

BSC2.06	Neuropsychological Testing		
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Section:	2.0 Medicine	Page:	Page 1 of 8

Policy Statement

The following criteria have been adapted from the Blue Shield of California Mental Health Service Administrator.

Neuropsychological testing may be considered **medically necessary** when **both** of the following criteria have been met:

- A thorough mental status exam, patient history, and neurological evaluation has been completed
- **One** or **more** of the following:
 - There are cognitive deficits that are currently unexplained and testing is needed to help direct further neurological evaluation
 - There is already evidence of [neurological disease or trauma](#) and neuropsychological testing is needed to determine what capabilities the patient has (e.g., financial management), or what the patient may need help with (rehabilitation potential, discharge placement, etc.)
 - There is a degenerative neurological disease process and neuropsychological testing is needed to establish a baseline of functioning or repeat testing is needed to assess changes (to see if the condition worsens or improves with treatments such as deep brain stimulation, behavioral treatment, occupational therapy or pharmacotherapy)
 - To help determine if a mental disorder is due to a neurological or neuroendocrine [medical](#) condition or treatment (versus psychiatric disease alone) when the diagnosis cannot be made through standard psychiatric or [medical](#)/neurological examination

Neuropsychological testing is considered **not medically necessary** for **any** of the following purposes:

- [Non-medical](#) uses of testing (e.g., assessing a learning disability; developing an educational or vocational plan)
- The testing results could be invalid due to the influence of a substance, substance abuse, substance withdrawal, or any situation that would affect neuropsychological testing (e.g., an individual who is uncooperative or lacks the ability to comprehend the necessary directions for having neuropsychological testing administered)
- The testing is primarily for diagnosing attention-deficit hyperactive disorder (ADHD), unless standard testing (diagnostic interview, clinical observations, and results of appropriate behavioral rating scales) is inconclusive
- Two or more tests are being requested that measure the same functional domain
- Testing is primarily for legal purposes, including custody evaluations, parenting assessments, or other court or government ordered or requested testing
- Requested tests are experimental, antiquated, or not validated
- The testing request is made prior to the completion of a diagnostic interview by a behavioral health provider, unless pre-approved by Human Affairs International of California (HAI-CA)
- The [number of hours](#) requested for the administration, scoring, interpretation and reporting exceeds the generally accepted standard for the specific testing instrument(s) or overall, unless justified by particular testing circumstances (e.g., 12 hours total)
- Differentiating between two or more possible [psychiatric diagnoses](#) without a neurologic condition

Policy Guidelines

Neuropsychology is concerned with relationships between the brain and behavior.

Neuropsychological tests are specifically designed tasks used to measure a psychological function known to be linked to a particular brain structure or pathway.

Clinical conditions needing testing may include, but are not limited to:

- Head injuries (Traumatic Brain Injury [TBI])
- Dementia (e.g., Alzheimer's or senile)
- Parkinson's disease (including workup for Deep Brain Stimulation [DBS])
- Encephalopathy (when there is a specific medical condition causing progressive loss of functioning e.g., human immunodeficiency virus [HIV] encephalopathy)
- Multiple sclerosis (MS)
- Epilepsy (e.g., as part of presurgical treatment planning)
- Exposure to neurotoxins
- Some cases of developmental delay or Autism (e.g., with significant anxiety, or to help determine rehabilitation potential for problematic behaviors or social skills), but not to help with making the diagnosis
- Neurologically complicated cases of Attention Deficit Hyperactivity Disorder (ADHD), such as when there are also seizures, head injury, some genetic disorders, etc. (Testing primarily to diagnose ADHD is not covered; see below)

Note: Repeat testing will require further documentation to support medical necessity.

