

Faculty Guide MILD ACQUIRED BRAIN INJURY

OVERVIEW AND DEFINITION

According to Statistics Canada, of the 10,094 people admitted to Ontario hospitals with brain injuries in 1996, 81% were diagnosed as having a “mild” *acquired brain injury* (ABI). Young adults (i.e., ages 15 - 35 years) are at the greatest risk for acquiring a brain injury.

Mild ABI is characterized by moderate changes in one, or all, of an individual’s level of **cognitive, emotional, behavioral, or physiological functioning**. These changes can take a number of forms, but will most likely include a combination of:

impaired memory	difficulty solving problems
trouble expressing thoughts	increased fatigue
a decreased tolerance for frustration	poor coordination of movements
a lack of emotion	dizziness and loss of balance
the tendency to overreact	frequent headaches or nausea
depression	an inaccurate assessment of ability
impulsivity	poor judgement

A mild ABI can be the result of a number of causes. For example, a brain tumor, a stroke or aneurism, seizure activity, infectious disease, a loss of oxygen to the brain, or substance abuse. However, the most common cause of ABI is a *traumatic* injury to the brain as a result of either a blow to the head or a violent whipping action of the neck. There is no such thing as a “typical” ABI; similar injuries may produce different effects in different people.

EDUCATIONAL IMPLICATIONS AND INSTRUCTIONAL STRATEGIES

Exactly which of the brain’s functions will be affected by an ABI depends on the location and extent of the injury. Changes that are frequently experienced following a mild ABI are described below.

Cognitive Functions	Educational Implications
Memory	Difficulty committing information to memory; following a conversation; processing ideas through a specific modality (e.g., speaking but not writing); recalling appointments; recalling facts, such as definitions or technical terms.
Organizational skills	Those students with frontal lobe injuries may have difficulty organizing their time, breaking large tasks down into smaller parts, and deciding where to start when tackling large tasks. These students may also have difficulty if information is presented in an unstructured manner (e.g., without the use of a clear outline). These students may have difficulty following the train of thought of an instructor, completing assignments on time, or preparing for exams.

Attention/concentration	Learning, particularly in an academic setting, requires a certain amount of attention and concentration. Individuals with difficulties maintaining attention may find it difficult to learn new material and complete exams or assignments, particularly when faced with competing stimuli, such as a noisy class or exam room.
Other cognitive functions:	<p><u>Visual processing</u>: These students may have difficulty recognizing objects (even close friends and family), picking out details, or completing tasks requiring visual-spatial abilities.</p> <p><u>A decrease in executive functions</u>: With frontal lobe damage, it is common that higher order cognitive functions, such as reasoning and judgement are affected.</p> <p><u>Communication difficulties</u>: If the motor functions of the brain are injured, then clear speech can be difficult to generate. However, the brain may also have difficulty transferring thoughts into speech or interpreting incoming speech, a phenomenon known as aphasia.</p>

Emotional functions	Educational Implications
Following an ABI, emotional functioning is dependent on three things; how the individual functioned prior to the brain injury, the location and extent of the injury, and the nature of the environment in which the individual is trying to function.	<p>Individuals with an ABI may find it difficult to deal with the pressure and stress inherent to academics. This is coupled with the fact that ABI students may still be adjusting to any cognitive and physiological changes that they may have incurred. As a result, frustration, depression, and social withdrawal may compromise an individual's ability to function as a student.</p> <p>There are several changes that frequently occur as a result of an ABI, including:</p> <ul style="list-style-type: none"> ▶ an increase in irritability and a decrease in tolerance for frustration; ▶ symptoms of depression, social withdrawal, and learned helplessness; ▶ the tendency to display excessive or inaccurate emotional responses to events.

Behavioral Functions	Educational Implications
Following an ABI, individuals may exhibit a change in behaviour patterns.	Individuals with an ABI may not only lack the work habits and social skills to function effectively as a student, but they may not realize when they are behaving inappropriately. They may exhibit impulsive or obsessive behaviors; make inappropriate social comments or be unable to pick up on social cues; lack initiative or have difficulty following through on tasks; or demonstrate excessively self-serving behavior.

Physical Functions	Educational Implications
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Fatigue	Students with an ABI may find that they run out of energy part way through a long class or later in the day. Fatigue may be particularly evident when high levels of concentration are needed, such as during an exam.
Chronic pain	This may take the form of headaches, neck or back pain, or another type of physical discomfort (e.g., nausea, ringing in the ears, dry eyes, etc...). Students may find it difficult to complete long lectures or exams. Additionally, medication given to reduce pain or prevent seizures can cloud thinking.
Poor motor control	Occasionally, the areas of the brain responsible for the initiation, coordination, and feedback of the body's movements are affected by a brain injury. These changes can occur in a number of forms, including reduced motor speed, spastic or rigid movements, body tremors, reduced hand-eye coordination, or poor balance. Individuals may also experience periodic seizures that involve a temporary loss of consciousness and/or muscular convulsions.

Instructional strategies:

In many cases these young adults are in the process of regaining some direction and purpose in their life. The following strategies will help them succeed academically.

- ▶ summarize information as it is being taught
- ▶ use a multi-sensory approach and provide demonstrations, whenever possible
- ▶ repetition and rehearsal strategies will help students over learn material to develop task mastery
- ▶ encourage the use of daily planners to record important information such as appointments, assignment due dates and homework.
- ▶ use time lines, flow-charts, graphs and mapping as well as webbing techniques
- ▶ identify important information from notes and textbooks and provide a written study guide in preparation for tests and exams.
- ▶ redirect student to the task when necessary
- ▶ periodic student/instructor meetings to review progress and discuss problems
- ▶ work closely with the disability support office to ensure a successful learning experience for the student

ACADEMIC ACCOMMODATIONS

Students with disabilities are expected to accomplish the “core competencies” of their programs. To achieve this, accommodations are provided to minimize or eliminate any disadvantage their disability presents. Accommodations are unique to each individual. The disability support office in your college makes these recommendations based on confidential documentation that the student provides to the college. Some of the most commonly provided academic accommodations to students with ABI include:

- ▶ use of memory aids such as formula cards during tests
- ▶ provision of a notetaker for lectures
- ▶ tape recording of lectures
- ▶ provision of written, step by step instructions when assigning work
- ▶ time extensions for in-class assignments
- ▶ separate room for writing exams
- ▶ priority seating to facilitate attention

- ▶ allow break periods as needed for rest and taking medication
- provision of extended time for tests and exams. The amount of extra time is determined by the disability support office.
- allowing point form responses to essay questions
- the use of oral exams in place of, or as a supplement to, written exams
- a modified exam schedule to spread out the work-load (Longer exams may even need to be broken down into sections that can be completed separately.)

RESOURCES

The disability support office in your college will have brochures, books and videos available for loan as well as information about local resources.

Organizations

Ontario Brain Injury Association
 PO Box 2338
 St. Catharines, ON
 L2R 7R9
 (905) 641-8877
www.obia.on.ca

Web Sites

Traumatic Brain Injury Survival Guide: www.tbiguide.com
 Brain Injury Center: www.braincenter.org
 The Brain Injury Association, Inc.: www.biausa.org
 TBI Resource Guide : www.neuroskills.com

Books

Academic Recovery After Head Injury (1992), Dinah Russell and Anita Sharratt, Charles C. Thomas Publishing Ltd; ISBN:0398057885
Coping With Mild Traumatic Brain Injury (1998), Diane Roberts Stoler and Barbara Albers Hill, Avery Publishing Group; ISBN:0895297914

This document is a compilation of resources from CCDI member colleges.