

Stroke Rehabilitation – Key Messages and Resources for Healthcare Providers

This document is meant to be a reference for healthcare providers working in stroke rehabilitation. The Champlain Regional Stroke Network Best Practice Team has summarized 2-3 key messages for each stroke rehab topic (left column) and provided links to websites where you can find more information (hyperlinks in right-hand column). Please visit the [CRSN website](#), where you can find clinical practice tools, infographics (for you and your patients) and more. Our contact info is on the last page; get in touch if you have any questions.

Many listings in the “where to find more information” section are found in three places:

- 1) CSBPR (Canadian Stroke Best Practice Recommendations): www.strokebestpractices.ca
- 2) South Western Ontario Stroke Network (SWOSN) orientation resource: <http://swostroke.ca/stroke-rehab-unit-orientation/>
- 3) TACLS (Taking Action for Optimal Community and Long Term Stroke Care) downloadable from: <https://www.strokebestpractices.ca/resources/professional-resources>.

STROKE REHAB TOPIC KEY MESSAGES	WHERE TO FIND MORE INFORMATION
<p>Stroke Etiology, Patient Characteristics</p> <ol style="list-style-type: none"> 1. Etiology of stroke is key to ensuring the patient is on the most effective stroke prevention treatment: antiplatelet, anticoagulant, statins, blood pressure lowering medications. 2. Remember the key stroke syndromes and their common signs (right hemisphere, left hemisphere, posterior circulation). 	<p>Stroke Nurse Pocket Guide</p> <p>SWOSN Stroke Rehab Unit Orientation Module 1: Pathophysiology of Stroke, Neuroanatomy, and Stroke Syndromes</p> <p>TACLS Chapter 2: Body Structure (The Brain, Stroke and its Effects)</p>
<p>Secondary Prevention; Patient & Family Education</p> <ol style="list-style-type: none"> 1. 80% of strokes are preventable, patient education is key. 2. Help your patient make small, healthy changes to their daily routine to decrease their risk of having another stroke. 3. Reducing a patient’s risk of stroke also reduces their risk of dementia. 	<p>CRSN infographics for patients: Exercise and Mobility, Healthy Eating, Quit Smoking, Taking your Medications</p> <p>CRSN infographic for providers: Exercise and Mobility</p> <p>Heart and Stroke: Risk and Prevention</p> <p>SWOSN Stroke Rehab Unit Orientation Module 12: Secondary Stroke Prevention</p> <p>Your Stroke Journey – Guide for Patients and Care Partners</p> <p>CSBPR for Secondary Prevention of Stroke</p> <p>www.strokeengine.ca has lots of information for families of survivors</p>
<p>Post-Stroke Depression, Apathy and Anxiety</p> <ol style="list-style-type: none"> 1. Roughly one out of every three stroke survivors (+30%) will experience depression and this affects functional outcomes. 2. We have Level A evidence to support the screening of all stroke survivors for post stroke depression with a validated tool (such as the PHQ-9) and this is in keeping with Quality-Based Procedures. 3. Screening is just one piece of the puzzle. Scores need to be assessed in conjunction with past medical 	<p>CRSN infographic for patients: Changes to Emotion and Mood</p> <p>CRSN infographic for providers: Depression Post-Stroke</p> <p>CSBPR for Mood, Cognition, and Fatigue</p> <p>Your Stroke Journey – Guide for Patients and Care Partners</p> <p>SWOSN Stroke Rehab Unit Orientation Module 10: Mood and Behavior Changes</p> <p>TACLS Chapter 5.2: Mood and Depression</p>

