



Ontario
Stroke
System

*Consensus Panel on the
Stroke Rehabilitation System*

“Time is Function”

APPENDIX M:

Canadian Best Practices in Stroke Rehabilitation Outcomes

Report of the Expert Panel

*A Report from
The Consensus Panel on the Stroke Rehabilitation System
to the
Ministry of Health and Long-Term Care*

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APPENDIX M: Canadian Best Practices in Stroke Rehabilitation Outcomes: Report of the Expert Panel

Held in Toronto, Ontario; Monday February 6-7, 2006

Conference Chairs:

Dr. Mark Bayley

Physiatrist, Toronto Rehabilitation Institute

Principal Investigator, SCORE Project

Member, Canadian Stroke Strategy Best Practices & Standards Working Group

Dr. Patrice Lindsay

Performance and Standards Specialist, Canadian Stroke Network

Stroke Evaluation Lead, Ontario Stroke System

Organizing Committee:

Representatives from the Canadian Stroke Network theme 4B (Rehabilitation and recovery) and members of the Best Practices committee of the Canadian Stroke Strategy collaborated to form the organizing committee for the Expert Panel. These members included: Dr. Nicol Korner-Bitensky, Dr. Robert Teasell, Dr. Johanne Desrosiers, Dr. Jeff Jutai, Alison MacDonald, Katherine Salter, Dr. Sharon Wood-Dauphinee, and Nancy Deming.

Goal of the Conference:

Through discussion with Canadian Stroke Network and the Heart and Stroke Foundation of Ontario, it was agreed that an expert consensus panel with representatives from relevant health professionals as well as stakeholders would be an important method for establishing a course of rehabilitation outcome measures to be used across the continuum.

The Conference had two main objectives:

1. Using the International Classification of Functioning to prioritize a set of outcome measures in the domains of body structure and function, activity and participation that could be used to evaluate the outcomes of stroke rehabilitation in Canada.
2. Identify preliminary indicators of performance of the stroke rehabilitation system.

Findings of the Conference:

In order to promote ease of selection, the following criteria were suggested to the panel to facilitate selection of measures:

- The measure should have been used in previous stroke trials as identified by the Stroke Rehabilitation Evidence-Based Review.
- The measure can be used at admission and completion of rehabilitation.
- The measure can be administered in a multidisciplinary fashion – i.e., could be administered by a number of different health professionals. (This was felt to be important for smaller rehabilitation centers that may not have all the highly specialized rehabilitation professionals, for example, a neuropsychologist.)
- The measure should have optimal psychometric properties including reasonable reliability and demonstrated validity.
- The measure should be available in English and French.
- The time required to complete the measure should fit within the context of the usual assessment time of a health care professional (i.e., is not excessively burdensome).

All outcome measures selected by the panel also were considered using the following criteria:

- Ease and feasibility of administration,
- Content of the Measure,
- Reliability,
- Validity, and
- Responsiveness.

The final outcome tools for stroke rehabilitation selected by the panel include:

Domain	Selected Measure
Measures of Stroke Severity	Orpington or National Institute of Health (NIH) Stroke Scale
Medical Comorbidities	Charleson Co-morbidities Scale
Upper Extremity Structure and Function	Chedoke-McMaster Stroke Assessment (CMSA)
Lower extremity	Chedoke-McMaster Stroke Assessment
Spasticity	Modified Ashworth Scale + Spasticity Subscale of CMSA
Visual Perception	Comb and Razor Test (interdisciplinary admin) Behavioural Inattention Test (Sunnybrook Neglect Assessment Protocol or SNAP) Line Bisection (Unilateral Spatial Neglect) Alternates – Rivermead Perceptual Assessment Battery, OSOT (Ontario Society of Occupational Therapists) Perceptual Evaluation and Motor-Free Visual Perception Test (MVPT)
Language	a) Screening in Acute and follow-up: Frenchay Aphasia Screening Test (FAST) b) for Rehabilitation: Boston Diagnostic Aphasia Assessment
Speech Intelligibility Tool	No tool in published literature
Cognition	a) Screening as per SCORE = Mini Mental State Examination (MMSE) and Line Bisection + Semantic Fluency b) Initial selection Cambridge Cognitive Examination (CAM-COG) Note: no single tool; therefore, need to seek further consultation to consider which domains are important (i.e., attention, memory, executive skills, processing speed)

Activity Assessment Scales

Domain	Selected Measure
Arm Function	Chedoke Arm and Hand Activity Inventory Box and Block Nine Hole Peg Test
Walking/Lower Extremity	Chedoke Lower Extremity Disability Inventory Timed “Up and Go” Test 6-Minute Walk Test Alternate – Rivermead Mobility Index
Balance	Berg Balance Scale (BBS)
Functional Communication	Amsterdam-Nijmegen Everyday Language Test (ANELT) Alternate – American Speech-Language-Hearing Association Functional Assessment of Communication Skills for Adults (ASHA-FACS)
Self-Care Activities of Daily Living	FIM TM (Functional Independence Measure)
Instrumental Activities of Daily Living	Reintegration to Normal Living Index Leisure section of the Assessment of Life Habits (LIFE-H)

Participation Assessment Scales

Domain	Selected Measure
Participation	Stroke Impact Scale