

ABI: About Brain

-- prepared by Sask. North Acquired Brain Injury (ABI) Services

ABI Services
...serving individuals
with acquired brain
injury, their
families and their
communities

Exercise to Protect the Brain

Small brain lesions are often the first sign of cerebrovascular disease. These “silent strokes” are more significant than the name implies, because they have been associated with an increased risk of falls and impaired mobility, memory problems, dementia, as well as stroke.

Dr. Joshua Z. Willey, from Columbia University (New York, USA), and colleagues report that older people who regularly exercise at a moderate to intense level may be less likely to develop these small brain lesions. The team’s study involved 1 238 people who had never had a stroke. Participants completed a questionnaire about how often and how intensely they exercised at the beginning of the study and then had MRI scans of their brains approximately six years later, when they were an average of 70 years old.

A total of 43 percent of the participants reported they had no regular exercise; 36 percent engaged in regular light exercise, such as golf, walking, bowling, or dancing; and 21 percent engaged in regular moderate to intense exercise, such as hiking, tennis, swimming, biking, jogging or racquetball.

The brain scans showed that 197 of the participants (16 percent) had small brain lesions, or infarcts, called silent strokes. People who engaged in moderate to intense exercise were 40 percent less likely to have the silent strokes than people who did no regular exercise. The results remained the same after the researchers took into account other vascular risk factors such as high blood pressure, high cholesterol and smoking. There was no difference between those who engaged in light exercise and those who did not exercise.

Encouraging older people to take part in moderate to intense exercise may be an important strategy for keeping their brains healthy.

The study was supported by the National Institute of Neurological Disorders and Stroke.

Source: *Science Daily* (June 9, 2011). *Science News*. *Moderate to Intense Exercise May Protect the Brain*.



In this Issue:

Exercise to Protect the Brain	1
Brain Injury & Cognition	2-4
ABI Services	5
Programs/ Upcoming Events	6

Past editions of the **About Brain Injury** newsletter are available on-line at www.paphr.sk.ca in the “Healthy Living” section.

Brain Injury & Cognition

Cognition is defined as the conscious process of being aware of thoughts or perceptions, including understanding and reasoning. In simpler terms, it is the way we organize our thoughts and make sense of our environment.

One consequence of brain injury is that this conscious process may be disrupted. Learning more about this disruption is the first step in developing and implementing treatments to increase, compensate for, or remedy functional capabilities.



Cognition is the key to the way we think and act.

Physical recovery after brain injury is better understood by most people because of its visible nature. Many people with a brain injury will undergo a period of recovery and rehabilitation to rebuild themselves physically. Some people will require extended physical or occupational therapy to regain motor skills, while others must be taught new ways to perform tasks when the brain or brain stem no longer support these functions. Assistive devices are often used to support walking, improve upper body mobility, and increase the potential for a higher quality of life.

Once adjustments to physically impairing conditions are made, it is not unusual for impaired cognition to emerge as the most disabling and limiting consequence of brain injury. The availability of cognitive rehabilitation is variable. Many people will be discharged home with a wide variety of cognitive impairments.

The following are some common cognitive problems that may be experienced after a brain injury:

Orientation: Individuals with diffuse or bilateral damage are more likely to experience problems with orientation to time, place, and person. External cues -- such as calendars, bulletin boards, watches with beepers, pictorial systems for identifying persons, places and commonly used things -- can be helpful. Orientation difficulties lead to a lot of confusion, but consistency and structure in every aspect of life can keep the person better oriented.

Attention/concentration: Arousal, concentration, and attention are important for processing information and supporting many other cognitive functions. It can be overwhelming to try to maintain attention, make sense of information, integrate it, and use it appropriately.

Overload-breakdown of comprehension: Fatigue plays havoc with comprehension, and trying to manage too much information at once inevitably leads to overload. Too much stimulation in the environment (ex. a noisy classroom, bright lights, blaring music, large crowds of people) can cause overload and shutdown for the person with a brain injury.

