

**Department of Hearing & Speech Sciences  
Vanderbilt University Medical Center  
Clinical Protocol**

**Protocol Title: Adult Assessment for Acquired Cognitive-Communication Disorders**

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**Providers:** ASHA-certified and state-licensed speech-language pathologists

**I. Policy Statement:**

The protocol for adult assessment for acquired cognitive-communication disorders was developed to facilitate the assessment of cognitive-communication functioning for adults referred with traumatic brain injury (including mild TBI/concussion), stroke, neurodegenerative diseases (for example, Huntington’s Disease, Multiple Sclerosis, Parkinson’s Disease, Alzheimer’s Disease), “brain fog” (s/p Covid-19, chemotherapy), brain tumor, and related acquired cognitive-communication disorders.

Per the American Speech-Language-Hearing Association (ASHA) Preferred Practice Patterns for cognitive-communication assessment in adults, this policy follows the World Health Organization framework for assessment. Assessment is conducted to identify and describe:

1. underlying strengths and weaknesses related to cognitive, executive function/self-regulatory, and linguistic factors, including social skills that affect communication performance;
2. effects of cognitive-communication impairments on the individual's activities (capacity and performance in everyday communication contexts) and participation;
3. contextual factors that serve as barriers to or facilitators of successful communication and participation for individuals with cognitive-communication impairment.

**II. Equipment and Supplies:**

Equipment will be used and maintained in accordance with the manufacturer's specifications. Standardized measures will be administered as designed and will include the manual, testing forms, response forms, and stimulus items associated with each test. Non-standardized measures may also be used for assessment when there is a clear purpose for their use (e.g., no standardized measure available, completing hypothesis testing, etc.).

**III. Protocol(s):**

1. An order is received from a physician or mid-level provider (NP or PA), insurance is verified by a Financial Clearance Specialist, and the appointment is scheduled with the SLP provider
2. A thorough chart review is completed, including review of medical (e.g., diagnosis, imaging, time-post onset, injury/condition severity etc.), behavioral (e.g., performance on measures of cognitive-communication function) , and biographical (e.g., age, education, gender, race, ethnicity, distance from clinic, marital status, etc.) variables, as well as pertinent social history that may impact assessment and treatment
3. Cognitive-communication assessment tools are selected based on chart review

4. Cognitive-communication evaluation is completed; Results of the evaluation are communicated in an evaluation note in eStar to the clinical team (e.g., physical therapist (PT), occupational therapist (OT), social worker (SW), referring provider), and the administrative team.

#### **IV. Procedure(s):**

In accordance with the ASHA Preferred Practice Patterns for assessment of cognitive-communication disorders, Assessment may be static (i.e., using procedures designed to describe current levels of functioning within relevant domains) and/or dynamic (i.e., using hypothesis-testing procedures to identify potentially successful intervention and support procedures) and includes the following:

1. Relevant case history, including medical status, education, vocation, and socio-economic, cultural, and linguistic background. Engaging the patient and his/her support personnel (family or friends) in discussion of premorbid home, community, social, and vocational roles is critical to developing goals and appropriate intervention.
2. Patient/client's and support personnel's (family or friends) identification of severity and areas of concern to assess awareness and guide evaluation and treatment.
3. Review of auditory, visual, motor, cognitive, and emotional status.
4. Patient/client reports of goals and preferences, as well as domains and contexts of concern.
5. Standardized and/or non-standardized methods selected with consideration for ecological validity:
  - a. Observe and describe the individual's processing of varied types of information under ideal conditions (i.e., capacity) and in the context of varied activities and settings (i.e., performance) (e.g., ability to attend to, perceive, organize, and remember verbal and nonverbal information, to reason and to solve problems);
  - b. Observe and describe the individual's executive or self-regulatory control over cognitive, language, and social skills functioning (e.g., set goals, plan, initiate and inhibit, self-monitor and self-evaluate, solve problems, think and act strategically);
  - c. Analyze the cognitive and communication demands of relevant social, academic, and/or vocational tasks and to identify possible facilitative effects in modification of those tasks;
  - d. Identify the communication and support competencies of relevant everyday people in the environment and possible facilitative effects of modification of their support behaviors;

- e. Identify the individual's potential for effective compensatory behaviors and associated motivational barriers and facilitators.

GENERAL MEASURES (bolded items are used most frequently)

**Repeatable Battery for the Assessment of Neuropsychological Status Update**

Domains: Visual-spatial processing, attention, immediate and delayed memory for auditory and visual information, and language

Ages: 12:0-89:11

Purchase required: Yes

Population: Adolescents and adults with mild or moderate cognitive communication deficits (originally developed for assessment of dementia)

Other considerations: Four parallel versions available. Spanish version available.

