

Stroke Rehabilitation Intensity Frequently Asked Questions

1) What is the provincial definition of Rehabilitation Intensity?

Rehabilitation Intensity¹ is:

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

Rehabilitation Intensity entails:

- An individualized treatment plan that strives towards the goal of a minimum 3 hours of direct task-specific therapy per patient per day by the core therapies^{2,3,4}, for at least six days per week.^{2,3}
- Does not include groups.
- Maximum of 33 percent of therapy time with therapist assistants.
- Documentation of time from the patient perspective with co-treatment time divided between treating therapists, including occupational therapists (OT), physiotherapists (PT) and speech-language pathologists (S-LP). If there is collaborative treatment between a treating therapist and therapist assistant, the therapist will record the total time the patient spends in therapy and the therapist assistant will not record patient therapy time. For more information, see question 21.

For the purposes of this work, face-to-face treatment assumes a 1:1 staff-to-patient ratio.

Rehabilitation Intensity factors in time and effort. Individualized face-to-face treatment reflects effort that provides the patient with the most benefit over time.

2) Does Rehabilitation Intensity apply to acute care, inpatient rehabilitation and integrated stroke units?

Rehabilitation assessment and meaningful and intensive therapy should begin as early as clinically recommended. Rehabilitation Intensity is not a Quality-Based Procedures (QBP) indicator in acute care at this time and thus Rehabilitation Intensity minutes are not reported for acute care. Nonetheless, we should continue to strive for improved access to rehabilitation as early as possible with increased intensity to support improved recovery for stroke patients.^{2,4} Rehabilitation Intensity is a recommended QBP indicator

only for inpatient rehabilitation settings² and will be reported only for inpatient rehabilitation at this time.

3) What is the minimum number of hours and days per week that intensive rehabilitation therapy should be provided in inpatient rehabilitation and the integrated stroke unit?

An individualized treatment plan that strives towards the goal of a minimum 3 hours of direct task-specific therapy per patient per day by the core therapies (occupational therapy, physiotherapy and speech-language pathology) should be offered at least 6 days a week.^{2,3}

4) The Canadian Stroke Best Practice Recommendations (2015 Update) suggests that intensive rehabilitation therapy should be provided 5 days per week. Why should we do this at least 6 or 7 days per week?

Organizations should strive for 7 days per week of intensive rehabilitation therapy to maximize patient recovery and reduce risk of deterioration in function due to lack of therapy on weekends.

Provision of 5 days, as mentioned in the [Canadian Stroke Best Practice Recommendations \(2015 Update\)](#)⁵, and at least 6 days, as mentioned in [Quality-Based Procedures \(QBP\): Clinical Handbook for Stroke \(2016 Update\)](#)², are considered incremental steps to achieve the 7 days per week target.⁴

5) What disciplines are included in 'core therapies' or measurement of therapy intensity?

Core therapies for Rehabilitation Intensity include physiotherapy, occupational therapy, and speech-language pathology. Outcomes for stroke patients receiving core therapies have been shown to be most sensitive to intensity.^{6,7}

Core therapies could include up to 33% therapist assistant time. For more information, refer to question 10.

6) Why is the time of nursing, social work, recreational therapy and other disciplines not included in the measurement of therapy intensity?

Available Rehabilitation Intensity evidence has demonstrated that occupational therapy, physiotherapy, and speech-language pathology result in improved functional outcomes when 3 hours or more of intensive therapy is provided daily.⁶ Nursing, social work,

recreational therapy and other disciplines are an integral part of the rehabilitation health care team and contribute significantly to patient recovery. The rehabilitation interventions within these professions should be considered in addition to 3 hours of core therapies.^{4,5,8}

Research has shown that enhanced staffing ratios for nursing and greater diversity of rehabilitation staff are related to more positive stroke patient outcomes.⁹ Access to a dedicated interprofessional team is considered a primary contributing factor by which stroke units can improve patient outcomes. Nursing staff play a key role, being present on the unit 24 hours a day, 7 days per week. Using an interprofessional team approach, tasks and activities learned in therapy should be reinforced by all team members.

