



Louisiana

Cognitive Rehabilitation

Policy # 00578

Original Effective Date: 10/01/2021

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Applies to all products administered or underwritten by Blue Cross and Blue Shield of Louisiana and its subsidiary, HMO Louisiana, Inc. (collectively referred to as the "Company"), unless otherwise provided in the applicable contract. Medical technology is constantly evolving, and we reserve the right to review and update Medical Policy periodically.

When Services May Be Eligible for Coverage

Coverage for eligible medical treatments or procedures, drugs, devices or biological products may be provided only if:

- *Benefits are available in the member's contract/certificate, and*
- *Medical necessity criteria and guidelines are met.*

Based on review of available data, the Company may consider cognitive rehabilitation (as a distinct and definable component of the rehabilitation process) for patients with cognitive impairment due to traumatic brain injury (TBI) or stroke (ischemic or hemorrhagic) to be **eligible for coverage**.**

Patient Selection Criteria

Coverage eligibility will be considered when all of the following criteria are met:

- Documented cognitive impairment with related functional deficit; and
- Individual is willing and able to actively participate in a cognitive rehabilitation program (e.g. is not in a vegetative or comatose state); and
- There is significant potential for improvement (goals and expected timeframes should be documented prior to the onset of treatment); and
- For continuation requests, documentation supports continued need for cognitive rehabilitation based on active participation and objective progress toward quantifiable short- and long-term goals; and
- Provided by a licensed healthcare professional (e.g. neuropsychologist, psychiatrist, physician, psychologist, speech/ language therapist, physical or occupational therapist).

When Services Are Considered Investigational

Coverage is not available for investigational medical treatments or procedures, drugs, devices or biological products.

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Based on review of available data, the Company considers cognitive rehabilitation (as a distinct and definable component of the rehabilitation process) for all other applications, including, but not limited to, post-concussion syndrome, attention deficit disorder, postencephalitic or postencephalopathy patients, autism spectrum disorder, seizure disorders, multiple sclerosis, the aging population, including patients with Alzheimer disease, and patients with cognitive deficits due to brain tumor or previous treatment for cancer to be **investigational**.*

The use of cognitive rehabilitation when patient selection criteria are not met is considered to be **investigational**.*

Policy Guidelines

For services to be considered medically necessary, they must be provided by a qualified licensed professional and must be prescribed by the attending physician as part of the written care plan. Additionally, there must be a potential for improvement (based on preinjury function), and patients must be able to participate actively in the program. Active participation requires sufficient cognitive function to understand and participate in the program, as well as adequate language expression and comprehension (ie, participants should not have severe aphasia). Ongoing services are considered necessary only when there is demonstrated continued objective improvement in function.

Duration and intensity of cognitive rehabilitation therapy programs vary. One approach for comprehensive cognitive rehabilitation is a 16-week outpatient program comprising 5 hours of therapy daily for 4 days each week. In another approach, cognitive group treatment occurs for three 2-hour sessions weekly and three 1-hour individual sessions (total, 9 hours weekly). Cognitive rehabilitation programs for specific deficits (eg, memory training) are less intensive and generally have 1 or 2 sessions (30 or 60 minutes) in a week for 4 to 10 weeks.

Background/Overview

Cognitive rehabilitation is a structured set of therapeutic activities designed to retrain an individual's ability to think, use judgment, and make decisions. The focus is on improving deficits in memory, attention, perception, learning, planning, and judgment. The term *cognitive rehabilitation* is applied to various intervention strategies or techniques that attempt to help patients reduce, manage, or cope with cognitive deficits caused by brain injury. The desired outcomes are improved quality of life and function in home and community life. The term *rehabilitation* broadly encompasses reentry into

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familial, social, educational, and working environments, the reduction of dependence on assistive devices or services, and general enrichment of quality of life. Patients recuperating from traumatic brain injury have traditionally been treated with some combination of physical therapy, occupational therapy, and psychological services as indicated. Cognitive rehabilitation is considered a separate service from other rehabilitative therapies, with its own specific procedures.

FDA or Other Governmental Regulatory Approval

U.S. Food and Drug Administration (FDA)

Cognitive rehabilitation is not subject to regulation by the U.S. Food and Drug Administration.

