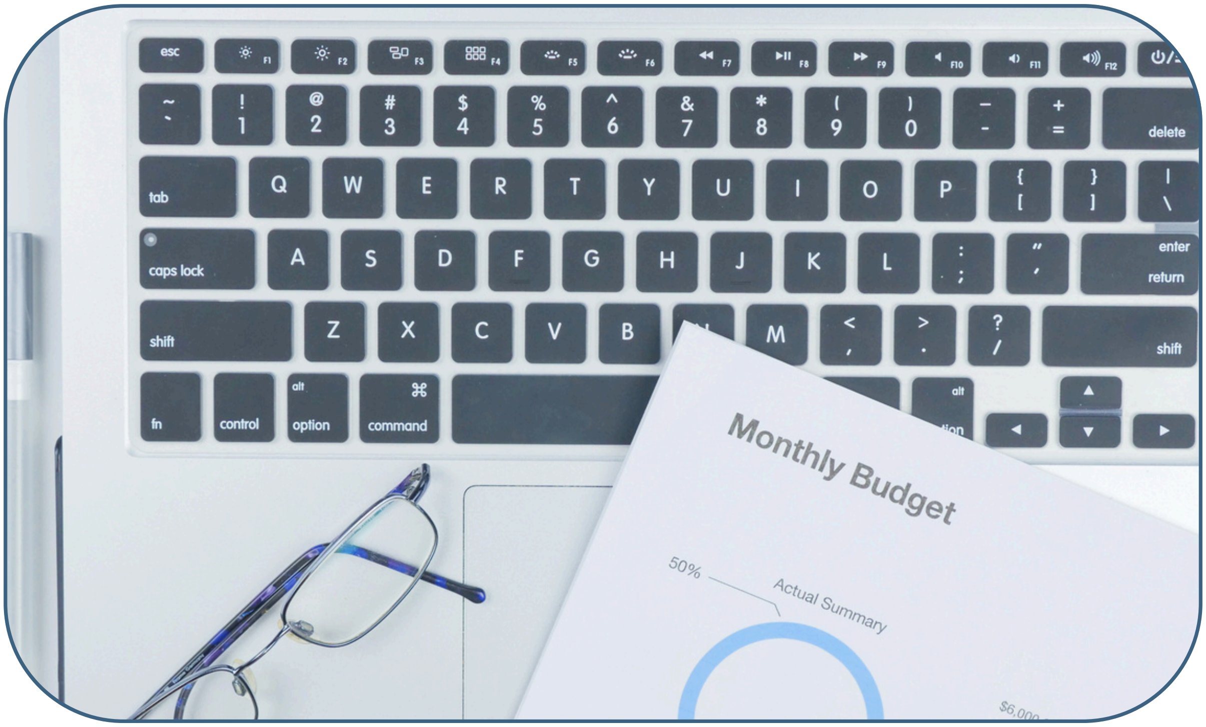
MIGRAINE REPORT CARD

Access to Care and Treatment for Migraine in Canada

2023

Migraine™
Canada



EXECUTIVE SUMMARY

Although migraine is a common medical condition with a number of effective treatments, people living with migraine face many barriers to receiving adequate care.

Studies have shown that 14% of the population—over 5 million Canadians—live with migraine.(1) Despite its prevalence, migraine is underdiagnosed, with estimates reporting that only 40% of those living with migraine receive an accurate diagnosis. This is particularly concerning as underdiagnosis and delayed diagnosis leads to undue disability and inadequate access to appropriate medications, treatments, and care for those living with migraine.

This report card analyzes the ability of migraine patients in Canada to access care and treatment, presents the barriers that exist, and recommends actions that must be taken to ensure those with migraine achieve the high quality of life all Canadians deserve. See *Appendix A* for a quick reference to the facts about migraine.

EXECUTIVE SUMMARY

MISPERCEPTIONS AND LACK OF MEDICAL TRAINING

There is a stigma associated with migraine. This stigma is well documented and is explained in part by the lack of a biomarker for diagnosis, the invisibility of symptoms, a gender bias, and the fact that it is a paroxysmal pain condition and is associated with other stigmatized diseases such as psychiatric disorders. The result is that migraine patients are left managing an invisible illness without the recognition of or support for its debilitating effects.

A gap of healthcare education, and specifically, the lack of training provided to physicians on headache and migraine, is at the root of the problem.

