Interprofessional Standardized Cognitive Screening

Site Applicability

All VCH sites

Practice Level

Profession	Basic Skill	Advanced Skill (requiring additional education)
• **Occupational Therapist (OT)** • **Psychologist** • **Speech Language Pathologist (SLP)** • **Nurse Practitioner (NP)**	Administration, scoring and interpretation of standardized cognitive screening measures	
RN, RPN, LPN		Administration, scoring and interpretation of standardized cognitive screening measures. See Appendix A for education plan.
Social Worker	**For MSW and CSW:** Administration, scoring and interpretation of standardized cognitive screening measures	

Need to Know

This guideline is intended to support cognitive screening to identify need for referral for more in depth assessment.

Cognitive impairment is common and can have numerous possible causes, including congenital or acquired brain injury or disease, underlying medical conditions, neurodegenerative conditions, delirium, the influence of substances or medical treatments, developmental disorders, mental illness, normal age-related cognitive changes, or often a combination of these factors. Impairment exists on a continuum from mild to severe and may affect different aspects of cognition, such as attention, language, memory, and decision-making, unevenly. It may also affect daily functioning. Cognitive impairment can fluctuate.

It can be reversible or permanent. Detecting and addressing such impairments is an important part of comprehensive health care.

Cognitive impairment may be detected in some individuals using standardized cognitive screening measures (e.g., Montreal Cognitive Assessment, Standardized Mini-Mental State Examination). The value of such screening depends on a variety of factors including a) the statistical properties of the test (e.g., reliability, validity, sensitivity, specificity, predictive validity, availability of appropriate normative data; see Appendix B), b) the base rate of cognitive impairment in the clinical populations being served (i.e., what are the odds that this person has cognitive impairment if we know nothing else except that they are part of this particular population?), and c) factors that are associated with professional practice, context, or the client themselves (e.g., experience administering or interpreting the measures, timing of the screen, standardized test administration, environmental distractions, age and education of the client, language and acculturation, effort). These factors shape and limit how the results of cognitive screening can be used because they introduce uncertainty about the interpretation. It is critical to be aware of these limitations and to communicate them clearly when discussing any findings.

Standardized cognitive screening measures are intended to provide broad, general feedback about a person's ability to do things like acquire and use knowledge, problem-solve, concentrate, plan, and pay attention. A low score on a cognitive screening measure suggests that there may be a problem in one or more areas of cognition, but it does not tell us *which* aspects of cognition may be affected or how function may be influenced. A more in-depth cognitive assessment is required to identify the breadth and severity of specific areas of deficit. Cognitive screening is like taking someone's temperature: If you discover there's a fever, then an understanding of the context and more investigation is required to determine what's going on and how best to intervene.

Cognitive screening is not diagnostic, nor should it be used in isolation to make health care decisions. It is intended as a flag to stimulate discussion within a care team about a) the likelihood of cognitive impairment and whether further investigation is warranted, b) which team members are qualified and in the best position to complete the different components of further assessment given existing resources and the purpose of the assessment, c) whether specific interventions may improve the person's cognitive functioning, d) which team members can enact the interventions, and e) the relevance of the person's cognitive functioning to recommendations for future care.

Equipment and Supplies

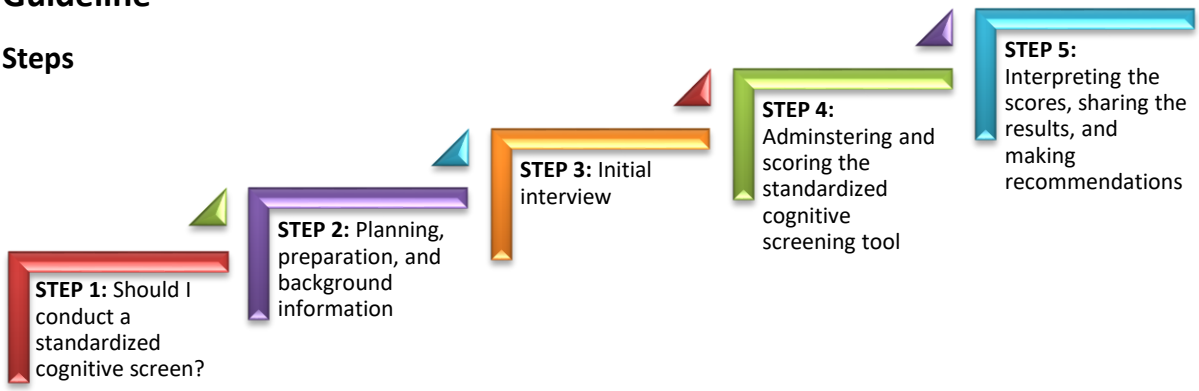
Standardized cognitive screening measure.