Rationale/Source

Cognitive rehabilitation is a therapeutic approach designed to improve cognitive functioning after central nervous system insult. It includes an assembly of therapy methods that retrain or alleviate problems caused by deficits in attention, visual processing, language, memory, reasoning, problem-solving, and executive functions. Cognitive rehabilitation comprises tasks to reinforce or reestablish previously learned patterns of behavior or to establish new compensatory mechanisms for impaired neurologic systems. Cognitive rehabilitation may be performed by a physician, psychologist, or a physical, occupational, or speech therapist.

For individuals who have cognitive deficits due to traumatic brain injury who receive cognitive rehabilitation delivered by a qualified professional, the evidence includes randomized controlled trials (RCTs), nonrandomized comparison studies, case series, and systematic reviews. Relevant outcomes are functional outcomes and quality of life. The cognitive rehabilitation trials have methodologic limitations and have reported mixed results, indicating there is no uniform or consistent evidence base supporting the efficacy of this technique. Systematic reviews have generally concluded that efficacy of cognitive rehabilitation is uncertain. The evidence is insufficient to determine that the technology results in an improvement in the net health outcome.

For individuals who have cognitive deficits due to dementia who receive cognitive rehabilitation delivered by a qualified professional, the evidence includes RCTs, nonrandomized comparison studies, case series, and systematic reviews. Relevant outcomes are functional outcomes and quality of life. Systematic reviews of RCTs have generally shown no benefit of cognitive rehabilitation or effects of clinical importance. One large RCT evaluating a goal-oriented cognitive rehabilitation

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program reported a significantly less functional decline in 1 of 2 functional scales and lower rates of institutionalization in the cognitive rehabilitation group compared with usual care at 24 months. These results need replication. The evidence is insufficient to determine that the technology results in an improvement in the net health outcome.

For individuals who have cognitive deficits due to stroke who receive cognitive rehabilitation delivered by a qualified professional, the evidence includes RCTs and systematic reviews. Relevant outcomes are functional outcomes and quality of life. Four systematic reviews evaluating 3 separate domains of cognitive function have shown no benefit of cognitive rehabilitation or effects of clinical importance. The evidence is insufficient to determine that the technology results in an improvement in the net health outcome.

For individuals who have cognitive deficits due to multiple sclerosis who receive cognitive rehabilitation delivered by a qualified professional, the evidence includes RCTs and systematic reviews. Relevant outcomes are functional outcomes and quality of life. Systematic reviews of RCTs have shown no significant effects of cognitive rehabilitation on cognitive outcomes. Although numerous RCTs have investigated cognitive rehabilitation for multiple sclerosis, high-quality trials are lacking. The ability to draw conclusions based on the overall body of evidence is limited by the heterogeneity of patient samples, interventions, and outcome measures. Further, results of the available RCTs have been mixed, with positive studies mostly reporting short-term benefits. Evidence for clinically significant, durable improvements in cognition is currently lacking. The evidence is insufficient to determine that the technology results in an improvement in the net health outcome.

For individuals who have cognitive deficits due to epilepsy, autism spectrum disorder, post encephalopathy, or cancer who receive cognitive rehabilitation delivered by a qualified professional, the evidence includes RCTs, nonrandomized comparison studies, and case series. Relevant outcomes are functional outcomes and quality of life. The quantity of studies for these conditions is much less than that for the other cognitive rehabilitation indications. Systematic reviews generally have not supported the efficacy of cognitive rehabilitation for these conditions. Relevant RCTs have had methodologic limitations, most often very short lengths of follow-up, which do not permit strong conclusions about efficacy. The evidence is insufficient to determine that the technology results in an improvement in the net health outcome.

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Clinical input obtained in 2010 provided the strongest support for the use of cognitive rehabilitation as part of the treatment of traumatic brain injuries. As part of clinical input obtained in 2015, the American Association of Physical Medicine & Rehabilitation reasserted its position of support. Cognitive rehabilitation may be considered medically necessary for traumatic brain injury based on this input.

Supplemental Information

The purpose of the following information is to provide reference material. Inclusion does not imply endorsement or alignment with the evidence review conclusions.

Clinical Input From Physician Specialty Societies and Academic Medical Centers

While the various physician specialty societies and academic medical centers may collaborate with and make recommendations during this process, through the provision of appropriate reviewers, input received does not represent an endorsement or position statement by the physician specialty societies or academic medical centers, unless otherwise noted.

2015 Input

In response to requests, input was received from 3 physician specialty societies and 5 academic medical centers while this policy was under review in 2015. Input was mixed on cognitive rehabilitation for patients with stroke, multiple sclerosis, brain tumors, or cognitive impairments after previous treatments for cancer. While input was not specifically requested for TBI, the American Association of Physical Medicine & Rehabilitation reasserted its position of support for cognitive rehabilitation after TBI.