Mental Health Benefit vs. Medical Benefit

Neuropsychological testing should be considered for coverage through the patient's mental health benefit when:

- The referring practitioner is a psychiatrist, neuropsychologist, psychologist, or other behavioral health clinician
- The primary diagnosis is psychiatric, even though medical problems are involved; the purpose of testing is to clarify whether it is a psychiatric diagnosis (e.g., dementia versus pseudo-dementia; head injury versus anxiety/depression; organic mood versus mood disorder not otherwise specified; organic delusion versus schizophrenia)

Neuropsychological testing should be considered for coverage through the patient's medical benefit when:

- The referring practitioner is a neurologist, primary care physician, surgeon, or pain specialist
- The primary diagnosis is medical (e.g., Multiple Sclerosis, head injury, tumors, Alzheimer's disease, stroke)

Hours of Testing

On average, flexible neuropsychological testing batteries can take up to ten hours to complete including administration, scoring and interpretation (whether in person or on a computer). Sometimes evaluations are conducted at separated time periods over a course of several days. Up to two additional hours of office time can be allowed for initial evaluation and discussion with family for a total of up to 12 hours overall.

Description

Neuropsychological testing is an evaluation of cognition, mood, personality, and behavior that is normally conducted by licensed clinical neuropsychologists. Neuropsychological testing provides the basis for the conclusions regarding neurocognitive effects of various medical disorders and assists in the differentiation of psychiatric from neurological disorders. The evaluation includes a formal interview, a review of medical, educational, and vocational records, interviews with significant others, and a battery of standardized neuropsychological assessments. The testing quantifies a patient's higher cortical functioning and may include various aspects of attention, memory, speed of information processing, language, visual spatial

ability, sensory processing, motor ability, higher-order executive functioning, and intelligence. The goal of neuropsychological testing may be clarification of diagnosis, determination of the clinical and functional significance of a brain abnormality, or development of recommendations regarding neurological rehabilitation planning, but is always for the purpose of shaping treatment.

Related Policies

- N/A

Benefit Application

Benefit determinations should be based in all cases on the applicable contract language. To the extent there are any conflicts between these guidelines and the contract language, the contract language will control. Please refer to the member's contract benefits in effect at the time of service to determine coverage or non-coverage of these services as it applies to an individual member.

Some state or federal mandates (e.g., Federal Employee Program [FEP]) prohibits plans from denying Food and Drug Administration (FDA)-approved technologies as investigational. In these instances, plans may have to consider the coverage eligibility of FDA-approved technologies on the basis of medical necessity alone.

Regulatory Status

- N/A

Rationale

Background

According to the American Academy of Clinical Neuropsychology (AACN) Practice Guidelines for Neuropsychological Assessment and Consultation (2007), "clinical neuropsychology is an applied science that examines the impact of both normal and abnormal brain functioning on a broad range of cognitive, emotional, and behavioral functions."¹ The purpose of neuropsychological testing is to assess the relationship between the brain/central nervous system and cognitive/behavioral dysfunction, as well as to facilitate in differential diagnosis. As noted in the peer-reviewed literature, there are several uses of neuropsychological testing which include: collection of diagnostic information, differential diagnostic information, assessment of treatment response, and prediction of functional potential and functional recovery.² Neuropsychological testing is customarily done in connection with neurological diagnoses rather than diagnoses related to behavioral health conditions. Evaluations will vary in content depending on the purpose of the testing, but will assess multiple neurocognitive and emotional functions.

According to the AACN¹:

Primary cognitive domains include: intellectual functions; academic skills (e.g., reading, writing, math); receptive and expressive language skills (e.g., verbal comprehension, fluency, confrontation naming); simple and complex attention; learning and memory (e.g., encoding, recall, recognition); visuospatial abilities; executive functions, problem-solving and reasoning abilities; and sensorimotor skills. Ideally, assessments should also include measures designed to assess personality, social-emotional functioning, and adaptive behavior.

As stated in an educational pamphlet provided by the American Psychological Association on Clinical Neuropsychology (2001), clinical neuropsychology is an area that specializes in the functioning of the brain.³ A clinical neuropsychologist is a licensed psychologist with the

knowledge and expertise in how behavior and skills are related to brain structures and systems. Brain function is evaluated by objectively testing memory and thinking skills. The clinical neuropsychologist conducts the evaluation and makes recommendations based on the pattern of strengths and weaknesses found during the assessment. These recommendations may include cognitive rehabilitation, behavior management, psychotherapy, or further medical treatment.

