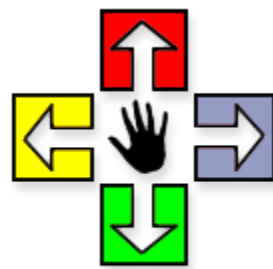


# Meeting the Needs of Students with Traumatic Brain Injury



**Special Needs  
Technology  
Assessment  
Resource Support  
Team (START)**

Annapolis Valley Regional School Board

## **ACKNOWLEDGEMENTS**

The Division of Student Support Services, Newfoundland and Labrador Department of Education  
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## CLOSE-UP

### ***MEETING THE NEEDS OF STUDENTS WITH TRAUMATIC BRAIN INJURY***

*Joanne is a very likeable grade 6 student who has many friends and enjoys watching after-school sports.*

*Joanne is unsteady on her feet and uses a wheelchair to get around school. She uses a portable word processor called a Dream Writer to complete her school work because she has great difficulty with the task of handwriting.*

*Joanne did not always have these problems. Two years ago she had an accident on a four-wheel ATV (all terrain vehicle) and sustained a brain injury. As a result of the injury, Joanne no longer has the strength in her right hand to grasp a pen to write.*

*In addition, Joanne's visual-perceptual processing skills have also been affected. Because of this difficulty, she uses books on tape or large print books during novel study. When using the word processor to write, Joanne also chooses large fonts to make reading of her work easier.*

# MEETING THE NEEDS OF STUDENTS WITH TRAUMATIC BRAIN INJURY

A student who has sustained a head injury may experience problems in cognitive, social/emotional, sensori- motor and communication/ language areas. No two students with traumatic brain injury will display the same characteristics and any number or combination of characteristics provided below may be exhibited by a student with a head injury. Students with head injuries often evidence regular change during the first year or two of recovery, thus it is important to review individual support services plans (ISSPs) frequently during this time.

## CHARACTERISTICS

### *Physical*

- Balance problems
- Poor fine-motor coordination
- One-sided limb weakness
- Reduced motor speed
- Spatial disorientation
- Poor endurance for physical activity
- Visual/hearing deficits
- Headaches
- Dizziness

### *Cognitive*

#### *Difficulties with:*

- Memory, especially for learning new material
- Attention and concentration
- Perception - do not “see” things as others do
- Organization, planning and problem solving
- Thinking quickly
- Abstract thinking
- Comprehension
- Perseveration - (student has difficulty changing activities, he/she may repeat words or actions.)

## **Social/Emotional/Behavioural**

- Lack goal-directed behaviour and initiative
- Disinhibition, impulsivity
- Irritability, intolerance, anger, outbursts
- Depression
- Denial
- Difficulty in controlling emotions ( crying, laughing, etc.)
- Poor motivation
- Dependency
- Poor judgement, socially inappropriate behaviour
- Social withdrawal
- Self-centered, demanding
- Talk excessively

The sections below offer strategies and technologies appropriate for students with traumatic brain injury. Keep in mind that not all strategies will be appropriate for all students and only a few strategies at a time should be tried. Strategies should be matched and altered as needed to meet individual needs based on the characteristics displayed by the student. Teachers may need to consult professionals who have an understanding of impairments resulting from brain injury (eg. Psychologists, OT's) before deciding on implementation of various strategies.

## **TECHNOLOGY-RELATED STRATEGIES**

- Provide large print books or books on tape for students with visual - perceptual processing difficulties.
- Use computer assisted basic skills programs in reading and math.
- Use computer programs to help student re-develop cognitive skills.
- For students with fine motor difficulties who find it difficult to use the standard keyboard, use alternate methods to access the computer (Refer to Section II of the handbook for more detailed information about computers)
- Use adapted computer access technology (eg. screen enlargement software) to help students with limited vision to access information provided on the computer screen.
- Allow the student to tape lectures.

- Have a fellow classmate who is a skilled notetaker use NCR (non-carbon paper), when taking notes in class so he/she can give the student with traumatic brain injury a copy.
- Provide the student with access to a stand alone wordprocessor (eg. Dream Writer by NTS Computer Systems Ltd.) or a desktop/laptop computer for written assignments.
- Teach the student with specific memory problems to use one or more of the following **prosthetic memory aids** as cues to future events and activities:

datebooks for school and homework assignments  
 checklists of steps required to perform various tasks  
 electronic signalling devices to help student locate keys, wallets, purses etc.  
 telememo devices for storing personal information, phone numbers and appointment signalling  
 databank wrist watches for organizing phone numbers alphabetically  
 mini cassette recorders for recording important messages, instructions or appointment reminders  
 alarm watches for cuing student to listen to messages on mini cassette recorder  
 basic electronic organizers  
 personal directories for storing message alarms and appointment reminders

## GENERAL STRATEGIES

- Educate teachers and peers involved with student on the effects of traumatic brain injury.
- Provide instruction at home until student is ready to return to school.
- Prepare student for re-entry into school.
- Modify schedule as needed.
- Assist student to cope with physical environment of school.
- Use instructional materials which are age appropriate and suitable to student skill and interest.
- Employ various instructional strategies for students with head injuries.

- Provide adequate “response time” to compensate for slower processing skills.

## **SPECIFIC TEACHING STRATEGIES AND MODIFICATIONS**

1. **Provide modifications in scheduling for those students with chronic fatigue** (often experienced up to a year after a head injury).
  - shorten school day
  - provide academic instruction during student’s peak performance times.
  - provide rest periods to reduce fatigue.
  - reduce class/program load
  - provide a period of time at the beginning of each day where a student assistant, peer helper or teacher can discuss the day’s schedule and assist student to organize materials needed.
  - provide a time at the end of the day where homework assignments and materials are identified.
2. **Simplify verbal and written instructions:**
  - always provide both verbal and written instructions.
  - paraphrase instructions as needed.
  - repeat instructions more than once.
  - reduce rate of delivery
  - reduce length of instructions
  - allow student to check with a fellow classmate for clarification.
  - have student retell direction in own words to check comprehension.
3. **When introducing new concepts and vocabulary**
  - provide definitions of terms
  - provide visual cues
  - limit the number of new concepts presented at one time
  - question the student on new concept to ensure understanding
4. **Ensure the student has a “buddy” who can help with instructions, transitions and assignments.**
5. **When reading to the student**
  - decrease rate
  - decrease length
  - facilitate comprehension through questioning
  - point out important facts

6. **Help students cope with the physical school environment.**
  - provide student who has slower responses more time to get from one class to another.
  - if student has difficulty carrying books around school because of poor balance and coordination, allow him/her to have an extra set of textbooks at home or have a “buddy” help student move from class to class.
7. **Encourage communication ( written and verbal)**
  - provide ample time for written tasks and assist with organizational structure
  - inform student when verbal message is not understandable
  - model proper communication productions for student
  - introduce alternative communication systems when necessary ( low/high tech)
8. **Help student develop memory skills** by encouraging student to categorize, rehearse, visualize and chunk information and make associations.
9. **Assist students with socially acceptable behaviour**
  - reinforce appropriate behaviours
  - develop a cueing system to inform student when an appropriate behaviour is being displayed.
  - redirect behaviours
  - specifically teach the meaning of verbal/nonverbal social cues.

### **Support Services**

The brain-injured student may benefit from services provided by: student assistants, counsellors, special education teachers, Occupational and/or Physical Therapists, Speech and Language Pathologists.