2009/2010 Input

In response to requests, input was received from 2 physician specialty societies and 5 academic medical centers while this policy was under review in 2010. The strongest support was for the use of cognitive rehabilitation as part of the treatment of those with traumatic brain injuries. The level of support varied for other diagnoses (eg, use in post-stroke patients).

Practice Guidelines and Position Statements

Guidelines or position statements will be considered for inclusion in ‘Supplemental Information’ if they were issued by, or jointly by, a US professional society, an international society with US

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representation, or National Institute for Health and Care Excellence (NICE). Priority will be given to guidelines that are informed by a systematic review, include strength of evidence ratings, and include a description of management of conflict of interest.

American Congress of Rehabilitation Medicine

In 2013, based on a systematic review, the American Congress of Rehabilitation Medicine recommended process-based cognitive rehabilitation strategies (eg, attention process training, strategy acquisition and internalization, self-monitoring, corrective feedback) to treat attention and memory deficits in children and adolescents with brain cancers who undergo surgical resection and/or radiotherapy. The strength of evidence for recommendations were determined according to American Academy of Neurology study classification, and no financial conflicts of interest were declared by the authors.

National Institute for Health and Care Excellence

In 2013, National Institute for Health and Care Excellence (NICE) guidance on stroke rehabilitation recommended cognitive rehabilitation for visual neglect and memory and attention deficits that impact function. Interventions should focus on relevant functional tasks (eg, "errorless learning") and "elaborative techniques" (eg, "mnemonics," "encoding" strategies) for memory impairments.

In 2018, NICE guidance on dementia management suggested: "Consider cognitive rehabilitation or occupational therapy to support functional ability in people living with mild to moderate dementia."

The NICE guidance development is a transparent process that provides detailed information on the strength of recommendations and information on potential conflicts of interest for guideline committee members.

Institute of Medicine

In 2011, the Institute of Medicine published a report on cognitive rehabilitation for traumatic brain injury that included a comprehensive review of the literature and recommendations. The report concluded that "current evidence provides limited support for the efficacy of CRT [cognitive rehabilitation therapy] interventions. The evidence varies in both the quality and volume of studies and therefore is not yet sufficient to develop definitive guidelines for health professionals on how to apply CRT in practice." The report recommended that standardization of clinical variables, intervention components, and outcome measures was necessary to improve the evidence base for

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this treatment. The Institute of Medicine also recommended future studies with larger sample sizes and more comprehensive sets of clinical variables and outcome measures.

Veterans Administration

In 2009, the Veterans Administration/Department of Veterans Affairs published guidelines on the treatment of concussion and mild traumatic brain injury, which were updated in 2016. These guidelines addressed cognitive rehabilitation in the setting of persistent symptoms. The 2016 guidelines stated:

"Individuals with a history of mTBI [mild traumatic brain injury] who present with symptoms related to memory, attention, and/or executive function problems that do not resolve within 30 to 90 days and have been refractory to treatment for associated symptoms should be referred as appropriate to cognitive rehabilitation therapists with expertise in TBI rehabilitation. The Work Group suggests considering a short-term trial of cognitive rehabilitation treatment to assess the individual patient responsiveness to strategy training, including instruction and practice on use of memory aids, such as cognitive assistive technologies (AT). A prolonged course of therapy in the absence of patient improvement is strongly discouraged."

The strength of the recommendation was rated as "weak."

A 2019 Veterans Administration/Department of Defense practice guideline on the management of stroke rehabilitation found "insufficient evidence to recommend for or against the use of any specific cognitive rehabilitation methodology or pharmacotherapy to improve cognitive outcomes" and noted "there has been very little advancement in the evidence regarding the use of specific cognitive rehabilitation strategies or techniques to improve clinical outcomes following stroke."

U.S. Preventive Services Task Force Recommendations

Not applicable.

Medicare National Coverage

There is no national coverage determination. In the absence of a national coverage determination, coverage decisions are left to the discretion of local Medicare carriers.

Ongoing and Unpublished Clinical Trials

Some currently unpublished trials that might influence this review are listed in Table 1.

