


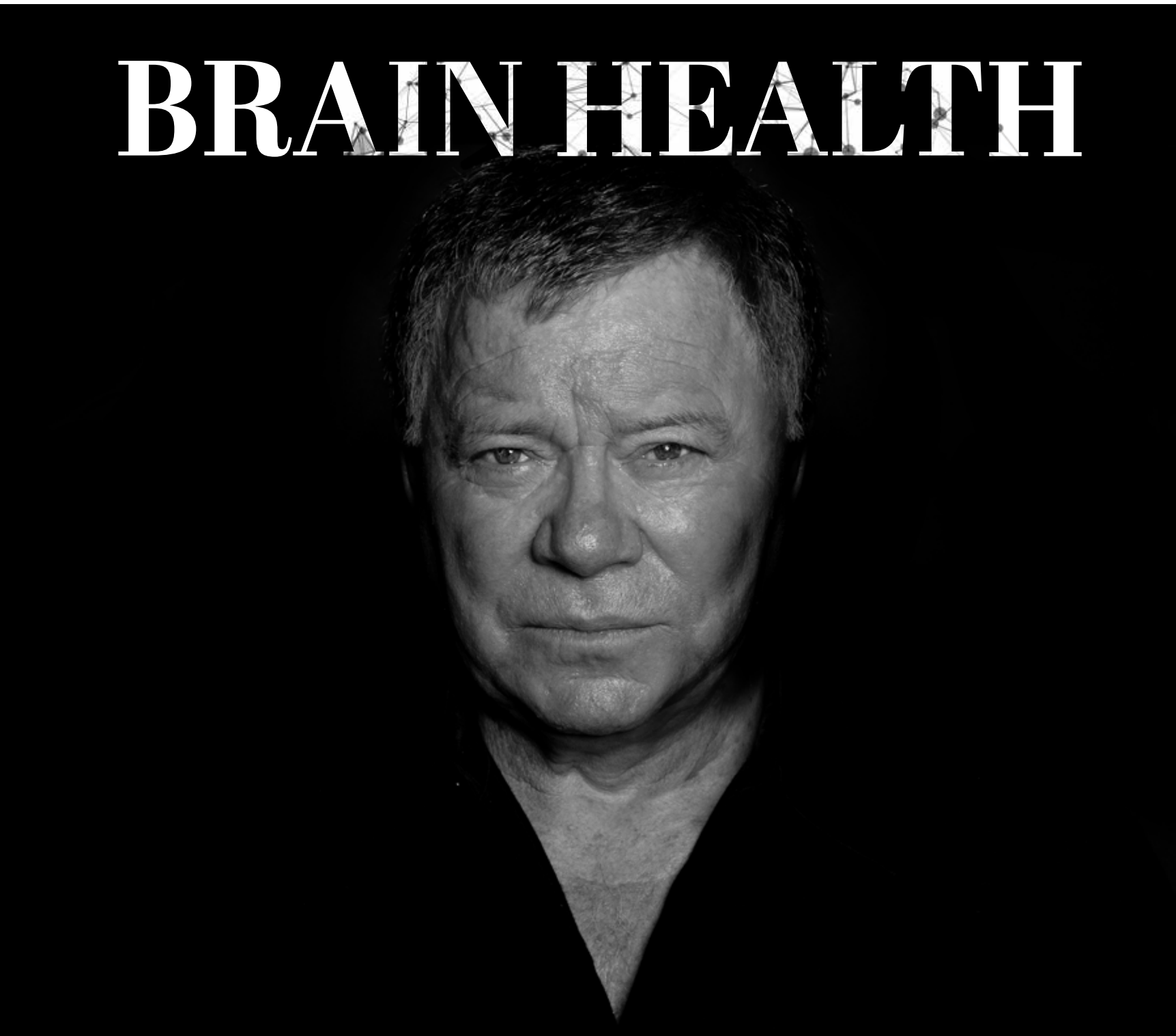
JUST A HEADACHE?
These common symptoms could be the sign of a brain tumour.
p03



CONCUSSION MANAGEMENT
Shifting the focus of education and post-concussion management.
p05



ADHD
Don't just survive — thrive! Overcoming the barriers of ADHD.
p06



William Shatner has a hit TV show *Better Late Than Never*, a new book and tour later this year, and he keeps busy with a variety of business and philanthropic ventures. “I’m as busy as I’ve ever been and I’m keeping up with it,” Shatner says from Los Angeles. But he’s always conscious of the potential effects on his health. “It’s expected that as you get older you’ll decline,” Shatner says. But he adds that it’s not necessary that mental health has to decline quite as sharply as physical health. “You can take of yourself,” he says.

SHATNER’S SECRETS

William Shatner’s shares his secrets for good mental health.



Shatner’s tips
What is Shatner’s biggest piece of advice for keeping good mental health at any age? “To stay healthy physically and to keep active,” he says. “Because your brain is affected by the rest of your body.” One way Shatner likes to keep active is by bicycling with family members who live nearby. He says they use electric bicycles which require less pedalling power, adding that it would have been challenging for him to keep up otherwise. “Although our brains don’t necessarily fail as we get older, our muscles get weaker and it would have been a challenge, actually an impossibility, to keep up with the younger members of my family bicycling,” he says. Shatner says that creativity goes a long way in the pursuit of physical and mental health. “By using just a little imagination, you

can compensate for some of the things that are necessarily going to happen as you get older, and in such a manner that it doesn’t interfere with keeping up with everybody,” he says. It’s also important to Shatner to spend time with others. “I know that good mental health comes from being busy and not solitary and brooding.” **Give something back** Shatner has a new book coming out mid-year called *Live Long and...* and he says the message is about the importance of keeping busy. “Not just doing crossword puzzles,” he says. Shatner says challenging yourself is important and something he likes to do through charity work, choosing causes that are close to his heart. One, the Hollywood Charity Horse Show, has been a

project of his for the past 30 years. Unlike some celebrities, Shatner doesn’t focus on one type of cause. It’s all about whichever ones resonate with him. “Everybody, everything needs help,” Shatner says. “There are very few self-sufficient needs. And whether it’s the salmon in British Columbia or the seals in the St. Lawrence or children who are affected by emotional, social, or physical disabilities or veterans coming back from the wars, everybody needs help so I do the best I can.” He adds that getting involved in helping others through volunteering or advocacy work has a great effect on mental health. “There’s nothing better for your brain than trying to help someone else.”

