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## SERVICE STANDARDS FOR INPATIENT REHABILITATION WITH STROKE EXPERTISE

These service standards are supplementary to the Champlain Regional Stroke Rehabilitation System and Patient Flow Algorithm and should be used to guide the provision of inpatient stroke rehabilitation within the Champlain region. These service standards are reflective of the Quality Based Procedures Clinical Handbook for Stroke (QBP, December 2015) and the Canadian Best Practice Recommendations for Stroke Rehabilitation (CSBPR, 2015) but not meant as a replacement for those two documents. Inpatient Stroke Rehabilitation programs should be familiar with and follow CSBPR and QBP. This document offers service standards for topics on which the CSBPR and QBP differ in their recommendations.

Acute care length of stay targets are set for 5 and 7 days for ischemic and hemorrhagic stroke patients, respectively [QBP, 2015]. Patients who suffered a moderate or severe stroke will be admitted to inpatient rehabilitation relatively soon after their stroke event. The AlphaFIM® assessment is completed in acute care on or by day 3 of admission and is used to help determine the most appropriate sub-acute stroke service for each patient [QBP, 2015].

The administrator responsible for the Inpatient Stroke Rehabilitation program, together with the manager, may review these service standards on an annual basis with the Champlain Regional Stroke Network (CRSN) to develop a plan for improvement with the support of the CRSN Rehabilitation Coordinator. Recommended methods of verification for each standard are provided, as appropriate. A checklist to facilitate this review is available on the CRSN website.

### 1. INTERPROFESSIONAL STROKE REHABILITATION TEAM

Stroke rehabilitation in the inpatient setting is to be provided by an interprofessional rehabilitation team with stroke expertise.

**The core team members are:**

- **Physician** - The Physician role must be occupied by a Physiatrist, Neurologist, or other physician with expertise and core training in stroke rehabilitation.
- **Nurse**
- **Physiotherapist**
- **Occupational Therapist**
- **Speech Language Pathologist**
- **Social Worker**
- **Dietitian**

In addition to the core members, the Inpatient Stroke Rehabilitation program should have the ability to consult the following disciplines, should one or more be required for the patient's rehabilitation: Pharmacist, Discharge Planner or Case Manager, Recreation Therapist, (Neuro)Psychologist, Palliative Care Specialist, Recreation and Vocational Therapist, Therapy Assistant, Spiritual Care Provider, Peer Supporter, Stroke Recovery Group Liaison [CSBPR, 2015].

Expertise and core training in stroke care and recovery is expected for all members of the core team (see Section 2.1 for more information) [QBP, 2015; CSBPR 2015].

The patient, family, and caregiver are an integral part of the rehabilitation process. Include them early and often, providing education formally and informally throughout the rehabilitation process [CSBPR, 2015].

## 2. STROKE EXPERTISE

The CSBPR (2015) state that the interprofessional stroke rehabilitation team should have stroke expertise. This section provides the Service Standards Working Group’s interpretation (2014) of *stroke expertise* and includes a list of available training/education resources, which can help team members gain stroke expertise. There is also an emphasis on continuing education.

### 2.1. CORE SKILL SETS, KNOWLEDGE & TRAINING

The management of the Inpatient Stroke Rehabilitation program is responsible for verifying that each member on the interprofessional stroke rehabilitation team has achieved or learned the appropriate items below (in Table 1). It is the responsibility of each member on the team to ensure that they are aware of and have the appropriate core skill sets, knowledge, and training outlined in Table 1.