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Table 1. Summary of Key Trials

NCT No.	Trial Name	Planned Enrollment	Completion Date
<i>Ongoing</i>			
NCT01138020	Cognitive Rehabilitation of Blast-induced Traumatic Brain Injury	120	Oct 2022
NCT03168360	Effect of Intensive Cognitive Rehabilitation in Subacute Stroke Patient	150	Dec 2021
NCT03900806	Internet-based Work-related Cognitive Rehabilitation for Cancer Survivors: a Randomized Controlled Trial (i-WORC)	261	May 2021
NCT03948490	Rehabilitation and Longitudinal Follow-up of Cognition in Adult Lower Grade Gliomas	180	Dec 2022
NCT04229056	Computer-Assisted Self-Training to Improve Executive Function Versus Unspecific Training in Patients After Stroke, Cardiac Arrest or in Parkinson's Disease: A Randomized Controlled Trial	600	Dec 2024
<i>Unpublished</i>			
NCT01788618	Cancer and Disorders of Cognitive Functions and Quality of Life: "Cognitive Rehabilitation in Patients Suffering From Cancer and Treated With Chemotherapy"	168	Jul 2017
NCT03306875	Impact of Brain Connectome and Personality on Cognitive Rehabilitation in Multiple Sclerosis	50	Oct 2018
NCT03237676	The Effect of Cognitive Rehabilitation Therapy in Improving Cognitive Function of Attention Following Mild Traumatic Brain Injury	100	Oct 2019

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NCT03215342	Cognitive Rehabilitation in Pediatric Acquired Brain Injury - a Randomized Controlled Trial	76	Nov 2019
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NCT: national clinical trial.

References

1. Blue Cross and Blue Shield Association, Medical Policy Reference Manual, “Cognitive Rehabilitation”, 8.03.10, April 2021.
2. Hardy KK, Willard VW, Allen TM, et al. Working memory training in survivors of pediatric cancer: a randomized pilot study. *Psychooncology*. Aug 2013; 22(8): 1856-65. PMID 23203754
3. Kesler S, Hadi Hosseini SM, Heckler C, et al. Cognitive training for improving executive function in chemotherapy-treated breast cancer survivors. *Clin Breast Cancer*. Aug 2013; 13(4): 299-306. PMID 23647804
4. Bonavita S, Sacco R, Della Corte M, et al. Computer-aided cognitive rehabilitation improves cognitive performances and induces brain functional connectivity changes in relapsing remitting multiple sclerosis patients: an exploratory study. *J Neurol*. Jan 2015; 262(1): 91-100. PMID 25308631
5. De Giglio L, De Luca F, Prosperini L, et al. A low-cost cognitive rehabilitation with a commercial video game improves sustained attention and executive functions in multiple sclerosis: a pilot study. *Neurorehabil Neural Repair*. Jun 2015; 29(5): 453-61. PMID 25398725
6. Gich J, Freixanet J, Garcia R, et al. A randomized, controlled, single-blind, 6-month pilot study to evaluate the efficacy of MS-Line!: a cognitive rehabilitation programme for patients with multiple sclerosis. *Mult Scler*. Sep 2015; 21(10): 1332-43. PMID 25716880
7. Blue Cross and Blue Shield Association Technology Evaluation Center (TEC). Cognitive rehabilitation. *TEC Assessments*. 1997;Volume 12:Tab 6.
8. Langenbahn DM, Ashman T, Cantor J, et al. An evidence-based review of cognitive rehabilitation in medical conditions affecting cognitive function. *Arch Phys Med Rehabil*. Feb 2013; 94(2): 271-86. PMID 23022261
9. Chung CS, Pollock A, Campbell T, et al. Cognitive rehabilitation for executive dysfunction in adults with stroke or other adult non-progressive acquired brain damage. *Cochrane Database Syst Rev*. Apr 30 2013; (4): CD008391. PMID 23633354
10. Blue Cross and Blue Shield Association Technology Evaluation Center (TEC). Cognitive rehabilitation for traumatic brain injury in adults. *TEC Assessments*. 2008;Volume 23:Tab 3.

