Guideline for Concussion/Mild Traumatic Brain Injury & Persistent Symptoms

Healthcare Professional Version

Third Edition

Adults (18+ years of age)

SECTION 12:
Return-to-Activity/Work/School Considerations

Ontario Neurotrauma Foundation
Fondation ontarienne de neurotraumatologie
The project team would like to acknowledge the Ontario Neurotrauma Foundation (ONF), who initiated and funded the development of the original guideline, as well as the current update. ONF is an applied health research organization with a focus on improving the quality of lives for people with an acquired brain injury or spinal cord injury, and on preventing neurotrauma injuries from occurring in the first place. ONF uses strategic research funding activity embedded within a knowledge mobilization and implementation framework to build capacity within systems of care. ONF works with numerous stakeholders and partners to achieve its objective of fostering, gathering and using research knowledge to improve care and quality of life for people who have sustained neurotrauma injuries, and to influence policy towards improved systems. The foundation receives its funding from the Ontario Government through the Ministry of Health and Long-Term Care.

Please note, the project team independently managed the development and production of the guideline and, thus, editorial independence is retained.

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Published May 2018
The recommendations and resources found within the Guideline for Concussion/mTBI & Persistent Symptoms are intended to inform and instruct care providers and other stakeholders who deliver services to adults who have sustained or are suspected of having sustained a concussion/mTBI (mild traumatic brain injury). This guideline is not intended for use with patients or clients under the age of 18 years. This guideline is not intended for use by people who have sustained or are suspected of having sustained a concussion/mTBI for any self-diagnosis or treatment. Patients may wish to bring their healthcare and other providers’ attention to this guideline.

The recommendations provided in this guideline are informed by best available evidence at the time of publication, and relevant evidence published after this guideline could influence the recommendations made within. Clinicians should also consider their own clinical judgement, patient preferences and contextual factors such as resource availability in clinical decision-making processes.

The developers, contributors and supporting partners shall not be liable for any damages, claims, liabilities, costs or obligations arising from the use or misuse of this material, including loss or damage arising from any claims made by a third party.
Returning to usual activities after an concussion/mTBI can be challenging because of physical, cognitive and emotional impairments; however, current evidence indicates graded resumption of regular pre-injury activities as tolerated (i.e., in a manner that does not result in a significant or prolonged exacerbation of symptoms), within the first few days to weeks post-injury should be encouraged because, regardless of symptomatic status, activity is more likely to speed up rather than delay recovery. A prospective, multicenter cohort study demonstrated for school-aged children physical activity within 7 days of acute injury compared with no physical activity was associated with reduced risk of persistent post-concussive symptoms.

For workers, the literature demonstrates brain injury patients who are employed report better health status, improved sense of well-being, greater social integration within the community, less usage of health services and a better quality of life than do those who are not employed. In order to facilitate early and safe resumption of activities following concussion/mTBI, healthcare professionals should advise patients on appropriate restrictions and limitations when they exist and then focus on abilities to ensure the optimal timing and nature of return-to-work and school activities.

**General Considerations Regarding Rest and Return-to-Activity**

Determining the optimal timing and nature of return-to-activity for patients with concussion/mTBI must carefully consider the risks and benefits of activity resumption. While a short period of physical and cognitive rest may be beneficial, particularly to limit symptom aggravation, evidence suggests prolonged rest and/or avoidance of activities may worsen outcomes. Evidence indicates complete bed rest in excess of 3 days should be avoided and gradual resumption of pre-injury activities should begin as soon as tolerated. Activities with high concussion/mTBI exposure risk should be avoided in the first 7-10 days.

When advising patients on return-to-activity, it is important to consider both physical and cognitive activities because both have the potential to exacerbate symptoms. Cognitive load refers to mental activities requiring attention, concentration and problem solving. Patients should be educated on the concept of cognitive load and advised on how to go about minimizing cognitive load in circumstances where cognitively demanding activities are aggravating symptoms.

Activities associated with high cognitive load include:
- Work or school tasks requiring sustained concentration, attention or problem-solving
- Reading
- Computer or cell phone use, watching TV, video games
- Demanding social interactions

When planning return-to-activity, the patient’s tolerance level for both cognitive and physical activity should be considered. Activity resumption recommendations should seek to achieve maximal participation in pre-injury activities while minimizing symptom exacerbations. Patients should be advised that subsymptom threshold levels of activity are recommended. When symptom exacerbations occur, patients should be advised to temporarily reduce their physical and cognitive demands and resume graduated return-to-activity at a slower pace.

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**GENERAL CONSIDERATIONS REGARDING REST AND RETURN TO ACTIVITY**

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<table>
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<tbody>
<tr>
<td>12.1</td>
<td>Immediately following any concussion/mTBI, patients should be provided with recommendations to avoid activities that would increase their risk for sustaining another concussion during the recovery period, particularly in the first 7-10 days.</td>
</tr>
<tr>
<td>12.2</td>
<td>There is currently insufficient evidence that prescribing complete rest may ease discomfort during the acute recovery period by mitigating post-concussion symptoms and/or that rest may promote recovery by minimizing brain energy demands following concussion.</td>
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<tr>
<td></td>
<td>- An initial period of rest in the acute symptomatic period following injury (24-48 hours) may be of benefit.</td>
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<td></td>
<td>- After a brief period of rest, a sensible approach involves the gradual return to school and social activities (prior to contact sports) as tolerated, (i.e., in a manner that does not result in a significant or prolonged exacerbation of symptoms).</td>
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Guidelines for Concussion/mTBI and Persistent Symptoms: 3rd Ed.

*NOT AN ORIGINAL RECOMMENDATION - REPEAT OF 3.4

**NOT AN ORIGINAL RECOMMENDATION - REPEAT OF 4.5

General Considerations Regarding Return-to-work (RTW)
The literature suggests the majority of workers with concussion/mTBI return to work within one to two weeks following injury; however, rates vary widely across studies.\textsuperscript{14,15} Predictors for return-to-work (RTW) in workers with concussion/mTBI extend beyond injury severity and medical comorbidities, with recovery expectations, the advice of healthcare providers, and socioeconomic factors all having a strong influence on disability duration.\textsuperscript{7,16-18}

Table 12.1. Factors Associated with Poor Functional Outcomes

<table>
<thead>
<tr>
<th>Table 12.1. Factors Associated with Poor Functional Outcomes</th>
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</thead>
<tbody>
<tr>
<td>• Dizziness\textsuperscript{13}</td>
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<tr>
<td>• Number of symptoms reported at follow-up\textsuperscript{14}</td>
</tr>
<tr>
<td>• Post-traumatic stress\textsuperscript{14,15}</td>
</tr>
<tr>
<td>• Cognitive impairments on tests of memory and executive functioning\textsuperscript{16}</td>
</tr>
<tr>
<td>• Reduced social interaction (compared to pre-injury)\textsuperscript{17}</td>
</tr>
<tr>
<td>• Financial compensation-seeking\textsuperscript{18}</td>
</tr>
<tr>
<td>• Loss of consciousness\textsuperscript{19}</td>
</tr>
<tr>
<td>• Pre-existing mental health difficulties (i.e., anxiety, depression, mania, psychotic symptoms)\textsuperscript{19}</td>
</tr>
<tr>
<td>• Lower pre-morbid intelligence/cognitive ability\textsuperscript{19}</td>
</tr>
<tr>
<td>• Pre-injury work history (i.e., prior work stability, earnings)\textsuperscript{20}</td>
</tr>
<tr>
<td>• Cognitive Difficulties</td>
</tr>
</tbody>
</table>

Medically unnecessary delays in RTW must be avoided because employment is an important determinant of health and unsuccessful RTW can have profound negative economic and psychosocial consequences for affected individuals.\textsuperscript{19,20} Systematic reviews and one experimental study have demonstrated the health benefits of staying at or returning to work in a variety of populations, times, and settings.\textsuperscript{19,21} Specific to concussion/mTBI, workers with brain injury who are employed report better health status, improved sense of well-being, greater social integration within the community, less usage of health services and a better quality of life compared to those who remain unemployed.\textsuperscript{4} Therefore, remaining at or promptly returning to some form of productive work, provided it does not pose risk of re-injury, should be encouraged, recognizing that individuals unable to RTW can experience greater physical ailments and poorer psychosocial adjustment including increased anxiety, depression and social isolation.\textsuperscript{20,22}

