

# CLINICAL PRACTICE GUIDELINE FOR THE REHABILITATION OF ADULTS WITH MODERATE TO SEVERE TBI

October 2016

## SECTION I: Components of the Optimal TBI Rehabilitation System

The content of these guidelines are based on the status of scientific knowledge available at the time of their finalization (2015) as well as on the opinion of the experts who participated in the development of the guidelines. Choices reflected in these guidelines do not preclude the possibility of other approaches or practices also being valid and relevant. Healthcare professionals must at all times use their clinical judgment and consider other factors such as patient preferences and resource availability in applying these recommendations. Moreover, healthcare professionals must at all times respect the legal and normative regulations of the regulatory bodies, in particular with regards to scopes of practice and restricted/protected activities, as these may differ provincially.

# A

## Key Components of TBI Rehabilitation

### A1 – Principles for Organizing Rehabilitation Services

**A 1.1**



Every individual with traumatic brain injury should have timely, specialized interdisciplinary rehabilitation services. (Adapted from ABIKUS 2007, G2, p. 16)

**A 1.2**



Rehabilitation interventions should be initiated as soon as the condition of the person with traumatic brain injury allows. (INESSS-ONF, 2015)

REFERENCES:

- [ERABI Module 3 - Efficacy and Models of Care Following an Acquired Brain Injury, p. 30, 3.3.2](#)
- Leon-Carrion et al. (2013)
- Wagner et al. (2003)

**A 1.3**



Rehabilitation programs should have clearly stated admission criteria, which include a traumatic brain injury diagnosis, medical stability, the ability to improve through the rehabilitation process, the ability to learn and engage in rehabilitation and sufficient tolerance for therapy duration. (INESSS-ONF, 2015)

**A 1.4**



The assessment and planning of rehabilitation should be undertaken through a coordinated, interdisciplinary team and follow a patient-focused approach responding to the needs and choices of individuals with traumatic brain injury as they evolve over time. (Adapted from NZGG 2007, 4.4, p. 76 and ABIKUS 2007, G1, p. 16)

## A1 – Principles for Organizing Rehabilitation Services

<p><b>A 1.5</b></p> <p><b>F N C</b></p>	<p>The traumatic brain injury rehabilitation team should optimally consist of a speech-language pathologist, occupational therapist, physiotherapist, social worker, neuropsychologist (and psychometrist), psychologist (with expertise in behaviour therapy), nurse, physician and/or physiatrist, rehabilitation support personnel, nutritionist, therapeutic recreationist and pharmacist. (INESSS-ONF, 2015)</p> <p>Note: Specific membership should be based on the individual's developing needs as determined by initial and ongoing assessments and goal setting with the individual and family.</p>
<p><b>A 1.6</b></p> <p><b>P B</b></p>	<p>Individuals with traumatic brain injury (TBI) who require rehabilitation should have a case or clinical coordinator appointed at each phase of the continuum of care. (Adapted from NZGG 2007, 4.3.2.1, p. 75)</p> <p>Note: The case coordinator should have clinical experience and specialized training in a TBI-related field, and should assume the following roles:</p> <ul style="list-style-type: none"> <li>• Oversee the planning and delivery of rehabilitation</li> <li>• Coordinate the interdisciplinary team, avoiding duplication of tasks or interventions</li> <li>• Advocate for the needs of the individual with TBI and their caregivers</li> <li>• Plan and coordinate the transition between phases in the continuum of care, providing continuity and good communication between various care providers</li> <li>• Be the key point of contact for the person with TBI, his/her family, the interdisciplinary team, and other resources.</li> </ul>
<p><b>A 1.7</b></p> <p><b>F C</b></p>	<p>Integrated care pathways and protocols should be in place to facilitate a person's transition from an acute care to a rehabilitation setting and to assist in the management of commonly encountered problems associated with traumatic brain injury. (Adapted from ABIKUS 2007, G5, p. 16)</p>
<p><b>A 1.8</b></p> <p><b>N C</b></p>	<p>The rehabilitation environment should be conducive to the person with traumatic brain injury and his or her recovery. Strategies should be in place to promote privacy and sleep hygiene such as the use of single rooms (where available), a quiet environment, and familiar routines. (INESSS-ONF, 2015)</p>
<p><b>A 1.9</b></p> <p><b>F N B</b></p>	<p>The rehabilitation plan should be goal-oriented. There should be a high degree of involvement of the person with traumatic brain injury (TBI), their family/caregivers and the rehabilitation team members in goal setting early in the course of rehabilitation, so that they can be monitored throughout the rehabilitation program. (INESSS-ONF, 2015)</p> <p>Note: High-level involvement in goal setting by the person with TBI results in a greater number of goals being maintained at follow-up (two months).</p> <p>REFERENCE:</p> <ul style="list-style-type: none"> <li>- Webb (1994)</li> </ul>

