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Update on our national conference

Addressing the neurological consequences of COVID-19

Meet Jonathan McMurray

Brain Injury Across Canada
New conference date: June 2-4, 2021

Third time's the charm! As we continued to monitor the ongoing COVID-19 situation, it became clear that we were not going to be able to host the conference we wanted to by September. The health and safety of all our attendees and speakers is of the upmost importance. We want to proceed with an event that people can feel secure in booking and attending.

We appreciate your patience as we confirm our speakers, workshops and schedule. We will confirm the conference program as soon as possible.

Visit braininjurycanada.ca/ottawa-conference/ for all conference details and registration information.
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Addressing the Neurological Consequences of COVID-19

The world has been overwhelmed by the onslaught of the COVID-19 virus. What we’re all just beginning to understand is how this virus affects the different parts of our body – including the brain. The medical community has repeatedly reported that the virus crosses the “blood-brain barrier” - a very effective border keeping harmful substances from entering the brain - and thus has an effect on the brain and nervous system that can continue beyond the duration of the illness [1-3]. Long-lasting cognitive issues are a common outcome of a brain and nervous system affected by an illness like the COVID-19 virus. While communities are having varying levels of success in getting ahead of this dangerous virus (as of early April, 2020), there is an equally damaging consequence looming: Front line medical personnel (e.g., medical specialists and neurologists) are reporting brain injury symptoms in up to 45% of COVID-19 patients (1).

This aspect of COVID-19 does not surprise researchers due to evidence that viruses of this kind have been shown to affect the brain, causing negative behavioral and cognitive changes (learning, memory) in people of all ages (7,8,15,16). In fact, it has been suggested that the respiratory symptoms in these disorders, and in particular COVID-19, may not cause the observed brain injury symptoms, but rather the reverse – that is, the respiratory problems may be the result of the brain changes from the virus crossing the blood-brain barrier. There is now undeniable evidence that even “lesser” viruses such as the highly contagious flu virus (influenza virus type A) can result in a compromised brain and nervous system.

Research has demonstrated a specific link between the human coronavirus and neurological disease by showing the virus is capable of crossing into the human brain. The same research team hypothesizes that the human coronavirus may cause neurological diseases such as multiple sclerosis, Alzheimer's disease, Parkinson's disease, and encephalitis (8).

A recent report in the New York Times (April 1, 2020 RC Rabin: Some Coronavirus Patients Show Signs of Brain Ailments) describes an older patient diagnosed as suffering from COVID19 with CT and MRI brain scans indicating swelling, inflammation and brain cell death. The report states, “The pattern of involvement, and the way that it rapidly progressed over days, is consistent with viral inflammation of the brain. This may indicate the virus can invade the brain directly in rare circumstances.”

These U.S. reports make similar observations to those already seen in Italy where the severity of the brain and nervous system effects have led to COVID-19 being described as a microorganism that can cause nervous system disease. Many countries have already begun opening centres designed specifically for the assessment and treatment of the neurological effects of COVID-19. For example, the University of Brescia (Italy) is not alone in opening a NeuroCovid unit due to the dramatic increase in issues with the body’s blood system, like stroke and thrombosis. In China, almost half of the patients with severe respiratory symptoms from COVID-19 also had brain injury symptoms, including stroke and abnormalities associated with consciousness. Overall, between ½ to ⅓ of COVID-19 patients are reported as displaying neurological symptoms.

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The ability of an objective, cognitive assessment to identify what aspects of cognitive function show a deficit and track cognitive function over time makes it possible to verify if and when an individual is back to healthy cognitive performance. This subsequently assists with streamlining treatment and ultimately reduces healthcare resources - enabling the healthcare system to continue their focus on the active symptoms of COVID-19. It is also imperative to note that even with the eventual discovery of an established vaccine, and the world returning to its “normal” routine, there will still be thousands of individuals recovering from the virus who will be seeking cognitive rehabilitation. A cognitive assessment based on neuro-markers will be able to inform rehabilitation specialists with the objective data required to accelerate recoveries so individuals can return to the workforce quicker and contribute to the economy sooner in a time of (likely) economic instability.

Finally, a truly objective cognitive assessment will be a particularly valuable service to assess patients and assist healthcare professionals in the post-COVID period. For the duration of COVID-19’s demands on our healthcare system, many patients who have sustained mild-to-moderate brain injuries will not have been seen as efficiently as usual within our healthcare system. This situation is unavoidable given the impact of COVID-19 on healthcare facilities as well as the justified restrictions on our movements in cities and towns across the country. For this reason there is anticipated to be a surge of patients and clients in need of healthcare providers. Rapid and objective cognitive assessments help to streamline the patient pathway, facilitate the assessment of large numbers of patients and quickly provide valuable information to health professionals as they make their treatment and care decisions.

Information provided by Dr. John F. Connolly, Chief Science Officer of VoxNeuro, Director of ARIEAL Research Centre, and Professor at McMaster University.
Learn more about Cognitive Health Assessments™ at voxneuro.com

For the scientific resources used in this article, visit www.braininjurycanada.ca/newsletter/impact-newsletter-summer-2020
More information, ideas, and activities

Brain Injury Canada has created informative articles and helpful guides containing information about COVID-19, physical distancing, and ways to stay safe and happy while spending more time at home.