Patient must be able to write for Coding and Figure Copy/Recall subtests.

Woodcock Johnson Tests of Cognitive Abilities, 4<sup>th</sup> Edition

Domains: Comprehension-Knowledge, Long-Term Retrieval, Visual-Spatial, Thinking, Auditory Processing, Fluid Reasoning, Processing Speed, Short-Term, Memory, Quantitative Knowledge, Reading-Writing Ability

Ages: 2:0-90:0+

Purchase required: Yes

Population: Adolescents and adults with mild or moderate cognitive communication deficits

Other considerations: Individual subtests may be used for diagnostic therapy

**Pediatric Test of Brain Injury**

Domains: Orientation, following commands, word fluency, semantic/conceptual knowledge, working memory, naming, memory-immediate, memory-delayed, auditory comprehension, visual memory

Ages: 6:0-16:0

Purchase required: Yes

Population: Adolescents with traumatic brain injury

Other considerations: Helpful in guiding decision-making related to school reintegration

Montreal Cognitive Assessment

Domains: Executive functioning, immediate and delayed memory, visuospatial abilities, attention, working memory, language, and orientation to time and place

Ages: 18:0-64:0+

Purchase required: Paper version is free

Population: Adults with dementia or mild cognitive impairment

Other considerations: Often used a screening tool for cognitive function

**Cognitive-Linguistic Quick Test Plus**

Domains: Attention, memory, executive functions, language, and visuospatial skills

Ages: 18:0-89:11

Purchase required: Yes

Population: Adults with **at least** mild-to-moderate cognitive-communication deficits including dementia (less sensitive to mild deficits).

Other factors for consideration: Also available in Spanish. Patient must be able to mark with a pen.

#### Test of Nonverbal Intelligence, Fourth Edition

Domains: Intelligence, aptitude, abstract reasoning, and problem solving

Ages: 6:0 to 89:11

Purchase required: Yes

Population: Adolescents with traumatic brain injury

Other considerations: Provides two equivalent forms

### ACADEMIC

#### Woodcock Johnson Tests of Achievement, 4<sup>th</sup> Edition

Domains: Reading/Grw (Reading, Broad Reading, Basic Reading, Reading Comprehension, Reading Fluency, Reading Rate); Math/Gq (Mathematics, Broad Mathematics, Math Calculation Skills, Math Problem Solving); Writing/Grw (Written Language, Broad Written Language, Basic Writing Skills, Written Expression); and Cross Domain Cluster scores (Academic Skills, Academic Applications, Academic Fluency, Academic Knowledge, and Phoneme-Grapheme Knowledge)

Ages: 2:0-90:0+

Purchase required: Yes

Population: Adolescents and adults with mild or moderate cognitive communication deficits

Other considerations: Three parallel forms are available, which permits progress monitoring 2-3 times per year

### ATTENTION

#### Test of Everyday Attention

Domains: Attention

Ages: 18:0-80:11

Purchase required: Yes

Population: Adults with mild/moderate cognitive-communication deficits

Other factors for consideration: Three parallel versions are provided

#### **The Attention Processes Training Test**

Domains: Attention

Ages: 18:0-85:11

Purchase required: Yes

Population: Adults with mild/moderate cognitive-communication deficits

Other factors for consideration: Small normative sample (33 adults from 60-85 years old), making interpretation of results challenging

### **Trail Making Test A&B**

Domain: General intelligence and cognitive dysfunction

Ages: 18:0-89:11

Purchase required: No

(<http://apps.usd.edu/coglab/schieber/psyc423/pdf/IowaTrailMaking.pdf>;

Tombaugh TN. Trail Making Test A and B: normative data stratified by age and education. Arch Clin Neuropsychol. 2004 Mar;19(2):203-14. doi: 10.1016/S0887-6177(03)00039-8. PMID: 15010086;

[https://www.sciencedirect.com/topics/medicine-and-dentistry/trail-making-test.](https://www.sciencedirect.com/topics/medicine-and-dentistry/trail-making-test))

Population: Adults 18 years or older

Other factors for consideration: Used in Driver's Rehabilitation to screen safety in driving in older adults and adults with stroke

### MEMORY

#### **Rivermead Behavioural Memory Test, 3<sup>rd</sup> Edition**

Domains: Memory--Orientation, immediate and delayed memory for auditory information (story, names), visual information (pictures of objects, people), prospective memory, and new learning