Assessment of the following areas may be included in the neuropsychological evaluation:

- 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

There is a wide variety of neuropsychological testing available. There are two basic approaches, a fixed versus a flexible battery of tests. In a fixed battery of tests, the same group of tests are given to all disorders, whereas, the flexible battery is more individualized to the specific cognitive deficits in question, sometimes less time consuming, however not as inclusive. Using scores from published national normative data for comparison, the neuropsychologist can judge whether or not the scores are normal for the patient's age and educational background. "The neuropsychologist typically draws inferences about a given skill or ability from more than one test or test score, and considers the influences of the patient's state of engagement, arousal, or fatigue on test performance."¹ Testing results assist the clinician in determining the scope and severity of cognitive impairments.

The Halstead-Reitan Neuropsychological Test Battery is the most commonly used neuropsychological test. The test was developed specifically to detect "organic" dysfunction and differentiate between patients with and without brain damage (e.g., to distinguish "organic" from "functional" disorders). It includes eight core tests that measure multiple neurocognitive factors and is for individuals 15 years of age and older. Most neuropsychologists will apply this application flexibly (using certain parts of the test). Other approaches to testing include the use of several of the traditional tests in combination with newer techniques developed specifically to evaluate neurocognitive activities and provide insight into brain function in different disease states.

Other neuropsychological tests include but are not limited to the following:

- Boston Diagnostic Aphasia Examination – Third Edition (BDAE-3)
- California Verbal Learning Test® – Second Edition (CVLT®-II)
- Rey Auditory Verbal Learning Test™ (RAVLT™)
- Rey-Osterrieth Complex Figure Test (ROCF)
- Wechsler Adult Intelligence Scale – Fourth Edition (WAIS-IV)
- Wechsler Intelligence Scale for Children® - Fifth Edition (WISC®-V)
- Wechsler Memory Scale – Fourth Edition (WMS-IV)
- Wisconsin Card Sorting Test® (WCST)

Computerized neuropsychological testing is also used. Some of the computerized tests are a translation of the traditional tests. Limitations of this method include: unfamiliarity with the equipment by the patient and the potential for inaccurate timing procedures.⁴ Many of the tests associated with computerized testing were developed to evaluate for mild cognitive impairment, pediatric populations, sports-related concussion, and for use in the research setting. "Neuropsychologists are responsible for the accuracy of scores when a psychometrist or computerized scoring programs are utilized."¹

Testing results can be used to understand a patient's situation in a number of ways³:

- Testing can identify weaknesses in specific areas. The test is very sensitive to mild memory and thinking problems that are not obvious. For example, testing may help determine whether mild memory changes are normal age-related changes versus a neurologic disorder. Testing can further be used to identify medical conditions that affect memory and thinking, such as diabetes, metabolic or infectious diseases, or alcoholism.
- Testing may also be utilized to establish a "baseline," or document a person's skills before there is any problem. Later changes can be measured more objectively.
- Test results may be used to assist in differentiating illnesses. Therefore, the results can be helpful in determining which areas of the brain might be involved and what illness might be operating. For example, testing can help differentiate among Alzheimer's disease, stroke, and depression.
- Test results may be used to plan and monitor rehabilitation treatments or to document the recovery of skills after a stroke or traumatic brain injury.

Neuropsychological testing has been used in the educational setting in children with a suspicion of a learning disorder. Although developmental, aptitude, achievement or intelligence tests may be useful for identifying or monitoring suspected developmental delays or learning disabilities, federal law requires that local education and early intervention agencies provide testing for minors who may have disabilities or special educational needs (Individuals with Disabilities Education Act of 2004 [IDEA 2004]).⁵ Additionally, neuropsychological testing performed for educational reasons is not considered treatment of disease.

In 2007, the American Academy of Child and Adolescent Psychiatry (AACAP) published practice parameters for the assessment and treatment of children and adolescents with attention deficit hyperactivity disorder (ADHD).⁶ The parameters note that neuropsychological testing is not required as part of a routine assessment for ADHD, but may be indicated where there is strong evidence of a neurological disorder.