**All members of the interprofessional stroke rehabilitation team will:**

TABLE 1

Core Skill Set, Knowledge, or Training	Recommended Learning & Resources	Method of Verification/Other Relevant Information about Resource
<b>Be knowledgeable about the disease/condition of stroke, including basic anatomy, deficits, and recovery.</b>	<ul style="list-style-type: none"> <li>i) <a href="#">Shared Learning Objectives for Stroke Care</a> (SLOSC)</li> <li>ii) <a href="#">Hemispheres Stroke Competency Series</a></li> <li>iii) Educational events: <ul style="list-style-type: none"> <li>- <a href="#">CRSN Educational Events</a></li> <li>- OSN Rounds or other webcast/webinar series</li> <li>- Other stroke-related discipline-specific education series</li> </ul> </li> </ul>	<ul style="list-style-type: none"> <li>i) Use of SLOSC for needs self-assessment and to set learning objectives.</li> <li>ii) Participant receives a course completion certificate and/or continuing education certificate for completing the series.</li> <li>iii) For items iii through v – each team member should participate in at minimum one of these types of education sessions per year. The person’s <i>professional portfolio</i><sup>^</sup> will include a list of education sessions attended. <b>Verification</b> for CRSN events attended can be obtained through the Education Database.</li> </ul>
<p><b>Be aware of and follow Canadian Best Practices Recommendations for Stroke Care, in Rehabilitation specifically.</b></p> <p><b>Be aware of the EBRSR (Evidence-Based Review of Stroke Rehabilitation) website and use, as</b></p>	<ul style="list-style-type: none"> <li>i) OSN presents videoconferences when a best practice guideline is released or updated.</li> <li>ii) Interprofessional team can review the guidelines as a group or individually.</li> </ul>	<ul style="list-style-type: none"> <li>i) Each team member should attend or watch archived webcast of these presentations. Verification comes from the OTN/OSN sign-in confirmations.</li> <li>ii) Team member signs off that they have reviewed and understand the guideline.</li> </ul>

<b>needed.</b>		
<b>Be trained in supported communication to be able to interact with patients with aphasia.</b>	<ul style="list-style-type: none"> <li>i) Inpatient stroke rehabilitation service SLP can provide information about supportive communication to all core team members.</li> <li>ii) Supported Conversation for Adults with Aphasia (SCA) <ul style="list-style-type: none"> <li>▪ <a href="#">Self-directed learning module</a> (from the Aphasia Institute)</li> <li>▪ Training offered by an SLP who has participated in <i>train the trainer</i> program for SCA</li> </ul> </li> <li>iii) Workshop on communication deficits post-stroke</li> </ul>	<ul style="list-style-type: none"> <li>i) Core team members have learned about supported conversation techniques for stroke patients with aphasia.</li> <li>ii) Inpatient stroke rehabilitation Service SLP(s) has participated in SCA training.</li> <li>iii) Team members have attended communication workshop.</li> </ul>
<b>Understand how to administer, interpret, and apply validated assessment tools.</b>	<p>Lists of recommended assessment tools:</p> <ul style="list-style-type: none"> <li>▪ <a href="#">CSBPR Rehabilitation Screening and Assessment Tools Table 1</a></li> <li>▪ <a href="#">StrokEngine</a></li> </ul>	Team members are familiar with and use the recommended tools when appropriate.
<p><b>Have knowledge of standard outcome measures recommended for use in the Champlain region, especially domain-specific outcome measures.</b></p> <p><b>Use, as appropriate, standard outcome measures.</b></p> <p><b>Be aware of the <a href="#">StrokEngine</a> website where additional assessments and tools can be found.</b></p>	<p>Examples of recommended outcome measures:</p> <ul style="list-style-type: none"> <li>i) Chedoke McMaster – McMaster University offers a <a href="#">training workshop</a></li> <li>ii) <a href="#">Berg Balance Scale</a> (BBS) – no formal post-licensure training</li> </ul> <p>A complete list can be found on the <a href="#">Champlain Regional Stroke Network</a> website in the Tools tab.</p>	<ul style="list-style-type: none"> <li>i) Certificate from McMaster</li> <li>ii) Team members are familiar with and use the BBS when appropriate</li> </ul> <p>Team members regularly use these outcome measures for stroke patients.</p>
<b>Be trained on or be familiar with the Functional Independence Measure (FIM) instrument*.</b>	The Canadian Institute for Health Information (CIHI) runs a <i>train the trainer</i> program for the FIM instrument. A new employee would be trained by a staff member at their organization who participated in the train the trainer program.	<p>Individual will receive a certificate after successful completion of FIM training.</p> <p>CIHI recommends annual recertification, although it is not compulsory. Facilities may decide whether clinicians are to be recertified on an annual basis.</p>
<b>Be trained on or be familiar with the Montreal Cognitive Assessment (MoCA)*.</b>	<a href="#">MoCA website</a> includes the test as well as instructions for use. There is no formal post-licensure training.	Team members are familiar with and use the MoCA where appropriate.
<b>Have knowledge about interprofessional team functioning.</b>	<p>Workshops or communication / collaboration events within your organization.</p> <p><a href="#">OSN Interprofessional Collaboration</a> references</p>	<p>Group's attendance (together) at a workshop.</p> <p>Team members are aware of the roles of other team members.</p> <p>Team has implemented interprofessional functioning model in their practice.</p>