In medical school, headache is underrepresented in training curricula compared to other chronic illnesses. There is no data to quantify exactly the number of hours spent on headache in medical school, but the word among physicians is that it is not more than a few hours, which is insufficient. The result is that many primary care providers are ill equipped to diagnose and treat it, which leads to under-prescription of appropriate medications. Patients with migraine may be referred to neurologists before basic treatment options have been tried, resulting in long wait times to see neurologists. On the other hand, referral to Neurology may be delayed or even denied due to an underestimation of the migraine burden and lack of knowledge about treatment options.

At the specialty level, the education gap is also present. Neurology residents are less exposed to headache medicine than other Neurology subspecialties like vascular neurology, multiple sclerosis, movement disorders, or epilepsy. Most Neurology programs in Canada do not offer a Headache elective, and very few make it mandatory. General neurologists may have received very limited training to manage primary headache disorders outside of the Emergency setting.

Patients living with complex and refractory headache situations need subspecialized care. Unfortunately, the number of headache specialists in Canada is insufficient, another direct consequence of the limited presence of Headache medicine in Neurology departments. Waiting lists to see a headache specialist can be longer than 12-18 months, even 2-4 years in some provinces.

CONSEQUENCES OF DELAYED MEDICAL TREATMENT: CHRONIFICATION AND INCREASED BURDEN

The lack of early intervention increases the likelihood of deterioration toward more frequent or chronic migraine, while pain and suffering compound. Patients frequently refer to themselves as a burden on their families as they lose time to migraine, miss out on social activities, playtime with children, and other important life events.

> *"We know from the Migraine Canada survey that quite a few of people with migraine are diagnosed when they're children. So early intervention with basics could really make a big difference. [...] That's a lot of pain and suffering that could be prevented [...] Can you imagine if you had someone with diabetes and you left them untreated for 15 years? I mean, that would not be acceptable..."* ***(Neurologist)***

Many patients report an impact on their career, whether through missed workdays or the need to seek employment that accommodates their invisible disability. According to the 2016 and 2019 Global Burden of Disease studies, migraine is the second cause of years lived with disability in the world, and the first in people under fifty years old.(2,3,4) For many with migraine, the costs related to migraine (both direct costs and indirect costs) can be between $15,000 and $25,000 per person.(5) Given the high prevalence of migraine in the Canadian population, it has to be concluded that migraine costs the Canadian economy many billions of dollars each year.

EXECUTIVE SUMMARY

LIMITED COVERAGE OF TREATMENTS

When patients do gain access to a healthcare provider who supports them in finding effective treatment, new barriers emerge. There is limited public coverage for newer medications, and private insurers are increasingly restrictive in what they will cover. Often patients must delay receiving proper treatment and provide proof they have tried and failed less expensive older treatments that are less effective and have more side effects than newer treatment options. This prolongs suffering and increases migraine-related disability in Canada.

This report provides a detailed analysis of the issues faced by migraine patients in Canada. It sets the stage for coordinating a strategy that involves government, health professionals, and patients in improving migraine care in Canada. The following recommendations are provided based on this analysis and will be championed by Migraine Canada in its advocacy efforts to improve the lives of Canadians with migraine and other headache disorders.

EXECUTIVE SUMMARY

RECOMMENDATIONS FOR ALL PROVINCES

Improve Knowledge

1. Improve the education of health professionals including Primary Care Providers, allied health care providers and specialists, starting at an early stage of training.
2. Encourage the Royal College of Physicians and Surgeons of Canada to specifically recommend dedicated training in headache medicine for neurology trainees and encourage every Neurology division to offer academic positions for headache medicine.
3. Undertake public awareness campaigns to reduce stigma and increase the knowledge of the general public about migraine.
4. Increase recognition that migraine can cause significant disability and that those with migraine may need appropriate accommodation in the workplace.

Improve Management

1. Promote early migraine diagnosis.
2. Adopt a chronic disease management model, including therapeutic education and behavioural approaches, patient empowerment and shared decision making.
3. Optimize the use of acute migraine therapies and prevent medication overuse through better patient education and long-term follow up.
4. Optimize the use of migraine preventive therapies.

EXECUTIVE SUMMARY

Improve Access to Treatment

1 Ensure equitable access to treatment and medication irrespective of where you live.

2 Improve insurance coverage—both public and private—and criteria so that patients can access new and better migraine medications as they are developed.