Barriers to return-to-work are varied and include both medical and non-medical factors. Cognitive difficulties (i.e., thinking, concentrating, and fatigue) are the most commonly reported medical factors that interfere with workability. Other factors include the invisibility of the injury, persistent symptoms affecting the ability to do the job, and lack of advice and guidance on returning to work. In addition to these barriers, RTW support systems were considered to be poorly coordinated and managed.\textsuperscript{23} Workers reported common factors perceived in facilitating RTW were the support of family, friends, treatment providers and employers who provided accommodations.\textsuperscript{23}

To facilitate timely and effective return to work for patients with concussion/mTBI, healthcare providers should use a structured approach to assess fitness for duty being cognizant of predictors and factors influencing outcomes of RTW (see Table 12.1).\textsuperscript{24-31} An accepted and effective approach to assess work readiness is for the healthcare provider to define “risk” (medical restrictions), “capacity” (limitations), and “tolerance” \textsuperscript{32,28} The healthcare provider should then

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\textsuperscript{a.} Adapted from the VA/DoD Management of Concussion/Mild Traumatic Brain Injury Clinical Practice Guideline (VA/DoD, 2009).  
communicate the specific medical restrictions, limitations and abilities to the employer and other stakeholders, with appropriate consents, to facilitate temporary accommodations where necessary. See Table 12.2 for the stepwise approach to RTW planning for patients with concussion/mTBI.

### Table 12.2 Stepwise Approach to Return-to-work (RTW) Planning for Patients with concussion/mTBI

<table>
<thead>
<tr>
<th>Healthcare Professional</th>
<th>1. Identify medical restrictions (risk)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>2. Identify limitations (functional capacity: physical, cognitive, emotional)</td>
</tr>
<tr>
<td></td>
<td>3. Identify and document symptom triggers</td>
</tr>
<tr>
<td>Employer</td>
<td>4. Review information on restrictions, limitations and symptom triggers</td>
</tr>
<tr>
<td></td>
<td>5. Review information on job demands</td>
</tr>
<tr>
<td></td>
<td>6. Identify opportunities for accommodations/work modification</td>
</tr>
<tr>
<td>Employer and Worker</td>
<td>7. Formulate progressive RTW plan</td>
</tr>
</tbody>
</table>

Assessing risk involves defining impairments that could result in harm if the worker were to engage in the given work task. Risk of harm encompasses any situation where performance error in a physical or decision-critical task could result in injury to the worker, coworkers or the general public, and/or disruption of equipment, production or the environment. For example, if a worker has impaired balance then a reasonable medical restriction would be “no working at heights”. Similarly, if a patient has impaired concentration or visual disturbance then a reasonable medical restriction would be “no operation of heavy equipment”.

Assessment of capacity refers to defining a patient’s functional impairments; activities that the patient physically, psychologically and/or cognitively is unable to perform. Limitations may not pose risk or harm to the patient or others per se, but they would reasonably interfere with a worker’s ability to perform a given task (e.g., photophobia, sonophobia, slowed cognitive processing) and they are therefore important to define to ensure the worker is not expected to perform tasks the worker is not currently capable of performing.

Tolerance refers to the ability of a patient/worker to tolerate symptoms and is not a medically-answerable question. The healthcare provider may comment on tolerance based on the patient’s reported symptoms, but should only do so if it is significant barrier to RTW and therefore requires accommodation in which case it would more appropriately be defined as a limitation.

It is imperative when assessing workers with concussion/mTBI for medical restrictions and limitations, to consider all three domains of physical, cognitive and psychosocial/emotional status. Defining levels of physical exertion that exacerbate symptoms can often be achieved based on a detailed history. Cognitive evaluations have been reported to be effective in identifying an individual’s capacity to return to work in complex cases. These should focus on executive functioning, attention, memory, information processing and verbal skills, as these were found to increase the likelihood of successful RTW. The evaluation should also take into account the worker’s psychosocial status given studies show that concussion/mTBI can cause re-organization of a person’s psychosocial identities, affecting their ability to perform. In turn, this is related to mood disorders, such as depression. Mood disorders post-injury create problems with interpreting and regulating emotions, displaying inappropriate responses to stimuli/events and cause the patient to be more/less susceptible to the need for approval in the workplace. As a result, other difficulties associated with concussion/mTBI may worsen due to poor job performance. It is also important to note that concussion/mTBI impacts executive functions, affecting skills such as multi-tasking, prioritization, organization, prospective memory and time management. The contextual work-related factors listed above should be identified by the healthcare provider so this information can be communicated to the employer and other relevant stakeholders, with appropriate consents, to help facilitate successful RTW.

The goal of any RTW plan for concussion/mTBI is to enable the worker to fully participate in work tasks (maximizing work capacity) while remaining below symptom-exacerbation threshold levels. It is important to note that the existence of symptoms at baseline is not, in and of itself, a basis for no return to work. Symptoms are common in the general population and do necessarily impair workability. At issue is whether the work tasks exacerbate symptoms. Workers with symptoms that are present but do not change with an increase in the work activity can begin to transition back to work. Defining tasks that would cause the patient to exceed symptom-exacerbation threshold could reasonably be considered under medical restrictions because the medium- and long-term risks of exertion sufficient to exacerbate symptoms are
unknown. Therefore, reasonable advice is to encourage the worker to engage in activities (physical, cognitive, emotional/behavioral) as much as possible and, in response to symptom exacerbations, the worker should temporarily reduce the physical and cognitive demands and resume graduated return to work at a slower pace.2

While it is the responsibility of the healthcare practitioner to provide information on a patient’s restrictions, limitations and abilities, it is the responsibility and role of the employer, based on the information provided by the healthcare practitioner, to determine the type of work available and whether the patient can be accommodated.33,39 Under provincial human rights laws, an employer may not discriminate on the basis of disability or other illness and has a duty to accommodate workers with medical impairments to the point of undue hardship.39 See Rec. 12.7 for examples of work modifications that could be considered by employers to accommodate restrictions and limitations associated with concussion/mTBI.

There is no common RTW template that fits the needs of all individuals in all circumstances; in some instances workers may return to work regular duties, while in other accommodation with temporary workload restrictions or placement in a completely different job function may be necessary.40,41 Therefore, each program should be individually prescribed and should support the reintegration and rehabilitation of the person with the injury or disability back into the workplace.33

In complex cases where the healthcare practitioner is having difficulty clearly defining a patient’s restrictions and limitations, or where questions arise regarding the suitability of the accommodated work being offered by the employer (or lack thereof), an interdisciplinary vocational evaluation may be necessary. This is particularly true in instances where the worker’s usual job tasks are safety-sensitive or decision-critical.

### Section 12. Return-to-Activity/Work/School Considerations

#### RETURN-TO-WORK CONSIDERATIONS: VOCATIONAL SCREENING AND EVALUATION

<table>
<thead>
<tr>
<th>Grade</th>
<th>12.6</th>
<th>If the work environment and/or duties pose potential risk to self or others, an in-depth fitness for duty evaluation and in-depth job analysis are advised.8</th>
</tr>
</thead>
</table>
| C     |      | Individualized work limitations should be identified if:  
|       |      | • The worker is not able to perform specific work tasks as a result of symptoms.  
|       |      | • There is a work task that places the person at risk of repeat concussion.                                                                                                                     |
|       |      | Individualized work restrictions should be identified if:  
|       |      | • The work/duty environment cannot be adapted to the patient’s symptom-based limitation.  
|       |      | • Symptoms recur with return to work.  
|       |      | • The deficits cannot be accommodated.                                                                                                                                                    |
|       |      | If restrictions or limitations are identified, they should be communicated to the patient’s employer (with the worker’s consent) to facilitate appropriate accommodation and enable timely and safe return to work. |
|       |      | Examples of vocational accommodations include:  
|       |      | • Assistance with commuting to and from work.  
|       |      | • Flexible work hours (e.g., starting later or ending earlier).  
|       |      | • Gradual work re-entry (e.g., starting at 2 half days/week and expanding gradually).  
|       |      | • Additional time for task completion.  
|       |      | • Have a quiet space available for the individual to take breaks in throughout the day.  
|       |      | • Change of job.  
|       |      | • Environmental modifications (e.g., quieter work environment; enhanced level of supervision, decreased computer work, ability to work from home; only day shift hours).8 |
| C     |      | Patients who have not successfully resumed pre-injury work duties following injury should be referred for an interdisciplinary vocational evaluation that includes an assessment of (see Appendix 12.1):  
|       |      | • Cognitive and psychosocial functioning  
|       |      | • Occupational and job demands  
|       |      | • Work environment  
|       |      | • Environmental supports  
|       |      | • Facilitators and barriers to successful work/return to work |