Reasoning and problem solving: Solving problems, even simple ones, in the course of daily living may be difficult for some people with a brain injury. A spilled cup of coffee may create a major problem solving dilemma and can result in

an odd reaction (ex. throwing the cup in the trash instead of getting a cloth to mop up the spill). Many poor decisions are made when a person is unable to weigh various options and their effects before determining a plan of action. A brain injury often makes it very difficult to organize and sequence information to solve problems appropriately.

Organizational skills: An injury to the frontal lobes of the brain often disrupts organizational skills, so the person may experience problems in organizing information and tasks. The brain-injured person will often need help to identify problem areas and develop strategies to improve organization. Strategies might include: organization trays labeled to note the items kept there, cue cards for various activities to enable greater independence, a place for everything and “everything in its place”, and strategies for breaking down tasks or information into manageable tasks.

Rate of processing: Slowed processing of information creates problems for the person when extra time is required to formulate a response or manage a cluster of information, particularly while under pressure.

Rate of performance: When the ability to perform tasks is slowed by injury, this decreased performance must be a consideration when setting realistic goals particularly in developing a student's individual education plan (IEP) and vocational planning.

Perseveration: Many people with a brain injury have trouble shifting their attention and find themselves "trapped" in one area of focus.

There is a tendency to repeat a response or activity after it is no longer needed. External cueing or redirection may help shift the focus to another topic.

Staying on task and or topic:

Distractibility is a major problem for some people with a brain injury and external cuing devices (ex. cue cards, beepers, and task lists) may be helpful. Some people may need external redirection to get back on task.

Safety can be compromised, for example, when someone, browning meat for a casserole, is distracted by a telephone call or a visitor at the door, allowing a fire to erupt when the task at hand is forgotten. On the job, a worker distracted by other activities in the environment may be unable to resume his work without external cueing.

Initiation: Families often express their concern that the brain injury survivor is now a “couch potato”. This is often a direct result of damage in areas of the brain responsible for initiating action or a plan. Some suggested choices of activities or help in starting an activity may be all that is needed to get the survivor moving and occupied productively.

Generalization: Most people with a brain injury will need help to transfer skills learned in one setting (ex. a rehabilitation program) back into a home setting. At work, a promotion to a new position may prove unsuccessful without help to retrain learned skills in a new setting. Upon completion of rehabilitation, a well-executed discharge plan will make this transition easier and more successful.

Cognitive rehabilitation is not a magic formula.

Good strategies, however, improve the quality of life not only for the person with a brain injury but for the entire family.



Memory dysfunction is the most common residual effect of brain injury and can be most troubling for families.

Agitation: A diminished ability to tolerate frustration is very common after a brain injury. The offending stimuli may be external and obvious or internal and less obvious. Well-planned strategies are very helpful to offset this problem. Families are advised to seek both medical evaluation to rule out seizure activity or other possible medical problems, and neuropsychological evaluation to learn more about the survivor's deficits and methods for managing the agitation.

Fatigue/stress: Understanding the survivor's fatigue level can help in many difficult situations. Many people with a brain injury cannot maintain attention, concentration, skill levels and behavioral control over extended periods if there are no rest breaks. This can be a problem for students and workers if they are expected to maintain attention for long periods of time. Special accommodations can be arranged once the limits of a person's energy and concentration are identified and understood.

Memory: Memory dysfunction is possibly the most common residual effect of brain injury, and the one that families often find the most troubling. There are different things to remember and ways memories and information are stored. Memories of events that occurred prior to the injury are usually retained, but new information and recent events may not be accessed easily. The problem of retrieving information, on an "as needed" basis, may be even more difficult. To retrieve or recall information, a person must have the ability to

initiate, sustain and switch attention, recognize relevant and irrelevant information, then rehearse, organize and apply it to the task or question at hand. These are all very complex cognitive abilities that are often impaired as a result of brain injury.

In conclusion, the most practical method for helping an individual with cognitive deficits is to help him/her devise strategies to compensate for deficits. Providing a structured and consistent setting, at least initially, can be very helpful. Compensatory strategies may include calendars, daily journals, watches with easily set alarms, post-it notes, telephone dialers, stove top timers, cue cards, task cards that organize and sequence tasks the person is expected to perform and many other tools developed to increase the person's ability to control those aspects of his/her life .