3 Remove restrictions that limit access to just six doses per month of Triptans.

4 Ensure devices and injections are included as part of treatment options and coverage in drug plans.

5 Consider combination therapy where two or more effective treatments are combined for inclusion in drug plans.

6 Implement a nation-wide model of care with well-defined roles at all levels of care in an interdisciplinary vision.

7 Implement specialized multidisciplinary clinics for refractory patients with access to multidisciplinary teams and advanced procedural care including injection therapies and nerve blocks.

8 Support investment in migraine research to provide better treatment options in the future.

In summary, migraine diagnosis and treatment need to be improved across Canada. Doing so will improve the quality of life for millions of Canadians with migraine and reduce the profound negative impact that migraine-related disability currently has on Canada's economy.

EXECUTIVE SUMMARY

ABOUT THE REPORT CARD

This report card was developed by Migraine Canada to give voice to the rising concerns that millions of Canadians who live with migraine and related headache disorders have about the unacceptably low availability of migraine care and treatment that they receive through the publicly funded health system.

The content of this Report Card has been reviewed for accuracy by an expert panel of neurologists and migraine specialists. It includes a compilation of research and data from published literature on migraine, interviews with Canadian expert physicians and patient advocates, and a review of the provincial and national formularies.

EXECUTIVE SUMMARY

II. OVERVIEW OF MIGRAINE

III. THE REALITIES OF MIGRAINE TREATMENT

OVERVIEW OF MIGRAINE

DEFINITION AND DIAGNOSIS

The diagnostic criteria for migraine are defined in the International Classification of Headache Disorders, 3d edition (ichd-3.org). There is no blood or imaging test that doctors can use to diagnose migraine, and the physical examination in the doctor's office is usually normal. The diagnosis is made based upon the patient's symptoms and the exclusion of other causes. The International Headache Society has produced criteria for the diagnosis of migraine.(6)

Migraine Canada has also published a language guide to clarify the terms used in practice:

https://migrainecanada.org/advocacy/canadian-migraine-disease-language-guide/

OVERVIEW OF MIGRAINE

DEFINITION AND DIAGNOSIS (CONTINUED)

Table 1: Diagnostic criteria for migraine without aura from the ICHD-3

Recurrent headache disorder manifesting in attacks lasting 4-72 hours. Typical characteristics of the headache are unilateral location, pulsating quality, moderate or severe intensity, aggravation by routine physical activity and association with nausea and/or photophobia and phonophobia.

Diagnostic Criteria:	
A	**At least five attacks fulfilling criteria B-D**
B	**Headache attacks lasting 4-72 hr (untreated or unsuccessfully treated)**
C	**Headache has at least two of the following four characteristics:** 1. unilateral location 2. pulsating quality 3. moderate or severe pain intensity 4. aggravation by or causing avoidance of routine physical activity (e.g., walking or climbing stairs)
D	**During headache at least one of the following:** 1. nausea and/or vomiting 2. photophobia and phonophobia
E	**Not better accounted for by another ICHD-3 diagnosis.**

DEFINITION AND DIAGNOSIS (CONTINUED)

Research shows that if a person seeks medical advice for recurrent headaches, the diagnosis is usually migraine, because it is both prevalent and disabling. Nevertheless, migraine is under-diagnosed, as those with migraine do not always receive a diagnosis of migraine. For example, diagnoses like "sinus headaches", "neck headaches" and "tension headaches" are often erroneously made. To assist with migraine diagnosis, a screener has been developed. If people with headache answer "yes" to two of the three questions in Table 2, and have a normal neurological physical examination, the chances are very high that they have migraine.(7)

Table 2: The Migraine Screener

During the last three months, did you have any of the following with your headaches?
Are you nauseated or sick to your stomach when you have a headache?
Does light bother you when you have a headache?
Has headache limited your activities for a day or more in the last 3 months?

A positive response on 2 of 3 questions yields a positive predivtive value of 93%

Migraine is a neurological condition that leads to recurrent attacks of head pain and accompanying symptoms including sensory hypersensitivity and gastro-intestinal disturbances. Migraine is differentiated from tension type headache ("normal headaches") by these accompanying symptoms and a larger impact on the ability to function.

