

# Living Well with AIMGA

VOL. 6 - ALL ABOUT NEURONS

Compiled by AIMGA's Health and Wellness Team

**HEALTHHUB FOR  
NEWCOMERS**



**Health Matters! Wellness Matters! Diversity Matters!**

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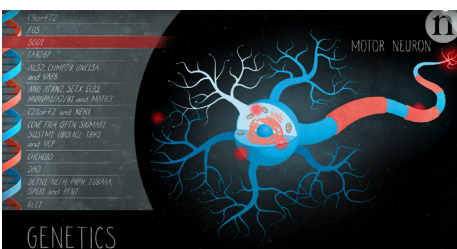
# JUNE: All About Neurons



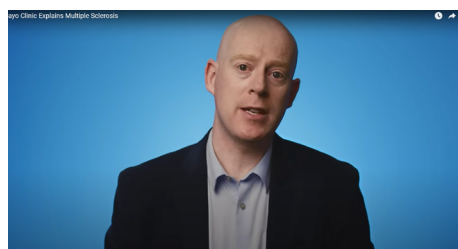
Neurons, also called nerve cells, are foundational units of the brain and nervous system that are responsible for receiving sensory information from the outside world, sending motor signals and commands to our muscles, and constantly transforming and sending electrical signals. We have over 86 billion neurons in our brains! In this newsletter, we will discuss neurons on a deeper level, including their connectivity to the body and brain, neurodegenerative/motor neuron diseases, and other neurological conditions. Some of the topics that will be touched on include Amyotrophic lateral sclerosis (ALS), Multiple sclerosis (MS), Epilepsy, and Guillain-Barré syndrome (GBS). This month marks both Brain Injury Awareness Month and ALS Awareness Month, which the Health and Wellness Team aims to highlight through the content in this newsletter. The Health and Wellness Team encourages you to continue “Living well with AIMGA” and educate yourself on the wonders of your nerves, brain, and spinal cord!

**Sources:** [Queensland Brain Institute](#); [National Institute of Neurological Disorders and Stroke, 2023](#); [Herculano-Houzel, 2012](#); [Azevedo, et al., 2009](#)

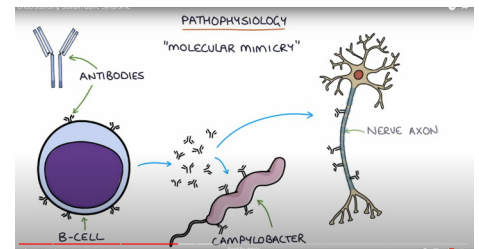
## VIDEOS TO GET YOU STARTED



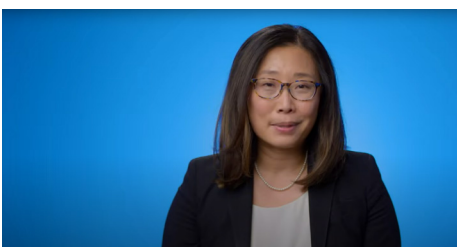
[Inside ALS: The neurons behind the disease](#)



[MAYO Clinic Explains Multiple Sclerosis](#)



[Understanding Guillain-Barré Syndrome](#)



[MAYO Clinic Explains Epilepsy](#)



[Brain concussion - Shake it and you break it](#)



[The Difference Between Alzheimer's Disease and Dementia?](#)

# HOT TOPIC:

## Neurodegenerative Disorders:

### All About ALS



Amyotrophic lateral sclerosis (ALS), also known as Lou Gehrig's disease, is a rare and progressive neurodegenerative disorder that affects the nerve cells responsible for controlling voluntary muscle movement. It sneaks up on its victims, gradually robbing them of their mobility, independence, and ultimately, their lives. Despite its rarity, it's a disease that has touched the lives of many, be it the legendary baseball player Lou Gehrig or the physicist Stephen Hawking.

This neurodegenerative disorder affects the nerve cells responsible for controlling voluntary muscle movement. Its cause is still unknown, but scientists believe that a combination of genetic and environmental factors may contribute to its development. In about 5 to 10% of cases, ALS is inherited through a genetic mutation, while the remaining cases occur sporadically. ALS affects approximately 2 in 100,000 people worldwide, with the highest incidence rates occurring in individuals aged 55 to 75 years.

As the disease progresses, individuals with ALS experience muscle weakness, twitching, and cramping, which gradually worsen, leading to muscle wasting and paralysis. Simple tasks like speaking, swallowing, and breathing become Herculean feats, causing immense physical and emotional strain for both the individuals and their families.