<p>history, current medical status and psychosocial factors by a healthcare professional with expertise in diagnosis and management of depression in stroke. A referral to a mental health specialist may be appropriate.</p> <p>4. Consider screening stroke rehab patients for anxiety (see table 1B on right).</p>	<p>Post-Stroke Depression: DSM-V - See: "Major Depressive Disorder and the Bereavement Exclusion": http://www.psychiatry.org/dsm5</p> <p>Table 1B: Selected Validated Screening and Assessment Tools for Post-Stroke Anxiety</p>
<p>Community Reintegration</p> <ol style="list-style-type: none"> 1. It is best practice to engage the patient and family early on and educate them on resources and potential rehabilitation outcomes -- prior to discharge from your program. "Rehab is a process not a place". 2. Encourage further education and self-management for patients and families using the self-management checklist 3. Remember the four components of community re-integration: <ul style="list-style-type: none"> - Physical Health Management - Functional & Psychological Health Management - Reintegration to Social & Life Roles - Family & Caregiver Support & Well Being 	<p>CSBPR for Transitions and Community Participation</p> <p>eReferral for stroke services on CareDove www.communityhomesupport.ca</p> <p>Self-Management Checklist</p> <p>The Champlain Healthline website provides a broad offering of health and community services for areas of our LHIN. Click on the STROKE button on the right-hand side of the home page www.champlainhealthline.com</p>
<p>Resumption of Life Roles and Activities Following Stroke</p> <ol style="list-style-type: none"> 1. Stroke survivors often experience sensori-motor and cognitive-perceptual difficulties which impact their ability to return to full participation in their previous life roles, however resuming these roles and activities can have an important impact on quality of life. 2. Returning to social, sexual, leisure and vocational activities are an important part of re-integration post stroke. 3. Patients may feel frustrated with the process of returning to driving given the importance placed on this task and the potential complexities involving resumption of this task. 4. Patients, families and caregivers should receive information and training to be better equipped in the resumption of life roles and activities following stroke. 	<p>CSBPR for Return to Driving, Work, Leisure and Sexuality</p> <p>ADLs: Heart & Stroke demonstration videos for dressing Educational poster on ADLs: Helping a Stroke Survivor with Cognitive and Perceptual Deficits (SNSEO) Stroke Engine assessments for ADLs</p> <p>DRIVING: Heart & Stroke Assessment Tools for Pre-Driving Screening Stroke Engine assessments for Driving CRSN driving infographics for patients and health care providers Guide on Driving After Stroke in Ontario (SWOSN)</p> <p>WORK: Return to Work readiness questionnaire and transition information (SWOSN)</p> <p>LEISURE: Educational poster: Activity Gives Meaning to Life (SNSEO) Stroke Engine patient handout on leisure</p> <p>SEXUALITY: CRSN patient infographic on sexuality post stroke Stroke Engine patient handout on sexuality</p> <p>CSBPR for Post-Stroke Fatigue</p>
<p>Post Stroke Fatigue (PSF)</p> <ol style="list-style-type: none"> 1. PSF is a common condition yet is often under-recognized, therefore health care professionals should anticipate it and be ready to intervene at any point. 	<p>Heart & Stroke Summary of Selected Validated Screening and Assessment Tools for Post-Stroke Fatigue</p>

<ol style="list-style-type: none"> Patients should be educated on its possibility and should be screened for it especially upon return to the community. The different facets of fatigue (physical, cognitive and emotional) should be considered. Current management of PSF focuses on education and energy conservation strategies. Patients who experience PSF should be screened for common/treatable co-morbidities and medications that could exacerbate or be associated with fatigue 	<p>Heart & Stroke Examples of Specific Energy Conservation Strategies</p> <p>Stroke Engine patient and clinician information on fatigue</p>
<p>Cognitive, Visual, and Perceptual Deficits</p> <ol style="list-style-type: none"> Patients with stroke/TIA should be considered at risk for Vascular Cognitive Impairment (VCI) and be screened using validated screening tools. Attention, processing speed and frontal-executive function are most commonly affected post stroke. Other areas can include memory, language, perceptual skills and praxis. Perceptual deficits may affect any of the sensory modalities, resulting in various disorders. Interventions for cognitive impairment may include compensation strategies and direct remediation/cognitive skill training. Learning abilities of people with VCI should be considered when teaching tasks, determining interventions and providing education to maximize benefits (e.g. demonstration, verbal instruction, slow pace and repetition as needed) 	<p>CRSN infographic for patients: Visual Field Deficit</p> <p>Mood, Cognition and Fatigue CSBPR Section 2 Vascular Cognitive Impairment</p> <p>Rehab CSBPR Section 8 Rehabilitation of Visual and Perceptual Deficits</p> <p>Heart & Stroke Summary of Select Screening and Initial Assessment Tools for Vascular Cognitive Impairment in People who have Experienced a Stroke</p> <p>Stroke Engine assessments for cognition, for neglect and for visual perception</p> <p>Educational poster: Helping a Stroke Survivor with Cognitive and Perceptual Deficits (SNSEO)</p> <p>Stroke Engine patient information on cognitive rehab and executive functions</p> <p>Stroke Engine pocket card for clinicians: assessment and treatment of executive functions</p>
<p>Functional Use of Upper Extremity</p> <ol style="list-style-type: none"> Approx. three quarters of stroke survivors will present with upper extremity deficits To optimize sensori-motor function, training should be meaningful, engaging, repetitive, progressively adapted, task specific and goal-oriented. Functional tasks can help encourage the use of the affected upper extremity (e.g. in ADLs – folding, buttoning, pouring, lifting) If task cannot be learned or other methods are not available to optimize performance and safety, adaptive aids can be considered. 	<p>Rehab CSBPR Section 5.1 Management of Upper Extremity</p> <p>Stroke Engine Upper Extremity Assessments and Interventions</p> <p>GRASP program and videos (hospital and home versions)</p> <p>ViaTherapy app</p> <p>HemiArm Protocol (SWOSN)</p>
<p>Communication</p> <ol style="list-style-type: none"> Patients with Communication Deficits: <ul style="list-style-type: none"> are competent, know more that they can say, and can participate in decisions about their care. Supported conversation is a helpful approach to improve communication. 	<p>CRSN infographics for patients: Communication, Aphasia</p> <p>CRSN infographics for providers: Communication Disorders Post Stroke, Aphasia</p> <p>Rehab CSBPR, Section 10: Rehabilitation to improve language and communication</p> <p>Core competencies for Stroke – SLP Stroke Core Competencies</p>