## A1 – Principles for Organizing Rehabilitation Services

### A 1.10



In order to support the continuous quality improvement of their services, traumatic brain injury (TBI) rehabilitation programs should monitor the population they serve by collecting and analyzing data pertaining to their clinical and socio-demographic profile. These should include but are not limited to:

- Volume of referrals
- Age
- Sex/gender
- Race
- Etiology of TBI
- Severity of TBI
- Glasgow Coma Scale
- Duration of post-traumatic amnesia
- Others

(INESSS-ONF, 2015)

### A 1.11



In order to support the continuous quality improvement of their services, traumatic brain injury rehabilitation programs should monitor key aspects of their processes and efficiency, including but not limited to:

- Injury onset days to start of rehabilitation
- Length of stay in rehabilitation
- Intensity of services
- Measures of functional change progression (ex. FIM, FAM, DRS, MPAI4, CRS-R)
- Discharge disposition (return to home, level of services required, etc.)
- School/work orientation on discharge
- Satisfaction and quality of life

(INESSS-ONF, 2015)

## A2 – Coordinating Management of Comorbid Conditions

### A 2.1



Collaboration and continuity mechanisms should be established with mental health services and programs in order to develop optimal management strategies for individuals with comorbid traumatic brain injury (TBI) and mental health issues.

The collaboration mechanisms should involve cross-training and education for professionals of mental health care services on the recognition and understanding of issues particular to individuals with TBI.

(Adapted from NZGG 2007, 14.4, p. 172)

### A 2.2



Collaboration and continuity mechanisms should be established with addiction/substance use services and programs in order to develop optimal management strategies for individuals with comorbid traumatic brain injury (TBI) and addiction/substance use issues.

The collaboration mechanisms should involve cross-training and education for addiction/substance use service professionals on the recognition and understanding of issues particular to individuals with TBI.

(Adapted from NZGG 2007, 14.3, p. 170)

## A2 – Coordinating Management of Comorbid Conditions

### A 2.3



Health care professionals working with individuals having sustained a traumatic brain injury (TBI) should be trained in behaviour disorders specific to TBI in order to apply consistent neurobehavioural change strategies. (INESSS-ONF, 2015)

#### REFERENCES:

- ABIKUS (2007), G 20, p.19
- Behn et al. (2012)
- Becker et al. (1993)

# B

## Management of Disorders of Consciousness

### B1 – Management of Disorders of Consciousness

#### B 1.1



All individuals with a disorder of consciousness should be periodically assessed throughout the first year post-injury, by an interdisciplinary team with specialized experience in traumatic brain injury. (INESSS-ONF, 2015)

Note: The interdisciplinary team may include the following core professionals: intensivist, neurologist, neurosurgeon, physiatrist, clinical nutritionist, respiratory therapist, physiotherapist, occupational therapist, neuropsychologist, social worker and speech-language pathologist, etc., as appropriate.

#### B 1.2



Where individuals remain in a coma or minimally conscious state following traumatic brain injury, a period of treatment/management in a specialized tertiary centre should be considered if local services are unable to meet their needs for specialized nursing or rehabilitation. (Adapted from ABIKUS 2007, G81, p. 29)

Note: This may require additional resources over current practice. Ideally, these resources would be placed within existing intensive rehabilitation services.

#### B 1.3



Individuals with disorders of consciousness should benefit from an optimal environment and level of stimulation. The following pragmatic advice is offered:

- Healthcare professionals and families should be mindful of hypersensitivity and fatigue, and should avoid overstimulation.
- Stimulation should focus on pleasant sensations such as favourite music, familiar pets, gentle massage, etc., offered one at a time.
- Family/friends should be asked to control their visits to avoid sensory overstimulation—with only 1–2 visitors at a time, visiting for short periods.