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General Consideration Regarding Return-to-school (Post-Secondary)
There has been an increasing appreciation of the impact that concussion/mTBI symptoms have on the ability for students to manage their academic programs. More specifically there is a growing body of literature indicating that cognitive exertion can exacerbate concussion/mTBI symptoms and affect recovery time from these injuries. This has led to the development of specific academic management strategies for students who have sustained an concussion/mTBI to provide guidance on the steps that should be followed to resume cognitive activity. The essential premise of managing cognitive exertion is that cognitive activity must be paced in order to avoid exceeding the threshold at which concussion/mTBI symptoms are exacerbated. See Table 12.2 for an example of a gradual return-to-academics. Many individuals who sustain concussion/mTBI injuries are students who require integration into elementary, secondary or post-secondary institutions. Following an concussion/mTBI, resuming academic activity requires students to manage work in the classroom that includes listening, note-taking, presentations, homework, assignments and examinations, as well as managing additional volunteer activities and memberships in school-based clubs. The cognitive demands therefore span activities that would be conducted at school, and also at home and in the community. Considerable focus in the literature has been placed on developing strategies to manage these cognitive demands, such as duration for cognitive rest, concessions and accommodations, as well as education for academic staff on the symptoms and strategies for reintegration. It is recommended that the management strategies that are implemented should be highly individualized in the context of this guideline because the manifestation of concussion/mTBI symptoms and their impact upon the student are as variable as is their recovery. Contacting the school registrar immediately following concussion/mTBI is also important, even if symptoms are short-lived, to make sure that the student has as much support as possible. Other people who might be involved in the management plan, that includes cognitive rest and academics, may include academic support staff, team physician, course instructors and disabilities services.

However, many excellent guidelines focus primarily on cognitive management strategies that can be employed with the elementary and secondary school student in mind, and they have limited applicability for the post-secondary student. Not only does the nature of program requirements differ at the post-secondary level, but so does the nature of the accommodations and concessions that can be provided, which limit the applicability of the aforementioned guidelines. The following post-concussion cognitive management strategies were developed to take into consideration the unique issues faced by students who are either entering post-secondary institutions with an identified concussion/mTBI and/or have sustained an concussion/mTBI in the course of their post-secondary program. The applicability of the recommendations provided for managing the cognitive demands of post-secondary education are considered to be pivotal to maximizing successful academic integration or reintegration. See Algorithm 12.2, which outlines key return-to-school timelines and considerations for students 18 years of age or older following concussion/mTBI.

Students, professors/instructors and appropriate administrators may also require education regarding concussion/mTBI and the associated symptoms, the functional impact in the classroom, and the fact that this is an unseen/hidden injury but can be functionally very debilitating. Regular communication between the student, the primary care provider and teachers/administrators regarding progress, challenges and changes in symptoms (i.e., improvements or recurrences) are beneficial. Symptoms of anxiety and/or depression should also be monitored in students with persistent symptoms.

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## RETURN-TO-SCHOOL (POST-SECONDARY) CONSIDERATIONS

<table>
<thead>
<tr>
<th>12.10</th>
<th>GRADE</th>
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<tr>
<td><strong>Within 24-48 hours post-injury:</strong></td>
<td><strong>C</strong></td>
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</table>

**If asymptomatic:** The student can attend school as tolerated but should not undergo evaluations (tests/exams) or should write with accommodations (such as separate space, paced breaks, rooms where lights can be altered, additional time) and should be monitored for potential symptoms.

**If symptomatic:** The student should refrain from attending school and from participating in all academic and sports activities, including apprenticeship, practicum and shop-related activities, in order to decrease the risk for symptom exacerbation. In addition, the student should be offered psychoeducation and modified at-home study tasks as tolerated. Students should be able to tolerate school and life responsibilities prior to participating in sports or activities that put them at risk.

**After 24-48 hours post-injury:** (see Appendix 12.4)

**If asymptomatic:** The student may return to academic/program related activities as tolerated as long as they remain asymptomatic.

**If symptomatic:** the student should:

- Refrain from attending academic and/or program-related activities for one full week and up to two full weeks if symptoms remain functionally debilitating.
- Connect with academic accessibility/disability services to request accommodations and receive additional support.
- Be monitored for the emergence of potential symptoms and be provided with support and education.
- The healthcare professional (with permission) should ensure that accessibility/disability services are notified that a concussion/mTBI has occurred (see Appendix 12.2) and that the student will require time off, and may require accommodations and support for reintegration.
- Reintegration should occur progressively and specific accommodations should match the student’s residual symptoms.

1-2 weeks post-injury: (see Appendix 12.5)

If symptoms are still functionally debilitating at 1 week post-injury the student should refrain from attending academic- and/or program-related activities. The healthcare professional should again notify accessibility/disability services that the student is still symptomatic and accommodations and support for reintegration will be required.

**After 2 weeks post-injury:**

The student should start attending school (non-physical activities) very gradually as tolerated and with accommodations, even if the student is still experiencing symptoms. A healthcare professional with experience in concussion/mTBI rehabilitation should provide guidance to the student and educators. Accessibility/disability services should be notified again so teachers/professors can subsequently monitor progress with the student and adjust the return-to-school plan, as necessary.

- Continued on next page -
Section 12. Return-to-Activity/Work/School Considerations

### RETURN-TO-SCHOOL (POST-SECONDARY) CONSIDERATIONS

If re-integration into school is ineffective or unproductive at 4 weeks (i.e., symptoms plateau/continue to get worse), consider the following:

**Further Clinical Assessment:**
- Screen for ADHD, learning disabilities, anxiety and depression. If present seek assistance from specialized services
- Conduct re-assessment by a rehabilitation provider with concussion/mTBI knowledge to evaluate possible determinants of return-to-school barriers.
- Refer student for neuropsychological assessment.

**Review Accommodations:**
- Work with the professor/instructor or appropriate administrator and the student to look at the cognitive demands of various classes, with consideration of the student's current symptoms, to determine if appropriate accommodations can be made in the following areas as necessary: curriculum, environment, activities and timetable (see Appendix 12.3).
- Move the student's courses to audit status, allowing them to participate in some academic activity without significant pressure from course requirements and examination.
- Review whether the student should continue in the program for that term if there will be substantially negative consequences to their grades and program participation.

### Appendices

<table>
<thead>
<tr>
<th>APPENDICES</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Acute Concussion Evaluation: Physician/Clinical Office Version</td>
</tr>
<tr>
<td>2. Example Concussion/mTBI Accessibility Intake Package for Student Services/Special Needs Department</td>
</tr>
<tr>
<td>3. Greater Accommodations for Students with Persistent Symptoms following mTBI</td>
</tr>
<tr>
<td>4. Managing Your Return to Post-Secondary Activities: Package Template and Activity Log</td>
</tr>
<tr>
<td>5. ACE: Work Version</td>
</tr>
<tr>
<td>6. ACE: School Version</td>
</tr>
</tbody>
</table>

### Tables

<table>
<thead>
<tr>
<th>TABLES</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Key Features of an mTBI Assessment in an Emergency Department or Doctor’s Office</td>
</tr>
</tbody>
</table>

### Algorithms

<table>
<thead>
<tr>
<th>ALGORITHMS</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Return-to-School (Post-Secondary) Considerations</td>
</tr>
</tbody>
</table>

### References

Section 12. Return-to-Activity/Work/School Considerations

Algorithm 12.1
Return-to-Work Considerations

< 72 Hours
- Immediate period of rest to prompt recovery.
- Avoid activities that increase the risk for another concussion/mTBI.
- No bed rest exceeding 3 days.