	<p>SWOSN Stroke Rehab Unit Orientation Module 6: Communication</p> <p>TACLS Chapter 6.1: Communication</p> <p>EBRSR – Chapter 14 Aphasia and Apraxia</p> <p>The Aphasia Institute (lots of information) including “Talking to your ___” books</p>
<p>Dysphagia</p> <p>1. Help reduce the risks of pneumonia by:</p> <ul style="list-style-type: none"> - ensuring proper positioning, - using compensatory strategies, - allowing patient to self-feed, - ensuring good oral care. 	<p>CRSN Dysphagia infographics for patients and for providers</p> <p>Rehab CSBPR Section 7.1: Dysphagia</p> <p>Core competencies for Stroke - SLP SLP Stroke Core Competencies</p> <p>SWOSN Stroke Rehab Unit Orientation Module 5: Swallowing, Nutrition, and Oral Care</p> <p>TACLS Chapter 3.2: Nutrition and Swallowing (p35)</p> <p>EBRSR – Chapter 15 Dysphagia and Aspiration Following Stroke</p>
<p>Mobility and Aerobic Activity</p> <p>1. Early prolonged mobilization within first few days is not recommended especially for severe strokes, it may be appropriate for milder strokes clinical judgement should be used.</p> <p>2. Once medically stable patient should be screened for participation.</p> <p>3. Individually tailored aerobic training involving large muscle groups should be incorporated into a comprehensive stroke rehabilitation program to enhance cardiovascular endurance.</p> <p>To ensure long-term maintenance of health benefits, a planned transition from structured aerobic exercise to more self-directed physical activity at home or in the community should be implemented.</p>	<p>CRSN Exercise & Mobility infographics for patients and for providers</p> <p>Clinician's Guide to Aerobic Exercise after Stroke</p> <p>Patient Resource Aerobic exercise after stroke</p> <p>Stroke Engine - Aerobics E-learning module</p> <p>Apps iwalk assess toolkit</p>
<p>Balance and Falls</p> <p>1. Therapists should consider both voluntary and reactive Balance control in both assessment and treatment.</p> <p>2. Following stroke patients should be screened for fall risk at all transitions, post falls and when there is a change in health status</p> <p>3. Those identified at risk should undergo a comprehensive interdisciplinary assessment and a individualized falls prevention plan implemented based upon findings.</p>	<p>Rehab CSBPR Section 6.3 Falls Prevention and Management.</p> <p>Table 2: Suggested Screening/Assessment Tools for Risk of Falling Post Stroke</p>

<p>Post Stroke Pain</p> <ol style="list-style-type: none"> 1. Central Pain Assessments should be included as part of screening. 2. Clients should have access to specialized services for management of central pain. 3. All health care providers, families and clients should have adequate education and training in positioning, handling and joint protection strategies to prevent development of the painful hemiplegic shoulder. 	<p>CRSN Post Stroke Pain infographics for patients and for providers</p> <p>Rehab CSBPR Section 9 Management of Central Pain</p> <p>EBRSR Chapter 11 - Painful Hemiplegic Shoulder</p> <p>Via Therapy App- http://viatherapy.org/</p> <p>TACLS Chapter 4.6: Pain(p87)</p> <p>Your Stroke Journey (p69)</p>
<p>Spasticity</p> <ol style="list-style-type: none"> 1. Positioning, ROM and stretching may prevent spasticity/contractures. 2. Routine use of splints is not recommended but may be appropriate with certain individuals. 3. Botox can be used to improve range, decrease pain and improve gait. 4. Oral agents can be prescribed for treatment of disabling spasticity. 	<p>CRSN Spasticity infographics for patients and for providers</p> <p>Rehab CSBPR Section 5.2 Range of Motion and Spasticity in the Shoulder, Arm and Hand</p> <p>Rehab CSBPR Section 6.2 Lower Limb Spasticity following Stroke</p> <p>Assessment tools: Ashworth scale Tardieu Scale</p> <p>Video: Spasticity</p>

