

# Key Messages from the Canadian Stroke Best Practice Recommendations, Vascular Cognitive Impairment (VCI) Guidelines

*Developed by the Champlain Regional Stroke Network to support dissemination of the Canadian Stroke Best Practice Recommendations, Vascular Cognitive Impairment guidelines released by the Heart & Stroke Foundation*

In 2025, the Heart and Stroke Foundation released guidelines on **Vascular Cognitive Impairment (VCI)** to improve care and outcomes. The Champlain Regional Stroke Network (CRSN) reviewed these recommendations and compiled a 1-pager of key messages spanning:

1. Nursing
2. Occupational Therapist
3. Physician
4. Physiotherapist
5. Social Worker
6. Speech Language Pathologist
7. Stroke Prevention Clinic

**Disclaimer:** *This document provides high-level messages for clinicians. A complete review of the specific guidelines is recommended, as this document is not exhaustive but aims to raise awareness and promote learning.*

These messages emphasize screening, early detection, patient education, and personalized treatment plans. Organizations are encouraged to share this document with their teams. Clinicians are encouraged to review: 1) the complete [VCI guidelines](#) document, 2) the CRSN key messages, and 3) review any additional resources suggested to support the knowledge transfer of the recommendations.

#### **Upcoming information sessions to support the guidelines:**

##### **Webinar**

- June 2025: Heart & Stroke planning VCI webinar. More details to follow

##### **Other:**

- Fall 2025: CRSN will host a VCI related question & answer session with **Occupational Therapist's**

Nursing	
<b>Key Messages from the Canadian Stroke Best Practice Recommendations, Vascular Cognitive Impairment</b>	
<i>Below are key messages for <b>Nurses working in acute care and stroke rehabilitation:</b></i>	
<b>What is VCI?</b>	<ul style="list-style-type: none"> <li>• <b>Vascular Cognitive Impairment (VCI)</b> refers to a range of cognitive disorders associated with cerebrovascular disease, from mild cognitive deficits to severe dementia.</li> <li>• It involves impairment in at least one cognitive domain such as attention, memory, language, perception, and/or or executive functions.</li> </ul>
<b>What are signs and symptoms of VCI?</b>	<ul style="list-style-type: none"> <li>• <b>Early signs:</b> Forgetfulness, difficulty concentrating, and trouble with executive functions like problem-solving.</li> <li>• <b>Advanced symptoms:</b> Significant memory loss, difficulty with language, and inability to perform daily activities like dressing and bathing.</li> <li>• Symptoms can develop gradually or suddenly, especially after a stroke or major surgery.</li> </ul>
<b>What are risk factors for VCI?</b>	<ul style="list-style-type: none"> <li>• <b>Pre-existing conditions:</b> Heart disease, stroke, high cholesterol, high blood pressure, diabetes</li> <li>• <b>Modifiable factors:</b> Unhealthy diet, lack of physical activity, smoking, excessive alcohol consumption</li> <li>• <b>Non-Modifiable factors:</b> Age, sex, genetic heritage, family history of heart disease or stroke</li> </ul>
<b>Interdisciplinary Team Approach</b>	<ul style="list-style-type: none"> <li>• <b>Collaborative care:</b> Effective management of VCI requires a team approach involving doctors, nurses, therapists, and social workers.</li> <li>• <b>Holistic support:</b> Addressing physical, cognitive, and emotional needs through coordinated care plans improve patient outcomes.</li> <li>• <b>Education and communication:</b> Regular team meetings and shared knowledge ensure comprehensive care and support for patients and their families.</li> </ul>
<b>Clinical Considerations</b>	<ul style="list-style-type: none"> <li>• <b>Care plan:</b> Develop individualized care plans that consider the patient's cognitive profile, communication abilities, and personal preferences.</li> <li>• <b>Behavioural management:</b> Address agitation, irritability, and emotional reactivity through behavioral interventions, family support, and/or medication under professional supervision.</li> <li>• <b>Non-Pharmacological interventions:</b> Use techniques like checklists and structured routines to support cognitive tasks, break down tasks into manageable steps and provide clear instructions, create a safe and supportive environment by reducing distractions and ensuring adequate lighting.</li> </ul>