> 72 Hours
Gradual return to activity as tolerated.

Do the patient's normal work activities involve significant physical demands?

Yes

Exertion testing can be done (e.g., graduated treadmill exercise test).

Does this cause a return of symptoms?

No

Return to work as tolerated.

Yes

Does the evaluation by specialists determine that return to work is possible?

No

Consider referral to a structured program that promotes community integration (e.g., volunteer work).

Yes

Continue to monitor progressive return to work.

Sidebar 1: Work Accommodations and Restrictions
Work restrictions should apply if:
- A work-specific task cannot be completed
- The work environment cannot be adapted
- Deficits cannot be accommodated
- Symptoms recur

Examples of Modifications:
- Length of work day
- Gradual work re-entry
- Additional time for tasks
- Change of job
- Environmental modifications

Is there a high risk of injury/re-injury or any other safety concerns regarding work?

No

Return to work as tolerated.

Yes

A more in-depth assessment of symptoms and necessary work accommodations and restrictions should be identified (Sidebar 1).

Is the individual experiencing persistent symptoms or is unable to successfully resume pre-injury work duties?

No

Continue to monitor progressive return to work.

Yes

Refer to specialists for in-depth vocational evaluation (Appendix 12.1) involving:
- Assessment of person
- Occupational and job demands
- Work environment
- Environmental supports
- Facilitators and barriers to successful return

Does the evaluation by specialists determine that return to work is possible?

Yes

Low-level exercise may be of benefit.

No

Consider referral to a structured program that promotes community integration (e.g., volunteer work).

For a narrative description and guideline recommendations related to this algorithm, please refer to Section 12.
Algorithm 12.2

Return-to-School (Post-Secondary) Considerations

Evaluation by a primary care provider.

**During the first 72 hours, is the student symptomatic?**

- **Yes**
  - No academic activity.

- **No**
  - Resume academic activities with accommodations but no tests. Continue monitoring symptoms.

**After 72 hours, is the student symptomatic?**

- **Yes**
  - One week: no academic activity. Notify student services/special needs department that an mTBI has occurred (Appendix 12.2)

  - **Are the student’s symptoms still debilitating at 1 week post-injury?**
    - **Yes**
      - Start attending school (non-physical activities) very gradually and with accommodations.

    - **No**
      - Gradually resume academic activities under individualized plan unless symptoms return.

- **No**
  - Gradually resume academic activities under individualized plan unless symptoms return.

**Throughout student assessment:**

Symptoms of anxiety and/or depression should be monitored in students with persistent symptoms following concussion/mTBI.

**If symptoms return, reduce or stop academic activity.**

**Second week:** no academic activity. Communicate to student services/special needs department that the student is still symptomatic and will require support for re-integration.

**Are the student’s symptoms still debilitating at 2 weeks post-injury?**

- **Yes**
  - Start attending school (non-physical activities) very gradually and with accommodations.

  - **Is re-integration ineffective (symptoms plateau or worsen) at 4 weeks post-injury?**
    - **Yes**
      - Continue attending academic activities very gradually and monitor progress.

    - **No**
      - • Greater Accommodations (Appendix 12.3)
      - • Move the student’s courses to audit status
      - • Review whether the student should continue in the program for that semester

- **No**
  - Gradually resume academic activities under individualized plan unless symptoms return.

  - If symptoms return, reduce or stop academic activity.

For a narrative description and guideline recommendations related to this algorithm, please refer to Section 12.
Appendix 12.1

Components of the Vocational Evaluation Following mTBI*

Assessment of the Person

1. An assessment of the person should begin by gathering background information from the individual being evaluated regarding their educational and work history, work goals, self-perceptions of work performance, strengths, weaknesses and concerns.

2. This should be followed by a thorough assessment of the person in physical, neuropsychological/cognitive, psychosocial, communication, functional domains, and work-related skills and behaviours and consideration of these skills and abilities in relation to work goals and/or work demands. Please see Table I for a summary of the relevant areas within each personal domain.

Table I. Assessment of Person Domains

<table>
<thead>
<tr>
<th>Domain</th>
<th>Element(s) Requiring Assessment</th>
</tr>
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<tbody>
<tr>
<td>Physical</td>
<td>• Physical symptoms (e.g., headaches, fatigue, dizziness)</td>
</tr>
<tr>
<td></td>
<td>• Sensory impairments/sensitivities (e.g., vision, hearing, smell)</td>
</tr>
<tr>
<td></td>
<td>• Physical abilities and related work restrictions (e.g., *mobility/ambulation, upper extremity gross motor, dexterity and co-ordination, standing, bending, etc.)</td>
</tr>
<tr>
<td>Neuropsychological/</td>
<td>• Intelligence/pre-morbid functioning; academic achievement (where available)</td>
</tr>
<tr>
<td>Cognitive</td>
<td>• Visual perception; praxis</td>
</tr>
<tr>
<td></td>
<td>• Attention and concentration</td>
</tr>
<tr>
<td></td>
<td>• Information processing</td>
</tr>
<tr>
<td></td>
<td>• Memory</td>
</tr>
<tr>
<td></td>
<td>• Insight, awareness and denial</td>
</tr>
<tr>
<td></td>
<td>• Self-regulation; executive functions</td>
</tr>
<tr>
<td>Psychosocial</td>
<td>• Presence of mental health diagnoses (e.g., mood disorders, schizophrenia, substance abuse)</td>
</tr>
<tr>
<td></td>
<td>• Ability to engage in and balance multiple roles and responsibilities, including meaningful non- work roles (e.g., parenting, volunteering)</td>
</tr>
<tr>
<td></td>
<td>• Psychosocial adjustment and social adaptive skills (e.g., coping style/behaviours, self-esteem, self-confidence and self-efficacy, social appropriateness, ability to develop positive relationships with peers)</td>
</tr>
<tr>
<td>Communication</td>
<td>• Auditory perception and hearing</td>
</tr>
<tr>
<td></td>
<td>• Speech production</td>
</tr>
<tr>
<td></td>
<td>• Auditory and reading comprehension</td>
</tr>
<tr>
<td></td>
<td>• Verbal and written expression</td>
</tr>
<tr>
<td></td>
<td>• Conversation and non-verbal communication (e.g., facial expression, tone of voice, body posture)</td>
</tr>
<tr>
<td></td>
<td>• Social communication and pragmatics (e.g., ability to understand and respond to verbal-social cues, modulate affect)</td>
</tr>
<tr>
<td>Functional</td>
<td>• Functional status and level of independence during task performance in the areas of self-care, household or community activities (e.g., meal preparation, financial)</td>
</tr>
<tr>
<td></td>
<td>• Performance in unfamiliar tasks, those that require new learning and dual task performance</td>
</tr>
<tr>
<td></td>
<td>• Speed, timing and accuracy of performance</td>
</tr>
<tr>
<td></td>
<td>• Level of independence and need for structure</td>
</tr>
<tr>
<td></td>
<td>• Monitoring, error detection and avoidance of critical errors</td>
</tr>
<tr>
<td></td>
<td>• Strategy retrieval and use of feedback</td>
</tr>
</tbody>
</table>

### Assessment of Occupation and Job Demands

3. The evaluator should complete an assessment of the **occupational requirements** through the completion of a **job analysis**. This should include:
   a. Identification of the occupational/job title/category/classification (e.g., National Occupational Classification, O’Net; Dictionary of Occupational Titles, DOT)
   b. A description of the job
   c. A description of job demands (See Table II below for summary of categories of job demands)

<table>
<thead>
<tr>
<th>Category</th>
<th>Examples</th>
</tr>
</thead>
<tbody>
<tr>
<td>Physical</td>
<td>Lifting, carrying, pushing, stamina</td>
</tr>
<tr>
<td>Neuropsychological/Cognitive</td>
<td>Initiation, problem-solving, decision-making, flexibility, adaptability</td>
</tr>
<tr>
<td>Psychological/Emotional</td>
<td>Emotional stability</td>
</tr>
<tr>
<td>Behavioural Demands</td>
<td>Self-monitoring, changes in behaviours required</td>
</tr>
<tr>
<td>Communication</td>
<td>Verbal, non-verbal, written</td>
</tr>
<tr>
<td>Responsibilities and Expectations</td>
<td>Responsibilities related to own job, supervision of others, working with the public, customers, clients, level of independence required to complete job tasks</td>
</tr>
<tr>
<td>Work Time</td>
<td>Work hours, shifts, breaks, overtime</td>
</tr>
<tr>
<td>Safety Requirements</td>
<td>Related to equipment use, driving</td>
</tr>
</tbody>
</table>

### Assessment of Work Environment and Environmental Supports

An assessment of the **work environment** and **environmental supports** and barriers to work or return to work should be completed. This should include an assessment of the: **a) physical workplace environment; b) workplace culture; c) supports and opportunities within the workplace and the individuals support network.**

4. An assessment of the physical workplace environment should be completed.
5. An assessment of the workplace culture should be completed.

