April is Parkinson’s Awareness Month

Parkinson’s...a progressive brain disease affecting over 100,000 Canadians every day of their lives.

Test your Parkinson’s IQ at www.parkinson.ca
Brains Matter
Putting the most vital and least understood organ ahead of the pack.

It’s amazing...the human brain is the most complex phenomenon in the known universe. It is the control centre of the human body. Its tasks range from the mundane chores of keeping us alive and responsive to our ever boisterous heart pumps, lungs breathe, eyes see—to the most defining aspects of the human experience including language, science, artistic expression, love, anger, and compassion.

Joyce Gordon
Facts

- One in three (1.0 million) Canadians will be affected by a brain condition at some point in their lives (neurological or psychiatric).
- There is no known cause or cure for most brain conditions.
- Minor head injuries resulting in concussion can lead to subtle signs of mental and physical problems even 30 years later.
- Wearing a helmet can reduce the risk of serious head injuries by 85 percent.
- About 7.5 litres of blood pumps through your brain every minute.
- You lose 20 percent of your body's energy, but it makes up only 2 percent of your body's weight.
- Your brain generates 2 watts of power while you're awake—enough to illuminate a light bulb.
- In relation to body size, humans have the largest brain of all the animals (about 2 percent of body weight).
- The brain continues to produce new neurons throughout our lives, and it does so in response to stimulation (exercise). This is referred to as brain plasticity
- The human brain is approximately 75 percent water.
- Unconsciousness will occur after 8-10 seconds after loss of blood supply to the brain.
- Your brain is capable of having more ideas than the number of atoms in the known universe!
- Your brain is capable of producing new neurons throughout our lives.
- The human brain is approximately 75 percent water.
- colourful brain FnDeR by the community. MS is unpredictable, affecting vision, hearing, memory, balance and mobility. Its effects are physical, emotional, financial, and last a lifetime. There is no cure.

ADHD/ADD

- ADHD/ADD is highly hereditary, occurring at a level of more than seven on a scale of one to ten, similar to height.
- ADHD/ADD affects 3 to 5 percent of children.
- Canada has one of the highest rates of Multiple Sclerosis in the world.
- Disorders of the brain and nervous system result in more hospitalizations than any other disease group, including heart disease and cancer.
- The mature central nervous system consists of the brain and spinal cord. The brain sends nerve signals to specific parts of the body through peripheral nerves, known as the peripheral nervous system.
- About one-fourth of the human brain is involved in visual processing, more than for any other sensory system.
- There are over 1000 disorders of the brain.
- All human behavior is determined by how well the brain's communication systems work.

Did You Know?

- The weight of an average human brain is about 1300-1400g (about 3 lbs), i.e., almost one bag of sugar.
- It’s smaller than an elephant’s brain (6800g) but bigger than a monkey’s brain (95g). A dog’s brain weighs about 72g and a cat’s brain weighs about 10g.
- Your skin weighs twice as much as your brain!
- The brain represents about 2 percent of your total body weight. It is roughly 140mms wide, 16mm long and about 8mm thick.
- Your brain uses approximately 20 percent of the total oxygen pumping around your body!
- About 750ml of blood pumps through your brain every minute.
- Consciousness will occur after 8-10 seconds after loss of blood supply to the brain.
- Your brain consists of 10 percent white matter and 60 percent gray matter.
- Information travels at different speeds within different types of neurons. Transmission can be as slow as 0.5 meters/sec or as fast as 120 meters/sec.
- Travelling at 120 meters/sec is the same as going 268 miles/hour.
- The human brain is approximately 75 percent water.
- “I had brain surgery 10 years ago so I know some pretty fascinating things about the brain. One of the most fascinating things I learned is that the brain itself is capable of feeling pain. (That doesn’t mean brain surgery doesn’t hurt!)” - Dr. Weiz
- The number of internal thought pathways that your brain is capable of producing in one lifetime is 1.5 million kilometres (or standard typewriter paper).
- Your brain is capable of having more ideas than the number of atoms in the known universe! (That’s more than 1000 billion trillion!) You think you have problems?!
- When you were born, your brain weighed 350-400g and you had almost all the brain cells you will ever have. In fact, your brain was closer to its full adult than any other organ in your body!
- All of your “thinking” is done by electricity and chemicals.

What is MS?

Multiple sclerosis is a complex disease. While it is most often diagnosed in young adults, aged 15 to 40, it also affects children, some as young as two years old. The impact is felt by family, friends and by the community. MS is unpredictable, affecting vision, hearing, memory, balance and mobility. Its effects are physical, emotional, financial, and last a lifetime. There is no cure.

Quick facts

- Canada has one of the highest rates of multiple sclerosis in the world.
- MS is the most common neurological disease affecting young adults in Canada.
- Every day three more people in Canada are diagnosed with MS.
- Women are more than three times as likely to develop MS as men.
- MS can cause loss of balance, impaired speech, extreme fatigue, double vision and paralysis.