Ages: 16:0-96:0

Purchase required: Yes

Population: Adults with mild/moderate deficits in memory

Other factors for consideration: Two parallel versions normed on adult controls and adults with brain injury

#### **California Verbal Learning Test, 3<sup>rd</sup> Edition**

Domain: Verbal Learning, Memory

Ages: 16:0-90:11

Purchase required: Yes

Population: Older adolescents/adults with mild deficits in memory

Other factors for consideration: Can be used with individuals with visual and motor impairments (no visual or writing components)

#### California Verbal Learning Test Children's Version

Domain: Verbal Learning, Memory

Ages: 5:0-16:11

Purchase required: Yes

Population: Children and adolescents with mild deficits in memory

Other factors for consideration: Can be used with individuals with visual and motor impairments (no visual or writing components)

### EXECUTIVE FUNCTION

#### **Functional Assessment of Verbal Reasoning and Executive Strategies (Adult and Student Versions)**

Domain: Verbal reasoning and executive functioning

Ages: Student: 12:0-19:11; Adult: 18:0-79:11

Purchase required: Yes

Population: Children/adolescents or adults with mild to moderate cognitive-communication impairments; particularly useful for individuals returning to school or work.

Other factors for consideration: NA

Behavioural Assessment of Dysexecutive Syndrome (\*\*\*Consider tasks for diagnostic therapy)

Domain: Executive functioning- planning, organization, problem solving, setting priorities, and attention

Ages: Student: 16:0-87:11

Purchase required: Yes

Population: Adolescents or adults with mild to moderate cognitive-communication impairments

Other factors for consideration: NA

Behavioural Assessment of Dysexecutive Syndrome in Children

Domain: Executive functioning- planning, organization, problem solving, setting priorities, and attention

Ages: Student: 8:0-16:11

Purchase required: Yes

Population: Children and adolescents with mild to moderate cognitive-communication impairments

Other factors for consideration: NA

### QUESTIONNAIRES

LaTrobe Communication Questionnaire (LCQ)

Domain: Perceived communicative ability

Ages: 13:0-64:11

Purchase required: No

Population: Adolescents and adults following traumatic brain injury

Other factors for consideration: NA

Behavioral Assessment of Dysexecutive Syndrome DEX Questionnaire

Domain: Perceived behavioral, cognitive, and emotional changes as a result of dysexecutive syndrome

Ages: Adults

Purchase required: Yes, it is part of the Behavioral Assessment of Dysexecutive Syndrome

Population: Adults with executive function impairment

Other factors for consideration: NA

**Patient Competency Rating Scale (Self and Informant Ratings)**

Domain: Competency and awareness in ADLs, cognitive, interpersonal, and emotional skills

Ages: No normative data (Leathem, Murphy, and Flett, 1998 administered with individuals from 16 to 76.)

Purchase required: No (<http://www.tbims.org/combi/pcrs/pcrsrat.html>); Janet M. Leatham, Latesha J. Murphy & Ross A. Flett (1998) Self- and Informant-Ratings on the Patient Competency Rating Scale in Patients with Traumatic Brain Injury, *Journal of Clinical and Experimental Neuropsychology*, 20:5, 694-705, DOI: 10.1076/jcen.20.5.694.1122)  
Population: Adults with at least moderate cognitive-communication impairment  
Other considerations: N/A

### **Multifactorial Memory Questionnaire**

Domain: Memory function and memory strategies  
Ages: 39:0-91:11  
Purchase required: No (<https://www.baycrest.org/Baycrest/Healthcare-Programs-Services/Clinical-Services/Neuropsychology-Cognitive-Health/Clinical-Tools/Multifactorial-Memory-Questionnaire>); Troyer, A. K., & Rich, J. B. (2002). Psychometric properties of a new metamemory questionnaire for older adults. *Journals of Gerontology: Psychological Sciences*, 57(1), 19-27. <https://doi.org/10.1093/geronb/57.1.P19>.  
Population: Adults with mild or moderate cognitive-communication impairments  
Other considerations: Easily translates to patient-specific goals based on responses to questions.