There is no specific test that can confirm the diagnosis of autism or autism spectrum disorders. It has been proposed that neuropsychological testing be used in the assessment of autism and to assist with the educational planning process. The American Academy of Neurology practice parameter did not recommend that neuropsychological testing be used for the diagnosis of autism, but instead should be performed as needed, in addition to a cognitive assessment, to assess social skills and relationships, educational functioning, problematic behaviors, learning style, motivation and reinforcement, sensory functioning, and self-regulation.⁷

Summary of Evidence

Neuropsychological testing is a tool to assist in the diagnosis of certain conditions. Neuropsychological testing by itself is insufficient as a basis for decisions regarding medical therapy and recommendations concerning specific medical tests to be ordered, or pharmacological agents to be used. Neuropsychological evaluation is able to distinguish between normal and abnormal but cannot distinguish causes of neurologic disease. Most neuropsychological tests have established validity and reliability, and the information received from them can be regarded with confidence when administered and performed by practitioners who are adequately trained.

References

1. American Academy of Clinical Neuropsychology. Practice Guidelines for Neuropsychological Assessment and Consultation. 2007. <http://www.tandfonline.com/doi/pdf/10.1080/13825580601025932>. Accessed May 6, 2020.
2. Harvey PD. Clinical Applications of Neuropsychological Assessment. *Dialogues Clin Neurosci*. 2012; 14(1):91-99.

3. American Psychological Association. Clinical Neuropsychology. A Guide for Patients and Their Families. 2001. <http://www.div40.org/pdf/NeuropsychBroch2.pdf>. Accessed May 6, 2020.
4. Wild K, Howieson D, Webbe F, Seelye A, Kaye J. Status of computerized cognitive testing in aging: a systematic review. *Alzheimers Dement*. 2008; 4(6):428-37.
5. American Psychological Association. Individuals with Disabilities Education Act (IDEA). 2004. <http://www.apa.org/about/gr/issues/disability/idea.aspx>. Accessed May 6, 2020.
6. Pliszka S; AACAP Work Group on Quality Issues. Practice parameter for the assessment and treatment of children and adolescents with attention-deficit/hyperactivity disorder. *J Am Acad Child Adolesc Psychiatry*. 2007; 46(7):894-921.
7. Filipek PA, Accardo PJ, Ashwal S, et al. Practice parameter: Screening and Diagnosis of Autism. Report of the Quality Standards Subcommittee of the American Academy of Neurology and the Child Neurology Society. *Neurology*. 2000; 55(4):468-479.
8. Blue Shield of California, Mental Health Service Administrator. 2019 Neuropsychological Testing Guideline.

Documentation for Clinical Review

Please provide the following documentation:

- History and physical and/or consultation notes including:
 - Complete neurological examination
 - Mental status exam
 - DSM-V diagnosis(es)
 - Tests requested
 - Purpose of testing (outstanding issues related to differential diagnosis or rule-out diagnoses to be evaluated)
 - Total hours requested for testing

Post Service (in addition to the above, please include the following):

- Results/reports of tests performed

Coding

This Policy relates only to the services or supplies described herein. Benefits may vary according to product design; therefore, contract language should be reviewed before applying the terms of the Policy. Inclusion or exclusion of codes does not constitute or imply member coverage or provider reimbursement.

MN/NMN

The following services may be considered medically necessary when policy criteria are met. Services may be considered not medically necessary when policy criteria are not met.

Type	Code	Description
CPT®	96116	Neurobehavioral status exam (clinical assessment of thinking, reasoning and judgment, [e.g., acquired knowledge, attention, language, memory, planning and problem solving, and visual spatial abilities]), by physician or other qualified health care professional, both face-to-face time with the patient and time interpreting test results and preparing the report; first hour
	96121	Neurobehavioral status exam (clinical assessment of thinking, reasoning and judgment, [e.g., acquired knowledge, attention, language, memory, planning and problem solving, and visual spatial abilities]), by physician or other qualified health care professional, both face-to-face time with the patient and time interpreting test