Examples:

- Standardized Mini-Mental State Examination
- Montreal Cognitive Assessment

Guideline

Steps



<u>STEP 1: Should I conduct a standardized cognitive screen?</u>

Is this the right tool? Is this the right time?

- What is the rationale for doing a cognitive screen? What question am I trying to answer?
  - What informal assessment/observations led to this referral request? Do I need more information to decide if cognitive screening is appropriate, or is appropriate at this time?
  - Can a cognitive screen answer this question? Is it a necessary step?
  - What are the limits for use of information gained from the screen?
  - Which is the most appropriate standardized cognitive screen for the person at this time?
  - How would this information be used?
  - Has any cognitive screening been done by another team member? Is information already available that can inform recommendations?
- Is this the right time to perform a standardized cognitive screen?
  - Are there medical concerns (e.g., infection, delirium, medication side effects, depression) that may be transient and affect test performance leading to inaccurate conclusions?
  - What client factors (e.g., pain, aphasia, impaired vision or hearing, motor impairments) are present that influence if, when, and how a standardized cognitive screen should be done?
  - Can the person tolerate the testing?
- If there are concerns with any of the above, <u>do not proceed</u>. Discuss timing and alternatives with the referral source.

Am I the right person?

- Do I have the education, training, and experience to administer, score, and interpret the cognitive screening tool? Interpretation should only be done by a clinician with expertise in cognition.

  - If no to the above, is there another qualified clinician to whom I can refer the person for this screening?
  - If there is no other qualified clinician on my team, can I obtain supervision from a qualified clinician on another team for the purposes of this cognitive screen?
- Do I need further information or support to use the selected tool with this particular person?

Has the person provided free and informed consent for testing in this context?

- Does the person understand the purpose and scope of the testing, likely risks and benefits, and how it may inform decision-making regarding their care?
- Does the person know with whom their information may be shared?
- Is the consent free of undue influence? Does the person know that they can refuse or withdraw consent? Have any questions about testing been answered in plain language?
- How will the results of the testing and next steps for care planning be discussed with the client?
- If there are concerns about any of the above, do not proceed.
- Document consent in the client record.

<u>STEP 2: Planning, preparation, and background information</u>

- Ensure that the referral question is clear and that a cognitive screening tool could help answer this question.
  - What tool(s) are needed to respond to this question?
  - Which tool should I use? To select an appropriate tool, consider the following:
    - The purpose of the test (e.g., the Standardized Mini-Mental State Examination was developed to detect dementia while the Montreal Cognitive Assessment was developed to detect Mild Cognitive Impairment)
    - Do I need to monitor changes in cognitive function over time? Does this tool have alternate forms to permit to permit retesting?
    - Do I need a test form in another language or one that is designed for individuals with sensory deficits? Is this available?
    - Does this test have appropriate norms for the person I wish to assess?
- What background information is needed to inform or provide context for the screen (e.g., education level, previous testing, diagnosis, academic records, client/family's perceptions of baseline/current cognition and function, values and beliefs, team's observations)?
- What practical issues do I need to consider?
  - Is an interpreter required and do I have experience working with an interpreter? How will this affect test interpretation? Is there a test available to me that is less culture-bound?
    - Family members should never be allowed to serve as interpreters.
  - What is the best time of day and environment in which to test the person?
  - Are there motor impairments that I may need to accommodate?
  - Do I have access to the standardized measure, relevant scoring instructions, and appropriate norms?