Although there is some evidence to support the roles of other interprofessional team members, more research is needed to explore the impact on patient outcomes, system flow and associated economic impact. This should be included in future evaluations.⁴

7) What are the recommended staffing ratios to achieve Rehabilitation Intensity?

Recommended staffing ratios for inpatient rehabilitation are:

- 1 PT per 6 inpatient beds
- 1 OT per 6 inpatient beds
- 1 S-LP per 12 inpatient beds ^{2,4}

These staffing levels are recommended, irrespective of whether or not therapist assistants are available to augment therapy provided.

8) If one of the core therapies is not required for the patient, does the team still need to strive towards providing 3 hours of intensive therapy per stroke patient per day?

Yes, the total time the patient is engaged in therapy is important and the team should still try to strive towards providing 3 hours of therapy per stroke patient per day.^{4,6} In order to achieve this, the other 2 core therapies could be increased and include up to 33% therapist assistant time.

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9) If you have a physiotherapy, occupational therapy, or speech-language pathology student, would the patient's time with the student be considered a part of the Rehabilitation Intensity minutes?

Yes. If the physiotherapy, occupational therapy, or speech-language pathology student is providing face-to-face, one-on-one intensive therapy, it would be included as part of the Rehabilitation Intensity minutes. Within the National Rehabilitation Reporting System (NRS), this time would be captured under PT, OT or S-LP categories, respectively. This time should not be "double counted" by the supervising therapists, as Rehabilitation Intensity captures the time the **patient** spends in therapy (see questions 21 and 22 for information regarding collaborative treatment between a therapist and a student).

10) Within the 3 hours of intensive therapy time, what percentage of time can be provided by therapist assistants (e.g., occupational therapist assistants, physiotherapist assistants, communicative disorder assistants)?

Therapy professionals (OT, PT, S-LP) must work one-on-one with patients to ensure that continuous assessments are integrated into treatment, and programs updated accordingly to progress and direct the patients' care. With increased rehabilitation intensity, progression of therapy goals will need to occur more frequently resulting in maximized patient outcomes, which contributes to condensed lengths of stay. As such, the role of the therapy professional is integral.

The role of therapist assistants is also important. Rehabilitation Intensity literature does not include therapist assistant time, however, it is clear from patient outcomes that therapist assistants such as occupational therapist assistants (OTAs), physiotherapist assistants (PTAs) and communicative disorder assistants (CDAs) have a valuable role in supporting patient recovery. Hence, the Ontario Stroke Network Stroke Reference Group recommended that therapist assistant time can be up to 33% of the total Rehabilitation Intensity minutes for all 6 professional groups (OT, PT, S-LP, OTA, PTA, and CDA), with all remaining face-to-face therapy time delivered by an OT, PT, and/or S-LP.

Regardless of the proportion, ALL Rehabilitation Intensity minutes provided by therapists and therapist assistants should be included in data entry and data reporting to the NRS. Therapists and organizations do not need to calculate the 33%. After all Rehabilitation Intensity minutes are submitted to the NRS, the calculation for 33% will be completed automatically by the Institute for Clinical Evaluative Sciences for the whole length of stay and for all 6 professional groups.

11) If an organization has Rehabilitation Assistants (RAs) and not OTAs, PTAs or CDAs, how will Rehabilitation Intensity be recorded?

If an organization has RAs, they will need to record the minutes the patient spends in therapy with them under the professional grouping that best reflects the nature of the therapy provided. For example, if the RA is engaged in an occupational therapy related activity or therapy that supports an occupational therapy goal, the RA would record the total number of minutes of intensive therapy time under the OTA category.

12) What can patients do beyond time spent in face-to-face one-on-one intensive therapy?

Stroke best practices suggest that all patients should receive rehabilitation therapy in an active and stimulating environment.⁵ Strategies can be utilized to provide additional therapy outside of the 3 hours of Rehabilitation Intensity. Examples include group therapy, autonomous practice and self-management activities (teaching patient and families to perform exercises outside of therapy time), additional use of therapist assistants (OTAs, PTAs, CDAs, etc.), and interventions from other disciplines (nursing, social work, recreational therapy, etc.).

13) Are assessments included in Rehabilitation Intensity minutes?