“By using just a little imagination you can compensate for some of the things that are necessarily going to happen when you get older, and in such a manner that it doesn’t interfere with keeping up with everybody.”

Rob Csernyik

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People Affected By Brain Tumours Should Never Walk Alone



Make a difference in someone’s life...
This spring, join a Brain Tumour Walk event in Canada.



Register: www.BrainTumourWalk.ca



Members of the Canadian Open Neuroscience Platform at the inaugural plenary meeting.

Cross Disciplinary Collaboration a Driver of Scientific Innovation

There are currently more than 564,000 Canadians living with dementia and according to the Alzheimer Society of Canada, this number is expected to increase to 937,000 within the next 15 years. Given the enormous social and economic burden of this disease and the fact that no new treatments have been developed in nearly two decades, it's imperative to accelerate research in this area.

Alzheimer's is one of more than 1,000 diseases, disorders, and injuries of the brain —many of which share common underlying mechanisms. Canadian researchers are among the world leaders in the quest to understand the brain and brain disorders, but we have much more to do to develop novel and earlier diagnostic tools, effective treatments, and, one day, cures.

Brain research is no longer just about neuroscience — it now includes engineering, computer science, chemistry, physics, and ethics. By collaborating across these different fields, researchers can exchange methods, hypotheses, and techniques, enabling them to generate new thinking and new perspectives. Brain Canada has long believed in the success of this approach and has made funding multidisciplinary team science the cornerstone of their granting programs.

Recently, collaboration has become easier thanks to the development of data sharing platforms and a movement to make biomedical research and data

The CONP seeks a broad understanding of how the brain functions in health, bringing together scientists who use different kinds of data and have different areas of expertise.

freely accessible. Called open science, this method facilitates partnership from investigators across the country with the potential to link globally.

The Canadian Open Neuroscience Platform (CONP), initiated by Brain Canada and funded in part by the Canada Brain Research Fund, was announced in February 2018. Involving more than 15 different universities, the CONP aims to bring together leading Canadian scientists in the basic and clinical neuroscience fields to form an interactive network of collaborations in brain research. This platform will improve the accessibility and re-usability of neuroscience data and, by increasing awareness of ongoing and past research efforts, it will reduce unnecessary duplication and overlap, resulting in a more efficient use of funding support. The CONP will also engage young investigators across

the country in order to develop the next generation of "open" scientists.

The CONP seeks a broad understanding of how the brain functions in health, bringing together scientists who use different kinds of data and have different areas of expertise, enabling them to easily distribute their analyses. As a result, the platform carries tremendous potential for research breakthroughs that will improve the health outcomes of patients living with brain disorders.

The Tanenbaum Open Science Institute (TOSI) was established at the Montreal Neurological Institute and Hospital in December 2016 with a transformative \$20 million donation by the Lawrence and Judith Tanenbaum Family Foundation. The TOSI Open Drug Discovery Platform brings therapeutic interventions to the clinic faster than what has been possible to date. By collaborating with the platform, CONP will enable the sharing of early-stage drug development findings across different brain disorders.

With governments, funders, researchers, and others in the brain research space working together, we can accelerate the pace of discovery and improve the quality of life for Canadians affected by brain disorders, and the millions more who are touched by them.

Inez Jabalpurwala

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Stella's community at one of their on-site events

Taking Charge of Mental Health at Stella's Place

Five years ago, young people in Toronto facing mental health issues often found themselves too young for the adult system and too old for children's services.

Now Stella's Place fills that gap. Approximately 100,000 Torontonians between the ages of 16-29 have mental health needs of some kind. Only about one in six have access to appropriate care — a particular challenge for marginalized young people. Stella's Place estimates it will serve 1,000 young adults this year.

It offers peer support, integrated clinician and peer-led groups, drop-in sessions, wellness and fitness classes, expressive arts, and an app called Beanbag Chat, along with traditional counselling and intake free of charge.

Better together at Stella's Place
The truly innovative aspect of Stella's Place is its unique co-design and feed-

back structure. Young adults in the program are given the opportunity to co-develop the programs and provide feedback after every activity or session to bolster a sense of community, reciprocity, and understanding within a peer support network.

"There aren't enough traditional professionals to support everyone. The way forward is through building the capacity of young people to make a contribution themselves," says Executive Director Jenny Carver.

This co-design strategy has been integral since the beginning of Stella's Place, when an intense focus group-style of collaboration was formed with 50 young adults, family members, and experts. Stella's Place has a start-up feel, Carver says. Programs are evidence-based but there is flexibility within their delivery. Young people can share experiences with people their age, access services without countless

assessments, and are supported to set goals and make choices that are right for them.

Stella's has even created an original Peer Support Training Program in partnership with George Brown College, which has now graduated 150 participants.

Clients may have suicidal thoughts, anxiety, depression, or psychosis but the message at Stella's Place is one of resilience. "We really believe in the capability of this generation to turn what's seen as a difficult experience into a source of strength," says Carver.

Zoe Davey



To learn more about programs and services offered at Stella's Place, visit stellaspaces.ca.

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Young Adult
Mental Health



What you need to know: Brain Tumour Signs and Symptoms

Recognizing the most common signs and symptoms associated with brain tumours can help in early diagnosis and treatment



1. Frequent headaches



2. Dizziness or unsteadiness



3. Visual disturbance such as double or blurred vision



4. Seizures



5. Morning nausea and vomiting



6. Weakness or paralysis



7. Personality Changes



8. Hearing impairment



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Protect Your Brain with Good Information

When *The Tragically Hip* frontman Gord Downie was diagnosed with a brain tumour known as glioblastoma in 2016, many Canadians sought the advice of Dr. Google. And while the internet can be a starting place for research, the Brain Tumour Foundation of Canada wants Canadians to use good, accurate, and reliable information when considering their brain health.