Please see **Table III** for a summary of relevant physical and cultural elements of the workplace.

6. An assessment of the **supports** (i.e., formal and informal) available within the workplace and the individual's support network should be completed. This should include: availability of accommodations and/or job modifications (e.g., work activities, hours, workstation modification, adaptive aids, devices and employment of compensatory strategies, supervision and identification of individual(s) able to provide on-going assessment and feedback re: work performance); availability of instrumental support (e.g., housekeeping) from natural community supports (e.g., family, volunteer or hired assistance); availability of vocational rehabilitation supports and services; availability of transportation services, if unable to drive

### Table III. Physical and Cultural Workplace Elements

<table>
<thead>
<tr>
<th>Physical Elements</th>
<th>Workplace Cultural Elements</th>
</tr>
</thead>
<tbody>
<tr>
<td>- Light, noise, level of distractions</td>
<td>- Tolerances for differences amongst employees</td>
</tr>
<tr>
<td>- Temperature control</td>
<td>- Positive attitudes towards individuals with disabilities (e.g., an environment free of harassment and discrimination)</td>
</tr>
<tr>
<td>- Outdoor/indoor work</td>
<td>- An understanding of or willingness to learn about TBI</td>
</tr>
<tr>
<td>- Proximity to co-workers (e.g., in relation to both supports and possible distractions)</td>
<td>- A willingness to involve employment specialists in a collaborative work planning process</td>
</tr>
<tr>
<td>- Proximity to supervision</td>
<td>- Opportunities for social participation and team work</td>
</tr>
<tr>
<td>- Travel required (e.g., to and from work; associated with work demands) and its effect on work performance</td>
<td></td>
</tr>
<tr>
<td>- Potential risks (e.g., heights, dangerous machinery, heavy lifting);</td>
<td></td>
</tr>
<tr>
<td>- Length of working day and flexibility in work hours/schedule</td>
<td></td>
</tr>
</tbody>
</table>

Appendix 12.2

Example Concussion/mTBI Accessibility Intake Package for Student Services/Special Needs Department*

Student Information Form
For Students with Acquired Brain Injury or Concussion

Last name: __________________________________________________________
First name: __________________________________________________________
University of Toronto Student Number: _________________________________
University of Toronto Email: ___________________________________________

Telephone: Home: (_____) __________________
Mobile: (_____) __________________

May we leave a message? Please circle below
O Yes  O No  O Name and Number only
O Yes  O No  O Name and Number only

1. What is your present status at the University of Toronto? (Check all that apply)
   O Undergraduate Student
     Degree/Program: ___________________________________________________
     Professional Faculty: _______________________________________________
     College (if an Arts & Science student): _______________________________
   O Graduate Student
     Degree/Program: ___________________________________________________
     Professional Faculty: _______________________________________________
   O Access Programs: Academic Bridging Program:________________________ Transitional Year Program:____________________
   O Other (e.g., Non-Degree, Visiting) Specify:______________________________
   O Income Student starting: ____________________________________________ (e.g., Fall 2016, Winter 2017, etc.)

2. Have you registered with our service before? O Yes  O No
   If yes, who was your Disability Counselor? ______________________________

3. Are you an International Student? O Yes  O No
   If yes, please provide your home country ______________________________

* Adapted from the Accessibility Services: Registration for New Students for the University of Toronto.
Appendix 12.2: Example Concussion/mTBI Accessibility Intake Package for Student Services/Special Needs Department

4. If you are a Canadian student, please provide your home province.

5. Who referred you to Accessibility Services?

6. Do you require accommodation of any kind to participate in an intake interview with a Disability Counsellor?  
   O Yes  O No

   If yes, please indicate the type of accommodation:

7. What assistance are you seeking from Accessibility Services?

8. Please indicate the category of disability/ies:
   O Chronic Health Issue (e.g., epilepsy, irritable bowel disorders, migraines)
   O Head Injury (e.g., concussion, traumatic brain injury)
   O Learning Disability or Attention Deficit Hyperactivity Disorder (ADHD)
   O Autism Spectrum Disorder (ASD)
   O Mental Health Issue (e.g., anxiety, bi-polar, depression, disordered eating, OCD)
   O Mobility / Functional Issue (e.g., use of a mobility device, repetitive strain injuries)
   O Sensory Issue (e.g., legally blind, low vision, d/Deaf, hard of hearing)
   O Temporary (please describe)


10. Is your disability (please check one):
    O Permanent
    O Progressive
    O Temporary
    O In the process of being assessed

11. Do you use an assistive mobility device?  
    O Yes  O No

    If yes, please specify:  O Power/manual wheelchair  O Walker  O Cane

12. Do you require any on-campus residence related accommodations?  
    O Yes  O No

    If so, please provide more information about your needs:

13. If you’re seeking accommodation for any medication-related side effects, please provide information about how your medication impacts you:

* Adapted from the Accessibility Services: Registration for New Students for the University of Toronto.
14. Has anyone ever told you that you may have a learning disability?  
   O Yes  O No

15. Did you recently (within 2 years) complete high school or studies at another educational institution?  
   O Yes  O No

If yes, please provide name of the educational institution: ___________________________________________________

If yes, please provide any disability-related accommodations you received at that educational institution (if any):
   ___________________________________________________________________________________________
   ___________________________________________________________________________________________
   ___________________________________________________________________________________________

16. How has your disability most recently impacted your academic functioning?  
   O Difficulty meeting deadlines and/or time management
   O Concentration, focus, or attention issues
   O Absences
   O Difficulty completing required readings and/or understanding course material
   O Difficulty with math
   O Difficulty with presentations
   O Difficulty with writing and/or academic writing and research
   O Difficulty writing tests or exams

17. How has your disability most recently impacted your academic functioning? (continued)  
   O Not meeting academic potential
   O Other (please explain)_________________________________________________________________________

18. What strategies do you use to manage the impact of your disability/ies on your academic functioning?  
   O Academic Coach
   O Adaptive Technology/Equipment
   O Counselling/Therapy
   O Exercise/Meditation
   O Massage therapy
   O Medication
   O Physiotherapy
   O Tutoring
   O Other (Please describe)_______________________________________________________________________

19. Do you receive or have you applied for provincial financial aid? (For example: Ontario Student Assistance Program – OSAP)?  
   O Yes  O No

If yes, are you eligible to receive provincial financial aid?  
   O Yes  O No

20. What are your reasons for attending the University of Toronto? What are your academic or career goals?  
   __________________________________________________________________________________________
   __________________________________________________________________________________________

21. Do you have additional comments or questions? (If so, please add them in space below.)  

* Adapted from the Accessibility Services: Registration for New Students for the University of Toronto.
Documentation for Students with an Acquired Brain Injury/Concussion

Accessibility/Disability Services provides support for students with documented disabilities, including those with Temporary Disabilities. If you have sustained an injury that limits your ability to attend to your academic responsibilities, you may be eligible to receive alternative accommodations and support from Accessibility Services. In order to determine your eligibility, contact our office as soon as possible and an appointment will be arranged. Accessibility Services requires documentation to verify your injury, which is important to bring to your first appointment.

Please include the documentation completed by a physician, neurologist, neurosurgeon, psychologist or neuropsychologist with the following information:

- Date of Injury
- Diagnosis and/or detailed description of injury
- Treatment plan
- Prescribed and over-the-counter medications with dosages
- Anticipated length of recovery

Please also note:

- If complications arise, or recovery takes longer than anticipated, students will be asked to provide additional documentation. If cognitive related challenges persist after one year post-injury, neuropsychological/cognitive assessment results will be needed to assist with accommodation planning. An adult cognitive assessment will be required for brain injuries sustained in childhood or adolescence with regards to residual cognitive challenges to help guide accommodations at the post-secondary level. Student may be eligible for a bursary/funding to assist with the costs of obtaining this type of assessment. Speak to your disability counsellor for further details.