Sadly, there is no cure for ALS, but treatment options aim to improve quality of life by managing symptoms. Medications can help with muscle cramps and spasms, while respiratory support can aid breathing. Physical therapy is essential to maintaining mobility and range of motion, ensuring that individuals with ALS maintain their independence for as long as possible.

The prognosis for ALS is generally poor, with most individuals surviving for only 3 to 5 years after diagnosis. Through ongoing research and advances in treatment options, we're inching closer to a cure. There have been cases of individuals who have lived with ALS for over a decade, highlighting the importance of early diagnosis and proactive management of symptoms.

To conclude, ALS is a formidable foe, but it's not one that we're willing to give up on. Until we find a cure, we'll continue to brace those affected by ALS and their families, offering hope, comfort, and unwavering support.

**Sources:** [National Institute of Neurological Disorders and Stroke](#); [Mayo Clinic, 2023](#)

## RED FLAGS



- 1 Early signs of ALS** include: tripping, dropping things, slurred or “thick” speech, difficulty swallowing, weight loss, loss of muscle tone, shortness of breath, decreased or increased reflexes, uncontrollable laughter or crying periods
- 2 Early signs of GBS** include: a history of infections, ascending weakness starting from lower limbs, loss of deep tendon reflexes
- 3** If you have a **suspected head injury or concussion**, please monitor carefully, as brain injuries are very serious. Call 911 or have someone take you to emerge if you are drowsy, confused, restless or agitated, have blood or fluid coming from ears, nose, or bruising around the eyes or ears, blurry/double vision, slurred speech, sudden weakness on one side of body, vomiting, or seizure activity.
- 4** If someone near you is **having a seizure:**
  - 1) Stay Calm** (most often, a seizure will run its course and end naturally within a few

**Sources:** [ALS Canada](#); [Merck Manuals, 2022](#); [CMAJ, 2021](#); [Government of Alberta, 2023](#); [Canadian Epilepsy Alliance, 2023](#); [Canadian League Against Epilepsy](#)

minutes), **2) Time It** (call 911 if: the seizure lasts more than 5 minutes, the person is pregnant or has diabetes, is injured or in danger from the seizure (e.g., occurs in water), **3) Assess Surroundings and Protect from Injury** (check to see if they are wearing a medical bracelet; move sharp objects away; if they fall to the ground, roll them on their side when safe to do so; place something soft under their head; if they wander during the seizure, stay by their side and steer them away from danger), and **4) Provide Reassurance and Support** when the seizure ends, as they will often be confused afterward.

- 5** According to CMA and CCMTA guidelines, a driver with newly diagnosed epilepsy is allowed to drive a car after being seizure free for at least 6 months (rules differ for commercial drivers). You can discuss driving restrictions with your doctor if applicable.

## DID YOU KNOW?

- Did you know that a person is diagnosed with **Epilepsy** when they have had **two or more seizures** ([Nationwide Children’s Hospital](#)). Check out this [video](#) to learn more about this disorder. Epilepsy is quite common, with an estimated 1 in 26 people developing the disorder ([The Mayo Clinic](#)).
- Did you know that while most people fully recover after GBS, some people continue to have symptoms such as muscle weakness, difficulty walking or numbness and tingling.

The symptoms of GBS may vary considerably and could last anywhere from weeks to years. Most patients do very well and recover within several months, but a few may need a walker or wheelchair ([Cleveland Clinic](#)).

- Did you know that more men get ALS than women? ALS occurs 1.57 times more in men than women, though this difference largely disappears when the disease occurs over the age of 70 ([ALS Treatment](#)).