Yes, if the assessment meets the provincial definition for Rehabilitation Intensity. However, time in assessment activities should be limited to what is necessary in order to ensure adequate time focused on therapeutic activities. Assessment activities should be integrated with therapeutic activities whenever possible. This includes initial assessments.

14) What happens if you are assessing the patient (actively engaging with the patient) while documenting at the same time, is this included in Rehab Intensity?

Yes. If the clinician is documenting while assessing the patient, and the patient is actively engaged throughout this period, the documentation time would be included in Rehabilitation Intensity. If documentation occurs after the assessment has taken place, or while the patient is not actively engaged in the therapeutic activity, the documentation time will not be included.

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15) Why is group therapy not included in Rehabilitation Intensity?

Group therapy is an important adjunct to face-to-face therapy that reinforces techniques learned in individual therapy and provides social interaction and support. Time spent in group therapy is not included in the provincial definition as it is difficult to provide individualized task-specific treatment in a group setting. For example, all group members would need to have the same goal, skill level and ability to follow instructions independently.

16) Is circuit training included in Rehabilitation Intensity?

Yes, if it meets the provincial definition of Rehabilitation Intensity, which involves individualized, face-to-face therapy that is aimed at helping the patient achieve their functional therapy goals. Only the individualized face-to-face or 1:1 time would be considered part of the 3 hours of intensive therapy.

17) Are independent exercises or rehabilitation activities included in Rehabilitation Intensity?

As the patient progresses, they may spend more time in independent exercises (e.g., exercising with the NuStep® or arm ergometer on their own, practicing their ADLs independently, doing communication exercises independently or GRASP exercises independently). Although these exercises are an important part of their therapy and recovery, when performed independently, these activities would NOT be included in Rehabilitation Intensity.

However, if the above exercises were not performed independently for a portion of the activity, then the portion of the activity that the patient spends one-on-one with the therapist would be included in Rehabilitation Intensity. For example, if the therapist is coaching the patient to carry out functional movements during muscle stimulation, or cueing for appropriate movement when the patient is on the NuStep®, the time spent in coaching or cueing this patient one-on-one would be included in Rehabilitation Intensity.

18) If a S-LP has 2 patients in the room but is working with 1 patient at a time (i.e., one is working on expression while the other patient is practicing listening/comprehension skills), would this be included in Rehabilitation Intensity?

Only the portion of therapy provided that is one-on-one for each patient, if that one-on-one time spent is specific to that patient's goals, may be included in Rehabilitation Intensity.

For example, if there were 2 stroke patients sitting across from each other to practice their communication skills and the S-LP is facilitating the session and attending to both patients at the same time, this would not be included in Rehabilitation Intensity. However, if the S-LP provides therapy to one patient and then switches to the other patient, the one-on-one time with the S-LP from each patient's perspective would be included in Rehabilitation Intensity.

19) Is time spent educating patient and family members included in Rehabilitation Intensity?

Yes, if the patient is participating in the session and is working collaboratively with the therapist toward the patient's rehab goals (including discharge planning goals). Patients must be actively engaged in activities such as collaborative planning, practice, or problem solving.

For example, if the therapist hands the patient a brochure with bathroom equipment and requests that the patient procure these items, this would not be included in Rehabilitation Intensity. However, if the therapist and the patient are collaboratively planning and discussing options for bathroom equipment, the patient is indicating his/her understanding and may demonstrate use of equipment, this would be included in Rehabilitation Intensity.

With the presence of family, education to both patient and family members may still be considered one-on-one therapy if it meets the criteria, but not if just interacting with the family alone.

20) Is time spent in patient and family conferences/ meetings included in Rehabilitation Intensity?

Although patient and family conferences are an important part of the rehabilitation process, these meetings are not considered a part of the Rehabilitation Intensity minutes.

Family conferences generally involve several health care providers and is not considered one-on-one therapy.