The MS Society of Canada

The Multiple Sclerosis Society of Canada is the only national volunteer health agency in Canada that funds MS research, provides services for people with MS and family members and conducts public education programs. Since its founding in 1948, the MS Society has worked to hasten the discovery of the cause, effective treatment and cure for MS. From basic laboratory research to the development of new treatments for people with MS, the MS Society’s research program is making a difference in people’s lives today.

The MS Society also provides services to people who have multiple sclerosis and family members through its seven division offices and more than 120 chapters. MS Society volunteers and staff are actively involved in educating health care professionals about MS and its treatment, in public awareness programs and in government relations and advocacy.

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A fresh pressed, extra virgin approach to fish oil, offering all 16 Omegas as nature intended.

Wholmega™ Wild Salmon Oil
Fresh pressed to retain all of the naturally occurring compounds found in Wild Salmon: 16 Omegas - 3, 5, 6, 7 and 9, plus Vitamins A, D and Super Antioxidants such as Astaxanthin

“Conventional” Fish Oil
High Heat Chemically Processed. With other fish oils, many of the critical nutrients such as Vitamins A, D, and the Omegas are lost in processing.
Food For Thought

Want to eat smart? Consider the range of food and nutrients that may contribute to brain power.

High on the list are foods that are rich in omega 3. There are three types of these fats: ALA found in canola oil, walnuts, flax, and soy; and DHA and EPA found in tuna, salmon, trout, canola oil, walnuts, flax, and soy—enriched products like milk, yogurt and eggs. Studies show that DHA, for instance, is found in eggs, as well as wheat germ. It’s an excellent source of vitamin K, which is found in eggs, as well as wheat germ. Other foods that we typically eat have nutrients to the brain, points out Dr. Greenwood. For example, avocados are loaded with monounsaturated fat, which promotes increased circulation and blood flow, sending more oxygen to the brain. Eggs contain choline, a nutrient that’s seen as essential in the development of brain neurotransmitters. Choline is produced from choline, which is found in eggs, as well as wheat germ. The website livestrong.com notes that four main diet chemicals directly impact mood: serotonin, dopamine, norepinephrine and acetylcholine. Serotonin is released after eating carbohydrates, which can enhance calmness and improve outlook. Be sure to choose complete carbohydrates, such as whole grains, beans and vegetables, rather than the simple carbohydrates in cookies and candy. Dopamine and norepinephrine are released after eating protein—meats, poultry, dairy and legumes. Together, these chemicals can boost energy levels and alertness. And acetylcholine is believed to be linked to learning and memory, and is produced from choline, which is found in eggs, as well as wheat germ.

No magic bullet—no single factor will show intent to get the rattle and actually get it. As DHA is highly concentrated in the brain, it has also been linked to improved problem-solving skills and better attention spans as children develop.

“A cognitive functional category” of food, beverages and supplements has taken off. One estimate is that by 2012, global sales of fish oil will hit $2.5 billion, and sales of Ginko biloba (thought by some to be a concentration and memory enhancer, though studies differ about its effectiveness) will reach $500 million.

There is no magic bullet—no single product that’s the perfect choice to enhance brain power. But the right combination can be beneficial in several ways, comments Dr. Carol Greenwood in an article for Rayvention, a Toronto health sciences centre focused on aging, where she’s senior scientist at the Kunin-Lunenfeld Applied Research Unit.

Take fruits and vegetables. Dr. Greenwood is also a professor in the Department of Nutritional Sciences at the University of Toronto, notes that fruits and veggies are high in anti-oxidants. Eating lots of them helps to rid our bodies of harmful compounds that damage brain cells through an oxidative reaction. Berries, green and red peppers, carrots and broccoli are all good choices.

For the best mental workout, think blue and purple—the Alzheimer Society of Canada notes that fruits and veggies of these higher tendency to be packed with anti-oxidants, such as blackberries, blueberries, purple cabbage and plums.

Other foods that we typically eat have multiple health benefits:
- Omega 3 eggs, you get 75 mg of omega-3 plus 1 mg of lutein per serving.
- Our eggs are a healthy habit to get into.
Parkinson’s Can Feel “Unstoppable”  
100,000 Canadians Live With The Disease

The fight against Parkinson’s disease takes many steps. Just ask Walter Lawlor, 68, of St. John’s, Newfoundland. His walk alternates between shuffling and freezing—“Once you’re standing still, your feet don’t want to move. Walking becomes a deliberate act of trying to move each foot forward,” says Lawlor, a former CBC-TV producer and director.

Lawlor is one of over 100,000 Canadians with Parkinson’s disease. The incidence & prevalence of brain conditions in Canada—the first-ever National Population Study to better serve individuals and families. Register to receive information and updates, or share your story at www.MyBrainMatters.ca or call the NHCC at (416) 227-9700 x3314.