DEFINITION AND DIAGNOSIS (CONTINUED)

About 30% of those with migraine experience an aura, which often comes before the headache starts and last about 20-30 minutes, sometimes up to an hour. These may occur with only some of their migraine attacks or may occur with every attack. The aura symptoms are due to malfunctioning of specific parts of the brain.The most common aura symptoms are visual, but auras may also include difficulty speaking, and numbness and tingling, usually on only one side of the body.

Auras may also include motor symptoms. Hemiplegic migraine is very rare but leads to episodes of paralysis of one side of the body for many hours. Gene mutations that cause hemiplegic migraine have been discovered.

Apart from the symptoms used to diagnose migraine in the International Classification of Headache Disorders, many other symptoms are reported by patients including smell sensitivity (osmophobia), neck pain, sinus pain, hypersensitivity to touch (allodynia), dizziness, difficulty to focus cognitively, irritability and sleep difficulties. Symptoms often start before the pain phase or before the aura if one is present (prodrome) and persist for a time after the pain phase (postdrome).

Migraine is common, and although the frequency of the migraine attacks can vary greatly from person to person, even people with lower frequency are impacted by their attacks.

OVERVIEW OF MIGRAINE

DEFINITION AND DIAGNOSIS (CONTINUED)

Chronic Migraine

When migraine attacks become very frequent, whether patients have an aura or not, the diagnosis is changed to chronic migraine. Patients with chronic migraine have headache on at least 15 days per month, and at least eight of these headache days have migraine attacks with the usual migraine symptoms (see Table 1). Chronic migraine can be considered the more severe end of the migraine disease spectrum and causes substantial disability. Many with chronic migraine have headache every day.

OVERVIEW OF MIGRAINE

THE CAUSE OF MIGRAINE

Migraine results from an altered brain physiology and chemistry, and the ultimate cause of migraine is genetic. Twin studies have confirmed that there is an important genetic component in migraine causation, but it is only one of the factors that determine how migraine will affect any given individual. Genetic factors account for about 50% of the risk that an individual will develop migraine attacks.(8) However, many factors over a person's lifetime affect how frequent the migraine attacks will be.

Changes in many different genes seem able to increase the tendency to have migraine attacks. Because different individuals with migraine have different combinations of the genetic changes that produce the migraine tendency, the manifestations of migraine can vary greatly from one person to another, as can their response to medications and other treatments for migraine.

Patients with migraine are often told that "it's all in their head" since imaging is usually normal. This is a harmful concept, as it suggests that psychological factors are causing the migraine symptoms and reinforces the stigma. It is essential for stakeholders to understand that migraine is a neurological disease, and that research has made significant progress in understanding its causes over the last few decades.

THE CAUSE OF MIGRAINE (CONTINUED)

ELEMENTS OF MIGRAINE PATHOPHYSIOLOGY DEMONSTRATED IN RESEARCH:

Disorder of sensory filters: the brains of those with migraine tend to be more sensitive (hyperexcitability and lack of sensory inhibition) than is the case in those without migraine, and migraine has been described as an abnormality in the way the brain responds to sensory stimuli.(9) Sensory hypersensitivity to different stimuli is part of the migraine attack, but some degree of hypersensitivity may persist in between attacks.

Abnormal metabolism of serotonin: the blood serotonin of patients with migraine is lower than normal between attacks and rises during attacks

Activation of brain zones during attacks: numerous studies have shown increased nerve cell activity in several parts of the brain during migraine attacks, including the hypothalamus, the trigeminal nucleus and the dorsal pons.(9)

Triggers related to oxidative stress and energy metabolism: many known triggers of migraine attacks are related to oxidative stress, or increased energy demands on the brain system. Triggers are known to be additive and the migraine attack is thought to occur when a certain threshold is reached.

Cortical spreading depression: the aura is thought to be caused by a wave of intense nerve cell activity spreading over the cortex (the surface of the brain). This is well demonstrated in animal studies.

Sensitization, peripheral and central: after repeated activation, for example by many migraine attacks, the pain neurons and brain networks can become sensitized and start reacting to smaller stimuli than normal. This phenomenon is seen in migraine and in other chronic pain disorders.