<sup>^</sup>It is expected that all members of the interprofessional rehabilitation team maintain a professional portfolio for their college, which details the education they have taken throughout the year.

\*Not all staff on the interprofessional stroke rehabilitation team will need to administer the FIM or the MoCA, however, it is required that these uncertified staff are knowledgeable about these two assessments.

## **2.2. CONTINUING EDUCATION**

Continuing education is a key consideration for the interprofessional stroke rehabilitation team due to the frequent emergence of new evidence that results in changes to best practices in rehabilitation.

- The learning needs of the team are assessed on an annual basis with gaps in knowledge addressed as they are identified.
- The team is to be engaged in continuing education year-round.
- The team follows the institution or organization's policies for continuing education, which can be verified against said policy.

**Verification** – Evidence that the interprofessional stroke rehabilitation team members are participating in continuing education can be found in each team members' professional portfolio.

## **2.3. TREATMENTS AND THERAPIES**

The clinician may apply whatever **evidence-based** approach to therapy/treatment they consider to be appropriate for the patient so long as the following three elements are incorporated:

- (1) Treatment/therapy is be direct and task/goal specific.
- (2) Treatment/therapy includes repetitive and intense use of novel tasks that challenge the patient to gain the skills needed to perform functional tasks and activities.
- (3) The team promotes the practice and transfer of skills to the patient's daily routine [CSBPR, 2015].

The CSBPR recommends treatments/therapies that are appropriate for stroke patients. This service standard will not prescribe specific treatments/therapies, trusting that each member of the interprofessional stroke rehabilitation team is knowledgeable in their field of practice and able to provide appropriate rehabilitation.

**Verification** – Treatment/therapy provided is evidence-based and incorporates the three elements of therapy listed above. A chart audit may be completed to verify this.

## **2.4. REHABILITATION INTENSITY**

More therapy results in better outcomes. Stroke patients are to receive rehabilitation therapies of appropriate intensity and duration, individually designed to meet their needs for optimal recovery and tolerance levels [CSBPR, 2015].

Stroke patients should receive, via an individualized treatment plan, at least 3 hours of direct, task-specific therapy per day by the interprofessional stroke team for at least 6 days per week [QBP, 2015]. The MoHLTC in Ontario mandated the collection of rehabilitation intensity data on April 1, 2015.

Rehabilitation intensity is the amount of time the patient spends in individual, goal-directed rehabilitation therapy, focused on physical, functional, cognitive, perceptual, and social goals to maximize the patient's recovery, over a seven day/week period. It is the time the patient is engaged in active face-to-face treatment, which is monitored or guided by a therapist.

Rehabilitation intensity entails:

- An individualized treatment plan involving a minimum of 3 hours of direct, task-specific therapy per patient per day by the core therapists (Physiotherapists, Occupational Therapists, and Speech Language Pathologists) for at least six days per week.

- Does not include groups.
- Maximum of 33% of therapy time with therapy assistants.
- Documentation of time from the patient perspective with co-treatment time split between the treating therapists. [OSN, Rehabilitation Intensity FAQ, 2015]

More information can be found at [www.ontariostrokenetwork.com](http://www.ontariostrokenetwork.com) or by clicking [here](#).

**Verification** – Rehabilitation intensity data can be extracted from the National Rehabilitation Reporting System (NRS).