* Adapted from the Accessibility Services: Registration for New Students for the University of Toronto.
**Medical Certificate for Acquired Brain Injury/Concussion-Related Issues**

Dear Healthcare Practitioner,

This student is requesting disability-related supports and accommodations while studying at the University. The student is required to provide the University with documentation that is:

- provided by a licensed health-care practitioner, qualified in the appropriate specialty
- thorough enough to support the accommodations being considered or requested

**Note:** The provision of all reasonable accommodations and services is assessed based on the current impact of the disability on academic performance. A diagnosis is requested but not required for students to receive academic accommodations, however, a confirmation of disability and an understanding of the functional limitations is required.

**CONFIDENTIALITY**

The collection, use, and disclosure of this information resides under the guidelines of the Freedom of Information and Protection of Privacy Act (FIPPA). Under this legislation information may be shared on a need to know basis if it is required by another staff member in order to fulfill the responsibilities of their position. The documentation will be kept for a period of ten years.

To be completed by a regulated Healthcare Practitioner – Please Print Clearly

Patient’s Name: ____________________________________________________________________________________

Patient’s University Student Number: ________________________________________________________________

Date of Birth: _____/_____/_____ (Year, Month, Day)

How long have you been treating this patient? __________________________________________________________

Last date of Clinical Assessment: ______________________________________________________________________

Statement of Disability:
Please indicate the appropriate statement for this student in the current academic setting:

- Permanent disability with on-going (chronic or episodic) symptoms (that will significantly impact the student over the course of their academic career). This functional limitation is expected to remain with you for the rest of your life.

- Temporary with anticipated duration from ____/____/____ to ____/____/____ (Year, Month, Day)
  *If unknown, please indicate reasonable duration for which s/he should be accommodated/supported at this time (please specify number of weeks/months or list the next date you will review the symptoms). _______________
  ________________________________________________________________________________________________

* Adapted from the Accessibility Services: Registration for New Students for the University of Toronto.
Functional Impacts of Injury and Concurrent Conditions:

Date of Brain Injury/Concussion: __________________________________________________________

Description of Injury: __________________________________________________________________________
_________________________________________________________________________________________________

The provision of a diagnosis in the documentation is requested but not required, however, disability documentation must still confirm the student’s type of disability and the functional limitations. If the student consents, please provide a clear diagnostic statement; avoiding such terms as “suggests” or “is indicative of”. If the diagnostic criteria are not present, this must be stated in the report.

Please note any FUNCTIONAL LIMITATION or concurrent conditions.

Please note all applicable:

Primary:
__________________________________________________________________________________________

Secondary:
__________________________________________________________________________________________

Additional / Other:
__________________________________________________________________________________________

Impacts:
__________________________________________________________________________________________

Medication(s):
__________________________________________________________________________________________

Potential side effects of medication(s) on academic performance:
__________________________________________________________________________________________

Anticipated Date of Recovery: ________________________________

Current treatment: (Check all that apply)

☐ Physiotherapy
☐ Chiropractic treatment
☐ Massage therapy
☐ Occupational therapy
☐ Speech language therapy
☐ Outpatient ABI treatment program
☐ Counselling
☐ Neuropsychological Assessment/Counselling
☐ Other ____________________________________________________________

* Adapted from the Accessibility Services: Registration for New Students for the University of Toronto.
Impacts on Academic Functioning:

Energy Level (please specify impact, e.g., fluctuating):
_________________________________________________________________________________________________________________________
_________________________________________________________________________________________________________________________

Impact on sleeping cycles:
_________________________________________________________________________________________________________________________
_________________________________________________________________________________________________________________________

Ability to manage full academic workload:
_________________________________________________________________________________________________________________________
_________________________________________________________________________________________________________________________

Recommendations for assignments/tests/exams:
_________________________________________________________________________________________________________________________
_________________________________________________________________________________________________________________________

Ability to manage practicum/placement activities (if applicable):
_________________________________________________________________________________________________________________________
_________________________________________________________________________________________________________________________

Impacts on Academic Work:
☐ Redundant Attention and Concentration
☐ Communication difficulties
☐ Slowed information processing speed (needing longer to complete written work/complete tests)
☐ Memory Difficulties (difficulty learning and/or retaining new material)
☐ Reduction in organization skills and time management skills
☐ Difficulties with Social interactions
☐ Physical fatigue or pain
☐ Visual difficulties restricting ability to: view screens, read academic materials
☐ Other/comments: __________________________________________

Does this individual require any adaptive equipment (laptop, voice recorder, furniture or seating in class), software (Inspiration, Kurzweil) or other supports (massage, light box, counselling, FM system, CCTV, hearing aid etc.) to achieve academic success?  ☐ Yes  ☐ No

Please be specific about what is required.
_________________________________________________________________________________________________________________________
_________________________________________________________________________________________________________________________
_________________________________________________________________________________________________________________________
_________________________________________________________________________________________________________________________

* Adapted from the Accessibility Services: Registration for New Students for the University of Toronto.
Healthcare Practitioner Information

Name of Healthcare Practitioner: (Please Print) _____________________________________________________

Signature: __________________________________ Date:(DD/MM/YY): _____ / _____ / _____

Area of Specialization and License/Registration #: ___________________________________________________

☐ Physician
☐ Occupational Therapist
☐ Psychiatrist
☐ Sports Medicine Specialist
☐ Neurologist
☐ Neuropsychologist
☐ Psychologist
☐ Speech Pathologist
☐ Other

Facility/Clinic/Practice Name and Address: (Please use office stamp)

* Adapted from the Accessibility Services: Registration for New Students for the University of Toronto.
Release of Information

TO BE COMPLETED BY STUDENT

I, ________________________________, hereby authorize _______________________________ to provide

(Student) (Name of Healthcare Practitioner)

the following information to Accessibility/Disability Services at the University and if required, to supply additional information relating to the provision of my academic accommodations and disability-related services. I understand that I am not required to disclose a diagnosis to receive academic accommodations and services. I also understand that documentation to provide a verification of a disability and the functional limitations is required. I authorize Accessibility/Disability Services to contact the Healthcare Practitioner to discuss the provision of accommodations.

I understand that any medical information provided from my healthcare provider resides under the guidelines under the Freedom of Information and Protection of Privacy Act (FIPPA). Under this legislation necessary information may be shared on a need to know basis if it is required by another U of T staff member in order to fulfill the responsibilities of their position.

Student’s Signature: ________________________________

University Student Number: ________________________________

Date: ________________________________

* Adapted from the Accessibility Services: Registration for New Students for the University of Toronto.
## Appendix 12.3

### Greater Accommodations for Students with Persistent Symptoms following mTBI

<table>
<thead>
<tr>
<th>Activities</th>
</tr>
</thead>
</table>
| • Students with persistent symptoms should not participate in any academic activity with physical or safety demands including: attending lectures, participating in lab work, physical activities with other students, clinical placements/practicums or trades work, until cleared by a physician or a neuropsychologist.  
  • To decrease social isolation and or anxiety/depression and to support inclusion and optimism, students should be allowed to audit classes or return to a class as part of a phased return to studies. There should not be an expectation that they will take notes, actively participate or complete any evaluations including tests, exams, written assignments, group projects/presentations or physical tasks. Students should be allowed/encouraged to pace their involvement initially by only attending part of a class or leaving for a period of time to a quiet area outside of class.  
  • Students should have limited computer (and tablet) demands initially as screens are often a trigger for cognitive fatigue and headaches. |