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21) If there is co-treatment or collaborative treatment (e.g., treatment provided by more than one provider), how will the time be recorded?

a) Co-treatment by 2 therapists (e.g., OT & S-LP)

Time is split between the treating therapists and tracking of time will be from the patient perspective (i.e., per patient therapy time and not per therapist therapy time). For example, if the patient spends 1 hour with both the OT and S-LP, 30 minutes could be recorded for each discipline. The therapists should discuss the treatment session and determine how to record the minutes to ensure no duplication.

b) Co-treatment by 2 therapist assistants (e.g., OTA & PTA)

Time is split between the therapist assistants. For example, if the patient spends 1 hour with both the OTA and PTA, 30 minutes will be recorded for each therapist assistant. The therapist assistants should discuss the treatment session and determine how to record the minutes to ensure no duplication.

c) Collaborative treatment with a therapist and assistant (e.g., S-LP & CDA)

In collaborative treatment with a therapist and therapist assistant, the time will not be split between the therapist and therapist assistant. The therapist, as the most responsible clinician, will record the total time the patient spends in therapy and the therapist assistant will not record the rehabilitation intensity time.

d) Collaborative treatment with a supervising therapist and his/her respective student (e.g., PT & PT student)

When there is collaborative treatment between a therapist and his/her respective student, the supervising therapist records the Rehabilitation Intensity minutes.

e) Collaborative treatment with a supervising therapist assistant and his/her respective student (e.g., OTA & OTA student)

When there is collaborative treatment between a therapist assistant and his/her respective student, the supervising therapist assistant records the Rehabilitation Intensity minutes.

f) Collaborative treatment with a supervising therapist and his/his therapist assistant student (e.g., OT & OTA student)

When there is collaborative treatment between a therapist and therapist assistant student, the supervising therapist records the Rehabilitation Intensity minutes.

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22) When there is no collaborative treatment between the supervising therapist or therapist assistant and his/her respective student, how will Rehabilitation Intensity be recorded (e.g., the supervising therapist or therapist assistant is seeing another patient or is not present within the session)?

When there is no collaborative treatment between the supervising therapist or therapist assistant, the student will record the Rehabilitation Intensity minutes within his/her respective profession. For example, the OTA student will record Rehabilitation Intensity time within OTA.

23) If a patient cannot tolerate 3 hours of therapy per day, what happens?

Therapists need to structure the therapy time to suit the patients' endurance, needs and goals. For example, patients with lower tolerance could be provided with shorter treatments at higher frequency (e.g. 15 to 20 minute increments throughout the day). One of the goals of therapy would be to improve activity tolerance.

24) If a patient chooses not to participate in active therapy and the therapist only spends his/her time educating the patient, would the time spent on educating the patient be included in Rehabilitation Intensity?

The criteria for active engagement still applies. Therefore, if the patient declines active engagement then the education time would not be counted as a part of the patient's Rehabilitation Intensity minutes and one might question the appropriateness of this patient in therapy due to the patient's preferences. However, if the patient is actively engaged in the education and it is directed towards the patient's goals then it may be included.

25) Where does therapy occur to be counted in the Rehabilitation Intensity calculation?

Therapy can happen anywhere. For example, individualized face-to-face therapy can be provided at the patient's bedside, in the corridor, therapy room or other locations.

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26) What do we do if we do not have weekend staffing?

As we strive to provide therapy 7 days per week, we recognize that resources are limited. Rehabilitation Intensity will be reported based on the amount of face-to-face therapy time the patient receives per week. As such, if your organization only provides therapy 5 days per week, this will be reflected in your data and show less intensity. However, as you collect data reflecting the amount of therapy time the patient receives, this will provide further evidence and support to identify opportunities to support the achievement of Rehabilitation Intensity targets, which may include hiring additional staff.

27) What intensity should be provided in outpatient settings?

Based on [Quality-Based Procedures: Clinical Handbook for Stroke \(2016 Update\)](#), patients receiving therapy in outpatient settings should have 2-3 sessions per week per discipline (PT, OT and SL-P) for 8-12 weeks.² QBP does not specify the number of minutes of intensive therapy per visit, however, based on the [Canadian Stroke Best Practice Recommendations \(2015 Update\)](#)⁵, it is recommended that therapy should be provided for a minimum of 45 minutes per day per discipline (OT, PT, S-LP), 2 to 5 days per week, based on individual patient needs and goals for at least 8 weeks.⁵

28) If clinicians are engaged in research, and the research activity includes face-to-face therapy and is considered a part of the patient's care plan, would this time be included in Rehabilitation Intensity?