(Adapted from RCP 2013, Section 2; 2.7, p. 34)

Note: Despite the lack of formal research evidence to support coma stimulation programs, controlled stimulation provides the best opportunity to observe responses.

#### B 1.4










Individuals with traumatic brain injury who present a disorder of consciousness should have a graded program to increase tolerance to sitting and standing, to maintain orthostatic tolerance, to provide some stimulus for arousal, and possibly to help maintain postural reflexes, bowel and bladder function, muscle bulk, and bone health. (INESSS-ONF, 2015)









## C

# Subacute Rehabilitation









## C1 – TBI Inpatient Rehabilitation Models

<b>C 1.1</b> 	<p>Traumatic brain injury rehabilitation teams should have access to specialist professionals to provide consultation services, education and oversight, especially for individuals with multiple injuries and diagnoses (examples include expertise in amputee care or spinal cord injury). (Adapted from NZGG 2007, 5, p. 80)</p>
<b>C 1.2</b>  	<p>Interdisciplinary team conferences should occur regularly (at least every two weeks) during the inpatient rehabilitation of individuals with traumatic brain injury. (INESSS-ONF, 2015)</p>
<b>C 1.3</b>  	<p>Family conferences with members of the interdisciplinary team should be offered regularly during the inpatient rehabilitation of individuals with traumatic brain injury. (INESSS-ONF, 2015)</p>
<b>C 1.4</b>  	<p>When treating individuals with traumatic brain injury who have prolonged recovery, an interval rehabilitation program (e.g., inpatient rehabilitation at different points in time) should be considered. Access to treatment should not be temporally limited but should be dependent on the person's potential for measurable functional gain. (INESSS-ONF, 2015)</p> <p>REFERENCES:</p> <ul style="list-style-type: none"> <li>- Bender et al. (2014)</li> <li>- Wales and Bernhardt (2000)</li> </ul>










## C2 – Duration, Intensity and Other Attributes

<b>C 2.1</b>   	<p>A target length of stay should be established as soon as possible after admission to inpatient rehabilitation, to ensure consistency of care following traumatic brain injury and to facilitate discharge planning and community integration. (INESSS-ONF, 2015)</p> <p>Note: The target length of stay should be established based on individuals with similar functional status and availability of resources in the community, and take into account other factors such as the Glasgow Coma Score in the first few days after injury, intracranial surgery, the degree of initial disability, the presence of fractures of the upper and lower extremities or pelvis, and the person's age.</p>
<b>C 2.2</b>  	<p>Target length of stay for intensive rehabilitation following traumatic brain injury should be reviewed regularly while taking into consideration achievement of goals and progression toward functional independence. (INESSS-ONF, 2015)</p>
<b>C 2.3</b>   	<p>In order to optimize outcome following traumatic brain injury, inpatient rehabilitation interventions should target advanced cognitive functions, e.g., problem-solving, math skills and memory, where patient capacity permits. (INESSS-ONF, 2015)</p> <p>Note: Research indicates that effort in advanced therapy and time in specific activities improves outcome beyond that attained using only basic level therapy.</p> <p>REFERENCE:</p> <ul style="list-style-type: none"> <li>- Horn et al. (2015)</li> </ul>






## C2 – Duration, Intensity and Other Attributes

<p><b>C 2.4</b></p> <p>  </p>	<p>In order to optimize outcome following traumatic brain injury, inpatient rehabilitation interventions should promote significant involvement of and effort by the person with TBI. (INESSS-ONF, 2015)</p> <p>REFERENCES:</p> <ul style="list-style-type: none"> <li>- Horn et al. (2015)</li> <li>- Seel et al. (2015)</li> </ul>
<p><b>C 2.5</b></p> <p> </p>	<p>In order to optimize outcome following traumatic brain injury, inpatient rehabilitation interventions for patients with lower FIM cognitive subscores should target advanced expression tasks and advanced reading and writing, where there is indication of impairment in these areas. (INESSS-ONF, 2015)</p> <p>REFERENCE:</p> <ul style="list-style-type: none"> <li>- Horn et al. (2015)</li> </ul>
<p><b>C 2.6</b></p> <p>  </p>	<p>To achieve optimal efficiencies of inpatient rehabilitation, individuals with traumatic brain injury should receive a minimum of 3 hours per day of therapeutic interventions, ensuring focus on cognitive tasks as recommended in C2.3, C2.4 and C2.5. (INESSS-ONF, 2015)</p>