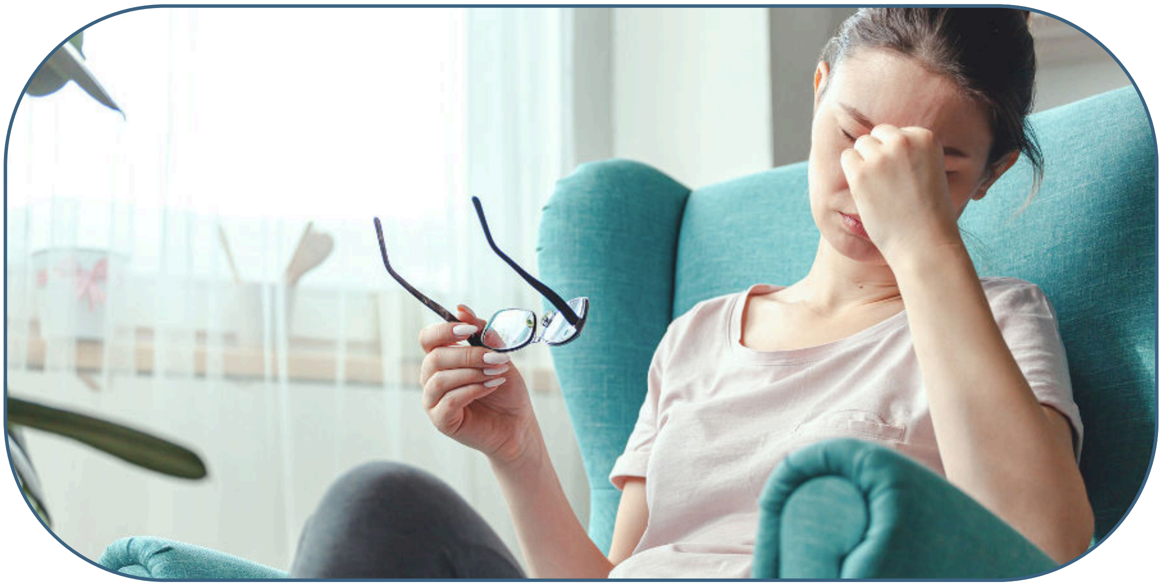
Neurogenic inflammation and peptides: the pain from migraine is now thought to originate from the nerves in the meninges and arteries inside the skull when they are stimulated by inflammatory peptides released during the attack.The pain is felt in areas such as forehead, temples, and eyes, but also the neck, sinuses, and jaw.

OVERVIEW OF MIGRAINE

EPIDEMIOLOGY OF MIGRAINE

Migraine is very common. A Canadian study found that 15.2% of females and 6.1% of males in Canada had been diagnosed with migraine by health professionals.(10) This is likely an underestimate of how many Canadians have migraine, as often those with migraine do not seek the advice of health professionals, and when they do, they may not be diagnosed. Another Canadian study which diagnosed migraine based on a questionnaire found that 21.9% of women and 7.4% of men had experienced migraine attacks in the previous year. For women aged 35 to 50 almost 30% were having migraine attacks.(1)

In women, migraine attacks often start at menarche, and frequently improve after menopause, although some women and men continue to have migraine attacks into advanced old age. Migraine attacks show a relationship with hormonal factors in many women, with the most severe attacks occurring pre-menstrually, and migraine often improves during pregnancy.



EPIDEMIOLOGY OF MIGRAINE (CONTINUED)