Occupational Therapist	
Key Messages from the Canadian Stroke Best Practice Recommendations, Vascular Cognitive Impairment	
Below are key messages for <b>Occupational Therapists working in acute care and stroke rehabilitation</b> :	
<b>VCI Screening &amp; Assessment</b>	<ul style="list-style-type: none"> <li>Individuals with stroke or TIA and those who have significant risk factors for VCI and have cognitive/functional changes should be screened for cognitive changes prior to discharge from acute care, inpatient rehab, and at regular check-ins.</li> <li>If screening results are poor, inconclusive, inconsistent with functional skills, or indicate safety risks, formal assessment should be considered.</li> <li>Recommended screening and assessment tools: <a href="#">Appendix 4: Summary of selected screening and initial assessment tools for vascular cognitive impairment</a></li> </ul>
<b>VCI Management</b>	<ul style="list-style-type: none"> <li>Develop personalized management plan that considers cognitive and communication abilities, prognosis, comorbid conditions (including mood), decisional capacity, and living environment. Regularly review and adapt plans as VCI evolves.</li> <li>Integrate goal setting, social support, cognitive scaffolding, lifestyle management, task training, and environmental factors into the management plan.</li> <li>Refer to Section 2 for treatment strategies for the management of mood, behaviour, and safety risks related to VCI: <a href="#">Management of Vascular Cognitive Impairment</a></li> </ul>
<b>Cognitive Rehabilitation</b>	<ul style="list-style-type: none"> <li>Tailor cognitive rehab to individual needs using domain-specific (e.g., attention, memory, executive function) and global strategies (e.g., physical activity).</li> <li>Assess and adapt the environment to embed structure and routine to optimize participation (e.g. maximize privacy, minimize distractions).</li> <li>Provide additional support (communication tools, memory aids, family participation) to better engage patients in goal setting and interventions.</li> </ul>
<b>Support &amp; Education</b>	<ul style="list-style-type: none"> <li>Provide patients and families with education, training, and support to manage the cognitive and functional challenges of VCI. Include personalized, practical training for caregiving skills and ongoing education about the progression of VCI, safety considerations, and coping strategies.</li> </ul>
<b>Advance Care Planning &amp; Palliative Care</b>	<ul style="list-style-type: none"> <li>Advance care planning discussions should begin early in the diagnosis of VCI to ensure the individual's preferences and values are respected. Consider palliative care for individuals with advanced vascular dementia to optimize their quality of life.</li> </ul>
<b>Clinical Considerations</b>	<ul style="list-style-type: none"> <li>Consider cognitive strengths and weaknesses to optimize participation.</li> <li>Reassess cognition in outpatient and rehab settings as mild cognitive impairment (MCI) thresholds may be overly sensitive in acute settings.</li> <li>Recognize that task performance can indicate decline or functional limitations even without impaired test scores.</li> </ul>

**Physician**

**Key Messages from the Canadian Stroke Best Practice Recommendations, Vascular Cognitive Impairment**

*Below are key messages for **Physicians working in acute care and stroke rehabilitation**:*