<u>STEP 3: Initial interview</u>

- Do I have sufficient rapport with the person?
- What are the person's goals and does he/she see this cognitive screen as relevant?
- What is the person's self-report about his/her cognition?
    - How does it align with observations of function?
    - Is this consistent with the mechanism of their injury/illness?
    - Is there a tendency to minimize or over-endorse symptoms?
- With the person's consent, can I collect collateral information about the person's cognitive functioning from a family member or someone else who knows the person well?
- How do my observations of the person during the interview align with the background information as they relate to attention, memory, decision-making, insight, and daily function?
- What is the person's history with respect to early development, school, work, self-care, independent living?

STEP 4: Administering and scoring the standardized cognitive screening tool

- There are several standardized cognitive screening measures that are commonly used by different disciplines to investigate a person's global cognitive functioning. These include measures such as the Montreal Cognitive Assessment (MoCA) and the Standardized Mini Mental State Examination (SMMSE).
- Administer the test precisely according to the standardized instructions provided for that measure.
- To score the test, follow the publisher's scoring instructions carefully and ensure that you choose appropriate norms (i.e., those that map onto the relevant characteristics of your person such as his/her age, education, gender, cultural-linguistic background, etc.).
- It is neither necessary nor advisable to administer more than one broad-based cognitive screening tool.

STEP 5: Interpreting the scores, sharing the results, and making recommendations

DO:

- Communicate the purpose of the assessment (i.e., what question were you trying to answer?)
- Describe the limitations of the findings. Include limitations based on:
    - Test administration and scoring
        - Any deviations from standardized administration (e.g., interpreter used)
        - Environmental distractions
        - Norms used and availability of appropriate norms
    - Person-specific factors
        - Time since injury/illness
        - Injury/illness extent and severity, transience/permanence, potential for progression
        - Underlying medical conditions
        - Medications and side effects
        - Fatigue
        - Sleep

  - Pain
  - Cultural-linguistic factors
  - Mental health (e.g. anxiety, depression, thought content)
  - Vision and hearing
  - Motor limitations
  - Level of education
  - Developmental history
  - Current/past substance use
  - Effort
- Contextualize your findings by comparing and contrasting the results of the cognitive screen with observations of function and/or reports of person function from other sources.
  - If the cognitive screening results do not align with the other data, consider possible explanations such as effects of testing environment, sensitivity or specificity of the test, or recent medication changes.
- Explain your findings (including above limitations) and make cautious recommendations for further assessment and/or intervention to the care team.
- Invite further discussion with the team on how best to plan care moving forward.
- Consult with colleagues with advanced expertise in cognitive assessment.
- Document your findings in the person's health record.
- Provide feedback to the individual about the test results.

DON'T:

- Don't use the score in isolation to draw conclusions about current or future function, make a diagnosis, or make significant health care recommendations such as admission to a care facility.
- Don't draw definitive conclusions from a cognitive screen.
  - By definition, a screen is intended to be a rough first look for potential problems. Just as with other screens such as mammograms, newborn blood tests, or school-based vision screening, there is so much uncertainty about what the test results mean that clinicians cannot act based on those results alone. More information is needed. Any conclusions shared at this stage should be appropriately cautious.
- Don't use any part of a screening tool separately from the test as a whole (unless it was designed to do so).
- Don't use cognitive screens to draw conclusions about cognitive impairments in specific cognitive domains.
- Don't use the score or results from the cognitive screen beyond the purpose for which consent was given.
- Don't report or interpret cognitive screening scores or results if there is a major threat to the validity of the assessment. It is better to conclude that findings are unclear or uncertain than to report results that are likely to be inaccurate, misleading, or compromise the person's healthcare or well-being.