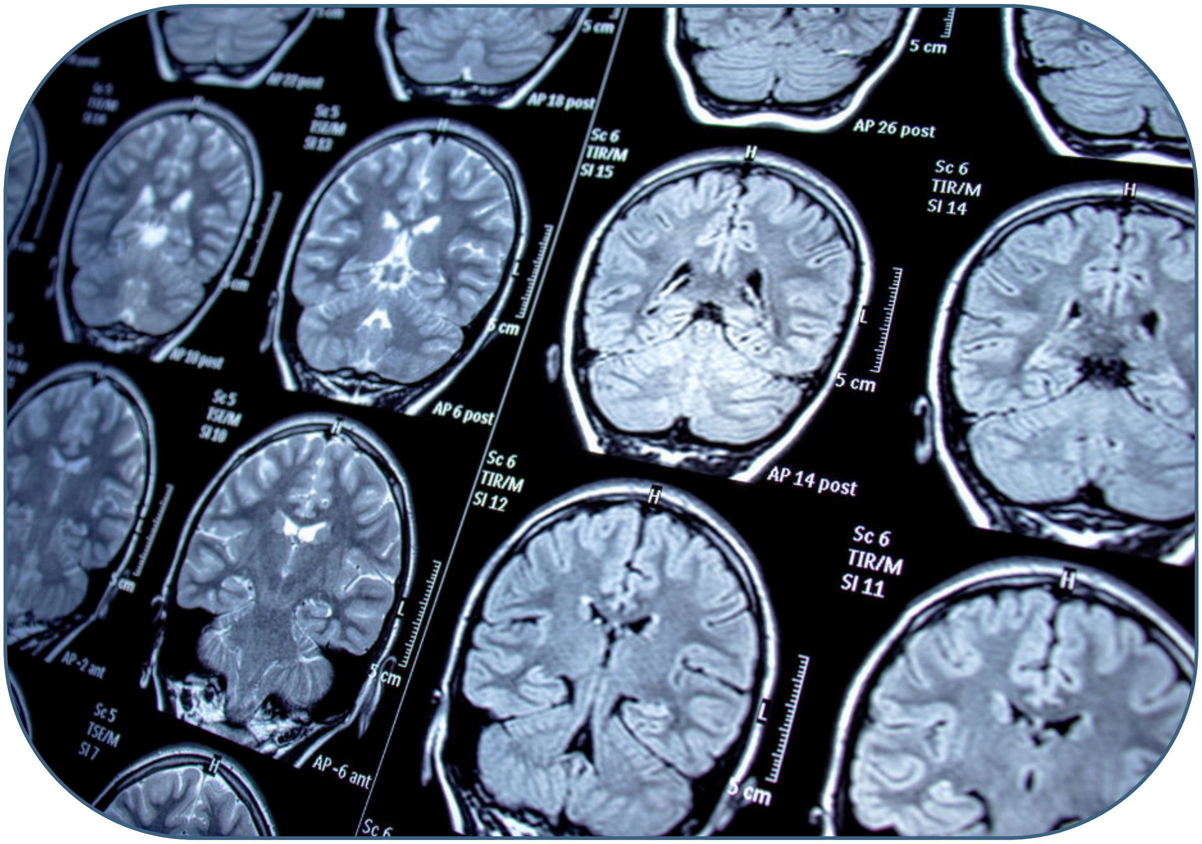
Between 1 and 2% of the general population has chronic migraine, with headache on more than 14 days a month, and often every day or almost every day. Most people who develop chronic migraine have suffered from intermittent migraine attacks for years before their migraine worsens and gradually enters a phase where they have headache on “more days than not.” Although the exact reasons why approximately 1 in 10 people with migraine develop chronic migraine are not known, several factors increase the risk of chronic migraine.(11) These include obesity, sleep disorders, major stress, acute migraine medication overuse, and heavy caffeine use, among others. There is the potential that the number of people who live with this very disabling disorder can be reduced by attention to these exacerbating factors, although it may well be that the genetic makeup of some with migraine predisposes them to the development of chronic migraine. There is some evidence that treating migraine effectively reduces the risk of developing chronic migraine.

Migraine is comorbid with many other diseases.(12) Comorbidities and co-occurring conditions (hereafter referred to as comorbidities) contribute to the overall burden of migraine. Diseases are said to be co-occurring if the same person has more than one disease. Comorbidity is the greater than chance association between the two conditions in the same individual. There are many comorbidities associated with migraine(13) including cardiovascular disorders (i.e., stroke, myocardial infarction), psychiatric disorders (i.e., depression, anxiety, panic disorder, bipolar disorder, personality disorders, suicide attempts),(10) neurologic diseases (i.e., epilepsy), sleep conditions (i.e., insomnia, restless leg syndrome, sleep apnea, poor sleep quality and duration),(14) inflammatory conditions (i.e., allergic rhinitis, asthma)(15) as well as chronic pain conditions (i.e., fibromyalgia),(16) among many others.(17)

EPIDEMIOLOGY OF MIGRAINE (CONTINUED)

Many comorbidities have been identified as risk factors for progression to chronic migraine(18) and recent work has shown that the combination of comorbidities or “multimorbidity” is associated with medication overuse and new onset chronic migraine.(19)

Migraine is a key risk factor for the development of persistent headaches after a traumatic head injury. Post-traumatic headache may occur in a person with pre-existing migraine or post-traumatic headache with migraine features may develop in people without a previous history of migraine.