When research activities align with the Rehabilitation Intensity definition and involve the patient's usual care team, this would be included in Rehabilitation Intensity.

29) If there are adjunct therapies (such as a private physiotherapist or a home visit from home care services), would this be included in Rehabilitation Intensity?

It depends. If there are adjunct therapies being provided that are NOT provided as a resource of the inpatient rehab program, then these should not be included in Rehabilitation Intensity. However, for example, if the rehab program is funding home visits through another partner, this may be included in Rehabilitation Intensity. For example, if an OT from home care services meets a client at home one day prior to discharge for a home safety assessment, this would not be included in Rehabilitation Intensity. However, if rehab program has a contract with an external service provider to provide home visits as part of their inpatient rehab services, this would be included in Rehabilitation Intensity.

30) If the therapy session was delivered over telecommunication networks and the internet (i.e., telerehabilitation), would this be included in Rehabilitation Intensity?

Yes. If the therapy aligns with the Rehabilitation Intensity definition and the hospital reports to the NRS, the intensive therapy time offered to the stroke patient at his/her facility would be included in Rehabilitation Intensity.

31) How will the amount of Rehabilitation Intensity be recorded by the therapist?

Rehabilitation Intensity will be calculated based on the amount of face-to-face therapy time (in minutes) per stroke patient per day. Organizations can revise/adapt their current workload measurement systems (WMS) to capture the **amount of time the patient spends in therapy per day as opposed to therapist time spent in therapy per day**. Your team manager and/or health data records manager will be able to help guide you through the process of capturing patient time spent in rehabilitation within your WMS.

32) What data are mandatory to report to the NRS?

Since April 1st 2015, the NRS discharge assessment has included 6 new data elements. The 6 new data elements include the total number of minutes of Rehabilitation Intensity (referred to as Rehabilitation Time) over the patient's active rehab length of stay (LOS) for each professional group (OT, PT, S-LP, OTA, PTA, and CDA).

It is mandatory to complete these elements for clients discharged from inpatient rehabilitation under the stroke RCG in the province of Ontario. Completing these elements for other rehabilitation cases or in other provinces is optional.

33) If there is no Rehabilitation Intensity minutes provided by a therapist to a patient, should the therapist leave the data field blank or enter 99999?

If no Rehabilitation Intensity minutes are provided by any of the core therapies, the recommendation is to enter a zero. If clinicians leave the data field blank or enter an invalid code of 99999 or variations of this (e.g., 999) for any of the core professional groups, the episode or patient's case for all core professional groups will not be captured in the Canadian Institute for Health Information (CIHI) eReport or the Ministry of Health and Long-Term Care (MOHLTC) data quality monitoring report (DQM). For example, if there is no S-LP service but OT and PT services provided for a patient, and staff leave a blank or enter 99999 for S-LP and include Rehabilitation Time data for OT

and PT, this patient's data will be excluded from both the MOHLTC DQM report and CIHI eReport.

If facilities leave data fields blank or enter 99999, they can go back to their data and re-submit any corrections to the NRS before a specified NRS submission deadline.

34) What is the CIHI eReport and who can access this report?

Following the Q2 data cut for 2015-16, CIHI has been making the raw Rehabilitation Time submitted values available to facilities via their quarterly record-level RPG Reports. This will help facilities keep track of what they have/had not submitted to the NRS.

CIHI has also added active rehab length of stay (LOS) to the report, so that sites can do some math and determine 'intensity' if they so choose.

CIHI has added 8 new metrics to their NRS Q1 2016-17 eReports:

- Rehab Time per day by profession by Active LOS, Average (6 metrics)
- Total Rehab Time per day by Active LOS, AVERAGE (1 metric)
- Clients With Complete Rehab Time Data, COUNT (1 metric)

All site NRS coordinators across Ontario have access to these reports. If clinicians would like access to these reports, they will need to check with their managers.

35) What are Ministry Data Quality Monitoring Reports and who has access to these reports?

These reports have been released to all site NRS coordinators across Ontario and include the percentage of stroke episodes that have valid time values coded for each Rehabilitation Time variable (data elements 91A-F). This information is reported at facility, LHIN and provincial levels.

If clinicians would like access to these reports, they will need to check with their managers.