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11. Chiaravalloti ND, Sandry J, Moore NB, et al. An RCT to Treat Learning Impairment in Traumatic Brain Injury: The TBI-MEM Trial. *Neurorehabil Neural Repair*. Jul 2016; 30(6): 539-50. PMID 26359341
12. das Nair R, Bradshaw LE, Carpenter H, et al. A group memory rehabilitation programme for people with traumatic brain injuries: the ReMemBrIn RCT. *Health Technol Assess*. Apr 2019; 23(16): 1-194. PMID 31032782
13. Bahar-Fuchs A, Martyr A, Goh AM, et al. Cognitive training for people with mild to moderate dementia. *Cochrane Database Syst Rev*. Mar 25 2019; 3: CD013069. PMID 30909318
14. Huntley JD, Gould RL, Liu K, et al. Do cognitive interventions improve general cognition in dementia? A meta-analysis and meta-regression. *BMJ Open*. Apr 02 2015; 5(4): e005247. PMID 25838501
15. Bahar-Fuchs A, Clare L, Woods B. Cognitive training and cognitive rehabilitation for mild to moderate Alzheimer's disease and vascular dementia. *Cochrane Database Syst Rev*. Jun 05 2013; (6): CD003260. PMID 23740535
16. Clare L, Linden DE, Woods RT, et al. Goal-oriented cognitive rehabilitation for people with early-stage Alzheimer disease: a single-blind randomized controlled trial of clinical efficacy. *Am J Geriatr Psychiatry*. Oct 2010; 18(10): 928-39. PMID 20808145
17. Martin M, Clare L, Altgassen AM, et al. Cognition-based interventions for healthy older people and people with mild cognitive impairment. *Cochrane Database Syst Rev*. Jan 19 2011; (1): CD006220. PMID 21249675
18. Clare L, Kudlicka A, Oyeboode JR, et al. Individual goal-oriented cognitive rehabilitation to improve everyday functioning for people with early-stage dementia: A multicentre randomised controlled trial (the GREAT trial). *Int J Geriatr Psychiatry*. May 2019; 34(5): 709-721. PMID 30724405
19. Amieva H, Robert PH, Grandoulier AS, et al. Group and individual cognitive therapies in Alzheimer's disease: the ETNA3 randomized trial. *Int Psychogeriatr*. May 2016; 28(5): 707-17. PMID 26572551
20. Regan B, Wells Y, Farrow M, et al. MAXCOG-Maximizing Cognition: A Randomized Controlled Trial of the Efficacy of Goal-Oriented Cognitive Rehabilitation for People with Mild Cognitive Impairment and Early Alzheimer Disease. *Am J Geriatr Psychiatry*. Mar 2017; 25(3): 258-269. PMID 28034509
21. Thivierge S, Jean L, Simard M. A randomized cross-over controlled study on cognitive rehabilitation of instrumental activities of daily living in Alzheimer disease. *Am J Geriatr Psychiatry*. Nov 2014; 22(11): 1188-99. PMID 23871120

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22. Brunelle-Hamann L, Thivierge S, Simard M. Impact of a cognitive rehabilitation intervention on neuropsychiatric symptoms in mild to moderate Alzheimer's disease. *Neuropsychol Rehabil.* 2015; 25(5): 677-707. PMID 25312605
23. Kurz A, Thone-Otto A, Cramer B, et al. CORDIAL: cognitive rehabilitation and cognitive-behavioral treatment for early dementia in Alzheimer disease: a multicenter, randomized, controlled trial. *Alzheimer Dis Assoc Disord.* Jul-Sep 2012; 26(3): 246-53. PMID 21986341
24. Chapman SB, Weiner MF, Rackley A, et al. Effects of cognitive-communication stimulation for Alzheimer's disease patients treated with donepezil. *J Speech Lang Hear Res.* Oct 2004; 47(5): 1149-63. PMID 15603468
25. Spector A, Thorgrimsen L, Woods B, et al. Efficacy of an evidence-based cognitive stimulation therapy programme for people with dementia: randomised controlled trial. *Br J Psychiatry.* Sep 2003; 183: 248-54. PMID 12948999
26. Bowen A, Hazelton C, Pollock A, et al. Cognitive rehabilitation for spatial neglect following stroke. *Cochrane Database Syst Rev.* Jul 01 2013; (7): CD003586. PMID 23813503
27. Loetscher T, Lincoln NB. Cognitive rehabilitation for attention deficits following stroke. *Cochrane Database Syst Rev.* May 31 2013; (5): CD002842. PMID 23728639
28. Nair RD, Lincoln NB. Cognitive rehabilitation for memory deficits following stroke. *Cochrane Database Syst Rev.* Jul 18 2007; (3): CD002293. PMID 17636703
29. das Nair R, Cogger H, Worthington E, et al. Cognitive rehabilitation for memory deficits after stroke. *Cochrane Database Syst Rev.* Sep 01 2016; 9: CD002293. PMID 27581994
30. Gillespie DC, Bowen A, Chung CS, et al. Rehabilitation for post-stroke cognitive impairment: an overview of recommendations arising from systematic reviews of current evidence. *Clin Rehabil.* Feb 2015; 29(2): 120-8. PMID 24942480
31. Diamond PT. Rehabilitative management of post-stroke visuospatial inattention. *Disabil Rehabil.* Jul 10 2001; 23(10): 407-12. PMID 11400902
32. Zucchella C, Capone A, Codella V, et al. Assessing and restoring cognitive functions early after stroke. *Funct Neurol.* Oct-Dec 2014; 29(4): 255-62. PMID 25764255
33. das Nair R, Ferguson H, Stark DL, et al. Memory Rehabilitation for people with multiple sclerosis. *Cochrane Database Syst Rev.* Mar 14 2012; (3): CD008754. PMID 22419337
34. Rosti-Otajarvi EM, Hamalainen PI. Neuropsychological rehabilitation for multiple sclerosis. *Cochrane Database Syst Rev.* Feb 11 2014; (2): CD009131. PMID 24515630
35. das Nair R, Martin KJ, Lincoln NB. Memory rehabilitation for people with multiple sclerosis. *Cochrane Database Syst Rev.* Mar 23 2016; 3: CD008754. PMID 27004596

