

## FEP 8.03.10 Cognitive Rehabilitation

**Effective Date:** July 15, 2018

**Related Policies:** None

### Cognitive Rehabilitation

#### 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.

#### FDA REGULATORY STATUS

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

#### POLICY STATEMENT

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 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.

#### 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

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deficits (eg, memory training) are less intensive and generally have 1 or 2 sessions (30 or 60 minutes) a week for 4 to 10 weeks.

### BENEFIT APPLICATION

Experimental or investigational procedures, treatments, drugs, or devices are not covered (See General Exclusion Section of brochure).

### RATIONALE

#### 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 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 the effects of the technology on health outcomes.

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 the effect of the technology on health outcomes.

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 the effects of the technology on health outcomes.

For individuals who have cognitive deficits due to MS 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 MS, 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 the effects of the technology on health outcomes.

For individuals who have cognitive deficits due to epilepsy, ASD, postencephalopathy, 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 the effects of the technology on health outcomes.

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### SUPPLEMENTAL INFORMATION

#### Practice Guidelines and Position Statements

##### American Congress of Rehabilitation Medicine

Based on a 2013 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.<sup>7</sup>

##### National Institute for Health and Care Excellence

National Institute for Health and Care Excellence guidance (2013) on stroke rehabilitation recommended cognitive rehabilitation for visual neglect and memory and attention deficits that impact function.<sup>50</sup> Interventions should focus on relevant functional tasks (eg, “errorless learning”) and “elaborative techniques” (eg, “mnemonics,” “encoding” strategies) for memory impairments.

##### Institute of Medicine

The Institute of Medicine published a report in 2011 on cognitive rehabilitation for traumatic brain injury that included a comprehensive review of the literature and recommendations.<sup>51</sup> 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 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

The Veterans Administration/Department of Veterans Affairs published guidelines on the treatment of concussion and mild traumatic brain injury in 2009,<sup>52</sup> which were updated in 2016.<sup>53</sup> 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.”

#### U.S. Preventive Services Task Force Recommendations

Not applicable.

#### Medicare National Coverage

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

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### POLICY HISTORY

Date	Action	Description
December 2011	New Policy	
June 2013	Update Policy	Policy updated with literature review, references updated, Policy statement unchanged.
June 2014	Update Policy	Policy updated with literature review through February 2014, adding references 2, 7-8 and 23-30. Investigational policy statement revised to include epilepsy/seizure disorders and autism spectrum disorders.
September 2015	Update Policy	Policy updated with literature review through January 26, 2015; references 17-18, 24, 26-27, and 35-49 added. Minor revision to medically necessary policy statement to clarify "cognitive impairment due to" traumatic brain injury. Cognitive deficits due to brain tumor, prior treatment for cancer, or multiple sclerosis added as investigational.
June 2017	Update Policy	Policy updated with literature review through January 25, 2017; references 8, 12, 16-17, 26, 30, 32, 44, 45, and 53 added. Policy statements unchanged.
June 2018	Update Policy	Policy updated with literature review through January 11, 2018; no references added. Policy statements unchanged.

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