36) As Rehabilitation Intensity is measured as the total number of minutes of the patient's time in therapy (as per the provincial definition of Rehabilitation Intensity) over the patient's active rehab LOS, does this include service interruptions?

Since the reporting of data is over the 'active' rehab LOS, the calculations for Rehabilitation Intensity reporting should not include any Rehabilitation Intensity

minutes during service interruption days that are between the start date and end date of the service interruption. Rehabilitation Intensity minutes that are collected on start date or end date of the service interruption will be included in the NRS report.

37) Is Alternate Level of Care (ALC) time included in Rehabilitation Intensity reports to the NRS?

Organizations are required to provide Rehabilitation Intensity data for the active rehab LOS. Rehabilitation Intensity data are not reported once the patient is designated ALC.

38) Are Rehabilitation Intensity minutes collected on Date Ready for Discharge (date when the patient is identified by the team as an ALC patient) included in the Rehabilitation Intensity reports to the NRS?

Yes, any Rehabilitation Intensity minutes that are collected on the patient's Date Ready for Discharge are included in the NRS Rehabilitation Intensity reports.

39) After the person is designated ALC, should organizations continue to collect Rehabilitation Intensity minutes?

Organizations are required to report Rehabilitation Intensity data for the active rehab LOS only. However, it may be easier for clinicians to continue to input Rehabilitation Intensity minutes if the organization is able to separate ALC days from the total LOS for reporting purposes. The Rehabilitation Intensity minutes collected during ALC days should not be submitted to the NRS.

40) Is there an expectation from the MOHLTC for rehabilitation organizations to achieve the minimum 3 hours of Rehabilitation Intensity per day?

Organizations should strive to provide a minimum of 3 hours of Rehabilitation Intensity minutes per day. Only the reporting of Rehabilitation Intensity data to the NRS is currently mandatory.

41) How does the MOHLTC and CorHealth Ontario use the Rehabilitation Intensity data?

The objective of establishing Rehabilitation Intensity reporting in NRS is to monitor progress toward the longer term goal of providing greater Rehabilitation Intensity with a target of 3 hours of therapy per patient per day. CorHealth Ontario has been

monitoring the NRS Rehabilitation Time data to: 1) better understand the current state of rehabilitative care; 2) consider the impact of Rehabilitation Intensity on system and patient outcomes; and, 3) ensure availability of Rehabilitation Intensity data to support future system planning. In addition, CorHealth Ontario will continue to work with CIHI to support data quality.

Organizations are encouraged to strive to deliver Rehabilitation Intensity as outlined in the [Quality-Based Procedures: Clinical Handbook for Stroke \(Acute and Postacute\)](#).² At this time, these data elements are not linked to funding.

42) If staff want to know whether an activity is included in Rehabilitation Intensity, is there a resource that can support their clinical decision making?

In 2015, the Ontario Stroke Network Rehabilitation Intensity Working Group developed the Stroke Rehabilitation Intensity pocket card that lists 4 guiding questions for therapists and therapist assistants. The 4 guiding questions include:

- 1) Was I assessing, monitoring, guiding or treating the patient face-to-face?*
- 2) Was my activity with the patient one- on-one (with the exception of co-treatment/collaborative treatment)?*
- 3) Was the patient actively engaged in the activity throughout the session?*
- 4). Were the therapy activities helping the patient achieve his/her goal(s) and maximize his/her recovery?*

If you answer yes to all 4 guiding questions, the activity is included in Rehabilitation Intensity.

If you have further questions related to Rehabilitation Intensity, please contact your local Ontario Regional Stroke Networks' Rehabilitation Coordinator. If you do not know his or her contact information, please email CorHealth Ontario at service@corhealthontario.ca.

This document was initially developed by the Ontario Stroke Network Rehabilitation Intensity Working Group on May 22nd, 2014 and was later revised by the Ontario Regional Stroke Networks' Rehabilitation Coordinator Group on October 17, 2019.

References

1. The Rehabilitation Intensity definition was developed through literature review, expert consensus, and stakeholder engagement by the Stroke Reference Group, and was approved by the Ontario Stroke Network in 2012; this definition was later revised in 2018 by the Ontario Regional Stroke Networks' Rehabilitation Coordinator Group.

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