

Cognitive Rehabilitation for Patients Following Mild to Moderate Traumatic Brain Injury: Information for Referring Providers

1) What is cognitive rehabilitation?

- Cognitive rehabilitation is a “systematic, functionally-oriented service of therapeutic cognitive activities, based on an assessment and understanding of the person’s brain-behavior deficits,” as defined by the Brain Injury Interdisciplinary Special Interest Group (BI-ISIG) of the American Congress of Rehabilitation Medicine (Harley et al., 1992).
- Cognitive rehabilitation achieves functional change with interventions that:
 - Reinforce, strengthen, or re-establish previously learned patterns of behavior, or
 - Establish new patterns of cognitive activity or compensatory mechanisms for impaired neurological systems (Harley et al., 1992).
- Cognitive rehabilitation focuses on improving executive functioning (problem solving, decision-making, planning), emotional regulation, attention, memory, and cognitive-communication skills. The emphasis is self-management with a goal of resumption of meaningful activities that the person wants, needs, or is expected to do in their life roles.
- Cognitive rehabilitation and cognitive behavioral therapy (CBT) differ in their goals and techniques. Cognitive rehabilitation addresses compromised cognitive function and behavioral and affective regulation, whereas cognitive behavioral therapy focuses on treating psychological health disorders, including mood, sleep, and anxiety.

2) Who provides cognitive rehabilitation?

- Neuropsychologists, occupational therapists, and speech-language pathologists deliver cognitive rehabilitation.

3) Why is cognitive rehabilitation important for patients with persistent symptoms following mild to moderate traumatic brain injury (TBI)?

- Cognitive difficulties can persist despite good neurologic recovery from TBI. Patients often do not exhibit physical deficits and may appear recovered to others, while still experiencing cognitive dysfunction that negatively impacts their life.
- Cognitive and behavioral regulation problems after a TBI can interfere with participation in meaningful and functional activities and cause challenges with work, school and interpersonal relationships.

4) How do I determine if my patient would be a good candidate for cognitive rehabilitation?

Patients may be good candidates for cognitive rehabilitation if they:

- Exhibit, report, or are observed having a change in performance of complex activities of daily life (home, community, work, school or leisure).
- Report moderate or severe cognitive symptoms disrupting activities on items 13-17, 21 and 22 of the Neurobehavioral Symptom Inventory (NSI). The NSI is a 22-item self-report questionnaire of post-concussive symptoms, including cognitive and behavioral difficulties. It is available online under “Additional Clinical Support Tools” at: [Health.mil/TBIProviders](https://www.health.mil/TBIProviders).

Patients may be good candidates for cognitive rehabilitation if they (Continued):

- Answer “yes” to some of the questions below when using the PCM In-office Checklist.

PCM In-office Checklist for Cognitive Rehabilitation Referral

Compare yourself now to how you were before this injury. Would you say you are now having any difficulty with...

Cognitive Issues	Examples
Focusing and paying attention to things?	Being distracted and unable to concentrate on things you are doing
Listening and understanding what others are saying?	Not comprehending what others are saying — feeling like conversations are moving faster than you can follow
Speaking?	Trouble finding the right words
Understanding what you are reading?	Having to re-read things over and over again
Remembering things you need or want to do?	Forgetting to take medications or attend appointments
Following conversations?	Having trouble remembering what others are saying or forgetting what you meant to say
Doing things as efficiently as you used to?	Making mistakes and having to repeat what you do or not being able to do more than one thing at a time
Making good decisions?	Not knowing what to prioritize in your day
Planning well for things?	Difficulty organizing your day so a lot of what you needed to do doesn't get done or having difficulty with tasks like preparing dinner
Controlling your emotions?	Getting angry and frustrated more easily or blurting out things that you normally would have kept to yourself

5) How do I address comorbid conditions and are they a contraindication for cognitive rehabilitation?

