RAISING PUBLIC AWARENESS
ABOUT THE ROLE
AND VALUE
OF NEUROPSYCHOLOGY
IN PATIENT CARE

NRS
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Overview

Neuropsychology is the profession that treats patients who have had something happen to their brain, causing changes in their thinking and behavior.

The neuropsychologist will use a group of tests known as a neuropsychological examination (NPE) that shows the strengths and weaknesses of your thinking abilities. This is the only appropriate tool that can do this.

These results become the foundation or “blueprint” for your rehabilitation program.

Neuropsychological rehabilitation consists of medical adjustment counseling, biofeedback, cognitive remediation, family education, medication monitoring, physical therapy, occupational therapy, speech therapy, and school/work return.
What is Neuropsychology?

Neuropsychology is the profession that treats patients who have suffered some injury to their brain with a corresponding change in thinking abilities and personality. Furthermore, neuropsychology is the relationship between the brain and its functional expression through our daily behaviors. For neuropsychology, the BRAIN is the focus of attention of our daily behaviors versus in mental health, where BEHAVIOR itself is the focus of attention.

A clinical neuropsychologist is a psychologist with extensive training and expertise in brain-behavior relationships, functional neuroanatomy, and neurobehavioral disorders. Neuropsychologists have served a predoctoral internship and postdoctoral residency with further medical coursework. The best sign of having achieved excellence in their training is the attainment of board certification.

The neuropsychologist examines the brain by administering a neuropsychological examination (NPE), an assembly of many tests specifically designed to evaluate thinking abilities and behavior (our type of MRI).

The pattern of your results provides a “blueprint” for important health care decisions, such as diagnosis, treatment planning, and other options.

The neuropsychologist will provide treatment thereafter in the form of medical adjustment counseling, biofeedback, cognitive remediation, family education, medication monitoring, and school/work mainstreaming, besides other services. These services are based upon the medical condition of the brain, not mental health issues, which are better served by clinical psychologists, psychiatrists, licensed professional counselors, and social workers.

These services can help with a wide variety of brain disorders – concussions, traumatic brain injuries, cerebrovascular accidents, brain tumors, different forms of dementia, demyelinating conditions (multiple sclerosis), ADHD, and learning disabilities. These services include documentation of thinking problems by the NPE, treatment planning, accurate diagnosis, appropriate treatment, return back to school or work, and legal input if necessary.
What is the purpose of the neuropsychological examination? (Why do I need it?)

NPEs are requested to help your doctors and other professionals understand how the different cognitive systems of your brain are working.

The NPE is usually recommended when there are symptoms or complaints involving some change in your thinking or cognition.

Change may be due to any number of medical, neurologic, or psychological causes. The NPE will help in understanding the specific situation.

THE NPE IS IMPORTANT FOR PHYSICIANS

Physicians want to know what cognitive functions are damaged. Without that information, physicians may make poor decisions such as returning patients to work prematurely. These decisions can cause considerable pain and suffering for patients and families and even catastrophic economic and personal consequences.

THE FOLLOWING ARE 6 AREAS WHERE DOCTORS CAN BENEFIT FROM THE NPE:

1. Identify problems in thinking with known or suspected brain disorders and describe your pattern of strengths and weaknesses.

2. Monitor changes in thinking and cognition over time.

3. Help diagnose and identify clinically relevant syndromes.

4. Describe cognitive areas that affect your ability to be independent at home or to return to work.

5. Develop a “blueprint” of the nature of impaired thinking/cognitive abilities and how they can be managed within neuropsychological rehabilitation.

6. Provide an information base with which to counsel patients and families concerning life decisions, given the thinking problems of the patient. (Does the patient appear cognitively capable of living alone? Of being unsupervised? Of returning to work?)

Your physician will use this information (along with the results of other tests, such as a CT or MRI of the brain and/or blood tests) to come to the most informed diagnosis possible.
What does the NPE involve?

The first step is to obtain adequate information to plan the NPE. This includes pertinent medical and psychosocial history that has prompted the referral.

After the relevant information is received, the second step is the neuropsychological consultation. This is an interview to help clarify the clinical condition and how the patient (and family) describes his or her functioning.

After the first 2 steps are done, the patient is in a position to undergo the NPE.