### 3. SERVICE DELIVERY

All patients who require inpatient rehabilitation following stroke should be treated on a specialized stroke rehabilitation unit where care is formally coordinated and organized [CSBPR, 2015].

#### 3.1. ADMISSION

Patients who require stroke rehabilitation should be referred as soon as possible from acute care.

- Acute care length of stay targets are 5 and 7 days for ischemic and hemorrhagic stroke patients, respectively [QBP, 2015].
- The decision regarding intake to inpatient stroke rehabilitation should be made within 24-48 hours of receiving the referral [CSBPR, 2015].
- Rehabilitation should enable admission 7 days per week [QBP, 2015].

To achieve these targets, the acute care and rehabilitation teams must work together.

#### 3.2. LOCATION

The inpatient stroke rehabilitation unit is geographically defined [QBP, 2015; CSBPR, 2015].

Where admission to a stroke rehabilitation unit is not possible, the next best alternative is inpatient rehabilitation provided on a general rehabilitation unit (i.e. where interprofessional care is provided to patients disabled by a range of disorders including stroke) with a Physiatrist, Occupational Therapist, Physiotherapist, and Speech Language Pathologist available (on the unit or by consultation). The same levels of care and interventions should be provided to patients on a general rehabilitation unit [CSBPR, 2015].

#### 3.3. STAFFING RATIOS

Recommended staffing ratios for inpatient rehabilitation are:

- Physiotherapy/Occupational Therapy – 1 per each 6 inpatient beds
- Speech Language Pathology – 1 per each 12 inpatient beds [QBP, 2015]

**Staffing ratios are sufficient to support the frequency and level of intensity of rehabilitation outlined in section 2.4, above.** [Recommendation by Service Standards Working Group, 2014]. This service standard advises that acceptable staffing ratios are those that enable the inpatient stroke rehabilitation service to provide quality rehabilitative care to its stroke patients, allowing patients to meet their rehabilitation goals, achieve functional gains, and experience good outcomes.

### 3.4. LENGTH OF STAY

Length of stay (LOS) benchmarks by rehabilitation patient group (RPG) are proposed by the Ontario Stroke Network Stroke Reference Group and included in QBP [2015].

The Functional Independence Measure (FIM) tool should be used as a standard assessment tool [QBP, 2015]. FIM scores and the patient's age are used to calculate the patient's RPG. QBP LOS targets by RPG are provided in the table.

RPG	Target LOS (days)
1100	48.9
1110	41.8
1120	35.8
1130	25.2
1140	14.7
1150	7.7
1160	0

According to the [Patient Flow Algorithm](#), admission to inpatient stroke rehabilitation may be warranted for a patient with a high AlphaFIM® score (Mild or Mild, Non-Disabling Stroke) in at least two cases: (1) [when a “significant deficit” exists](#), or (2) [when the patient cannot access or have their care needs met as outpatient](#). The decision process for these two exceptions is hyperlinked in the body above and is available on the CRSN website.

**Verification** – Patients' RPG and LOS can be tracked by the program.

*This document will be updated as new evidence, best practices, and Quality Based Procedures information are released. This document was last updated on June 17, 2016. Before using this resource, check for the most recent version on the Rehab page of the Champlain Regional Stroke Network website:*

[www.champlainregionalstrokenetwork.org](http://www.champlainregionalstrokenetwork.org)

#### References:

Hebert, D & Lindsay, M P. (2016). Canadian stroke best practice recommendations: Stroke rehabilitation practice guidelines, update 2015. International Journal of Stroke, 11(4), 459-484. Available from: <http://wso.sagepub.com/content/early/2016/04/14/1747493016643553.full.pdf?ijkey=UC18LzrGBY9HZp&keytyp e=finite>

Health Quality Ontario; Ministry of Health and Long-Term Care. Quality-based procedures: clinical handbook for stroke (acute and postacute). Toronto: Health Quality Ontario; 2015 December. 148p. Available from: <http://www.hqontario.ca/Evidence-to-Improve-Care/Recommendations-and-Reports/Clinical-Handbooks-for-Quality-Based-Procedures>