## HEALTH REMINDERS!

- **June is “Stroke Awareness Month”.** New data shows that stroke in Canada continues to rise. According to data more than 89,000 strokes occur each year due to the aging population. For this reason, let's make Healthy lifestyle choices such as: a balanced diet, more exercise at moderate-intensity, avoiding smoking and alcohol consumption, and healthy stress management. Since 2014, The [Heart and Stroke Foundation of Canada](#) recommends the use of “FAST”: Face – is it drooping? Arm – can you raise both? Speech – is it slurred or jumbled? Time – to call 9-11 right away.
- **June 21st is “World Migraine Awareness Day”.** Migraine is a common health condition, affecting around 1 in every 5 women and around 1 in every 15 men. These neurological events cause a variety of symptoms, including a throbbing/pulsing headache on one side of the head. There are things you can do to avoid “triggering” a migraine, including reducing stress, eating regular meals, drinking lots of water, avoiding alcohol consumption, getting a healthy sleep, and avoiding extremes of heat or cold weather, loud noises, bright lights, and strong smells. These things can stabilize the brain and make it more resistant to attack ([Migraine Canada](#)).
- It is dangerous to stop medications or change doses on one's own without medical advice, especially when it comes to **anti-seizure medications**. These work best when they are taken at regular intervals and without any missed doses. If you have seizures that change your awareness, consciousness, or muscle control, you may not have the legal right to drive. You may have to be seizure-free for at least 6 months to 1 year before you can get a [driver's license](#). You can talk to your doctor about this, if applicable, as laws vary from province to province.
- Brain injury can be caused by many things, such as a fall, contact with an object or with a person, motor vehicle accident, etc. Let's recap some **tips to prevent a concussion**: ensure floors and steps are clear of objects; improve lighting so that all areas of your home are well lit; provide opportunities for healthy habits and exercise; wear a helmet when biking, skateboarding, skiing, snowboarding, or participating in any sport or activity where one is at risk of damaging their brain; ensure your gear is up to safety standards; stay away from reckless play or activities; ensure your child has a proper car seat or seat belt being used; only drive when focused and alert; always wear a seatbelt in your vehicle.

## NEUROLOGICAL CONDITIONS

CLICK ON THE ICONS BELOW TO LEARN MORE!



**Multiple sclerosis** is a chronic disease of the central nervous system that attacks nerve cells in the brain and spinal cord.



**Guillain-Barré syndrome (GBS)** is a rare disorder where the body's immune system damages nerves and attacks part of the peripheral nervous system.



**Epilepsy** is a disorder of the brain characterized by repeated seizures.



**A Stroke**, sometimes called a brain attack, occurs when something blocks blood supply to part of the brain or when a blood vessel in the brain bursts.

# MYTH OR FACT?

Sources: [ALS Association](#); [Memorial Hermann Organization](#); [Cleveland Clinic, 2019](#);

Click on each myth bubble to find out true, evidence-based information.

Amyotrophic lateral sclerosis (ALS) is strictly hereditary and only appears later in age.

People with epilepsy will pass it on to their kids.

Strokes randomly occur and cannot be prevented.

ALS does not affect brain function or bodily sensations.

If you hit your head today but don't have symptoms until tomorrow, it's not a concussion.

## COMMUNITY RESOURCES & ORGANIZATIONS



- [ALS Association](#)
- [ALS Canada](#)
- [Amyotrophic Lateral Sclerosis \(ALS\) Society of Alberta](#)
- [John Hopkins ALS Clinic](#)
- [Alzheimer Society](#)
- [The Edmonton Epilepsy Association](#)
- [Epilepsy Association of Calgary](#)
- [Alberta Children's Epilepsy Program](#)
- [Canadian Epilepsy Alliance](#)
- [WHO - Epilepsy](#)
- [Epilepsy Myths Debunked](#)
- [Brain Injury Canada](#)
- [Parkinson Association of Alberta](#)
- [Alzheimer Society: Parkinson's Disease](#)
- [Alzheimer Society: Traumatic Brain Injury](#)
- [GBS Foundation](#)



# IMG SPOTLIGHT



**Michael Youssef**

**Michael Youssef** is an internationally trained physician from Egypt who is passionate about medicine and surgery. Michael's most concrete strength is that he is willing to go above and beyond in all aspects of his professional life. He obtained his bachelor's degree in medicine and surgery from Alexandria University, Egypt. He practiced as a General Practitioner after which he obtained a master's degree in surgery/Neurosurgery before moving to Canada in 2018. Michael comes with 12+ years of experience in Neurosurgery/Spine and General medicine.

Michael has published an article in neurosurgery at National Journal of Health Sciences, 2017, 2, 52-56 under the title: Comparative Study of Outcome of Simple Decompression Versus Anterior Transposition of Ulnar Nerve in the Treatment of Cubital Tunnel Syndrome.

His decision to pursue family medicine was solidified after he had the opportunity to engage in the COVID Health & Wellness team with AIMGA. He was touched by the suffering of the people and the stress they experienced. Through AIMGA, he has helped to educate members of newcomer communities to explain the outbreak, the mental health changes and how to deal with it. During this time, he learned about the Canadian Health System and the significant role the family physician has in the community. He participated and led the team in several projects like podcasts and the screening for life project voice over in various languages with AHS and as a contact tracer.