Brains matter.

Millions of Canadians are living with a brain condition today! We need to learn more about this experience to better serve individuals and families. That’s why the NHCC is collaborating with the Public Health Agency of Canada to lead the first-ever National Population Study of Neurological Conditions.

Research teams across Canada are working to build a better understanding of:

- the incidence & prevalence of brain conditions in Canada
- their impact on individuals & families
- risk factors for onset & progression
- co-existing conditions
- best practice health & support services

Register to receive information and regular updates, or share your story at www.MyBrainMatters.ca or call the NHCC at (416) 227-9700 x3314.

Covering Costs

Take Control

How can people with Parkinson’s take control of the disease?

Parkinson Society Canada offers these five tips.

1. Get information from reputable sources.

- Look for sources in your community, start with Parkinson Society Canada, and review them at 1-800-565-3000 or online at www.parkinson.ca.

2. Talk about the diagnosis.

- When you’re ready, share information with family and friends. Be prepared that you may be judging some emotions; anger, denial, frustration, fear, discouragement, and sadness. Your loved ones in a Parkinson’s support group can help.

3. Get the right care.

- Work with health professionals who are knowledgeable about Parkinson’s together. You can develop a care plan that meets your needs.

4. Pace yourself.

- People become tired from the condition itself, sleep disturbances, medication side-effects. Plan activities carefully, give yourself time for them, and balance activity with rest periods.

5. Maintain a healthy lifestyle.

- Good nutrition and exercise (for flexibility, posture, strong muscles, supply joints, and improved circulation) are important. But a healthy lifestyle also means to avoid struggling in the towel, like fatigue, soft speech, depression, difficulty swallowing, cognitive changes, or sexual problems. People can live with Parkinson’s for years, but the disease will worsen over time, notes Parkinson Society Canada (www.parkinson.ca/g72/g90/g3/g91/g79/g80/g90/g3/g74/g72/g85/g187/g91/g72/g77/g77/g76/g74/g91/g3/g84/g76/g21/g21/g21/g52/g96/g3/g72/g91/g91/g80/g91/g92/g75/g76/g3/g3).

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Riding her bike on September 15, 1995, April Ferguson knew her life would soon change dramatically—she just had no way of knowing how much. Ferguson was 25, due to be married in a week. She was heading to a wedding photographer when, right near her Peterborough, Ontario home, she was hit by a 16-year-old driver.

Ferguson was airlifted to a Toronto hospital, suffering from a brain injury. There were doubts she would survive, and she spent 24 days in a coma. When she emerged, she faced many physical challenges, like learning to walk again. Moreover, she had lost a lot of memory from the four years before the crash, with only a blurred collection of her fondest memories. Those four years, and life as she knew it, were now gone.

Eventually, Ferguson and Broughton did marry, and today they live with their two children southwest of Toronto, but Ferguson also lives with the lingering effects of her injury. She never regained the memories of those four years. Almost 15 years after the crash, she still tries to read. She hasn't been able to work regularly and many routine tasks take her longer to perform. “My processing speed is slow,” she says. “Brain injury is guiding.”

Each year, 50,000 Canadians suffer an Acquired Brain Injury (ABI) according to the Ontario Alliance for Action on Brain Injury. ABI is the leading cause of death and disability for Canadians under 35, but these injuries can strike anyone at any age. And the cost—physical, social, and economic—can be enormous.

Visible and invisible impairments

ABI can be divided into two categories. Traumatic injuries result mainly from motor vehicle crashes, falls and assaults. Non-traumatic injuries include damage from oxygen loss (i.e. near-drowning, cardiac arrest, stroke, stranguulation); a lesion from a tumour, cyst, abscess, hematoma; or a lesion caused by a brain injury. Non-traumatic injuries include damage from a brain injury. A lesion from a tumour, cyst, abscess, hematoma; or a lesion caused by a brain injury. Non-traumatic injuries include damage from a brain injury. A lesion from a tumour, cyst, abscess, hematoma; or a lesion caused by a brain injury.

The causes of brain injuries are many, with equally diverse consequences, from mild concussion to severe (deep) coma. While the physical symptoms may be visible and identifiable, other impairments, often invisible, can have an even greater impact:

- Physical altered speech, vision, and hearing; reduced motor skills; balance and coordination; and fatigue.
- Emotions: mood swings; loss of motivation; personality changes.
- Cognition: memory loss; attention deficit; altered perception; confusion; impaired judgment.
- Emotional, behavioral, psychological: depression; mood swings; loss of motivation; personality changes.