### **The Cognitive Impairment Questionnaire**

Domain: Cognitive impairments resulting from parietal-temporal, frontal, and subcortical damage  
Ages: Completed by family member or close other of adults with mild cognitive impairment or dementia  
Purchase required: No (<https://pubmed.ncbi.nlm.nih.gov/20055769/#:~:text=Objective%3A%20The%20Cognitive%20Impairment%20Questionnaire,dementia%20and%20dementia%2DIke%20disorders.>)  
Population: Adults with executive function impairment  
Other factors for consideration: NA

### **Awareness Questionnaire**

Domain: Awareness, executive function  
Ages: All ages  
Purchase required: No (<http://www.tbims.org/combi/aq/index.html>)  
Population: Individuals with moderate or severe traumatic brain injury  
Other considerations: Three versions to be completed by patient, family/close other, and clinician

### **Academic Needs Assessment**

Domain: Academic challenges  
Ages: Undergraduate or graduate university students  
Purchase required: No (<https://pubs.asha.org/doi/abs/10.1044/nnsld25.1.17>)  
Population: Mild traumatic brain injury

Other considerations: N/A

### **Post-Concussive Symptom Scale**

Domain: Somatic, Cognitive, Affective, and Sleep Symptoms

Ages: 11 years or older

Purchase required: No

Population: Adults with possible concussion

Other considerations: Often administered as part of PT

6. Follow-up services to monitor cognitive-communication status and ensure appropriate intervention and support for individuals with identified cognitive-communication disorders.

### **V. Required clinician education/supervision to ensure competency:**

All new clinicians or clinicians new to a clinical service are required to complete a focused evaluation of clinical practice with an assigned senior clinician. The senior clinician will work with the supervisor to establish competency.

The SLP must have appropriate training and demonstrate competency prior to completing cognitive/communication evaluations. The new clinician will be supervised completing an evaluation on a patient utilizing several different methods of assessment, including both standardized and informal testing. Competency is established when the supervised clinician demonstrates the following:

1. Appropriate patient/family interviewing skills to determine baseline level of function
2. Appropriate selection of assessment tools
3. Thorough administration of assessments
4. Integration of results with information obtained from case history and patient interview to provide comprehensive recommendations regarding current level of functional status; development of treatment goals, development of treatment modalities, and supports necessary to improve cognitive-communication function in home, community, and academic/vocational environments.
5. Completion of thorough and accurate documentation

When the supervisor determines these criteria are met, the supervised clinician is deemed competent to complete independent cognitive/communication evaluation. If the clinician does not demonstrate competency, the supervising clinician offers feedback for methods of improvement, then they continue with supervision of cognitive communication evaluations until the supervising SLP feels that competency has been met. If this is not achieved within the six months of focused evaluation, the supervisor may choose to remove the clinician from this service or continue with supervised training to develop competency.

Annual competency is maintained through participation in continuing education specific to stroke and/or aphasia, chart review, and/or direct observation by supervisor or peer.

## **VI. Documentation:**

Documentation should include:

1. Prior functional level
2. History of present illness
3. Change in condition
4. Significant medical history
5. Factors that may influence outcomes
6. Subjective observations
7. Patient report
8. Patient goals
9. Pain
10. Objective findings – inclusive of findings from the cognitive-communication testing that is administered, hearing and vision report, and other informal assessment results
11. Assessment statement that includes the therapy diagnosis and severity, areas of functional deficit, and functional implication of the identified deficits
12. If patient is going to be followed for therapy, include long-term and short-term goals
13. Note the frequency and duration of the treatment program (e.g., X times per week for Y weeks)
14. Indicate whether treatment is rehabilitative or maintenance
15. Provide tentative discharge date
16. Indicate treatment procedures for this plan of care
17. Indicate discharge plan including, but not limited to, return to school, return to work, home management, independent living, negotiating the community, communication
18. Describe case management/education provided
19. Indicate factors contributing to a positive expectation for improvement
20. Billing and coding:
  - a. CPT 92523 Evaluation of speech sound production; with evaluation of language comprehension and expression
  - b. ICD-10 codes will vary and need to be verified for coverage prior to scheduling and completing the evaluation. Common ICD-10 codes include 1) Attention: R41.840, I69.310, I69.010, I69.110, I69.810, I69.910; 2) Memory: R41.3, I69.011, I69.111, I69.211, I69.311, I69.811, 3) Cognitive communication disorder: R41.841
21. Include referring physicians name and date of certification after the certification statement

## **VII. References:**

American Speech-Language-Hearing Association. (2004). Preferred Practice Patterns for the Profession of Speech-Language Pathology: Cognitive-Communication Assessment [Guidelines]. Available from [www.asha.org/policy](http://www.asha.org/policy).

**VIII. Approval:**



**Division Director**

**01/20/2023**

**Date**



**Vice Chair, Clinical Operations**

**01/19/2023**

**Date**