## C3 – Planning Discharge to the Community

<p><b>C 3.1</b></p> <p>  </p>	<p>A potential discharge date should be established early in the course of rehabilitation and reviewed regularly as the person's presentation changes to guide the rehabilitation process and prepare the person with traumatic brain injury and his/her family for discharge. (INESSS-ONF, 2015)</p>
<p><b>C 3.2</b></p> <p> </p>	<p>Planned discharge from inpatient rehabilitation to home for individuals with traumatic brain injury (TBI) provides beneficial outcomes and should:</p> <ul style="list-style-type: none"> <li>· Be an integrated part of treatment programs</li> <li>· Involve the person with TBI and caregivers, primary care team, social services and allied health professionals, as appropriate</li> <li>· Take account of the domestic and social environment of the person with TBI, or if he/she lives in residential or sheltered care.</li> </ul> <p>(Adapted from SIGN 2013, 2.3 and 10.4.2)</p>
<p><b>C 3.3</b></p> <p></p>	<p>Individuals with traumatic brain injury may be transferred back to the community, when appropriate specialized rehabilitation and needs support can be continued in that environment without delay. (Adapted from ABIKUS 2007, G83, p. 30)</p>
<p><b>C 3.4</b></p> <p> </p>	<p>A formalized discharge plan, distinct from the rehabilitation plan, should be prepared, discussed with the person with traumatic brain injury, his/her family/caregivers and, if available, the community case coordinator, and be part of the official documents (charting) completed at discharge that are transmitted to the next providers in the continuum of care. (INESSS-ONF, 2015)</p>
<p><b>C 3.5</b></p> <p></p>	<p>Outpatient rehabilitation treatment plans should be agreed to jointly by the person with traumatic brain injury and family/caregivers, and health care professionals involved in the transition. (Adapted from ABIKUS 2007, G85, p. 30)</p>


## C3 – Planning Discharge to the Community

<b>C 3.6</b> 	<p>There should be a process for regularly reviewing how the outpatient rehabilitation treatment plan of the person with traumatic brain injury progresses (i.e., usually at 3–6 months postdischarge and repeated thereafter). (INESSS-ONF, 2015)</p>
<b>C 3.7</b> 	<p>Essential alterations to the home of the person with traumatic brain injury should be recommended, with a reasonable amount of time allowed for installation and completion prior to discharge. However, when the person or his/her family are unable or unwilling to make the planned renovations or modifications, discharge should not be held up and alternatives should be sought. (INESSS-ONF, 2015)</p>
<b>C 3.8</b> 	<p>Individuals with traumatic brain injury should be transitioned from inpatient rehabilitation to home on a supported, gradual basis (e.g., home visits, weekend/weekday passes with family, and experiences in transitional living). (INESSS-ONF, 2015)</p>
<b>C 3.9</b> 	<p>Preparing individuals with traumatic brain injury (TBI) and family/caregivers for community transition should include:</p> <ul style="list-style-type: none"> <li>• Training of family/caregivers in the use of equipment and the management of the individual in order to ensure his or her safety in the home environment</li> <li>• Educating individuals with TBI and family/caregivers about relevant formal and informal resources, including voluntary services and self-help groups, and how to access them.</li> </ul> <p>(Adapted from ABIKUS 2007, G84, p. 30)</p>
<b>C 3.10</b> 	<p>Copies of both the discharge report and the patient care plan should be provided to the person with traumatic brain injury, and, with his or her consent, to the family/caregivers, as well as all professionals relevant to the person's rehabilitation in the community, especially the general practitioner.</p> <p>These reports should include:</p> <ul style="list-style-type: none"> <li>• Electronic health records summary or report detailing the clinical history, examination and any imaging</li> <li>• The results of all recent assessments</li> <li>• A summary of progress made and/or reasons for discharge/transfer</li> <li>• Recommendations for future interventions and follow-up.</li> </ul> <p>(Adapted from ABIKUS, 2007, G87, p. 30)</p>