<table>
<thead>
<tr>
<th>Curriculum (cn’td on next page)</th>
</tr>
</thead>
</table>
| • The gradual return should be implemented by the student, the instructor/professor, student’s healthcare team, their Accessibility Advisor and their program of study. The student is still required to demonstrate all the essential learning and evaluations (although the way in which they are administered may differ).  
  • A reduced course load may be beneficial and or necessary if the student is experiencing ongoing symptoms. For prolonged periods of absence of classes, students may need to withdraw or seek petitions to defer term work or examinations. Students should be encouraged to catch up on all missted work before enrolling in new/additional courses.  
  • The student should gradually return to course work beginning with reading course material with breaks and cognitive pacing.  
  • Initial return to class should include attending lectures (receiving class notes or recording lectures) followed by taking notes in class (potentially with assistance of adaptive technology, e.g., Livescribe or iPad).  
  • The student may require hoods, hats or sunglasses to be worn in class.  
  • The student may then recommence evaluations with written assignments. A plan should be put in place to help the student catch up on missed assignments (e.g., extensions) with a paced schedule of revised due dates until a student can complete this work.  
  • Depending on time remaining in the term, a student may need to petition for extension of term work beyond the semester.  
  • Consideration should also be given to the following:  
    • Amount and complexity of reading required  
    • Memory load (e.g., are there expectations for remembering formulas)  
    • Sustained and divided attention demands  
    • Computer time and expectations  
    • Processing of large amounts, and or complex information  
    • Speed of processing  
    • “Catching up” - attempt to emphasize only vital assignments and course content needed for successful completion of course. Consideration should be given to waiving ‘non critical’ assignments and tests during the catch-up process where possible |
### Examinations
- Mid-terms/final exams may need to be deferred until the student is prepared to take them and precautionary accommodations are put in place for the testing.
- Initial tests should be written with accommodations as a safety net until they have had evaluations that demonstrate they have returned to baseline. For persistent symptoms, a neuropsychological assessment will help identify ongoing accommodations.
- Once the student is able to return to examinations, the student may benefit from accommodations for testing such as:
  - Written advanced notice of tests
  - A review sheet of what will be included on test
  - The option for oral testing
  - Writing tests in a quiet private room
  - Allowing testing in natural light situations, or with a lamp instead of fluorescent lighting (to reduce light sensitivity)
  - 12 noon start time for tests
  - Extra time, e.g., 1.5x regular and regular "stopped clock" breaks (not included in examination time)
  - Chunking of longer tests into short sections written at different times
  - De-cluttered test format (i.e., not too many questions or information on each page to facilitate easy visual scanning and reduce processing demands, printed in larger font)
  - Provision of formula and data sheets to reduce memory load (if not being tested on itself)
  - Use of a computer to type answers with screen shield on computer
  - Use of reduced contrast coloured (e.g., light blue) paper for exams
  - Return to class but deferral of examinations to next exam period

### Environment
- Upon initial return, the student may benefit from having various environmental accommodations to reduce the cognitive burden (e.g., preferential seating, studying/testing in a quiet room, extra time to complete tasks and regular breaks).

### Timetable
- If the student is experiencing fatigue and or sleep disturbance, the initial return should be tailored to late morning and or early afternoon.
Appendix 12.4

Managing Your Return to Post-Secondary Activities: Package Template and Activity Log

Name of Student: __________________________ Current Date: __________________________
Identification Number: __________________________
Date of Birth: __________________________

Injury Description
1. Did the injury occur before or after you arrived at your post-secondary institution? Yes No
   a. Did you sustain a direct blow to the head or indirectly though other forces: Direct Indirect Unknown
   b. Is there evidence of intracranial injury or skull fracture? Yes No Unknown
   c. If forces were sustained directly to your head, what was the location:
      Frontal Left Temporal Right Temporal Left Parietal Right Parietal Occipital Neck

2. Cause of injury:
   Motor Vehicle Collision (MVC), Pedestrian-MVC, Bicycle Fall, Assault, Sports (Specify) ____________________
   Other ____________________

3. Did you sustain in disruption in your memory for events:
   a. Do you remember the impact and/or event (i.e., loss of consciousness or conscious awareness)?
   b. Are there any events from before the injury that you do not remember (i.e., what you were doing just prior to the impact of event)? Yes No
      If yes, then duration: ____________________
   c. Are there any events from after in the injury that you do not remember, (i.e., what happened after the impact or event)? Yes No
      If yes, then duration: ____________________
   d. Any immediate symptoms of balance problems, being dazed, confused, unaware of where you were? Yes No
      If yes, then describe:_______________________________________________________

4. Were seizures observed or reported? Yes No

Current Activities
1. What is your academic status? Full Time Part Time Transitional Other ____________________
2. Do you have co-operative placements? Yes No
3. Do you have practical placements or labs related to your courses? Yes No
   a. If yes, do you work with equipment, chemicals or other potential hazards? Yes No
4. Do you participate in extra-curricular activities either at post-secondary school or outside of school? Yes No
   a. If yes, what activities do you participate in? Include clubs, intramural sports, varsity sports, student government, residence staff, residence and faculty representation, employment, and anything else you participate in at or outside of school apart from your classes. Describe your role in each of these commitments.
      ______________________________________________________________________
      ______________________________________________________________________
      ______________________________________________________________________
      ______________________________________________________________________
      ______________________________________________________________________
      ______________________________________________________________________

5. Have you attended class since your injury? Yes No
a. If yes, have you experienced any of the following **more than usual**?
(Circle any of the items below if they are NEW symptoms since your injury or worsened since your injury)

- a. Nervousness before tests  
- b. Feeling overwhelmed when studying  
- c. Difficulty paying attention while studying  
- d. Procrastination  
- e. Not understanding assignments  
- f. Forgetting lessons/lectures  
- g. Difficulties with time management  
- h. Unable to manage your regular schedule of events  
- i. Feeling nervous and anxious  
- j. Feeling very sad and depressed  
- k. Unusual sense of irritability  
- l. Difficulty being around people  
- m. Problems maintaining regular friendships  
- n. Experiencing strained friendships and/or relationships  
- o. Unusually tired  
- p. Dizzy or light-headed  
- q. Headaches  
- r. Difficulties maintaining physical balance (i.e., feeling unsteady)  
- s. Sensitivity to light  
- t. Sensitivity to noise

Please follow Algorithm 12.2 to manage return to school and return to extra-curricular activities.
Use the following symptom/activity monitoring log to monitor your symptoms to facilitate your return-to-school and other activities:

<table>
<thead>
<tr>
<th>Date:</th>
</tr>
</thead>
<tbody>
<tr>
<td>Time:</td>
</tr>
<tr>
<td>Activity: (e.g., class, homework, extra-curricular, work, home, lab, shop, waiting for bus, with friends, etc.)</td>
</tr>
<tr>
<td>Alone? (Yes or no)</td>
</tr>
<tr>
<td>Symptomatic? (Yes or no)</td>
</tr>
<tr>
<td>Symptom Intensity: 1 = low intensity; 10 = highest intensity</td>
</tr>
<tr>
<td>Number of people present?</td>
</tr>
<tr>
<td>Symptoms: If yes, list symptoms.</td>
</tr>
</tbody>
</table>

Appendix 12.4: Managing Your Return to Post-Secondary Activities: Package Template and Activity Log
<table>
<thead>
<tr>
<th>Date:</th>
<th>Time:</th>
<th>Activity: (e.g., class, homework, extracurricular, work, home, lab, shop, waiting for bus, with friends, etc.)</th>
<th>Alone? (Yes or no)</th>
<th>If yes, number of people present?</th>
<th>Symptomatic? (Yes or no)</th>
<th>If yes, list symptoms.</th>
<th>Symptom Intensity: 1 = low intensity, 10 = highest intensity</th>
</tr>
</thead>
<tbody>
<tr>
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Appendix 12.5

Acute Concussion Evaluation (ACE) Care Plan - Work Version

**Guidelines for Concussion/mTBI and Persistent Symptoms: 3rd Ed.**

Section 12.5

Acute Concussion Evaluation (ACE) Care Plan - Work Version

You have been diagnosed with a concussion (also known as a mild traumatic brain injury). This personal plan is based on your symptoms and is designed to help speed your recovery. Your careful attention to it can also prevent further injury.

**Rest is the key.** You should not participate in any high risk activities (e.g., sports, physical education (PE), riding a bike, etc.) if you still have any of the symptoms below. It is important to limit activities that require a lot of thinking or concentration (homework, job-related activities), as this can also make your symptoms worse. If you no longer have any symptoms and believe that your concentration and thinking are back to normal, you can slowly and carefully return to your daily activities. Children and teenagers will need help from their parents, teachers, coaches, or athletic trainers to help monitor their recovery and return to activities.