MIGRAINE-RELATED DISABILITY

People living with migraine are well aware of its disabling consequences. Many others in our society, however, do not seem to realize that migraine is more than “just a headache”, leading to a persistent stigma. The migraine burden is influenced by many factors including the frequency and severity of attacks. Those who have only a few attacks a year will have much less disability from their migraine than those with more frequent attacks. For both, however, the unpredictable timing of the attacks amplifies how much they interfere with activities. Taken as a whole, in part because it is so common, migraine imposes a huge burden of disability and economic loss on our society.

The Global Burden of Disease (GBD) study run for decades by the World Health Organization (WHO) and several collaborating organizations has been a major initiative studying the epidemiology and burden linked to diseases affecting humans. These studies have shown that migraine is a major cause of disability worldwide.

In 2000, Menken and colleagues summarized the results of a GBD study done during the 1990s(20) and highlighted the severe disability suffered during a severe migraine attack. It was considered a class 7 disability, a category which also includes psychosis and quadriplegia.

MIGRAINE-RELATED DISABILITY (CONTINUED)

Comparing the disability suffered during a severe migraine attack to the disability suffered by a quadriplegic may at first seem counterintuitive, but when the severe pain, nausea, photophobia, and general prostration of a severe migraine attack are considered, it seems clear that during such an attack the patient can do very little productive activity. People with migraine only suffer this degree of disability during a severe attack so it is time-limited, and this must obviously be taken into account. Methods have been devised to compare the disability caused by migraine in our society with the disability caused by other medical conditions.

“Years lived with disability” (YLDs) is a measure which reflects the impact an illness has on quality of life before it resolves or leads to death. YLDs account for the severity of a disability and are typically weighted so that young adults are valued higher than infants or the very elderly.

In evaluating the burden of migraine on society during the 2016 GBD study, a migraine attack was assigned a disability weight of 0.434, meaning that during an attack the affected person experiences health loss of 43.4% compared with a person in full health. This is less than the disability rating assigned in the earlier GBD study for severe attacks but reflects that not all migraine attacks are severe. They estimated the average person with migraine disorder spent 8.5% of a year in a migraine attack. The 2016 GBD study concluded that in the age group 15–49 years, migraine is the top cause of YLDs.(2)

MIGRAINE-RELATED DISABILITY (CONTINUED)

The 2019 GDB study confirmed the findings of the 2016 study and concluded that overall, in a group that included all age groups and both genders, migraine was the second cause of YLDs, with only low back pain causing more YLDs.(3,4)

The authors that reported on the 2016 Global Burden of Disease study concluded that their results showed a strong need to improve health care for people with migraine.

MIGRAINE-RELATED DISABILITY (CONTINUED)

THE CANADIAN WOMEN AND MIGRAINE STUDY:

The Canadian Women and Migraine Study illustrated the heavy burden of disability that some of those with migraine bear, and at the same time shows how the disability imposed by migraine varies from one person with migraine to another. In a sample of 1,210 women representative of the Canadian adult female population, 300 had migraine. When asked the question “How many days in the last six months would you estimate your migraine / headaches incapacitated you, including missed workdays, difficulty doing housework, and/or caring for children,” 30% of those with migraine reported that they were incapacitated by their migraine for more than five days in the past six months. In contrast, 20% reported zero days of incapacitation.(21)

THE ECONOMIC COST OF MIGRAINE

Because migraine often affects young adults during their prime working years and while they are raising families, it often causes major disruption for families and careers. It costs the Canadian economy billions of dollars every year.

Amoozegar and colleagues have studied the cost that migraine inflicts upon those with migraine and on society in general by carefully examining 287 adults who were receiving care in Canadian headache clinics.(5) Their results indicate that, in part because it is so common, migraine is a very expensive illness for Canadians.

MIGRAINE-RELATED DISABILITY (CONTINUED)

The economic burden was highest for the most severely affected people, those with chronic migraine, at $25,688.89 per year. These costs included both direct costs (physician visits, physiotherapy, medications, etc.) and indirect costs (missed workdays, reduced productivity while at work, disability payments, etc.) Even less frequent migraine attacks resulted in significant economic loss. In the Amoozegar study, those with 4 to 7 migraine days a month still showed an average migraine cost of $15,651.34 per patient per year, including both direct and indirect costs.