SCREENS, ASSESSMENTS

The **Stroke Engine** website can be used to find the most current information about the value of the various interventions used in stroke rehabilitation as well as psychometric and pragmatic properties of assessment tools used in stroke rehabilitation. www.strokeengine.ca

[Table 1: Suggested Stroke Rehabilitation Screening and Assessment Tools \(Table 1 in Rehab CSBPR\)](#)

EBRSR (Evidence-Based Review of Stroke Rehabilitation) – Clinical Assessment Tools www.ebrsr.com and [Clinicians Handbook](#)

COMMUNITY SUPPORT SERVICES

Caredove eReferral - www.communityhomesupport.ca

This is an online platform where members of the community and healthcare providers can search for services, book intake appointments, and refer directly to community services. Many community and therapy services appropriate for persons who have had a stroke and their family members in Champlain LHIN are listed and receive referrals through this eReferral site. Request your free login and begin linking your patients to the services they need in the community.

Champlain Healthline - www.champlainhealthline.ca

This website has a section of resources specific to stroke survivors and families. Click the yellow stroke resources button at the very bottom of the homepage to see services and resources that could be useful for stroke survivors and families. You can sort by geography and type of service.

[Stroke Resources](#)

PATIENT AND FAMILY RESOURCES

[Your Stroke Journey](#) - Guide designed to:

- help you understand stroke and its effects
- give you tips and strategies for living your life fully
- help you know that you are not alone in your recovery
- tell you about the support services, healthcare providers and networks of stroke survivors that can help you on your journey

CRSN Website (Patient/Carers) and [Infographics](#) developed

to help patients better understand some of the common concerns following a stroke. The following infographics for patients are available: Aphasia, Communication, Dysphagia, Changes to Emotions and Mood, Driving, Exercise and Mobility, Healthy Eating, Incontinence, Oral Health and Pain, Quit Smoking, Sexuality Post Stroke, Spasticity, Taking Your Medications, Visual Field Deficit

Get Healthy, Stay Active: Info in Heart and Stroke website

<http://www.heartandstroke.ca/get-healthy/stay-active>

From the Canadian Stroke Network, [Getting on with the Rest of Your Life After Stroke Guide book](#)

My Stroke Passport – **helpful to review in order to “tune in” to FAQs of stroke survivors and families. Could also give to survivor and family.**

<http://www.tostroke.com/wp-content/uploads/2012/12/My-Stroke-Passport.pdf>

[Post-Stroke Checklist](#) – helps keep track of care and needs

OTHER GREAT RESOURCES

Champlain Regional Stroke Network – Website and Virtual Community of Practice

Website offers provider and patient/caregiver facing sides with a lot of practical, local, information for both groups. Resources for healthcare providers include [clinical practice tools](#) section (including rehab intensity info), [infographics](#), and more. Healthcare professionals are invited to join the stroke virtual communities of practice. www.crsn.ca

Stroke Rehabilitation Unit Orientation

Educational resource targeted to nurses (may be used by other members of the interprofessional team) with 12 modules with topics ranging from pathophysiology to communication to sexuality post stroke. This excellent resource was developed was the South Western Ontario Stroke Network and is available online: <http://swostroke.ca/stroke-rehab-unit-orientation/>

Stroke Resources from Heart and Stroke Foundation. Free copies of Heart and Stroke resources can be ordered for use at your hospital. <http://www.heartandstroke.ca/what-we-do/publications>

The **Australian Aphasia Rehabilitation Pathway** is a set of care standards for [aphasia](#) management. It has been designed for speech pathologists to help guide person-centered, evidence-based aphasia services. It aims to optimize the overall rehabilitation journey for people with aphasia and their families/friends. www.aphasiapathway.com.au

Making Connections Webinars:

Making Patient Education Communicatively Accessible www.youtube.com/watch?v=o04G0TTEskE

Intro to essential Supported Conversation Skills www.youtube.com/watch?v=t7bbCtvW10s

DO YOU HAVE OTHER QUESTIONS? CONTACT THE CHAMPLAIN REGIONAL STROKE NETWORK

Contact & Role		Extension at TOH (613-798-5555)
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