Documentation

- As per site documentation practices, including the following in documentation:
  - Purpose of the assessment

- Limitations of findings, including test administration and scoring, and person-specific factors
- Results of cognitive screen and observations of person's functions, and/or reports of person's function from other sources, including possible explanations if results do not align with other data
- If applicable, recommendations for further assessment and/or interventions

Related Documents

- An OT Approach to Evaluation of Cognition/Perception
- Cognitive Evaluation and Intervention Guideline for the Adult Population

References

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Appendix A: Nursing Education Plan

Direct care Nursing staff who require advanced training to administer and score cognitive screening measures are to be trained and supported by competent Clinical Nurse Educators (CNEs). The training for the CNEs is as follows:

- Step 1: CNEs identified by a Nursing Professional Practice Director are to complete the 1-hr online training and certification from the Montreal Cognitive Assessment (MoCA) test publisher
- Step 2: Psychology Practice Lead is to arrange for each identified CNE to meet individually with a VCH Psychometrist to practice administering the MoCA and receive feedback.
- Step 3: Identified CNEs are to view a presentation on cognitive screening by a VCH Neuropsychologist to augment the online training.
- Step 4: Psychology Practice Lead is to arrange for identified CNEs to have access to consultation with VCH Neuropsychologists to provide support for cognitive screening in complex cases.
- Step 5: Identified CNEs are to implement a standardized lesson plan to teach direct care nurses.

Appendix B: Statistical Properties of Tests

Reliability and Validity

- Reliability refers to how consistently the test measures cognitive functioning over time, between different clinicians who administer the test, or between different versions of the same test. For example, poor reliability would mean that each time you measured the circumference of your pencil with a tape measure, you'd get a different answer or different raters would get different answers, even though there was no change in the pencil.
- Validity considers whether the test gives us information that is actually representative of a person's cognitive functioning. Does the screen measure what it claims to? Do the test results correlate with other measures of cognitive functioning? Are the test results consistent with what we would expect given a person's injury/disease? For example, body temperature would have poor validity as a measure of intelligence.
- When using a cognitive screening tool to monitor change over time, consider both the availability of alternate versions of the same test (i.e., to ensure that the score is not changing simply because the person has had more practice with the tasks/items) and the test's Standard Error of Measurement (SEM). SEM is a measure of how much the measured test scores are spread around the person's "true" score; it's a measure of how much error there is in the test and is related to the test's reliability. The SEM is usually used to produce a confidence interval (CI). The confidence interval gives us a range of scores, within which we can be fairly confident the true score falls. For example, if the 95% CI = test score $\pm$ 2, then for a person who scores 25 on the MoCA we can say that 95% of the time the person's true score falls between 23 and 27.

Sensitivity and Specificity of the Test

- Sensitivity of the test measures the proportion of people *with* cognitive impairment who were correctly identified as having impairment.
- Specificity of the test refers to the proportion of people *without* cognitive impairment that the test correctly identified as having no impairment.

Appropriate Norms

- Test norms are used to indicate how the person's score compares to that of other people (i.e., the normative sample).
- Many tests offer a range of norm groups from which to choose during scoring. Ideally, the client's score is compared to a normative sample that is similar to the client. In the context of cognitive screening, we would consider variables that are likely to have an impact on one's cognitive performance - variables such as level of education, language, culture, age, gender, and existing medical conditions (e.g., acquired brain injury, dementia) – and then determine the client's standing relative to the most similar norm group.
- New test norms are published regularly to correct flaws in earlier normative data or to expand the range of available normative samples. Use the most applicable and up-to-date norms for your client.
- If appropriate norms are not available, it may compromise the interpretation of the test and should be reported.

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Approved By: *(committee or position)*	VCH
	VCH: *(Regional SharePoint 2nd Reading)* Health Authority Profession Specific Advisory Council Chairs (HAPSAC) Health Authority and Area Specific Interprofessional Advisory Council Chairs (HAIAC) Operations Directors Professional Practice Directors **Final Sign Off:** Vice President, Professional Practice and Chief Clinical Information Officer, VCH
Owners: *(optional)*	VCH
	Developer Lead(s): • Regional Practice Lead, Psychology Professional Practice • Clinical Resource Therapist for Occupational Therapy, Seniors Health **Development Team members:** • Social Work Practice Lead, Vancouver Acute • Clinical Nurse Specialist, Vancouver Community • Speech-Language Pathology Practice Lead, Vancouver Acute • Interim Clinical Practice Lead, Primary Care Vancouver Community • Nursing Practice Initiatives Lead, Vancouver Community • Regional Practice Lead, OT Professional Practice