AN NPE WILL EVALUATE THE FOLLOWING:

a. Perceptual skills (hearing, seeing, feeling)
b. Attention and concentration skills
c. Memory
d. Speech and language functions
e. Visual spatial functions
f. Speed of new learning (processing)
g. Learning capacity
h. Background intellectual level and reasoning/abstraction abilities
i. Speed and coordination of simple motor responses (primary motor and psychomotor abilities)
j. Emotional, behavioral, and motivational characteristics
How will the test results improve my care?

The NPE will identify strengths and weaknesses in specific areas. For example, the NPE can detect a person’s ability to organize daily activities, information, and conversations, which is not obvious in our exchange with others. A problem with organization many times is misattributed to personality change or unrelated areas.

The NPE results can be used to help distinguish different brain disorders, which is important because appropriate treatment depends on accurate diagnosis. Different conditions of the brain result in different patterns of strengths and weaknesses on testing. For example, the NPE can help distinguish between Alzheimer’s disease, traumatic brain injury, stroke, or emotional conditions.

The NPE results can be used to establish a “baseline” by documenting a person’s skills before there is any problem. In this way, if later cognitive changes arise, re-examination can be compared to the first NPE.

The NPE results can be used to plan treatment, serving as a “blueprint” in terms of the strengths and weaknesses of the person. The results can help plan and monitor rehabilitation or document the recovery of skills after brain surgery, stroke, or traumatic brain injury.
How are the test results relevant to my life?

**FEEDBACK TO INCREASE PATIENT AWARENESS**

Lack of awareness of capabilities, particularly thinking problems, is the major issue in recovery from a brain disorder. Limited awareness can result in poor judgment and an inability to take advantage of corrective therapies. The patient’s cognitive and behavioral difficulties are recognized by the caregiver as more difficult than the physical limitations.

By providing objective information about thinking/cognitive deficits, the NPE serves as a basis for family members and rehabilitation therapists to point out to brain-impaired patients their functional ability may be less than what they realize.

Awareness of deficits surpasses other cognitive deficits in predicting a return to work.

**GUIDES TREATMENT EFFORTS**

Neuropsychological services are an integral component of acute, postacute, and outpatient rehabilitation services for patients recovering from various brain disorders. The role of the neuropsychologist within the rehabilitation team, particularly in the hospital, is an important component in terms of directing care at the appropriate stages of recovery. Cognitive remediation represents an example in which the NPE is essential. Before any cognitive remediation program is initiated, cognitive abilities must be evaluated in order to provide a baseline that correctly assesses the strengths and limitations of the patient’s thinking profile. Merely rendering any form of treatment without the “blueprint” of fully understanding the nature of the patient’s situation is directionless as well as potentially harmful.
ASSESSING EFFECTIVENESS OF DRUG TRIALS
The NPE has an essential role in assessing the effectiveness of medications intended to benefit thinking/cognition.

DETERMINATION OF ABILITY TO FUNCTION INDEPENDENTLY
Capacity to make decisions. This depends on many cognitive abilities, including self-awareness, reasoning, and insight/judgment, in order to make decisions about medical treatment, finances, and living independently.

Capacity to function safely and independently. Safety and independence in activities of daily living are examined by neuropsychologists with patients who have different brain conditions; eg, patients who have had cerebrovascular accidents with sensory neglect.

Capacity to drive. For many patients, driving is an important activity and is associated with employment and living independently. The extent of cognitive deficits predicts the capacity to drive. Performance on the NPE provides this information.

Timing of return to work. Returning patients with brain impairment to productive activity is the major goal of rehabilitation. An NPE is the means of identifying individuals who might be ready to participate in a vocational rehabilitation program and return to school or work.
What are the risks of the NPE?

One of the important characteristics of clinical neuropsychology is that we are trained in the science of thinking and the biological basis of behavior and treatment intervention. However, moving beyond the circle of those practicing within the profession, there is often misunderstanding, confusion, and misinformation about the role and scope of neuropsychology. For instance, within some health care settings, numerous problems result whereby the NPE is given without input from a neuropsychologist, or by someone not properly trained in the field.