Currently, Michael is navigating the PRA route as a family physician, and he is also a current community scholar with O'Brien Institute for Public Health at the University of Calgary in several ongoing research projects. He previously worked with AHS as a Clinical Surgical Assistant.

### **Skills gained from AIMGA:**

*AIMGA is my second home, my portal to the new world (Canada) through which I gained a lot of experience, and I modified my skills to bridge the cultural difference. I learned my goals are:*

**A:** Achievable

**I:** investable

**M:** Manageable

**G:** Gorgeous

**A:** Are not dreams

*This is AIMGA for me. So, you need to believe in your goals, and nothing is impossible.*

### **Biggest Lesson Learned & Advice for Other IMGs**

*"Always remember that each milestone you achieve is a success, and success is the starting point of the race whose end is not yet written."*



**Canada recognizes June as Brain Injury Awareness Month**, whereby each year different organizations work to advocate and raise awareness about the prevalence of brain injury, the challenges that those with brain injuries and their caregivers face, and the need for more supports and services in terms of management and recovery. This month, join AIMGA in doing your part by learning more about brain injuries.

#### Key Facts:

- 1 A **Concussion**, otherwise known as mild Traumatic Brain Injury, is a form of injury that happens when the brain is shaken within the skull; despite the “mild” in the name, these can be quite serious. Concussions often result from falls, road accidents, physical assaults, or even from shaking a baby vigorously. It does not typically result in a structural brain injury that can be recognized in diagnostic imaging such as a CT or MRI scan.
- 2 There are about 200,000 concussions annually in Canada
- 3 Traumatic brain injury is the **leading cause** of paediatric trauma death and disability worldwide, with concussions comprising 80% to 90% of all TBIs.
- 4 Check out [Brain Injury Canada](#) to read up on the signs and symptoms of a concussion. The most common ones include: headache or head pressure, nausea or vomiting, off balance or dizziness, double or blurry vision, light or noise sensitivity, feeling foggy, groggy, sluggish, or confusion / concentration / memory problems. You should see a doctor right away if you or someone you know is experiencing any of these more [urgent symptoms](#).

**Videos:** [Acquired Brain Injury](#); [Concussion Awareness for Ages 10 and Under](#)

**Sources:** [Brain Injury Canada](#); [Canadian Paediatric Society](#)



# MEN'S HEALTH MONTH



AIMGA is taking the opportunity to promote Men's Health Month through education and awareness. Men biologically face different risk factors and health issues in comparison to others. The probability of developing cancer is slightly higher in males (44%) versus females (43%), with the top causes of cancer deaths in men being lung cancer, colorectal cancer, and prostate cancer.

Lung cancer symptoms include frequent coughing, chest pain, shortness of breath, wheezing, coughing up blood, and fatigue. To reduce your risk of developing lung cancer, avoid smoking, as this is a main contributing factor. Additionally, be careful in the workplace, as health and safety guidelines are supposed to help workers avoid carcinogens.

To minimize your risk of colorectal cancer, regular FOBT tests may be suggested by your doctor. However, there are also lifestyle changes you can make to protect yourself. Increase your intake of fresh fruits and vegetables (high in folate), lower the amount of red meat that you consume, reduce alcohol consumption, exercise regularly (even a long walk three or more times a week), and try to reach/maintain a healthy weight.

Prostate cancer is the most common cancer in Canadian men, accounting for one-fifth (20%) of all new cancer cases in men. Signs of prostate cancer include frequent urination, interrupted urine stream, lack of bladder control, burning or painful urination, and pain or stiffness in the back, hips or pelvis. If you are experiencing symptoms or are concerned, talk to your doctor about getting a Prostate-specific antigen (PSA) test; this is a blood test that measures a substance, PSA, made by the prostate. Additionally, transrectal ultrasounds (TRUS) and Digital rectal exams (DREs) are also used to create images of the prostate and are useful for catching areas of concern and or cancer early on.

If you have family history of these types of cancers, discuss your risk with your physician so that you can take the necessary preventative measures to prevent disease.

**Overall, diet, physical activity, and avoiding smoking and excessive alcohol consumption are key areas that you can work on to protect your health as a male.**

**Sources:** [Canadian Cancer Society, 2022](#); [Men's Health Month, 2023](#); [Canadian Cancer Society](#); [WHO Men's Health](#);

**A special thanks goes out to the following: Aisha Ashraf, Nadia Arshad, Naima Sultana, Nishat Mehdi, Arlenys Rivera, Eiman Elhadi, Mobolaji Adekola, and Michael Youssef for their additional contributions.**

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