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Current Effective Date: 10/01/2021

36. Lincoln NB, Bradshaw LE, Constantinescu CS, et al. Cognitive rehabilitation for attention and memory in people with multiple sclerosis: a randomized controlled trial (CRAMMS). *Clin Rehabil.* Feb 2020; 34(2): 229-241. PMID 31769299
37. Lincoln NB, Bradshaw LE, Constantinescu CS, et al. Group cognitive rehabilitation to reduce the psychological impact of multiple sclerosis on quality of life: the CRAMMS RCT. *Health Technol Assess.* Jan 2020; 24(4): 1-182. PMID 31934845
38. Brissart H, Omorou AY, Forthoffer N, et al. Memory improvement in multiple sclerosis after an extensive cognitive rehabilitation program in groups with a multicenter double-blind randomized trial. *Clin Rehabil.* Jun 2020; 34(6): 754-763. PMID 32475261
39. Chiaravalloti ND, DeLuca J, Moore NB, et al. Treating learning impairments improves memory performance in multiple sclerosis: a randomized clinical trial. *Mult Scler.* Feb 2005; 11(1): 58-68. PMID 15732268
40. Chiaravalloti ND, Moore NB, Nickelshpur OM, et al. An RCT to treat learning impairment in multiple sclerosis: The MEMREHAB trial. *Neurology.* Dec 10 2013; 81(24): 2066-72. PMID 24212393
41. Rosti-Otajarvi E, Mantynen A, Koivisto K, et al. Neuropsychological rehabilitation has beneficial effects on perceived cognitive deficits in multiple sclerosis during nine-month follow-up. *J Neurol Sci.* Nov 15 2013; 334(1-2): 154-60. PMID 24011606
42. Mantynen A, Rosti-Otajarvi E, Koivisto K, et al. Neuropsychological rehabilitation does not improve cognitive performance but reduces perceived cognitive deficits in patients with multiple sclerosis: a randomised, controlled, multi-centre trial. *Mult Scler.* Jan 2014; 20(1): 99-107. PMID 23804555
43. Hanssen KT, Beiske AG, Landro NI, et al. Cognitive rehabilitation in multiple sclerosis: a randomized controlled trial. *Acta Neurol Scand.* Jan 2016; 133(1): 30-40. PMID 25952561
44. Shahpouri MM, Barekatin M, Tavakoli M, et al. Evaluation of cognitive rehabilitation on the cognitive performance in multiple sclerosis: A randomized controlled trial. *J Res Med Sci.* 2019; 24: 110. PMID 31949461
45. Chiaravalloti ND, Moore NB, Weber E, et al. The application of Strategy-based Training to Enhance Memory (STEM) in multiple sclerosis: A pilot RCT. *Neuropsychol Rehabil.* Mar 2021; 31(2): 231-254. PMID 31752604
46. Farina E, Raglio A, Giovagnoli AR. Cognitive rehabilitation in epilepsy: An evidence-based review. *Epilepsy Res.* Jan 2015; 109: 210-8. PMID 25524861