The foundation estimates that 27 people are diagnosed with a brain tumour every day. Exact figures are unknown, which is why the foundation is working to establish a national registry and create accurate Canadian data by 2019. The most common type of primary malignant brain tumour is glioblastoma multiforme. “People should know that brain tumours don’t discriminate. They can occur in people of all ages, cultural, social, and economic backgrounds,” explains Susan Marshall, Executive Director of the Brain Tumour Foundation.

Know the signs

Signs and symptoms are not always easy to pin down — a headache might be mistaken for the flu, or weakness and paralysis for a stroke. Some occur suddenly, such as a seizure, whereas others may develop slowly over time. Each person experiences a unique set of symptoms which range from behavioural and cognitive changes to double or blurred vision, dizziness, hearing impairment, nausea, and vomiting. No one symptom can be considered more important than others, Marshall says.

Not all brain tumours are fatal or cancerous, but a non-malignant diagnosis can still be devastating. And with the amount of information available online, the discovery process can be overwhelming. The foundation advocates contacting a medical professional with questions and symptoms because every path to diagnosis is unique and early detection can be critical.

Despite all the information, many unknowns remain Marshall says. “We don’t know what causes brain tumours or how to prevent them. That’s why it’s so important for people to be aware of the signs and

symptoms and to talk with their doctor if they’re concerned,” she notes.

Fact check the myths

One of the biggest myths is that brain tumours are rare, but there are 120 known types of brain tumours. They’re the leading cause of solid cancer death in people under the age of 20 and the third leading cause of solid cancer death in young adults aged 20-39.

It’s also often believed that non-malignant tumours are better or that they never require chemotherapy. Not true. Many believe that life returns to normal after treatment, but a patient’s life may never be the same, and for others, active treatment may be lengthy. Though not always fatal, a brain tumour is always life-changing.

In the first year after a diagnosis, an average patient may make 52 visits to a health care provider for blood work, surgery, radiation, or chemotherapy.

“Because brain tumours are located at the control centre for thought, emotion, and movement, they can dramatically affect an individual’s physical and cognitive abilities and quality of life,” Marshall states.

While brain tumours can be devastating, an early diagnosis can lead to better patient outcomes, and that’s why the Brain Tumour Foundation of Canada is recommending that people know the most common signs and symptoms. “Every day in Canada, research is looking into the cause of and a cure for brain tumours. We want people to know that there is always hope,” says Marshall.

A good starting place for more information is the Brain Tumour Foundation of Canada’s website, which has fact sheets and answers to frequently asked questions. If you’re one of the estimated 55,000 Canadians living with a brain tumour today, contact the Foundation for support or for more information about the national registry.

Zoe Davey

Find more at braintumour.ca



Restoring Function to People with Neurological Disorders



**Milos R. Popovic
Ph.D., P.Eng.**

Institute Director, Research,
Toronto Rehabilitation
Institute,
University Health Network
Tenured Professor, Institute of
Biomaterials and Biomedical
Engineering, University of
Toronto



**Taufik A. Valiante MD,
Ph.D FRCS**

Associate Professor,
Division of Neurosurgery &
Institute of Biomaterials and
Biomedical Engineering,
University of Toronto
Scientist, Krembil Research
Institute, Co-Director,
Epilepsy Program, Toronto
Western Hospital

Drs. Milos Popovic and Taufik Valiante want people with neurological conditions to get better — and fast. For the past six years, Dr. Milos Popovic, the Research Director at the Toronto Rehabilitation Institute (TRI), and Dr. Taufik Valiante have merged engineering and medical science to create neuroimplant devices that help people with serious neurological and neurodegenerative conditions do just that.

Known as neuromodulation devices, “these technologies are designed to change the behaviour of specific neurons in the brain to improve patients’ health and daily functioning,” says Dr. Popovic, who is also a Professor of Biomedical Engineering at the University of Toronto. “With Parkinson’s disease, for example, you can implant these devices deep into the brain and by stimulating a certain place, frequency, and intensity, you stop the patient’s tremors and shaking, so they can now feed themselves and live a normal life.” Similar technology is being developed by Dr. Valiante to prevent seizures in epilepsy patients.

The Toronto Rehab Foundation supports much of TRI’s research and innovations, including the jointly-funded (Canadian Foundation for Innovation and Ontario Research Fund) Centre for Advancing Neuro-technological Innovation to Application (CRANIA). Located at the University Health Network in Toronto and the University of Toronto, the CRANIA Project

brings together engineers, neurosurgeons, neurologists, neuroscientists, mathematicians, material scientists, and computer scientists under one umbrella to advance the development of neuromodulation therapies.

Neurological disorders costly to families and society

Dr. Valiante believes there’s a moral imperative to CRANIA’s work. “Right now, we don’t have very good treatments for many neurological conditions,” he says. By 2025, these conditions are expected to cost society more than cancer and heart disease combined, in part due to an aging population with the attendant conditions of stroke, age-related cognitive impairment, and Parkinson’s. Additionally, pharmaceutical companies are phasing out drug development for neurodegenerative disorders. The increasing demand for better treatments of the brain is in part due to the increased life expectancy and the need for family members to care for those affected.

With about 3 million Canadians already caring for someone with a neurological disorder, there’s tremendous urgency to find solutions to address this research and therapeutic gap, notes Dr. Popovic. Without solutions, the burden of care to patients, their families, and society will be staggering. “We often forget it’s not just the person dealing with cognitive and physical defects, it’s also the family members having to give up their jobs to assist these patients,” he says.

To ease this burden of care, CRANIA’s team of over 50 experts is hard at work designing sophisticated tools that will help these patients improve their quality of life. “We’re really excited because as solutions emerge, patients in Ontario and Canada will be the first ones to receive them,” says Dr. Popovic.

With the world-leading Toronto Rehabilitation Institute and Krembil Neuroscience Centre, and top engineering faculty, Toronto is the ideal city for this work. “We have a long history of doing neuromodulation here, particularly with Parkinson’s disease, but we think there are many conditions that could potentially be treated with these types of devices like epilepsy, depression, stroke, and spinal cord injuries,” says Dr. Popovic.