There is the opinion that any psychologist has the proper neuropsychological knowledge and training necessary to legitimately administer, score, and interpret neurocognitive measures. **This is incorrect.**

Lack of information in health care and lack of awareness about the science and practice standards of clinical neuropsychology can result in the misuse of neuropsychological information in a manner that negatively impacts both patient care as well as our profession.

Clinical and educational psychologists, learning disability specialists, nondoctoral level counselors, or practitioners without training in brain-behavior relationships, functional neuroanatomy, and neurobehavioral disorders cannot evaluate the various brain disorders appropriately. Professionals without training in neuropsychology and NPE administration expose patients to years of risk and misery because they are not receiving even low-level care mandated by the medical profession. Patients deserve doctors who can assess and treat neuropsychological problems correctly.
Practice standards

The following practice standards in neuropsychology procedures should be followed to diagnose and treat patients with brain disorders:

1. The patient requires an accurate diagnosis from a neuropsychological examination, including psychological testing from a doctoral-level neuropsychologist. Only then can an appropriate treatment plan be implemented.

2. Treatment consists of medical adjustment counseling and/or specific psycho-educational interventions, biofeedback, cognitive remediation, family therapy, and work/school mainstreaming. Finally, occupational therapy and speech therapy may be needed.

3. Patients need to be monitored if drugs are a part of the treatment plan. This information is reported back to the physician in terms of compliance, response, and side effects.
How long does the NPE take?

The length of a neuropsychological examination generally depends upon the patient's condition.

An NPE involves taking paper-and-pencil tests and answering questions. Some tests will be easier than others. The most important thing is to try your best. Bring glasses if you use them. Try to relax before your examination and look upon the testing process as an opportunity for the neuropsychologist to gather information that will contribute to your care.

Is there another way to get the same information?

No. CTs, MRIs, and PET scans are wonderful pictures of the brain's complexity, but they do not show how the brain expresses itself through thinking and behavior. Only an NPE can do this. Also, the NPE is the only valid measure assessing cognitive systems in the brain. Not a psychological examination, Not a learning disability examination, Not an educational examination, Not an IQ test, and finally, Not a mental status examination.
What can neuropsychology do to help me and my family?

**CLINICAL VALUE:**

1. Beneficial in describing a patient’s cognitive functioning and the resultant medical and legal implications for the court system.

2. The benefit associated with accurate diagnoses can be helpful to the patient. For example, an early dementia may be the basis of what appears to be an ongoing depression. By describing disturbances in cognitive functioning, a neuropsychologist can help families make decisions about the need for supervision or placement.

3. The NPE can determine the effectiveness of various treatments. For example, the NPE can help determine whether a drug is affecting thinking favorably or whether a treatment is doing what it is supposed to do (ADHD, dementia, etc).

4. The NPE results can help determine the benefit of medical or surgical interventions. For example, whether a patient undergoes surgical intervention for epilepsy can depend on the pattern of neuropsychological test findings.

5. The Neuropsychological Consultation (NPC) provides continuity of care for patients while in the hospital.

6. Neuropsychology provides the family with information that helps prepare them to deal with the intermediate and long-term cognitive and behavioral deficits exhibited by a brain dysfunctional patient.
What can neuropsychology do to help me and my family?

PERSONAL VALUE:

1. **Direction** – Many patients experience disturbance in their thinking and behavior that they feel others do not understand. When information is provided in terms of what they have, what they need to do, and where they are going, it creates a reaction of relief in knowing that their problem is real instead of imagined.

   Many patients report they have deficits that physicians tell them will go away “with time” or it is all “psychological.” **This is incorrect.**

2. **Implications** – When the patient (or family) is made aware of their thinking deficits, they may not, however, understand the implications of those deficits. Results of the NPE help reduce the patient’s confusion and frustration over what they are experiencing. Although possibly saddened by the findings, they are normally relieved to know what is “wrong.”

3. **Dementia** – Many family members struggle with placing a loved one with dementia in a **residential setting** and feel guilty about doing so. The NPE can document levels of dementia and the patient’s risk of hurting themselves or others; this provides the family a reason for making the difficult decision. Many family members have expressed relief when the neuropsychologist clarifies why the patient is behaving the way they are. Furthermore, the NPE can differentiate **dementia** from **normal aging,** thereby relieving stress to those who may be concerned about changes in their thinking.

**Does insurance cover this service? Yes.**

We accept most insurance plans.