<b>VCI Screening and Clinical Considerations</b>	<ul style="list-style-type: none"> <li>• Screen stroke and/or TIA patients admitted to hospital or seen in clinic for vascular cognitive impairment (VCI) if they have:               <ol style="list-style-type: none"> <li>1) significant risk factors for vascular cognitive impairment (imaging findings of cerebrovascular disease and/or those with multiple vascular risk factors), <b>and/or</b></li> <li>2) clinically evident or reported (by the individual or an informant) cognitive, perceptual or functional changes.</li> </ol> </li> </ul>
	<ul style="list-style-type: none"> <li>• Physicians or delegated health care professional should screen all admitted TIA patients for VCI. If the patient screens <b>positive</b>, consider a referral to allied health for more in-depth assessments during the admission.</li> </ul>
	<ul style="list-style-type: none"> <li>• Initial VCI screening can include asking patients if, since their event, they have experienced changes in cognition such as such as missing medication doses, forgetting medical appointments or other changes in activities of daily living or instrumental activities of daily living.               <ul style="list-style-type: none"> <li>○ If patients cannot answer or if there's uncertainty, it's appropriate to ask family members or caregivers if they've noticed any cognitive changes since the event.</li> <li>○ If the answer is yes, the patient should be screened using a validated tool by a healthcare professional (MD, RN, or allied health team) - refer to: <a href="#">Appendix Four: Summary of selected screening and initial assessment tools for vascular cognitive impairment</a></li> </ul> </li> </ul>
	<ul style="list-style-type: none"> <li>• Patients with a history of stroke/TIA and ongoing vascular risk factors should be asked about changes in cognition <b>at each health care encounter</b> to screen for changes developing over time; patients who experience these changes should be further screened as per best practice recommendations.</li> </ul>
	<ul style="list-style-type: none"> <li>• If VCI is suspected, treat vascular risk factors and refer for further medical assessment or provide community resources, as appropriate.</li> </ul>

Physiotherapist	
<b>Key Messages from the Canadian Stroke Best Practice Recommendations, Vascular Cognitive Impairment</b>	
<i>Below are key messages for <b>Physiotherapists working in acute care and stroke rehabilitation</b>:</i>	
<b>VCI Screening &amp; Assessment</b>	<ul style="list-style-type: none"> <li>Individuals with stroke or TIA and those who have significant risk factors for VCI and have cognitive/functional changes should be screened for cognitive changes <b>prior</b> to discharge from acute care, inpatient rehab, and at regular check-ins.</li> <li>If screening results are poor, inconclusive, inconsistent with functional skills, or indicate safety risks, formal assessment should be considered.</li> <li>Assessment of VCI should include the impact of <b>cognitive</b> deficits on <b>function and safety</b> in activities of daily living, driving, instrumental activities of daily living, social, leisure, financial, vocational and/or academic functioning.</li> <li>Recommended screening tools: <a href="#">Appendix 4: Summary of selected screening and initial assessment tools for vascular cognitive impairment</a></li> </ul>
<b>Management</b>	<ul style="list-style-type: none"> <li>Incorporate goal setting, social support, <b>cognitive scaffolding (e.g., checklists)</b>, lifestyle management, task training, and environmental modifications into the management plan.</li> <li>Agitation, irritability, and emotional reactivity can be behavioral consequences of VCI.</li> <li>Screen for behavior changes and <b>use non-pharmacological strategies as first-line management (e.g., exercise)</b>. Engage individuals in structured, tailored activities that align with their capabilities and interests.</li> <li>Refer to Section 2 - Treatment strategies for the management of mood, behaviour, and safety risks related to VCI: <a href="#">Management of Vascular Cognitive Impairment</a> for further information.</li> </ul>
<b>Safety and Risk Management</b>	<ul style="list-style-type: none"> <li>Patients with VCI are at high risk for falls and will benefit from multidisciplinary fall assessment, recommendations for optimizing environment with aids and interventions such as exercise and balance training.</li> </ul>
<b>Support &amp; Education</b>	<ul style="list-style-type: none"> <li>Provide patients and families with education, training, and support to manage the cognitive and functional challenges of VCI. Include personalized, practical training for caregiving skills and ongoing education about the progression of VCI, safety considerations, and coping strategies.</li> </ul>
<b>Advance Care Planning &amp; Palliative Care</b>	<ul style="list-style-type: none"> <li>Advance care planning discussions should begin early in the diagnosis of VCI to ensure the individual's preferences and values are respected. Consider palliative care for individuals with advanced vascular dementia to optimize their quality of life.</li> </ul>
<b>Clinical Considerations</b>	<ul style="list-style-type: none"> <li>When tailoring a physiotherapy plan of care consider using activities that incorporate an individual's <b>cognitive strengths</b> to optimize outcomes.</li> <li><b>Adapt the environment</b> to embed structure/routine and optimize participation (e.g. maximize privacy, minimize distractions).</li> <li>Integrating physical activity and exercise into the treatment plan can aid cognitive rehabilitation and enhance mood and anxiety levels, thereby facilitating recovery.</li> </ul>