CRANIA’s success in getting these therapies to patients will depend on continuous funding and donations from people and organizations who share Drs. Popovic and Valiante’s passion for making people with neurological disorders better — faster.

Anne Papmehl



March of Dimes Canada Steps Up to Support Stroke Survivors

For 36-year-old Anna Bauer-Ross, the possibility of having a stroke was the last thing on her mind while enjoying a vacation with her kids in the Bahamas in March 2008. “We were having a good time when suddenly I felt extreme pain on one side of my head, lost function on one side of my body and fell to the ground,” she describes. “I thought I was dying or having a heart-attack.”

Bauer-Ross was transported to a hospital in Nassau, the main island in the Bahamas, but doctors had difficulty figuring out what was wrong. “Doctors didn’t diagnose me with a stroke until about four days later because I just didn’t fit the profile of a stroke victim. I was too young.”

Upon her return to Canada, Bauer-Ross was hospitalized for a month and underwent six weeks of rehab. Her vocal cords were paralyzed from the stroke and she had difficulty walking but she worked very hard to regain both her ability to speak and walk.

March of Dimes Canada, a national full-service organization that offers a wide variety of programs to Canadians living with disabilities, conducted a presentation about their stroke recovery services at Bauer-Ross’ rehab hospital, it wasn’t until about a year later that she decided she was ready to reach out for help.

Much-needed helping hands

Bauer-Ross joined March of Dimes Canada’s Toronto Central Chapter Stroke Recovery support group. “The group was wonderful and there was a nice sense of community. I started going to regular monthly meetings and became more and more involved with

the group. Soon, I was editing their newsletter and later became a leader,” she explains. “March of Dimes Canada’s stroke support group gave me a sense of purpose and responsibility. It was something I needed because, due to my stroke, I wasn’t going back to the job I had before, so I just needed a new focus and new

“It was something I needed because, due to my stroke, I wasn’t going back to the job I had before, so I just needed a new focus and new responsibilities, and the group gave me that. It was perfect for me.”

responsibilities and the group gave me that. It was perfect for me.”

The March of Dimes Canada support group significantly altered the course of Bauer-Ross’ life and put her on the path to a new career where she hopes to help others with disabilities. “Deciding to go back to school and pursue a new career was a natural extension of my work with the group. March of Dimes Canada runs a program called Peers Fostering Hope. It was a training program for peer support leaders and I was in the first group that became trained. I went to stroke units to offer support to people who had been

through what I had. That led me to go back to school. I did some counselling courses, then studied applied behaviour analysis and now I am doing an undergraduate degree in Disability Studies.”

Andria Spindel, March of Dimes Canada’s President and CEO, adds that their stroke recovery services are focused on providing support, care and education for stroke survivors and the people close to them. “We’re focused on improving the stroke survivor’s quality of life, and preventing a secondary stroke,” she says.

Though it’s been a decade since her stroke, Bauer-Ross’ connection to March of Dimes Canada remains strong. “I will always be grateful to March of Dimes Canada and impressed by everything they do. They really have a finger in all aspects of helping someone with a disability get back on their feet.”

March of Dimes Canada also has an Acquired Brain Injury Program which provides individualized support with activities of daily living, community orientation and recreation. These programs help clients to acquire new skills and develop strategies for community integration.

Sandra Macgregor



Visit marchofdimes.ca/SRC to learn more.

Stroke Recovery Canada Warmline 1-888-540-6666

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People with Epilepsy Enjoying Freedom from Seizures



Danielle M. Andrade
MD, MSc, FRCPC.



Lindsay Yeo

For most of her life, Lindsay Yeo, 38, lived with chronic seizures, a symptom of her epilepsy.

Unable to control them completely with various medications, she had surgery last November to remove a small part of the left temporal lobe of her brain — the area responsible for her seizures. Now seizure-free for more than three months, she sees a bright future ahead.

Epilepsy is a neurological condition characterized by unpredictable seizures that affects people of all ages. While about 70 percent of epilepsies have an underlying genetic component— as was the case with Yeo—the condition can also be acquired through infection, tumour, or brain injury.

Not knowing when the next seizure might occur makes day-to-day life challenging — and even risky. “Before my surgery, one of the biggest fears, especially for my parents, was what would happen if I had a seizure while crossing a busy street,” says Yeo. As a result, people with this condition often lead restricted lives and face limited job opportunities, social stigma, and isolation.

Seizure types, severity, and control vary from person to person. “People tend to think that all epilepsies are similar when in fact they

can be quite different,” says Dr. Danielle Andrade, Medical Director of the Epilepsy Program at Toronto’s University Health Network. “Some are easier to treat while others are very difficult, and some also have comorbidities that can be more challenging to treat than the actual seizures.” These can include depression, memory problems, learning difficulties, behavioural problems, and even autism spectrum disorder.

About two thirds of people with epilepsy manage to control their seizures with medication — the other third have what is called drug-resistant epilepsy. Dr. Andrade stresses the importance of the latter group getting the correct treatment early on. “If these patients cannot get their seizures under control after trying two medications, they should be referred to an epilepsy centre and evaluated by an epilepsy specialist (epileptologist) to determine the best treatment option.”

New patient-friendly guidelines for epilepsy care available

New guidelines on epilepsy care indicate that surgery can be a good option for certain patients with drug-resistant epilepsy. It can reduce seizure frequency — or even eliminate them completely. However, until recently only about 2 percent of eligible candidates in Ontario had surgery, largely due to lack

of clinical awareness.

EpLink, the Epilepsy Research Program of the Ontario Brain Institute, is working to get this information out to patients. Working with community partners and epilepsy patients, EpLink recently translated a comprehensive set of epilepsy care recommendations developed by the Epilepsy Implementation Task Force (a group supported by Critical Care Services Ontario) into an accessible patient version, available at ontarioepilepsyguidelines.ca.