- Address common comorbid conditions that affect cognition either prior to or concurrent with the initiation of cognitive rehabilitation. These conditions may include psychological health disorders, sleep disturbances, headaches, and chronic pain.
- Contraindications for cognitive rehabilitation include patients with an active substance abuse disorder, active psychotic disorder, or who present with decreased alertness and severely diminished attention, until adequately managed.

6) How soon after a TBI do I refer a patient for cognitive rehabilitation?

- The VA/DoD Clinical Practice Guideline for Management of Concussion-mild Traumatic Brain Injury (2016) suggests that patients with a history of mTBI who report cognitive symptoms that do not resolve within 30-90 days and have been refractory to treatment for associated symptoms (e.g., sleep disturbance, headache) be referred as appropriate for a structured cognitive assessment or neuropsychological assessment to determine functional limitations and guide treatment.
- Note that patients can benefit from cognitive interventions even years after injury. Exercise sound clinical judgment and consider the patient's motivation when referring these cases.

7) What can my patient expect from cognitive rehabilitation and how will they benefit?

Before cognitive rehabilitation starts, patients can expect to:

- Receive an evaluation by one or more cognitive rehabilitation specialists.
- Identify patient-centered goals aimed at specific activity or participation outcomes with the help of therapist(s) and relevant key persons.
- Determine with the therapist(s) the frequency, modality (e.g., individual/group/combination), and length of therapy needed to meet the goals.

During cognitive rehabilitation, patients can expect to learn more about:

- Their condition.
- Their specific cognitive deficits.
- Strategies they can use to target their specific cognitive difficulties for better self-management in the challenges of daily life.

The benefits of cognitive rehabilitation include:

- Greater awareness and understanding of their specific cognitive deficits.
- Better management of their lives by applying skills and strategies they learned to improve cognitive functioning.
- Increased and more successful and efficient participation in meaningful life activities.

8) How do I write a referral for cognitive rehabilitation and follow up?

- The process for referral is often location-dependent.
 1. If available, refer to a local Military Health System TBI team or concussion clinic.
 2. If a TBI or concussion team is not available in your location, refer the patient to a specialist who performs cognitive rehabilitation evaluations (e.g. neuropsychologist, occupational therapist, or speech-language pathologist) in the network. Patients can also be referred to a physical medicine and rehabilitation physician (physiatrist) to coordinate care and select the appropriate specialist.
 3. If the service is only available with a non-network provider, follow command specific referral guidelines: include the name and location of the non-network provider and submit referral to TRICARE.
- Referrals should include the following language: Patient and/or family reporting cognitive symptoms following (severity level of) TBI. Please assess and treat as indicated.
- As the referral source, you should follow-up with rehabilitation specialists and behavioral health care providers. Collaboration is often most efficient for addressing the patient's symptom constellation.

9) How do I code for a referral?

- Thorough coding guidance is available under "Additional Clinical Support Tools" in "ICD-10 Coding Guidance for TBI" at: [Health.mil/TBIProviders](https://www.health.mil/TBIProviders).
 1. Code the primary TBI code.
 2. Include the commonly used codes for symptoms associated with TBI: cognitive/linguistic.

References

1. Department of Veterans Affairs (VA) & Department of Defense (DoD). (2016) VA/DoD clinical practice guideline for the management of concussion-mild traumatic brain injury. Version 2. Retrieved from <https://www.healthquality.va.gov/guidelines/Rehab/mtbi/mTBICPGFullCPG50821816.pdf>
2. Harley, J. P., C. Allen, T. L. Braciszewski, K. D. Cicerone, C. Dahlberg, S. Evans, M. Foto, W. A. Gordon, D. Harrington, W. Levin, J. F. Malec, S. Millis, J. Morris, C. Muir, J. Richert, E. Salazar, D. A. Schiavone, and J. S. Smigelski. (1992). Guidelines for cognitive rehabilitation. *NeuroRehabilitation* 2(3):62–67.