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Cognitive Rehabilitation

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47. Engelberts NH, Klein M, Ader HJ, et al. The effectiveness of cognitive rehabilitation for attention deficits in focal seizures: a randomized controlled study. *Epilepsia*. Jun 2002; 43(6): 587-95. PMID 12060017
48. Helmstaedter C, Loer B, Wohlfahrt R, et al. The effects of cognitive rehabilitation on memory outcome after temporal lobe epilepsy surgery. *Epilepsy Behav*. Apr 2008; 12(3): 402-9. PMID 18155965
49. Reichow B, Servili C, Yasamy MT, et al. Non-specialist psychosocial interventions for children and adolescents with intellectual disability or lower-functioning autism spectrum disorders: a systematic review. *PLoS Med*. Dec 2013; 10(12): e1001572; discussion e1001572. PMID 24358029
50. Wang M, Reid D. Using the virtual reality-cognitive rehabilitation approach to improve contextual processing in children with autism. *ScientificWorldJournal*. 2013; 2013: 716890. PMID 24324379
51. Eack SM, Greenwald DP, Hogarty SS, et al. Cognitive enhancement therapy for adults with autism spectrum disorder: results of an 18-month feasibility study. *J Autism Dev Disord*. Dec 2013; 43(12): 2866-77. PMID 23619953
52. Akel BS, Sahin S, Huri M, et al. Cognitive rehabilitation is advantageous in terms of fatigue and independence in pediatric cancer treatment: a randomized-controlled study. *Int J Rehabil Res*. Jun 2019; 42(2): 145-151. PMID 30741725
53. Zucchella C, Capone A, Codella V, et al. Cognitive rehabilitation for early post-surgery inpatients affected by primary brain tumor: a randomized, controlled trial. *J Neurooncol*. Aug 2013; 114(1): 93-100. PMID 23677749
54. Fernandes HA, Richard NM, Edelstein K. Cognitive rehabilitation for cancer-related cognitive dysfunction: a systematic review. *Support Care Cancer*. Sep 2019; 27(9): 3253-3279. PMID 31147780
55. Zeng Y, Cheng AS, Chan CC. Meta-Analysis of the Effects of Neuropsychological Interventions on Cognitive Function in Non-Central Nervous System Cancer Survivors. *Integr Cancer Ther*. Dec 2016; 15(4): 424-434. PMID 27151596
56. Poppelreuter M, Weis J, Mumm A, et al. Rehabilitation of therapy-related cognitive deficits in patients after hematopoietic stem cell transplantation. *Bone Marrow Transplant*. Jan 2008; 41(1): 79-90. PMID 17934527
57. Butler RW, Copeland DR, Fairclough DL, et al. A multicenter, randomized clinical trial of a cognitive remediation program for childhood survivors of a pediatric malignancy. *J Consult Clin Psychol*. Jun 2008; 76(3): 367-78. PMID 18540731

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58. Richard NM, Bernstein LJ, Mason WP, et al. Cognitive rehabilitation for executive dysfunction in brain tumor patients: a pilot randomized controlled trial. *J Neurooncol.* May 2019; 142(3): 565-575. PMID 30847839
59. National Institute for Health and Care Excellence (NICE). Stroke rehabilitation in adults [CG162]. 2013; <https://www.nice.org.uk/guidance/CG162>. Accessed January 24, 2021.
60. National Institute for Health and Care Excellence (NICE). Dementia: assessment, management and support for people living with dementia and their carers [NG97]. 2018; <https://www.nice.org.uk/guidance/ng97/chapter/Recommendations#interventions-to-promote-cognition-independence-and-wellbeing>. Accessed January 24, 2021.
61. Institute of Medicine. Cognitive rehabilitation therapy for traumatic brain injury: evaluating the evidence. Washington, DC: National Academies Press; 2011.
62. Department of Veteran Affairs Department of Defense. VA/DoD clinical practice guideline for management of concussion/mild traumatic brain injury. Washington (DC): Department of Veteran Affairs, Department of Defense; 2009.
63. Management of Concussion-mild Traumatic Brain Injury Working Group. VA/DoD clinical practice guideline for the management of concussion-mild traumatic brain injury, Version 2.0. Washington, DC: Department of Veterans Affairs, Department of Defense; 2016.
64. Department of Veterans Affairs/Department of Defense Management of Stroke Rehabilitation Work Group. VA/DoD Clinical Practice Guideline for the Management of Stroke Rehabilitation. Version 4.0, 2019. <https://www.healthquality.va.gov/guidelines/Rehab/stroke/VADoDStrokeRehabCPGFinal8292019.pdf>.

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07/01/2021 Medical Policy Committee review

07/14/2021 Medical Policy Implementation Committee approval. New policy.