“There are a lot of people who are not responding to medication who have been stuck in these diagnosis, treatment, referral paths for years or even decades,” says Dr. Amaya Singh, Neurologist and Knowledge Translation Lead at EpLink. “Our aim with this patient version of the guidelines is to inform people about the standards of care in epilepsy, because if you don’t know what they are, you don’t know how to ask for them.”

EpLink is currently involved in a broad-reaching campaign to promote these guidelines in the medical and patient community. “We want people to know that these treatment options are out there, so they can talk with their doctors and find out if they’re appropriate for them,” says Singh.

Anne Papmehl

“Our aim with this patient version of the guidelines is to inform people about the standards of care in epilepsy, **because if you don’t know what they are, you don’t know how to ask for them.**”



UCB Canada was pleased to be able to support this article and continue to contribute to the improved care of people living with epilepsy.

An Instant Change, A Lifelong Solution

Concussions are sometimes referred to as invisible injuries. While a person may look fine to family, friends, coaches, and colleagues, he or she might be suffering from the after-effects of a brain injury. That makes getting prompt treatment — a key factor in determining successful patient outcomes — more challenging.

Improved education and awareness are important to Shift Concussion Management (SCM), a company that began in 2013 with the aim to improve access to concussion care for patients across Canada in centres large and small. “Getting help soon is a critical part of treatment,” says Frances MacInnes, a physiotherapist with SCM. That means reporting concussions in a timely manner and seeking medical attention quickly. Many people are hesitant because they’re fearful and don’t realize that there are highly-effective management strategies available. In other cases, many fail to recognize the symptoms of a concussion, which can include physical, cognitive, and behavioural changes.

Addressing myths around brain injury

“Sometimes people think concussions are the result of a hard hit,” MacInnes says, “but that’s not always the case. There might not be a loss of consciousness. It may be a case of symptoms developing in the hours, days, and weeks that follow the incident.”

SCM has a network of 500 health care providers across the country with expertise in the treatment of concussions. It also offers courses to those interested in building their knowledge of the condition, from the latest diagnostic tools to rehabilitation best practices.

Angela Drystek reaped the benefits of the company’s treatment protocol and focus on education after sustaining a concussion due to a bicycle accident in 2015. “I had heard about Shift from a friend,” she recalls. “I underwent their testing program, which felt very comprehensive. My therapist listened carefully to all of my symptoms and prescribed realistic and helpful activities for the healing process.”

Michele Sponagle



Scott Haller, Frances MacInnes, and Ryan Sleik in Calgary at the Best Practices in Concussion Management course.



Help and Hope for People with Brain Injuries

In an instant, a blow to the head, a serious illness, or a stroke can change someone’s life forever.

Brain injuries are the leading killer and disabler of people under the age of 44. They’re 15 times more common than spinal cord injuries and 30 times more common than breast cancer. Over a half of a million people living in Ontario have a brain injury and 45,000 more will be added to this number this year alone.

While typically associated with sports injuries and auto accidents, brain injuries are prevalent yet under-addressed in other segments of society. About 53 percent of Toronto’s homeless population have experienced a brain injury, and for 70 percent of these individuals, their first traumatic brain injury occurred before becoming homeless.

Women facing domestic violence also sustain concussions and other types of brain injuries, however they tend to be overlooked during hospital emergency room visits where the emphasis is on treating visible injuries like fractures and bleeding.

An invisible disability

Often termed the invisible disability, many people with brain injuries don’t walk with uneven gaits, require wheelchairs, or slur their speech. As a result, few get the help they need to deal with the myriad cognitive deficits associated with brain injury including impaired memory, concentration, learning, and judgment or extreme fatigue, depression, and anxiety.



Melissa Vigar

Executive Director,
Brain Injury Society of Toronto



Ruth Wilcock

Executive Director,
Ontario Brain Injury Association

Organizations like the Brain Injury Society of Toronto (BIST) and the Ontario Brain Injury Association (OBIA) are working to raise public awareness of just how common brain injuries are — including for victims of homelessness and survivors of domestic violence — and to let people living with these injuries and their loved ones know there is help and hope for them.

Anne Papmehl

For more information visit,
bist.ca and obia.ca.



Dr. Majid H. Mohajerani, Ph.D.

Is Canada on the Verge of a Brain Health Crisis?

the mechanisms at work in Alzheimer’s disease to allow for the advancement of effective treatments. He breaks down his research into three levels: cellular, systems-based, and behavioural. This multi-level methodology allows the CCBN team to practise a holistic approach to its research.

Through pathology studies, Dr. Mohajerani and his team track changes in the brain by looking at its essential biological components. “Our systems-level research allows us to study the brain in real-time, understanding how the processes of the brain are mediated through cells,” he says. Behaviour-based research presents an opportunity to assess learning and memory during disease progression — a topic the institute has studied for decades.

The institute’s access to progressive technology is one element that sets the CCBN apart from other research hubs around the world. “Our institute uses both cutting-edge behavioural and optical neuroimaging techniques that allow us to answer questions previously unable to be answered,” Dr. Mohajerani explains. Using state-of-the-art imaging technology, he hopes to unearth new insights into how the brain creates cognitive reserves by studying the brain at rest, as well as during encoding and retrieval of information.

Much of this work would not be possible without recent Canadian Institutes for Health Research (CIHR) grants awarded to the CCBN totalling nearly \$2 million. As Dr. Mohajerani describes, these grants are “not only investments into current [studies], but an investment

into the future of Canadian research.” Using projects like his to train future scientists also helps safeguard the preservation and progression of discovery research for years to come.

“The Alzheimer’s crisis is bearing down on us like a tsunami,” Dr. Mohajerani says, “and this is something we need to take seriously.”



“Our institute uses both cutting-edge behavioural and optical neuroimaging techniques that allow us to answer questions previously unable to be answered.”



When it comes to brain health, it’s vital that Canadians support the research being done and advocate for continued investment behind studies in neuroscience. After all, every citizen can only stand to benefit from research the University of Lethbridge and related institutes are bringing forth. “By improving brain health,” he explains, “we not only help Canada continue to progress into the 21st century, but help the population be healthier and happier.”