Source: Cognition is the Key to the Way We Think and Act. Carolyn Rocchio. Synapse. Winter 2008.

Sask North Acquired Brain Injury (ABI) Services

Sask North Acquired Brain Injury (ABI) Services is a group of programs managed by the Prince Albert Parkland Health Region that are part of the ABI Partnership Project.

Following an initial intake meeting, a variety of services may be offered including...

Case Management – evaluation of client needs & development of client-driven goals, assistance with coordinating health services, referrals to other health care professionals/community agencies based on current needs, return-to-work or return-to-school planning, assistance accessing adaptive equipment, and general counseling.

Consultation – providing information to other service providers, agencies or persons in regards to specific client needs/care and ABI in general.

Education – client-specific and general ABI education for individuals, families, and service providers; prevention activities for schools/community groups.

Independent Living Services – assistance with finding appropriate housing (private residence, personal care homes, etc.), facilitate recreation and leisure opportunities, assistance with therapeutic home programming and independent living skills.

Our Service Area:

- Prince Albert Parkland Health Region
- Kelsey Trail Health Region

- Keewatin Yatthe Health Region
- Mamawetan Churchill River Health Region
- Athabasca Health Authority

Program Admission Criteria:

▶ Must have a diagnosis of a moderate to severe brain injury (supported by medical records) & be medically stable.

▶ Be free of active substance abuse and/or be currently involved in a treatment program.

▶ Applicants with a primary psychiatric diagnosis must have symptoms well managed.

▶ Priority will be given to applicants whose brain injury occurred within the past three (3) years.

Community agencies, caregivers, employers, families and schools who require resources may also access services.

How to Access Services:

We accept self-referrals as well as those from health facilities, physicians, any rehabilitation program or professional support services, schools or community agencies.

Participation in our program is voluntary.

To find out more information on our referral process &/or to receive a referral form, please contact us:

Phone: 306-765-6630

Toll free: 1-866-899-9951



Our mission is to provide individual and family support to people with ABI so that they may live successfully in their communities with improved quality of life.



Sask. North Acquired Brain Injury (ABI) Services

1521 – 6th Ave West
Prince Albert, SK
S6V 5K1

Phone:
306-765-6630

TOLL FREE:
1-866-899-9951

Fax:
306-765-6657

Coffee Talk

A weekly conversation/support group for individuals who have sustained a stroke or brain injury. The group is open to both the survivor and their spouse &/or other support person.

- **Mondays** (except for stat holidays)
- 10:30 – noon
- South Hill Mall – Community Room
(behind Easy Home – East Mall Entrance)



Drop in for all or portion of this weekly group.
Free program. Refreshments served

If lack of transportation is preventing you from attending, please contact Michele at 765-6469 for assistance.

ABI/Stroke Drop-In Program

ABI Services invites you to come out on Wednesday afternoons for some fun and recreation. Come for an hour or come for two. We will be meeting in the Minto Bowl lounge to participate in activities like cards & board games and to get a little physical exercise using the Wii. Come out and interact with your peers. Meet new people and make new friends.

- Date: every Wednesday afternoon
- Time: 1:30 – 3:30 pm
- Location: Minto Bowl & Rec Centre (lounge area)
210 – 13th Street East, Prince Albert

Coffee will be supplied. The program is free.

If lack of transportation is preventing you from attending, please contact Michele at 765-6469 for assistance.

Local Brain Injury Support Groups

Prince Albert – last Thursday of each month. 7:00 p.m. Carment Court (230 – 8th Street East – 3rd floor). Contact: Michele 961-2888

Tisdale – Contact: Shelley 873-5420 or Andrea 873-5617

Melfort – Stroke Support Group – first Wednesday of each month. 12:00 noon. Contact: Faye 752-2599 or Phyllis 752-2023



Saskatchewan
Ministry of
Health



ACQUIRED BRAIN INJURY

Partnership Project