### Today the following symptoms are present (circle or check).

<table>
<thead>
<tr>
<th>Physical</th>
<th>Thinking</th>
<th>Emotional</th>
<th>Sleep</th>
</tr>
</thead>
<tbody>
<tr>
<td>Headaches</td>
<td>Sensitivity to light</td>
<td>Feeling mentally foggy</td>
<td>Irritability</td>
</tr>
<tr>
<td>Nausea</td>
<td>Sensitivity to noise</td>
<td>Problems concentrating</td>
<td>Sadness</td>
</tr>
<tr>
<td>Fatigue</td>
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</tr>
<tr>
<td>Visual problems</td>
<td>Vomiting</td>
<td>Feeling more slowed down</td>
<td>Nervousness</td>
</tr>
<tr>
<td>Balance Problems</td>
<td>Dizziness</td>
<td></td>
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</tbody>
</table>

### RED FLAGS: Call your doctor or go to your emergency department if you suddenly experience any of the following

- Headaches that worsen
- Look very drowsy, can't be awakened
- Can't recognize people or places
- Seizures
- Repeated vomiting
- Problems concentrating
- Increasing confusion
- Increase irritability
- Neck pain
- Slurred speech
- Problems remembering
- Weakness or numbness in arms or legs
- Trouble falling asleep
- Unusual behavior change

### Returning to Daily Activities

1. Get lots of rest. Be sure to get enough sleep at night- no late nights. Keep the same bedtime weekdays and weekends.
2. Take daytime naps or rest breaks when you feel tired or fatigued.
3. Limit physical activity as well as activities that require a lot of thinking or concentration. These activities can make symptoms worse.
   - Physical activity includes PE, sports practices, weight-training, running, exercising, heavy lifting, etc.
   - Thinking and concentration activities (e.g., homework, classwork load, job-related activity).
4. Drink lots of fluids and eat carbohydrates or protein to main appropriate blood sugar levels.
5. As symptoms decrease, you may begin to gradually return to your daily activities. If symptoms worsen or return, lessen your activities, then try again to increase your activities gradually.
6. During recovery, it is normal to feel frustrated and sad when you do not feel right and you can't be as active as usual.
7. Repeated evaluation of your symptoms is recommended to help guide recovery.

### Returning to Work

1. Planning to return to work should be based upon careful attention to symptoms and under the supervision of an appropriate health care professional.
2. Limiting the amount of work you do soon after your injury, may help speed your recovery. It is very important to get a lot of rest. You should also reduce your physical activity as well as activities that require a lot of thinking or concentration.
   - Do not return to work. Return on (date)
   - ___Return to work with the following supports. Review on (date)

### Schedule Considerations

| Shortened work day | __ hours | Reduced task assignments and responsibilities | No driving | No heavy lifting or working with machinery | No heights due to possible dizziness, balance problems |

This form is part of the “Heads Up: Brain Injury in Your Practice” tool kit developed by the Centers for Disease Control and Prevention (CDC).
# Returning to Sports

1. **You should NEVER return to play if you still have ANY symptoms** – (Be sure that you do not have any symptoms at rest and while doing any physical activity and/or activities that require a lot of thinking or concentration.)

2. Be sure that the PE teacher, coach, and/or athletic trainer are aware of your injury and symptoms.

3. It is normal to feel frustrated, sad and even angry because you cannot return to sports right away. With any injury, a full recovery will reduce the chances of getting hurt again. It is better to miss one or two games than the whole season.

**The following are recommended at the present time:**

- Do not return to PE class at this time
- Return to PE class
- Do not return to sports practices/games at this time
- **Gradual** return to sports practices under the supervision of an appropriate health care provider.

   - Return to play should occur in **gradual steps** beginning with aerobic exercise only to increase your heart rate (e.g., stationary cycle); moving to increasing your heart rate with movement (e.g., running); then adding controlled contact if appropriate; and finally return to sports competition.

   - Pay careful attention to your symptoms and your thinking and concentration skills at each stage of activity. Move to the next level of activity only if you do not experience any symptoms at the each level. If your symptoms return, stop these activities and let your health care professional know. Once you have not experienced symptoms for a minimum of 24 hours and you receive permission from your health care professional, you should start again at the previous step of the return to play plan.

---

## Gradual Return to Play Plan

1. No physical activity

2. Low levels of physical activity (i.e., symptoms do not come back during or after the activity). This includes walking, light jogging, light stationary biking, light weightlifting (lower weight, higher reps, no bench, no squat).

3. Moderate levels of physical activity with body/head movement. This includes moderate jogging, brief running, moderate-intensity stationary biking, moderate-intensity weightlifting (reduced time and/or reduced weight from your typical routine).

4. Heavy non-contact physical activity. This includes sprinting/running, high-intensity stationary biking, regular weightlifting routine, non-contact sport-specific drills (in 3 planes of movement).

5. Full contact in controlled practice.

6. Full contact in game play.

*Neuropsychological testing can provide valuable information to assist physicians with treatment planning, such as return to play decisions.

---

**This referral plan is based on today's evaluation:**

- Return to this office. Date/Time
- Refer to: Neurosurgery___ Neurology____ Sports Medicine____ Physiatrist____ Psychiatrist____ Other____
- Refer for neuropsychological testing
- Other

ACE Care Plan Completed by: __________________________ MD  RN  NP PhD ATC

© Copyright G. Gioia & M. Collins, 2006
You have been diagnosed with a concussion (also known as a mild traumatic brain injury). This personal plan is based on your symptoms and is designed to help speed your recovery. Your careful attention to it can also prevent further injury.

You should not participate in any high risk activities (e.g., sports, physical education (PE), riding a bike, etc.) if you still have any of the symptoms below. It is important to limit activities that require a lot of thinking or concentration (homework, job-related activities), as this can also make your symptoms worse. If you no longer have any symptoms and believe that your concentration and thinking are back to normal, you can slowly and carefully return to your daily activities. Children and teenagers will need help from their parents, teachers, coaches, or athletic trainers to help monitor their recovery and return to activities.

### Acute Concussion Evaluation (ACE) Care Plan

**Gerard Gioia, PhD** & **Micky Collins, PhD**

1. Children’s National Medical Center
2. University of Pittsburgh Medical Center

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### Red Flags: Call your doctor or go to your emergency department if you suddenly experience any of the following

- Headaches that worsen
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- Can't recognize people or places
- Unusual behavior change
- Seizures
- Repeated vomiting
- Increasing confusion
- Increasing irritability
- Neck pain
- Slurred speech
- Weakness or numbness in arms or legs
- Loss of consciousness

### Returning to Daily Activities

1. Get lots of rest. Be sure to get enough sleep at night- no late nights. Keep the same bedtime weekdays and weekends.
2. Take daytime naps or rest breaks when you feel tired or fatigued.
3. Limit physical activity as well as activities that require a lot of thinking or concentration. These activities can make symptoms worse.
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6. During recovery, it is normal to feel frustrated and sad when you do not feel right and you can't be as active as usual.
7. Repeated evaluation of your symptoms is recommended to help guide recovery.

### Returning to School

1. If you (or your child) are still having symptoms of concussion you may need extra help to perform school-related activities. As your (or your child's) symptoms decrease during recovery, the extra help or supports can be removed gradually.
2. Inform the teacher(s), school nurse, school psychologist or counselor, and administrator(s) about your (or your child's) injury and symptoms. School personnel should be instructed to watch for:
   - Increased problems paying attention or concentrating
   - Increased problems remembering or learning new information
   - Longer time needed to complete tasks or assignments
   - Greater irritability, less able to cope with stress
   - Symptoms worsen (e.g., headache, tiredness) when doing schoolwork

---Continued on back page---

This form is part of the “Heads Up: Brain Injury in Your Practice” tool kit developed by the Centers for Disease Control and Prevention (CDC).

---End of page---

Table of Contents

Section 1 2 3 4 5 6 7 8 9 10 11 12

Guidelines for Concussion/mTBI and Persistent Symptoms: 3rd Ed.
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- Other

ACE Care Plan Completed by: _______________________________ MD  RN  NP  PhD  ATC

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