Social Worker	
<b>Key Messages from the Canadian Stroke Best Practice Recommendations, Vascular Cognitive Impairment</b>	
<i>Below are key messages for <b>Social Workers working in acute care and stroke rehabilitation</b>:</i>	
<b>Early Screening and Diagnosis</b>	<ul style="list-style-type: none"> <li>Advocate for early screening and diagnosis of vascular cognitive impairment (VCI) in individuals with stroke, transient ischemic attack (TIA), or significant vascular risk factors.</li> </ul>
<b>Person-Centred Care</b>	<ul style="list-style-type: none"> <li>Emphasize personalized management plans that include shared decision-making and culturally appropriate goals.</li> <li>Tailor care plans to the individual's strengths, weaknesses, communication abilities, and living environment.</li> </ul>
<b>Support for Families and Caregivers</b>	<ul style="list-style-type: none"> <li>Assess the needs of families and caregivers, providing education, training, and resources. Facilitate access to community-based services, respite care, and support groups.</li> </ul>
<b>Mental Health and Behavioral Management</b>	<ul style="list-style-type: none"> <li>Monitor individuals for changes in mood and behavior, such as depression, anxiety, and apathy. Provide information on mental health resources to patients and caregivers.</li> </ul>
<b>Safety and Risk Management</b>	<ul style="list-style-type: none"> <li>Assess and monitor safety risks, including fall risks, driving status, and decision-making capacity.</li> <li>Educate families and caregivers on safety mitigation strategies and support individualized safety plans.</li> </ul>
<b>Advance Care Planning</b>	<ul style="list-style-type: none"> <li>Encourage early discussions about advance care planning. Regularly reassess these plans to reflect the individual's values, preferences, and changing health status.</li> </ul>
<b>Palliative Care</b>	<ul style="list-style-type: none"> <li>Provide comprehensive and compassionate palliative care that respects the wishes and optimizes the quality of life.</li> <li>Engage in serious illness conversations, provide access to palliative care specialists and additional supports such as spiritual care and grief counseling.</li> </ul>
<b>Clinical Considerations</b>	<ul style="list-style-type: none"> <li>Develop care plans in collaboration with the multidisciplinary teams.</li> <li>Offer workshops and informational sessions about VCI.</li> <li>Ensure seamless transitions between care settings.</li> <li>Lead conversations about advance care planning and palliative care.</li> </ul> <p><b>Resources:</b></p> <ul style="list-style-type: none"> <li>Changes to Emotions and Mood for patients/families: <a href="#">CHANGES TO EMOTIONS AND MOOD</a></li> <li>Post-stroke Depression for health care providers: <a href="#">POST-STROKE DEPRESSION</a></li> <li>Advance Care Planning infographic for patients/families: <a href="#">ADVANCE CARE PLANNING</a></li> <li>Advance Care Planning infographic for health care providers: <a href="#">ADVANCE CARE PLANNING</a></li> </ul>

Speech Language Pathologist	
<b>Key Messages from the Canadian Stroke Best Practice Recommendations, Vascular Cognitive Impairment</b>	
<i>Below are key messages for <b>Speech Language Pathologists working in acute care and stroke rehabilitation:</b></i>	
<b>Cognitive Communication</b>	<ul style="list-style-type: none"> <li>• <b>Deficits:</b> Stroke and VCI can result in deficits across multiple cognitive domains, including executive functioning (problem-solving, decision-making, planning), attention, memory, and cognitive-communication skills.</li> <li>• <b>Rehabilitation Strategies:</b> Cognitive rehabilitation strategies, including single and multidomain interventions using both remedial and compensatory approaches, can help restore these functions.</li> </ul>
<b>Aphasia Considerations</b>	<ul style="list-style-type: none"> <li>• <b>Cognitive Deficits:</b> VCI can include impairments related to focal stroke syndromes such as aphasia or spatial neglect.</li> <li>• <b>Assessment:</b> Assess individuals with VCI and aphasia for their potential to benefit from augmentative and alternative communication tools (e.g., iPads, tablets, electronic devices, alphabet boards).</li> <li>• <b>Functional Communication:</b> Treatment should include supported conversation techniques for communication partners of individuals with aphasia.</li> <li>• <b>Impact on Life:</b> Assess and address the impact of aphasia on functional activities, participation, and quality of life, including relationships, vocation, and leisure.</li> </ul>
<b>Clinical Considerations</b>	<ul style="list-style-type: none"> <li>• <b>Assessment:</b> Regularly assess cognitive and language functions in stroke patients to identify early signs of VCI.</li> <li>• <b>Intervention:</b> Implement targeted interventions to address cognitive and language deficits, including exercises to improve attention, memory, language skills, and problem-solving abilities.</li> <li>• <b>Education:</b> Educate patients and their families and caregivers about VCI, its risk factors, and strategies to manage and mitigate its impact.</li> <li>• <b>Collaboration:</b> Work closely with a multidisciplinary team, including neurologists, physiotherapists, and occupational therapists, to provide comprehensive care for patients with VCI.</li> </ul>