# D

## Promoting Reintegration and Participation

### D1 – Postdischarge Follow-Up and Support

<b>D 1.1</b> 	<p>All individuals with traumatic brain injury (TBI) discharged from a specialized TBI rehabilitation program (inpatient, outpatient, residential) should have access, if needed, to scheduled telephone follow-up contact with a professional skilled in motivational interviewing, goal setting, providing reassurance and problem-solving support. (Adapted from NZGG 2007, 9.1, p. 130)</p>
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## D1 – Postdischarge Follow-Up and Support

### D1.2



Postdischarge long-term services (e.g., counselling, provision of information, etc.) should be available, if needed, for the person with traumatic brain injury and his/her family/caregivers, to enable and sustain optimal societal participation while supporting personal choice and facilitating adjustment. (Adapted from NZGG 2007, 9.2, p. 132)

## D2 – Community Rehabilitation

### D 2.1



Individuals with ongoing disability after traumatic brain injury should have timely access to specialized outpatient or community-based rehabilitation to facilitate continued progress and successful community reintegration. (Adapted from NZGG 2007, 6.6, p. 116)

### D 2.2



A peer-supported relationship model of intervention within a community-based program should be available to individuals with traumatic brain injury in order to promote social integration, coping and psychological functioning. (INESSS-ONF, 2015)

REFERENCE:

- [ERABI Module 13— Community Reintegration, p.17](#)

### D 2.3



Access to interval care (re-entry to care or intensification of services) should be allowed so that individuals with traumatic brain injury can access treatment as their impairments, ability and participation goals change or new challenges/transitions create a renewed need for services. (INESSS-ONF, 2015)

Note: Access to interval care should be primarily determined by the person's needs, goals and the potential benefit of services, rather than the time since injury or history of previous treatment.

REFERENCE:

- Bender et al. (2014)

## D3 – Optimizing Performance in Daily Living

### D 3.1



All individuals with traumatic brain injury should be assessed for their level of independence in activities of daily living (ADLs) and instrumental activities of daily living (IADLs). (INESSS-ONF, 2015)

### D 3.2



All daily living tasks should be practised in the most realistic and appropriate environment for the person with traumatic brain injury, with the opportunity to practise skills in natural settings outside therapy sessions. (Adapted from NZGG 2007, 6.2, p. 106)

### D 3.3



An individualized life skills training protocol should be developed for each person with traumatic brain injury, to assist them in dealing effectively with the demands and challenges of everyday life. Depending on the needs of the person and his/her impairment profile, life skills training may focus on social skills, activities of daily living / instrumental activities of daily living (ADLs/IADLs), interpersonal skills, job skills, problem-solving skills, decision-making skills, self-advocacy skills, behavioural self-regulation skills, etc. (Adapted from AOTA 2009, p. 83)

### D 3.4



As appropriate, environmental cues should be included in the person with traumatic brain injury's treatment plan for activities of daily living and instrumental activities of daily living (ADLs/IADLs). (Adapted from AOTA 2009, p. 83)



## D3 – Optimizing Performance in Daily Living

### D 3.5



Compensatory training, individualized environmental adaptation as well as remediation training should be provided to the person with traumatic brain injury, either simultaneously or sequentially, as appropriate. (Adapted from AOTA 2009, p. 82)

## D4 – Leisure and Recreation

### D 4.1



All individuals with traumatic brain injury should be assessed by a rehabilitation professional or team regarding leisure activities. Assessments should include identification of:

- Their pre-injury level of participation in leisure/meaningful activities
- The barriers or compounding problems which inhibit their engagement in such activities

(Adapted from NZGG 2007, 6.6, p. 116)

### D 4.2



Individuals with traumatic brain injury with difficulty undertaking leisure/meaningful activities of their choice should be offered a goal-directed community-based program aimed at increasing participation in leisure/meaningful and social activities. (Adapted from ABIKUS 2007, G97, p. 32)

## D5 – Driving

### D 5.1



A physician/health care professional with experience in traumatic brain injury should assess individuals who wish to drive, in accordance with local legislation and in liaison with the interdisciplinary rehabilitation team. (Adapted from ABIKUS 2007, G90, p. 31)

