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<b>Medical Benefit</b>		<b>Effective Date:</b> 07/01/16	<b>Next Review Date:</b> 05/23
<b>Preauthorization</b>	Yes	<b>Review Dates:</b> 04/07, 05/08, 05/09, 05/10, 09/10, 09/11, 07/12, 05/13, 05/14, 05/15, 05/16, 05/17, 05/18, 05/19, 05/20, 05/21, 05/22	

***Preauthorization is required.***

*The following protocol contains medical necessity criteria that apply for this service. The criteria are also applicable to services provided in the local Medicare Advantage operating area for those members, unless separate Medicare Advantage criteria are indicated. If the criteria are not met, reimbursement will be denied and the patient cannot be billed. Please note that payment for covered services is subject to eligibility and the limitations noted in the patient's contract at the time the services are rendered.*

**RELATED PROTOCOL**

Sensory Integration Therapy and Auditory Integration Therapy

Populations	Interventions	Comparators	Outcomes
Individuals: • With cognitive deficits due to traumatic brain injury	Interventions of interest are: • Cognitive rehabilitation delivered by a qualified professional	Comparators of interest are: • Standard rehabilitation (e.g., physical therapy, occupational therapy) without specific focus on cognition • No rehabilitation	Relevant outcomes include: • Functional outcomes • Quality of life
Individuals: • With cognitive deficits due to dementia	Interventions of interest are: • Cognitive rehabilitation delivered by a qualified professional	Comparators of interest are: • Standard rehabilitation (e.g., physical therapy, occupational therapy) without specific focus on cognition • No rehabilitation	Relevant outcomes include: • Functional outcomes • Quality of life
Individuals: • With cognitive deficits due to stroke	Interventions of interest are: • Cognitive rehabilitation delivered by a qualified professional	Comparators of interest are: • Standard rehabilitation (e.g., physical therapy, occupational therapy) without specific focus on cognition • No rehabilitation	Relevant outcomes include: • Functional outcomes • Quality of life
Individuals: • With cognitive deficits due to multiple sclerosis	Interventions of interest are: • Cognitive rehabilitation delivered by a qualified professional	Comparators of interest are: • Standard rehabilitation (e.g., physical therapy, occupational therapy) without specific focus on cognition • No rehabilitation	Relevant outcomes include: • Functional outcomes • Quality of life

Populations	Interventions	Comparators	Outcomes
Individuals: <ul style="list-style-type: none"> <li>• With cognitive deficits due to post-acute sequelae of SARS-CoV-2 infection</li> </ul>	Interventions of interest are: <ul style="list-style-type: none"> <li>• Cognitive rehabilitation delivered by a qualified professional</li> </ul>	Comparators of interest are: <ul style="list-style-type: none"> <li>• Standard rehabilitation (e.g., physical therapy, occupational therapy) without specific focus on cognition</li> <li>• No rehabilitation</li> </ul>	Relevant outcomes include: <ul style="list-style-type: none"> <li>• Functional outcomes</li> <li>• Quality of life</li> </ul>
Individuals: <ul style="list-style-type: none"> <li>• With cognitive deficits due to epilepsy, autism spectrum disorders, postencephalopathy, or cancer</li> </ul>	Interventions of interest are: <ul style="list-style-type: none"> <li>• Cognitive rehabilitation delivered by a qualified professional</li> </ul>	Comparators of interest are: <ul style="list-style-type: none"> <li>• Standard rehabilitation (e.g., physical therapy, occupational therapy) without specific focus on cognition</li> <li>• No rehabilitation</li> </ul>	Relevant outcomes include: <ul style="list-style-type: none"> <li>• Functional outcomes</li> <li>• Quality of life</li> </ul>

## DESCRIPTION

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.

## SUMMARY OF EVIDENCE

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 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 post-acute sequelae of SARS-CoV-2 infection who receive cognitive rehabilitation delivered by a qualified professional, no relevant evidence was identified. Relevant outcomes are functional outcomes and quality of life. Systematic reviews have reported on the prevalence and duration of cognitive symptoms among patients with varying acute infection severity and treatment settings. Limited reports examining the outcomes of rehabilitation in patients with post-acute COVID-19 have primarily focused on physical and respiratory rehabilitation. Additionally, the natural history of cognitive deficits experienced by patients who have recovered from acute COVID-19 requires further elucidation. 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.

## POLICY

Cognitive rehabilitation (as a distinct and definable component of the rehabilitation process) may be considered **medically necessary** in the rehabilitation of patients with cognitive impairment due to traumatic brain injury.

Cognitive rehabilitation (as a distinct and definable component of the rehabilitation process) is considered **investigational** for all other applications, including but not limited to, stroke, postencephalitic or post-encephalopathy patients, autism spectrum disorder, seizure disorder, multiple sclerosis, the aging population, including patients with Alzheimer disease and patients with cognitive deficits due to brain tumor or previous treatment for cancer, and patients with post-acute cognitive sequelae of SARS-CoV-2 infection.

## 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 actively participate in the program. (Active participation requires sufficient cognitive function to understand and participate in the program as well as adequate language expression and comprehension, i.e., 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 consisting of five hours of therapy daily for four days each week. In another approach cognitive group treatment occurs for three two-hour sessions weekly and three one-

hour individual sessions (total, nine hours per week). Cognitive rehabilitation programs for specific defects (e.g., memory training) are less intensive and generally have one or two sessions (30 or 60 minutes) a week for four to 10 weeks.

### MEDICARE ADVANTAGE

Cognitive Rehabilitation may be **medically necessary** for persons with acquired cognitive defects resulting from head trauma, or acute neurologic events including cerebrovascular accidents.

Cognitive Rehabilitation is **not medically necessary** for patients with chronic progressive brain conditions with no potential for restoration.

### BACKGROUND

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 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.

### REGULATORY STATUS

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

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Services that are the subject of a clinical trial do not meet our Technology Assessment and Medically Necessary Services Protocol criteria and are considered investigational. *For explanation of experimental and investigational, please refer to the Technology Assessment and Medically Necessary Services Protocol.*

It is expected that only appropriate and medically necessary services will be rendered. We reserve the right to conduct prepayment and postpayment reviews to assess the medical appropriateness of the above-referenced procedures. **Some of this protocol may not pertain to the patients you provide care to, as it may relate to products that are not available in your geographic area.**

### REFERENCES

We are not responsible for the continuing viability of web site addresses that may be listed in any references below.

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79. National Government Services, Inc. (Primary Geographic Jurisdiction 06 & K - Illinois, Minnesota, Wisconsin, Connecticut, New York - Entire State, Maine, Massachusetts, New Hampshire, Rhode Island, Vermont) Local Coverage Determination (LCD): Outpatient Physical and Occupational Therapy Services (L33631), Revision effective date for services performed on or after 01/01/2020.