Jessica Pollock

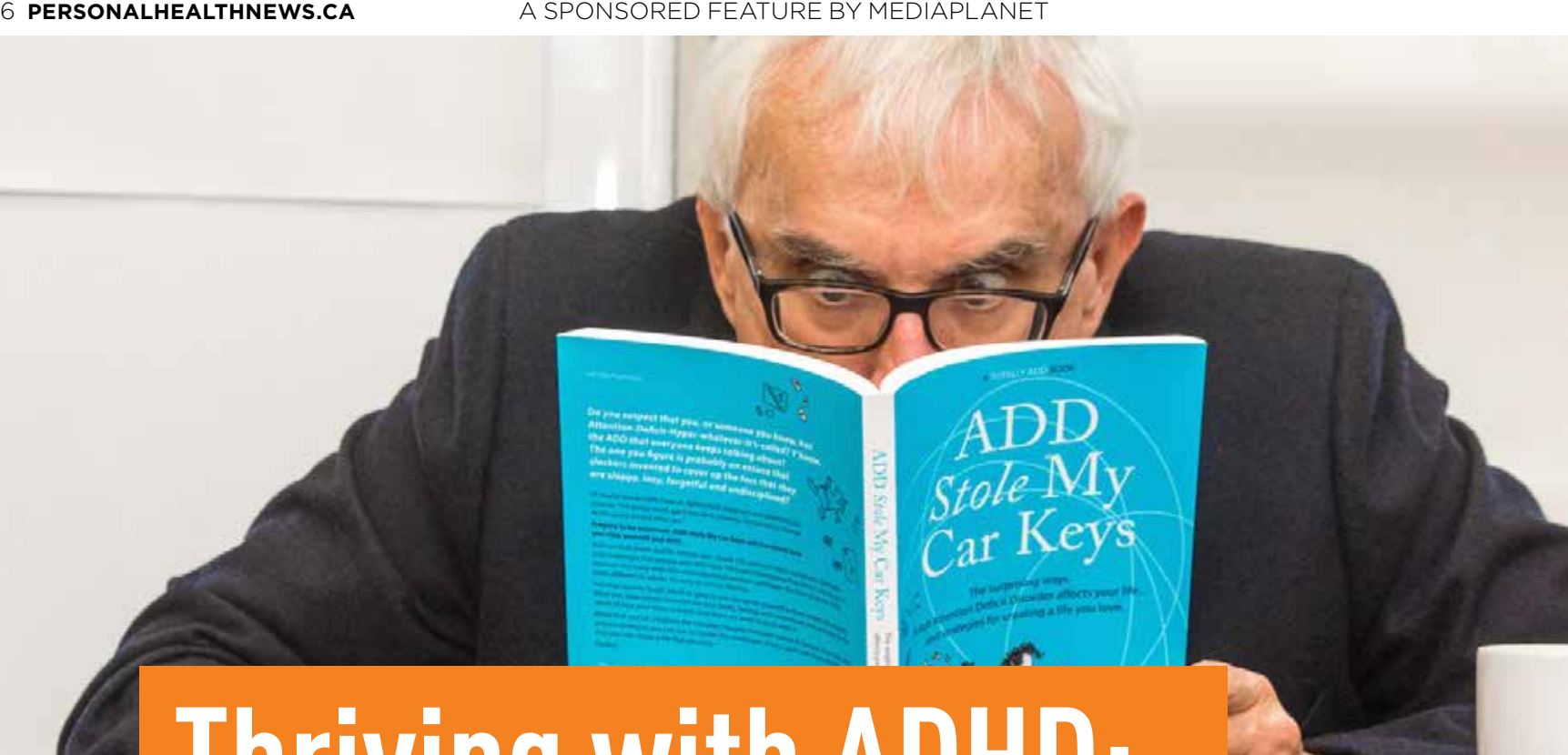
University of
Lethbridge



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Groundbreaking neuroscience research in southern Alberta

Dr. Majid Mohajerani, a faculty member at the University of Lethbridge’s Canadian Centre for Behavioural Neuroscience (CCBN), is one of the trailblazers behind research identifying



Thriving with ADHD: The Sky's the Limit

Patrick* was 17 years old when his years of struggle with focus and concentration finally led him to see a psychiatrist and receive a diagnosis of Attention Deficit Hyperactivity Disorder (ADHD). Among those with ADHD, reluctance to seek help is common, and many wait much longer than Patrick did, with terrible and avoidable consequences.

ADHD is a neurodevelopmental disorder that hinders the brain's ability to organize and focus on tasks. It results in chronic inattention and impulsivity that can negatively affect every area of life, from school to personal relationships to physical health. The good news is that it is eminently treatable. The bad news is that many avoid diagnosis due to fear or stigma, whether external or internal. "I'd been having issues for a long time before I sought help," Patrick says. "I avoided seeking help not because of external stigma, but because that wasn't the way I saw myself."

For Patrick though, as for many others, receiving the diagnosis was an inflection point toward a better life, even before treatment began. "A lot of things fell into place after that diagnosis," Patrick says. "It put me in a place where I was able to deal with a specific defined issue. That in itself was a big help."

This is a story you hear over and over again

when you speak to people who were diagnosed with ADHD in adulthood or late adolescence. Legendary Canadian comedian Rick Green, co-creator of The Red Green Show, didn't seek an evaluation for ADHD until he was in his forties, and the diagnosis was a revelation. "When I was diagnosed at age 47, it was like finding myself," says Green, who is today a vocal ADHD advocate and founder of TotallyADD.com. "It explained so much. It explained why I had written 700 episodes of radio and television skit comedy, but had only written one screenplay in my life despite having dozens of ideas."

Rick, like many adults, had never really considered the possibility that the issues he had struggled with might have a definable cause. It wasn't until his son was diagnosed that he decided to be evaluated himself. Had that not happened, he may well have lived the rest of his life not knowing, as so many Canadians with ADHD do. "The majority of adults who have ADHD are undiagnosed," says Green. "They don't see how it has affected their marriage, their finances, their impulsive decision-making, and their inability to finish the thousand and one projects they've started. The costs of this disorder are huge, and the tragedy of it is that it's very treatable. There is so much that you can do."

