengths and weaknesses is used in important health care areas, such as diagnosis and treatment planning. The clinical neuropsychologist conducts the evaluation and makes recommendations. He or she may also provide treatment, such as cognitive rehabilitation, behavior management, or psychotherapy.

Why Have I Been Referred?

Neuropsychological evaluations are requested specifically to help your doctors and other professionals understand how the different areas and systems of the brain are working. Testing is usually recommended when there are symptoms or complaints involving memory or thinking. This may be signaled by a change in concentration, organization, reasoning, memory, language, perception, coordination, or personality. The change may be due to any number of medical, neurological, psychological, or genetic causes. Testing will be helpful in understanding your specific situation.

What is Assessed?

A typical neuropsychological evaluation will involve assessment of the following:

- General intellect
- Higher level executive skills (e.g., sequencing, reasoning, problem solving)
- Attention and concentration
- Learning and memory
- Language
- Visual-spatial skills (e.g., perception)
- Motor and sensory skills
- Mood and personality

Some abilities may be measured in more detail than others, depending on your needs.

How Are Test Scores Used To Understand My Specific Situation?

Your test scores will be compared to scores from people who are like you in important ways. By using database scores from large groups of healthy people for comparison, the neuropsychologist can judge whether or not your scores are normal for your age and educational background. The pattern of your own test scores will also be reviewed to estimate whether or not there has been a change in certain abilities. How you go about solving the various problems and answering questions during the examination will also be noted. Using these methods, your strengths and weaknesses can be identified.

What Will the Results Tell Me?

Test results can be used to understand your situation in a number of ways.

- Testing can identify weaknesses in specific areas. It is very sensitive to mild memory and thinking problems that might not be obvious in other ways. When problems are very mild, testing may be the only way to detect them. For example, testing can help determine whether memory changes are normal age-related changes or if they reflect a neurological disorder. Testing might also be used to identify problems related to medical conditions that can affect memory and thinking, such as diabetes, metabolic or infectious diseases, or alcoholism.
- Test results can also be used to help differentiate among illnesses, which is important because appropriate treatment depends on accurate diagnosis. Different illnesses result in different patterns of strengths and weaknesses on testing. Therefore, the result can be helpful in determining which areas of the brain might be involved and what illness might be operating. For instance, testing can help to differentiate among Alzheimer's disease, stroke, and depression. Your physician will use this information along with the results of other tests, such as brain imaging and blood tests, to come to the most informed diagnosis possible.
- Sometimes testing is used to establish a "baseline" or document a person's skills before there is any problem. In this way, later changes can be measured very objectively.
- Test results can be used to plan treatments that use strengths to compensate for weaknesses. The results help to identify what target problems to work on and which strategies to use. For example, the results can help to plan and monitor rehabilitation or to follow the recovery of skills after a stroke or traumatic brain injury.
- Studies have shown how scores on specific tests relate to everyday functional skills, such as managing money, driving, or readiness to return to work. Your results will help your doctors understand what problems you may have in everyday life. This will help guide planning for assistance or treatment.

What Should I Expect?

A neuropsychological evaluation usually consists of an interview and testing. During the interview, information that is important for the neuropsychologist to consider will be reviewed. You will be asked about your symptoms, medical history, medications, and other important factors. Testing involves taking paper-and-pencil or computerized tests and answering questions. The time required depends on the problem being assessed. In general, 2-3 hours are needed to assess the many skills involved in processing information. Some tests will be easy while others will be more complex – the most important thing is to try your best. Bring glasses or hearing aids if you use them. Try to rest and relax before your evaluation. You will probably find testing interesting, and the detailed information that is gathered will contribute to your care.