### D 5.2



If the capacity of the person with traumatic brain injury to drive is unclear, a comprehensive assessment of capacity to drive should be undertaken at an approved driving assessment centre or service or by professionals qualified to conduct such an evaluation. (Adapted from ABIKUS 2007, G92, p. 31)

### D 5.3



If during assessment or treatment of a person with traumatic brain injury (TBI), the interdisciplinary rehabilitation team determines that the person's ability to drive safely may be affected, then they should:

- Provide clear guidance to treating health professionals, the person and family/caregivers about any concerns about driving, and reinforce the need for disclosure and assessment in the event that return to driving is sought later post-injury
- Provide the person with information about the law and driving after TBI
- If applicable, advise the person and/or their advocate that they are obliged by law to inform the relevant government body that the person has suffered a neurological or other impairment and to provide the relevant information on its effects.

(Adapted from ABIKUS 2007, G91, p. 31)

## D6 – Vocational/Educational Rehabilitation

### D 6.1



Individuals with traumatic brain injury should be assessed for the need for vocational rehabilitation to assist their return to work or to school, or for entering the workforce for those not previously employed and should include:

- Comprehensive pre-injury history (including educational and work history)
- Current capacities of the person, in particular at the cognitive, psychological and physical levels
- Current social status
- Evaluation of the person's vocational and/or educational needs
- Identification of difficulties which are likely to limit the prospects of a successful return to work or to school and appropriate interventions to minimize them
- Direct liaison with employers (including occupational health services when available) or education providers (teachers, services for disabled students, etc.), to discuss needs and the appropriate action in advance of any return
- Evaluation of environmental factors, workplace and psychosocial aspects including social environment and work culture
- Verbal and written advice about their return, including arrangements for review and follow-up.

(Adapted from NZGG 2007, 6.4, p. 110, ABIKUS 2007, G93, p. 32 and Stergiou-Kita 2011, 2, p.15–16)

### D 6.2



Vocational rehabilitation interventions should be offered to individuals with traumatic brain injury who require support and training to assist their return to work or to school, or for entering the workforce for those not previously employed. Vocational rehabilitation should include cognitive, communicative, physical and behavioural strategies, work simulation activities, and on-site training. (INESSS-ONF, 2015)

REFERENCE :

- Radford et al. (2013)

### D 6.3



Standard vocational rehabilitation interventions offered to individuals with traumatic brain injury, such as cognitive training and behaviour modification, should be monitored for effectiveness, and supported employment should be provided for those who wish to return to work and for whom the standard interventions are insufficiently effective. (Adapted from NZGG 2007, 6.4, p. 110)

### D 6.4











Supported employment offered to individuals with traumatic brain injury (TBI) who wish to return to work should include these fundamental aspects:

- Job placement, including:
  - Matching job needs to abilities and potential
  - Facilitating communication between the person, the employer and caregivers
  - Arranging travel/training
- Job site training and advocacy including:
  - Training
  - Proactive assessment of potential problems in the job environment
  - Designing solutions in cooperation with the person with TBI, caregivers and employers
  - Ongoing assessment of the person's work performance
- Job retention and follow-up including:
  - Monitoring of progress to anticipate problems and intervene proactively when necessary

(Adapted from NZGG 2007, 6.4, p. 111)