Stroke Prevention Clinic	
<b>Key Messages from the Canadian Stroke Best Practice Recommendations, Vascular Cognitive Impairment</b>	
<i>Below are key messages for <b>Stroke Prevention Clinic Teams</b>:</i>	
<b>VCI definition</b>	<ul style="list-style-type: none"> <li>• <b>Vascular Cognitive Impairment (VCI)</b> refers to a range of cognitive disorders associated with cerebrovascular disease, from mild cognitive deficits to severe dementia.</li> <li>• It involves impairment in at least one cognitive domain such as attention, memory, language, perception, and/or executive functions.</li> </ul>
<b>Signs &amp; Symptoms of VCI</b>	<ul style="list-style-type: none"> <li>• <b>Early signs:</b> Forgetfulness, difficulty concentrating, and trouble with executive functions like problem-solving.</li> <li>• <b>Advanced symptoms:</b> Significant memory loss, difficulty with language, and inability to perform daily activities like dressing and bathing.</li> <li>• Symptoms can develop gradually or suddenly, especially after a stroke or major surgery.</li> </ul>
<b>Risk factor to VCI</b>	<ul style="list-style-type: none"> <li>• <b>Non-modifiable risk factors:</b> History of stroke, heart disease, age, sex, genetic heritage, family history of heart disease or stroke</li> <li>• <b>Modifiable risk factors:</b> high cholesterol, high blood pressure, diabetes and lifestyle factors such as unhealthy diet, lack of physical activity, smoking, excessive alcohol consumption</li> </ul>
<b>Screening for VCI</b>	<ul style="list-style-type: none"> <li>• Physicians or delegated health care professionals should screen all stroke/TIA patients seen in clinic for VCI, if they have:               <ol style="list-style-type: none"> <li>1. significant risk factors for vascular cognitive impairment (imaging findings of cerebrovascular disease and/or those with multiple vascular risk factors), <b>and/or</b></li> <li>2. clinically evident or reported (by the individual or an informant) cognitive, perceptual or functional changes</li> </ol> </li> <li>• Initial VCI screening can include asking patients if, since their event, they have experienced changes in cognition such as missing medication doses, forgetting medical appointments or other changes in activities of daily living or instrumental activities of daily living.               <ul style="list-style-type: none"> <li>○ If patients cannot answer or if there's uncertainty, it's appropriate to ask family members or caregivers if they've noticed any cognitive changes since the event.</li> <li>○ If the answer is yes, the patient should be screened using a validated tool by a healthcare professional (MD, RN, or allied health team) - refer to: <a href="#">Appendix Four: Summary of selected screening and initial assessment tools for vascular cognitive impairment</a></li> </ul> </li> </ul>
<b>Clinical Considerations</b>	<p>If VCI is suspected:</p> <ul style="list-style-type: none"> <li>• Physician will treat vascular risk factors and refer to appropriate specialist for further medical assessments.</li> <li>• MD, RN, or allied health team to provide education around secondary stroke and vascular risk factors to maximum risk reduction for first-ever or recurrent stroke. Provide patient and care partners with community resources.</li> </ul>