Just as no two patients are alike, no brain injuries are alike. “Every survivor is unique,” says Nancy Zarins, executive director of the Brain Injury Association of Canada. “What means that treatment and rehabilitation is also a unique experience. This isn’t like a hip replacement or heart attack, where progress is more predictable. It’s a process of healing, says Zarins. Every case is unique.

The impacts of a brain injury can be temporary, prolonged or permanent—can the type of treatment and support required.

Treatment starts with acute care to stabilize the individual after the injury. Depending on the injury, surgery might be required (e.g. to remove blood clots). Swelling in the brain and a buildup of fluid in the brain would also be monitored and treated. So are other cases.

Once patients are stable, attention can turn to rehabilitation. This is a range of specialists—neurosurgeons, neurologists, physiotherapists, occupational and speech therapists, nurses, and others—help patients to deal with their impairments. For instance, some patients might have to learn new ways to carry out motor tasks; others might have to compensate for memory loss by using a laptop. The potential issues make every case unique. Impairsments last months, years, or a lifetime. What can require community-based rehabilitation (at home or an outpatient facility), and ongoing management of chronic symptoms (from pain to depression).

In Ferguson’s case, she endured the years of intense rehabilitation, at home and in a rehab facility. “It has had to sustain a brain injury, she says. She’s strongly fortunate that she can focus towards an insurance company covered the rehab costs. The Brain Injury Association of Nova Scotia reports that 12 percent of people with brain injuries will never be able to live alone or look after themselves. Fifty percent are under-employed, and 20 percent will never return to work. The remainder face various struggles to cope on a daily basis. With any brain injury, the overall goal, says rehabilitation experts, is to regain as much function, mobility and independence as possible and enhance quality of life.

Many families start the journey to help their loved ones get the tools and resources needed to deal with three frustrating bureaucratic—i.e. third-party payer and the “brutish” world of the insurance industry when they’re the most vulnerable.

The impacts of a brain injury are often unknown at the outset, just at a time when families first have to make decisions, whether from an insurance company or because of their financial situation.

“Reaching a settlement too early or without the necessary information and representation is impa- ratial,” says Fraser. “Once a release is signed, there is no going back. Settlement is permanent, even if circumstances change.”

To assert their rights, lawyers will draw on many experts, from neuropsychologists to vocational consultants to economists. Until the injured individual has reached their maximum recovery—whether complete recovery or medical stability—they say it’s not time to settle, whether with insurance claims or in litigation.

What makes for a successful outcome? For people with brain injuries, the dollar figure is means to an end, says Neinstein—the ability to access the tools and resources needed to provide a lifestyle that makes them, as much as possible, “happy,” he says. “Money,” says Neinstein, “will never compensate a victim for their losses.”

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Neuro… which the network hopes to double in minutes,” says Kelly Duffin, CEO of the Alzheimer Society of British Columbia (FASD), and cerebral palsy (CP).

Brain disorders affect all aspects of life—learning, communication, socialization, motor and coordination, attention span, depression, behavior and the ability to reason, as well as changes in mood, appetite, and sleep. In this disease, cell to cell connections in the brain are lost and brain cells eventually die. It is not a normal part of aging. FASD is one of the second most common forms of dementia. In many people with Alzheimer’s disease also have Vascular Dementia, which is caused by problems in the supply of blood to the brain. Other dementias include Frontotemporal Dementias (including Pick’s Disease), Lewy body Dementia and Creutzfeldt-Jakob Disease.

The NeuroDevNet researchers will explore a few fundamental questions. How do genetic and environmental factors interact to cause brain disorders? How do they affect genes and other biological pathways relevant to developing biologically-based treatments.

For the incidence of autism spectrum disorders is approximately 2.2-5 per 1,000 births, and it is extremely complex. In addition to neuroimaging, they often feature problems like apathy, cognitive impairment, anxiety, social impairment, and communication difficulties. People with CP frequently need access to a range of educational, social, and physical support services.

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What is Dementia?

Dementia refers to a large class of disorders, characterized by the progressive deterioration of thinking ability and memory. Symptoms commonly include loss of short-term and long-term memory, judgment and reasoning, as well as changes in mood, behavior and the ability to communicate.

Alzheimer’s disease, the most common form of dementia (approximately 63 per cent), is a progressive, degenerative and fatal brain disease. In this disease, cell to cell connections in the brain are lost and brain cells eventually die. It is not a normal part of aging. Vascular Dementia is the second most common form of dementia. In many people with Alzheimer’s disease also have Vascular Dementia, which is caused by problems in the supply of blood to the brain. Other dementias include Frontotemporal Dementias (including Pick’s Disease), Lewy body Dementia and Creutzfeldt-Jakob Disease.

Nothing changes, this sharp increase in the number of people living with dementia will mean that by 2038, the total costs associated with dementia will reach $153 billion a year.
fast
FOOD FOR THOUGHT.

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Made with Clover Leaf Spicy Thai Chili Tuna.

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