Type	Code	Description
		results and preparing the report; each additional hour (List separately in addition to code for primary procedure)
	96132	Neuropsychological testing evaluation services by physician or other qualified health care professional, including integration of patient data, interpretation of standardized test results and clinical data, clinical decision making, treatment planning and report, and interactive feedback to the patient, family member(s) or caregiver(s), when performed; first hour
	96133	Neuropsychological testing evaluation services by physician or other qualified health care professional, including integration of patient data, interpretation of standardized test results and clinical data, clinical decision making, treatment planning and report, and interactive feedback to the patient, family member(s) or caregiver(s), when performed; each additional hour (List separately in addition to code for primary procedure)
	96136	Psychological or neuropsychological test administration and scoring by physician or other qualified health care professional, two or more tests, any method; first 30 minutes
	96137	Psychological or neuropsychological test administration and scoring by physician or other qualified health care professional, two or more tests, any method; each additional 30 minutes (List separately in addition to code for primary procedure)
	96138	Psychological or neuropsychological test administration and scoring by technician, two or more tests, any method; first 30 minutes
	96139	Psychological or neuropsychological test administration and scoring by technician, two or more tests, any method; each additional 30 minutes (List separately in addition to code for primary procedure)
	96146	Psychological or neuropsychological test administration, with single automated, standardized instrument via electronic platform, with automated result only
HCPCS	None	

Policy History

This section provides a chronological history of the activities, updates and changes that have occurred with this Medical Policy.

Effective Date	Action
02/05/2010	New Policy
04/30/2015	Policy revision with position change
06/01/2016	Policy revision without position change
06/01/2017	Policy revision without position change
07/01/2017	Policy revision without position change
10/01/2018	Policy revision without position change
02/01/2019	Coding update
12/01/2019	Policy revision without position change
04/01/2020	Administrative update
06/01/2020	Annual review. Policy statement clarification.

Definitions of Decision Determinations

Medically Necessary: Services that are Medically Necessary include only those which have been established as safe and effective, are furnished under generally accepted professional standards to treat illness, injury or medical condition, and which, as determined by Blue Shield, are: (a) consistent with Blue Shield medical policy; (b) consistent with the symptoms or diagnosis; (c) not furnished primarily for the convenience of the patient, the attending Physician or other provider; (d) furnished at the most appropriate level which can be provided safely and effectively to the patient; and (e) not more costly than an alternative service or sequence of services at least as likely to produce equivalent therapeutic or diagnostic results as to the diagnosis or treatment of the Member's illness, injury, or disease.

Investigational/Experimental: A treatment, procedure, or drug is investigational when it has not been recognized as safe and effective for use in treating the particular condition in accordance with generally accepted professional medical standards. This includes services where approval by the federal or state governmental is required prior to use, but has not yet been granted.

Split Evaluation: Blue Shield of California/Blue Shield of California Life & Health Insurance Company (Blue Shield) policy review can result in a split evaluation, where a treatment, procedure, or drug will be considered to be investigational for certain indications or conditions, but will be deemed safe and effective for other indications or conditions, and therefore potentially medically necessary in those instances.

Prior Authorization Requirements (as applicable to your plan)

Within five days before the actual date of service, the provider must confirm with Blue Shield that the member's health plan coverage is still in effect. Blue Shield reserves the right to revoke an authorization prior to services being rendered based on cancellation of the member's eligibility. Final determination of benefits will be made after review of the claim for limitations or exclusions.

Questions regarding the applicability of this policy should be directed to the Prior Authorization Department at (800) 541-6652, or the Transplant Case Management Department at (800) 637-2066 ext. 3507708 or visit the provider portal at www.blueshieldca.com/provider.

Disclaimer: This medical policy is a guide in evaluating the medical necessity of a particular service or treatment. Blue Shield of California may consider published peer-reviewed scientific literature, national guidelines, and local standards of practice in developing its medical policy. Federal and state law, as well as contract language, including definitions and specific contract provisions/exclusions, take precedence over medical policy and must be considered first in determining covered services. Member contracts may differ in their benefits. Blue Shield reserves the right to review and update policies as appropriate.