Check out our resources
Help came quickly, because as luck would have it there was a trauma hospital near the accident site in Rivière Du Loup. Calls went out to my family around midnight from the hospital. My family was asked to get to Rivière Du Loup as quickly as possible as I lay in a coma (a 6/15 on the Glasgow coma scale). They came from Georgetown, Charlottetown, Prince Edward Island, and Victoria, British Columbia not knowing what to expect or what was to come next. No one knew that I had suffered a traumatic brain injury, they just knew they had to get there as quickly as possible.

I’d had a very hassle-free life up to that point. My parents, two brothers and I lived in Georgetown – a small town less than an hour west of Toronto. I’d had girlfriends, played some basketball and spent most of my free time on my skateboard or listening to music. All of my childhood and 22 years of my life were completely erased after my brain injury. So my life really didn’t change: it ended. Everything was taken from me.

Coming back to earth in 1995, I was a complete alien. I knew no colours or shapes or much of anything really. Music had luckily stayed with me, and that was an enormous help to my rehabilitation. My family and friends of course were always able to fill in the countless gaps of my memory. Also social media was very helpful in putting my life back together. Not completely together because 22 years were missing, but as together as it was going to get. Everyone would always share stories about my youth which for me was a complete mystery: it seemed like make-believe or like someone else’s story. Gradually over time I was able to piece together enough stories of my past to realize that the accident hadn’t changed me really, it had just damaged some of my parts.

Continue on next page
My parents and brothers were always there. I had to re-meet them and have complete trust that they knew what would help me. Never hovering over me, but always there to help me navigate. They would tell me that the raccoon I almost let into our house was not the neighbour’s dog, but a slightly more dangerous animal. Or that shaving cream was not whipped cream and I shouldn’t stick it in my mouth. I was forced to trust that these people that I didn’t recognize (my parents) would look after me. Everything was entirely foreign so I had to hope that this “family” knew what I needed and how I would best get it.

A story that I sort of remember from the early days of my recovery was when I was tasked with picking a cassette tape for the ride to Annapolis Royal. My parents and I entered the store and my mother reminded me that I was allowed to pick out any tape that I wanted. Once we made our way to the tape section of the store I was a fish out of water. There were a lot of different tapes to choose from and I didn’t have a clue what to get. I saw a staff member (which I recognized because of the uniform) and thought she could help me pick out a tape. “Excuse me, which tape should I buy?” I asked.

She looked at me like I was 100% alien, and I guess I was pretty close at that time. “I don’t know, what do you like?”

"I don’t know," I said to her and I was being totally honest. I didn’t know what I liked or what I wanted.

“Well you could get the last Nirvana tape, they won’t be making anymore music now that Kurt Cobain is dead," she told me.

“Kurt Cobain is dead?” This had happened over a year ago but I had no idea, and this was an example of feeling ‘out of it’. This feeling I would learn to accept and live with, but it was one of the hard realities of brain injury. When we got to my grandmother’s house and I told my cousin Duncan that Kurt Cobain had died, he tried really hard not to look at me as though I had three heads.
Duncan and I went through my huge collection of music afterwards and something else shocking happened. For some reason that I couldn’t understand at the time, there were a bunch of hip hop CDs and tapes in my collection. Without thinking twice I took every tape or CD that looked like a “rap” product and put it in a shopping bag to give to my cousin. Hundreds of dollars worth of music was bagged and given away; I was sure that this stuff wasn’t mine. A year or so later I would buy all of these records again but at that point I was totally certain they didn’t belong to me.

My brain injury also came with visual agnosia, which adds another layer of difficulty to my already complicated life. Visual agnosia is when you can see things, but you can’t necessarily figure out what they are just by looking. My wife came in to visit me once at work some years back and I had no idea who she was until she spoke. She had straightened her hair.

Having been through my own traumatic brain injury, I have three suggestions to share from my long, exhausting, frustrating journey – and that of my family.

Read Jonathan's suggestions at www.braininjurycanada.ca/stories/jonathan-mcmurray/
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- Association des neurotraumatisés – Outaouais
- Association des TCC des deux rives
- Association Renaissance des personnes traumatisées crâniennes du Saguenay/Lac-Saint-Jean

Saskatchewan

- Saskatchewan Brain Injury Association
- Lloydminster and Area Brain Injury Society

Download our brochure Acquired Brain Injury: The Basics

Visit www.braininjurycanada.ca/acquired-brain-injury to download our new brochure. Please distribute to your clients/patients and networks.

Version française à venir
June was Brain Injury Awareness Month. Our goal this year was to bring more awareness to the prevalence of brain injury in Canada and the fact that it can happen to anyone, anywhere, anytime. We shared stories, video interviews, and information about brain injury using the hashtag #BrainInjuryAcrossCanada.

But just because June is over doesn’t mean our mission stops. Brain injury is lifelong, and more attention needs to be paid year round. Check out some of our video interviews and brain injury resources.

Brain Injury Across Canada video interviews, featuring Olympic athletes Cassie Campbell-Pascall & Kerrin Lee-Gartner and musician KellyLee Evans


Performing artist Kiesza (left) and jazz musician Kellylee Evans.

Stay tuned: new website launching this fall

We’re extremely excited to announce that the new Brain Injury Canada resource website will be launching in Fall 2020. This website will be a comprehensive catalogue of information about brain injury for survivors, caregivers/families, and healthcare providers.
Have questions or ideas? Send them to us at info@braininjurycanada.ca

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