## D6 – Vocational/Educational Rehabilitation

<b>D 6.5</b> 	<p>An assessment of the requirements of the occupation/job the person with traumatic brain injury is considering entering or re-entering (i.e., job analysis) should be conducted prior to job reintegration. This should include the identification and/or assessment of the following elements: Occupation/job title/category/classification; occupation/job description; complexity and variety of tasks associated with the occupation/job demands. (Adapted from Stergiou-Kita 2011, 5, p.27)</p>
<b>D 6.6</b>  	<p>Upon completion of the vocational evaluation process following traumatic brain injury (TBI), the evaluator should draw conclusions based on the analysis of findings from all assessments completed and data gathered. The evaluator should relate conclusions back to the original evaluation purpose/question(s) to make recommendations for work re-entry, return to work or future vocational planning through verbal and/or written report to the person with TBI being evaluated and relevant stakeholders, as per the consents established. (INESSS-ONF, 2015)</p> <p>REFERENCE:</p> <ul style="list-style-type: none"> <li>- <a href="#">ERABI Educational Module – Efficacy and Models of Care – 3.5 Vocational Rehabilitation, p. 25</a></li> </ul>
<b>D 6.7</b>   	<p>Gradual work trial for individuals with traumatic brain injury should include a start date, an indication of how to increase hours and days, limitations and restrictions, as well as recommended accommodations. (INESSS-ONF, 2015)</p> <p>REFERENCE:</p> <ul style="list-style-type: none"> <li>- <a href="#">ERABI Educational Module – Efficacy and Models of Care – 3.5 Vocational Rehabilitation, p. 25</a></li> </ul>
<b>D 6.8</b>  	<p>If unable to engage in paid employment, individuals with traumatic brain injury should be assisted to explore other avenues for productivity that promote community integration (e.g., volunteer work with TBI- and non-TBI-specific organizations). (INESSS-ONF, 2015)</p> <p>REFERENCE:</p> <ul style="list-style-type: none"> <li>- <a href="#">ERABI Educational Module – Efficacy and Models of Care – 3.5 Vocational Rehabilitation, p. 25</a></li> </ul>

# E

## Caregivers and Families

### E1 – Supporting Caregivers for Discharge and Community Living

<b>E 1.1</b>  	<p>Rehabilitation programs for individuals with traumatic brain injury should be developed in collaboration with caregivers to ensure carryover into the community. (Adapted from ABIKUS 2007, G98, p. 33)</p>
<b>E 1.2</b> 	<p>Individuals who assume a caregiver role (e.g., family members, spouse, non-professional paid caregivers) to a person with traumatic brain injury should be provided with information relevant to their role. This should include but not be limited to the need for support, training and education; and practical and emotional support regarding stress, mental health issues and their own quality of life, including the need to plan respite care when required. (Adapted from NZGG 2007, 13, p. 157)</p>

## E1 – Supporting Caregivers for Discharge and Community Living

### E 1.3



Family and caregivers of individuals with traumatic brain injury should be provided with access to ongoing support. Supportive groups and therapies, e.g., associations/peer support/mentoring, mindfulness-based cognitive therapy, yoga, art, pet or music therapy, etc., should be considered. (INESSS-ONF, 2015)

### E 1.4



The rehabilitation team should assess and document the family's capacity for and interest in taking on a caregiver role for the person with traumatic brain injury. (INESSS-ONF, 2015)

# F

## Brain Injury Education and Awareness

## F1 – Patient Education and Information

### F 1.1



Individuals who have had a traumatic brain injury (TBI) and individuals who assume the caregiver roles should receive timely, progressive and regular information on TBI that is adapted to age, culture and linguistics, in both written and verbal format. The information should include:

- Common physical, cognitive, behavioural and emotional consequences of TBI
- Reassurance about symptoms and signs which might be expected
- The possibility of long-term problems
- Advice on high-risk situations, safety and self-care measures
- Advice on the interactions between alcohol and psychoactive drugs
- Advice on alcohol or drug misuse for individuals who initially presented with drug or alcohol intoxication
- Rehabilitation services and resources
- Community resources
- The difficulty of detecting TBI-related problems by those who do not know about the injury.

(Adapted from NZGG 2007, 9.2, p. 132)

### F 1.2



Individuals with traumatic brain injury (TBI) and their caregivers should be given information, advice and the opportunity, through referral, to talk about the impact of TBI on their lives, with someone experienced in managing the emotional impact of TBI.

(Adapted from ABIKUS 2007, G21, p. 19)

## F2 – Public Awareness and Education

### F 2.1



Traumatic brain injury (TBI) rehabilitation programs should conduct or collaborate on information and education activities aimed at increasing public/community awareness and understanding of the needs and special challenges of individuals with TBI. (Adapted from ABIKUS 2007, G101, p. 34)

Note: Groups more inclined to encounter individuals with TBI include, but are not limited to: police officers, parole officers, emergency medical services (EMS), educators, teachers and employers.