One disorder, many solutions

Treatment strategies are as varied as the patients they treat. Some people have great success with meditation and mindfulness, others with cognitive-behavioural therapy, and others with medication.

"The medications, when they work, are amazing," says Green. "They won't finish projects for you, but they allow you to have the same chance as everyone else. They level the playing field."

And that's all that people with ADHD need. They're as smart, as driven, and as capable as anyone else, but they've been held back from accomplishing their goals by a very real and very treatable brain disorder. Once treatment removes that barrier, there is no limit to what they can accomplish. Just ask Patrick, who is today living his dream as a junior at Harvard University.

"I'm certain I wouldn't be where I am today if I hadn't received this diagnosis and gotten help," Patrick says. "I would encourage everyone to reject the fallacy that there is a negative consequence to seeking help."

D.F. McCourt

**Name changed for patient confidentiality purposes.*

Both parties featured in this article are real people experiencing ADHD and have agreed to advocate for awareness. Neither participant has received any personal, direct financial payment for their participation in the production and publication of this article.



Pat McKenna (left) and Rick Green (right) of The Red Green Show.

“

It explained so much. It explained why I had written 700 episodes of radio and television skit comedy, but had only written one screenplay in my life despite having dozens of ideas.

”



Looking for Reliable Information and Support on ADHD?

Go to caddac.ca



Heidi Bernhardt,
CADDAC

Heidi Bernhardt is the founder, President, and Executive Director of the Centre for ADHD Awareness Canada (CADDAC), a national non-profit organization. Ms. Bernhardt has not received any personal, direct financial payment for her participation in the production and publication of this article. She has disclosed that CADDAC has received or receives grant(s) or funding, including in-kind compensation, for patient education and advocacy initiatives from pharmaceutical organizations and/or medical device companies.

The Centre for ADHD (Attention Deficit Hyperactivity Disorder) Awareness Canada (CADDAC) is a national, not-for-profit organization providing awareness, education, and advocacy for families and individuals with ADHD. Every October, CADDAC organizes national ADHD Awareness Month, which includes a two-day conference, educational events, and many other supports for ADHD.

CADDAC's website offers up to date, scientifically-based information for parents, children, adolescents, and adults with ADHD as well as for educators and health care providers. Educational webinars and workshops, videos of past conference presentations by world-renowned experts, and information on resources and supports for ADHD are all accessible on the site. The website also offers information on how to advocate for your child in the school system and how to advocate for yourself in the workplace.

In addition to education and awareness, CADDAC members assist families with individual advocacy needs, inform governments about ADHD, advocate for better resources and supports for families and individuals, and discuss the costs to

individuals and society when ADHD is not diagnosed and treated.

ADHD in education

A recent national survey on ADHD in education has confirmed what CADDAC has long observed through our correspondence with parents from across the country. Many parents are concerned about the education children with ADHD are receiving in Canadian schools. In several provinces, including Ontario, ministries of education and school boards are not recognizing ADHD as a learning risk and therefore, not providing support for these students.

Ontario election campaign

With the Ontario provincial election in sight, CADDAC is letting parents and others interested in ADHD know that this is the perfect time to reach out to your MPP (Member of Provincial Parliament) and those running in your riding to let them know that ADHD is of interest to you. For years, CADDAC has met with government and elected officials to advocate for more recognition and resources for ADHD. MPPs report that they never hear

from their constituents about ADHD, but they do hear from parents of children with other disorders — they, therefore, assume that their constituents have no interest in ADHD. However, the number of calls and e-mails that we receive from concerned and distressed parents and adults with ADHD would indicate otherwise.

If you have an interest in ADHD, visit caddac.ca to access information on the Ontario campaign. You will find template letters on various issues to assist you in writing your own letter, questions to ask your MPP and others running in your riding, and an overview of the current issues in Ontario. Be sure to access our Getting Started information package, geared to a variety of audiences new to ADHD.

For further support, you can visit our Facebook page, read our blog for current news on ADHD, listen to our Adult podcast, peruse our YouTube account, and stay updated via our Twitter feed.



“CADDAC is letting parents and others interested in ADHD know that this is the perfect time to reach out to your MPP and those running in your riding to let them know that ADHD is of interest to you.”

DO YOU THINK YOU MIGHT HAVE ADHD?

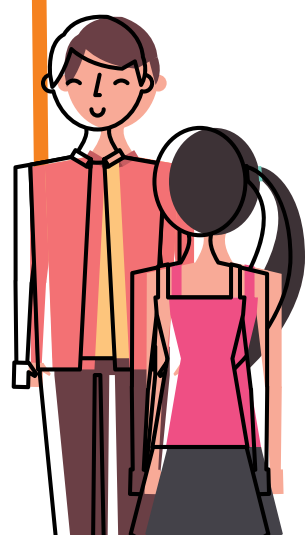


You might have ADHD if you have a lifetime history of problems with attention, disruptiveness, or impulsive behaviour

Reference:

1. Canadian Attention Deficit Hyperactivity Disorder Resource Alliance (CADDRA). Canadian ADHD Practice Guidelines, Fourth Edition. CADDRA, Toronto, 2011 (**revised 2018**).

Possible “flags” for suspected ADHD include:



- 1 Organizational skill problems**
ie: poor time management, disorganization
- 2 Erratic work history**
Frequent job changes, unprepared, problems with colleagues/clients
- 3 Dangerous behavior**
Frequent accidents, involvement in risk-taking or extreme sports
- 4 Addictions/compulsions**
Hoarding, shopping, sexuality, over-eating, gambling
- 5 Marital problems**
Forgets important events, past relationship breakdowns

- 6 Anger control problems**
Argumentative, rage episodes
- 7 Inappropriate talking**
Interrupting, talking too loud
- 8 Parenting problems**
Difficulty with household routines
- 9 Money-management problems**
Fails to do taxes, impulse buying
- 10 Driving Problems**
Speeding tickets, accidents
- 11 Substance Use / Abuse**
Alcohol, marijuana, caffeine

prairienatural[®]

BrainHealth

Cutting Edge Cognitive Wellness can help you



- Think faster
- Focus better
- Remember more
- Increase alertness



Turn On the Power of Your Brain

Need to think faster or remember more?