Next Scheduled Review Date: 07/2022

Coding

The five character codes included in the Blue Cross Blue Shield of Louisiana Medical Policy Coverage Guidelines are obtained from Current Procedural Terminology (CPT®)‡, copyright 2020

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by the American Medical Association (AMA). CPT is developed by the AMA as a listing of descriptive terms and five character identifying codes and modifiers for reporting medical services and procedures performed by physician.

The responsibility for the content of Blue Cross Blue Shield of Louisiana Medical Policy Coverage Guidelines is with Blue Cross and Blue Shield of Louisiana and no endorsement by the AMA is intended or should be implied. The AMA disclaims responsibility for any consequences or liability attributable or related to any use, nonuse or interpretation of information contained in Blue Cross Blue Shield of Louisiana Medical Policy Coverage Guidelines. Fee schedules, relative value units, conversion factors and/or related components are not assigned by the AMA, are not part of CPT, and the AMA is not recommending their use. The AMA does not directly or indirectly practice medicine or dispense medical services. The AMA assumes no liability for data contained or not contained herein. Any use of CPT outside of Blue Cross Blue Shield of Louisiana Medical Policy Coverage Guidelines should refer to the most current Current Procedural Terminology which contains the complete and most current listing of CPT codes and descriptive terms. Applicable FARS/DFARS apply.

CPT is a registered trademark of the American Medical Association.

Codes used to identify services associated with this policy may include (but may not be limited to) the following:

Code Type	Code
CPT	97129, 97130
HCPCS	No codes
ICD-10 Diagnosis	F01.50-F01.51, F02.80-F02.81, F03.90-F03.91, F07.81, F44.5, F84.0-F84.9, F90.0-F90.9, G30.0-G30.9, G31.0-G31.9, G35, G40.0-G40.91, G45.0-G45.9, G46.0-646.8, G93.40-G93.49, R41.8-R41.9, R56.1, S06.0-S06.9X9

*Investigational – A medical treatment, procedure, drug, device, or biological product is Investigational if the effectiveness has not been clearly tested and it has not been incorporated into standard medical practice. Any determination we make that a medical treatment, procedure, drug, device, or biological product is Investigational will be based on a consideration of the following:

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- A. Whether the medical treatment, procedure, drug, device, or biological product can be lawfully marketed without approval of the U.S. Food and Drug Administration (FDA) and whether such approval has been granted at the time the medical treatment, procedure, drug, device, or biological product is sought to be furnished; or
- B. Whether the medical treatment, procedure, drug, device, or biological product requires further studies or clinical trials to determine its maximum tolerated dose, toxicity, safety, effectiveness, or effectiveness as compared with the standard means of treatment or diagnosis, must improve health outcomes, according to the consensus of opinion among experts as shown by reliable evidence, including:
 - 1. Consultation with the Blue Cross and Blue Shield Association technology assessment program (TEC) or other nonaffiliated technology evaluation center(s);
 - 2. Credible scientific evidence published in peer-reviewed medical literature generally recognized by the relevant medical community; or
 - 3. Reference to federal regulations.

****Medically Necessary (or “Medical Necessity”)** - Health care services, treatment, procedures, equipment, drugs, devices, items or supplies that a Provider, exercising prudent clinical judgment, would provide to a patient for the purpose of preventing, evaluating, diagnosing or treating an illness, injury, disease or its symptoms, and that are:

- A. In accordance with nationally accepted standards of medical practice;
- B. Clinically appropriate, in terms of type, frequency, extent, level of care, site and duration, and considered effective for the patient's illness, injury or disease; and
- C. Not primarily for the personal comfort or convenience of the patient, physician or other health care provider, and 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 that patient's illness, injury or disease.

For these purposes, “nationally accepted standards of medical practice” means standards that are based on credible scientific evidence published in peer-reviewed medical literature generally recognized by the relevant medical community, Physician Specialty Society recommendations and the views of Physicians practicing in relevant clinical areas and any other relevant factors.

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NOTICE: If the Patient's health insurance contract contains language that differs from the BCBSLA Medical Policy definition noted above, the definition in the health insurance contract will be relied upon for specific coverage determinations.

NOTICE: Medical Policies are scientific based opinions, provided solely for coverage and informational purposes. Medical Policies should not be construed to suggest that the Company recommends, advocates, requires, encourages, or discourages any particular treatment, procedure, or service, or any particular course of treatment, procedure, or service.

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