# G

## Capacity and Consent

### G1 – Assessment of Capacity and Consent

#### G 1.1



All clinicians must fully and sensitively assess the capacity of the person with traumatic brain injury (TBI) to consent throughout their assessment and rehabilitation interventions. Where informed consent cannot be obtained by the person with TBI, clinicians must follow the procedures set out by their provincial regulations (e.g., Ontario Health Care Consent Act) which provide guidance on the hierarchy of substitute decision makers. (Adapted from NZGG 2007, 14.1, p. 166)

#### G 1.2



A formal evaluation of the capacity of the person with traumatic brain injury should be conducted, if needed, by an appropriately qualified professional. Periodic re-evaluation should be conducted as indicated clinically. (INESSS-ONF, 2015)

#### G 1.3



A formal assessment of the needs of the person with traumatic brain injury (TBI) regarding capacity and the exercise of his/her civil rights should be made when necessary. If the person with TBI is incapacitated, adequate measures should be put in place, which may include the implementation of a protection mandate or private or public protective supervision (i.e. Substitute Decision Maker, Trustee or Guardian). (INESSS-ONF, 2015)

## NOTES



Many recommendations included in these guidelines have been adapted from already existing CPGs (see table below). New recommendations formulated by the expert panel have been identified with the letter "N" and referenced as INESSS-ONF, 2015.



**Fundamental Recommendations** are defined as the elements that rehabilitation programs/services need to have in place, in order to build the rest of the system properly. These are primarily for program managers and their leaders as they reflect the service conditions for optimal rehabilitation provision.



**Priority Recommendations** are clinical practices or processes deemed most important to implement and monitor during the course of rehabilitation for people having sustained a TBI. These practices are most likely to bring on positive outcomes for people with TBI.

### A PRIORITY Recommendation meets the following criteria:

- It addresses a clinical practice or process **identified as important to address by the targeted users of the CPG** during the survey process; and/or
- It is supported by strong evidence or strong expert consensus; and/or
- It was **ranked by the expert panel amongst the most important ones to consider or implement** within a specific topic area;
- **Its implementation is deemed important and feasible** by the development team (Scientific Committee) involved in the organization, delivery and monitoring of quality services for TBI in the province of Quebec and Ontario;
- Its implementation and, when possible, its impact on outcome, **can be measured**.

The guideline development team (Scientific Committee) strongly believes that implementation of the priority recommendations would be difficult without the fundamental recommendations in place first.

## INESSS-ONF Level of Evidence



Recommendation supported by at least 1 meta-analysis, systematic review, or randomized controlled trial of appropriate size with relevant control group.



Recommendation supported by cohort studies that at minimum have a comparison group, well-designed single subject experimental designs, or small sample size randomized controlled trials.



Recommendation supported primarily by expert opinion based on their experience, though uncontrolled case series without comparison groups that support the recommendations are also classified here.

## ORIGINAL GUIDELINES SOURCES

Authors	Year	Clinical Practice Guidelines
Neurobehavioral Guidelines Working Group (NGWG) (Warden et al.)	2006	Guidelines for the Pharmacologic Treatment of Neurobehavioral Sequelae of Traumatic Brain Injury
Acquired Brain Injury Knowledge Uptake Strategy (ABIKUS)	2007	ABIKUS Evidence Based Recommendations for Rehabilitation of Moderate to Severe Acquired Brain Injury
New Zealand Guidelines Group (NZGG)	2007	Traumatic Brain Injury: Diagnosis, Acute Management and Rehabilitation
American Occupational Therapy Association (AOTA) (Golisz)	2009	Occupational Therapy Practice Guidelines for Adults with Traumatic Brain Injury
Stergiou-Kita	2011	A Guideline for Vocational Evaluation Following Traumatic Brain Injury: A Systematic and Evidence-based Approach
Scottish Intercollegiate Guidelines Network (SIGN)	2013	Brain Injury Rehabilitation in Adults
Royal College of Physicians (RCP)	2013	Prolonged Disorders of Consciousness National Clinical Guidelines
INCOG Team (INCOG) (Bayley et al.)	2014	INCOG Recommendations for Management of Cognition Following Traumatic Brain Injury
INESSS-ONF	2015	Clinical Practice Guideline for the Rehabilitation of Adults with Moderate to Severe Traumatic Brain Injury

## REFERENCES

Complete references for the listed sources can found at **[www.braininjuryguidelines.org](http://www.braininjuryguidelines.org)** or **[www.guidepratiqueTCC.org](http://www.guidepratiqueTCC.org)**