Whether you're cramming for an exam or feeling the brain strain of daily life, the benefits of nootropics can help you remember better and think more clearly. Nootropics (pronounced noh-oh-troh-piks) are commonly referred to as natural "smart drugs" for enhancing cognition, memory and facilitating learning. Nootropics work to boost brain neurochemicals - neurotransmitters, enzymes, and hormones - by improving the brain's oxygen supply and stimulating nerve growth. This unique group of memory and learning-enhancing substances also protect the brain against physical and chemical injury, including oxidation.

Be Bright!

Docosahexanoic Acid (DHA) - Makes up 15-20 percent of the brain's cerebral cortex! Low levels of DHA are linked to memory loss and Alzheimer's disease while adequate levels restore cognitive abilities; improve rate of learning; reduce mental decline and prevent brain degeneration.

Vinpocetine - Increases blood flow to brain; reduces inflammation; protects central nervous system against degenerative conditions such as Alzheimer's disease and Parkinson's disease. Many studies have also concluded that vinpocetine has an exceptional ability to reverse the signs of brain, skin and nerve aging.

Pyrroloquinoline Quinone (PQQ) - Vitamin-like compound, powerful antioxidant and nerve growth factor stimulant; improves memory and cognitive functions; reverses cognitive impairment caused by chronic oxidative stress; protects brain and nerve cells; reduces stroke.

Bacopa Monnieri Extract - A recent study published in the journal Aging (March 2016) shows that this herbal extract exerts "a neuroprotective effect against mental diseases such as depression, anxiety and Alzheimer's disease." The researchers found that Bacopa monnieri extract reduced learning deficits; improved long-term spatial memory; and reduced brain plaque.

Alpha GPC (L-Alpha-glycerylphosphorylcholine) - helps repair brain cell membranes and counteract cognitive impairment related to dementia, brain injuries and stroke.

The nootropic ingredients in Neuro-Force may help...

- Improve availability of beneficial neurochemicals
- Stimulate nerve growth & function
- Improve oxygen flow to brain
- Improve memory & learning
- Enhance cognitive function
- Increase circulation to brain
- Promote mental stamina
- Reduce inflammation
- Protect nerve cells
- Brighten moods

The mind is a beautiful thing

Until recently, it was believed that the typical human brain, containing about 100 billion nerve cells (neurons) could neither repair nor regenerate itself. We now know that we truly are able to enhance and expand brain and neurological function as well as protect and restore our mental and cognitive wellness. That's what the nootropic ingredients in NeuroForce™ are designed to do for people of all ages.

All the ingredients in Neuro-Force™ are approved by Health Canada and have been tested for purity and potency in an independent Canadian laboratory.

Save \$3.00

On a bottle of Prairie Naturals Neuro-Force 120 Softgels when you present this coupon at any participating Health Products Retailer

To the Consumer: Present this coupon to participating Health Products Retailer to receive \$3.00 OFF the purchase of Prairie Naturals Neuro-Force 120 Softgels. Provincial law may require the retailer to charge the applicable tax on the full value of the purchase before the reduction in coupon value. GST, PST and HST are included in face value where applicable. (Not valid with any other offer). Coupon expires May 31, 2018

To the Retailer: When your customer presents this coupon and you accept it on the purchase of Prairie Naturals Neuro-Force 120's, Prairie Naturals will be pleased to reimburse you the full value of the coupon. Other applications may constitute fraud. Requests for reimbursement received after June 30, 2018 will not be accepted. Failure to supply, on request, evidence that sufficient stock was purchased in the previous 90 days to cover coupons presented will void coupons. Coupons submitted become our property. Reproduction of this coupon is expressly prohibited. For redemption, mail to: Prairie Naturals, 56 Fawcett Road Coquitlam, BC, V3K 6V5.



“People need to love their brain. They need to cultivate a relationship with it. Until you do you can't really love it and understand how important and fragile it is.”

KEVIN PEARCE'S INSPIRING JOURNEY AFTER A TRAUMATIC BRAIN INJURY

A While training for the 2010 Winter Olympics, Kevin Pearce sustained a traumatic brain injury (TBI) that put an end to his professional snowboarding career but it launched him on a new mission.

During his lengthy recovery period, he noticed that many people with similar afflictions were not getting the ongoing help they needed. "I had just gone through it myself and saw a huge need for a community to be built," Pearce says. That's why he started the Love Your Brain foundation. It's an outreach organization that takes a positive approach to brain injury prevention and healing for those who've experienced a TBI.

"People need to love their brain," says Pearce's brother Adam, the foundation's co-founder. "They need to cultivate a relationship with it. Until you do, you can't really love it and understand how important and fragile it is."

One way they help foster this connection is through yoga. Love Your Brain is preparing to launch yoga classes for TBI survivors in Montreal, Ottawa, and Toronto.

We spoke with Kevin to learn more about his lifestyle has changed since his injury.

Mediaplanet What is one of the biggest challenges of experiencing a TBI?

Kevin Pearce What's most difficult is that it's not one person going through the experience. Everyone the injured person is related to or is friends with is affected. Anytime I had a broken bone, it never affected Adam. He never had to do anything for me. It's a much different result when the brain is injured.

MP How has your passion for snowboarding changed for you since your injury?

KP It's more black and white now. Before it was about doing the biggest and baddest tricks. Now it's simple and straightforward. I'm just able to have fun and enjoy myself and I'm no longer worrying about pushing myself to the next level.

MP Love Your Brain focuses on yoga as an empowerment tool. How did it help you?

KP I did all the standard TBI therapies but none of them were like yoga. When I do yoga, I have more awareness and I focus on one breath at a time. It's incredibly healing. I didn't do yoga before my injury, but I think I was introduced to it at the perfect time.

MP What advice do you have for those recovering and dealing with a brain injury?

KP There are positive ways and negative ways to deal with it. You need to prepare to deal with the fact that a traumatic brain injury brings lifelong change.

Rob Csernyik