At least one percent of the Canadian adult population has chronic migraine (more than 250,000 Canadians over age 18 but under 65). Even if their migraine-related direct and indirect costs are only one-third as high as those in the Amoozegar study for patients attending headache clinics, chronic migraine costs Canadians over two billion dollars a year. This is probably an underestimate.

It is even more difficult to estimate the costs imposed upon those with migraine and the Canadian economy by episodic migraine (migraine with less than 15 headache days a month), but a conservative estimate of these costs can be made using the data from the Amoozegar study.

Canadian data is not available, but an American study found that 14% of those with migraine had between 5 and 14 attacks per month.(22) Using this data, almost half a million Canadians over age 18 but under 65 with episodic migraine have over four migraine attacks per month.Even if the average cost for these people is only one-third of the cost found in the Amoozegar study for patients in the clinic with 4 to 7 migraine days a month, the overall cost of episodic migraine in Canada would still be over 2.5 billion annually. This is likely an underestimate, because many of those with episodic migraine in Canada have many more than seven migraine days a month.

Other studies have also examined the effects of migraine upon the Canadian economy. Pryse-Phillips in 1992 calculated that some 7 million working days are lost annually in Canada as a result of migraine.(23)

Using data from the 2010 population-based Statistics Canada Canadian Community Health Survey, Zhang et al. concluded that for work absenteeism due to chronic medical conditions, migraine ranked third after back problems and mood disorders. They calculated that for costs related to missed workdays alone, migraine cost the Canadian economy 980 million dollars per year.(24)

In summary, although it does not usually cause death or paralysis, migraine is a very expensive illness for many of those who have it, and for the Canadian economy.

STRATEGIES TO REDUCE MIGRAINE-RELATED DISABILITY IN CANADA

Most Canadian migraine experts consider migraine to be underdiagnosed and undertreated in Canada. Many live with migraine for years before they are finally given the correct diagnosis from a health professional. Others with migraine suffer for a long period of time while they attempt to manage their head pain with regular analgesics before they are prescribed more effective and specific migraine medications. Finally, those with migraine often do not receive the consideration they deserve from friends, co-workers, and employers who may have mild headaches themselves, and who do not realize that migraine can cause very significant disability.

For all these reasons, migraine causes more disability, frustration, and interference with quality of life than it otherwise would. Part of the solution to improving this situation involves better education of both health professionals and the public about migraine. Admittedly, even with modern advances in migraine treatment, there is still a gap between what is available and what is needed. As the underlying mechanisms that lead to the migraine attacks are still not fully understood, it is not surprising that the treatments currently available are not able to help everyone sufficiently. However, even the treatments that are available are often not used as effectively as they could be for many with migraine, and this needs to change. Those with difficult migraine need better access to the specialized health professionals who can help them and must be assured access to new and better migraine medications as these are developed. In many cases, they also need better access to multidisciplinary health professional teams who can assist them in the complex process of managing their migraine.

STRATEGIES TO REDUCE MIGRAINE-RELATED DISABILITY IN CANADA (CONTINUED)

At “The Canadian Migraine Forum” held in Toronto in 2006, 30 health professionals and individuals with migraine came together to examine the status of migraine and its treatment in Canada. During the discussion, several initiatives were identified that would improve migraine management.(25)

These included:

Table 3 : Initiatives that would improve migraine management in Canada

1. More medical leadership in the field of migraine needs to be developed at both the regional and national level.

2. The chronic disease management model should be used more for migraine management. This would include early diagnosis, long term follow-up, patient education, and multidisciplinary teams made up of physicians and other health professionals.

3. The energy and talents of people with migraine should be organized to help meet the needs of people living with migraine in the community, including educational and support needs.

4. Public awareness campaigns are needed to ensure that everyone is aware that migraine is a biological disorder that can cause significant disability and suffering.

5. More migraine research is needed to provide better treatment options for those with migraine.

STRATEGIES TO REDUCE MIGRAINE-RELATED DISABILITY IN CANADA (CONTINUED)

At the forum, three individuals described their lived experience with migraine to the group. It was clear that major educational initiatives were needed for health professionals including physicians to improve migraine diagnosis, and that there was still a large unmet need for better treatments as the medications available were not sufficiently helpful for many of those with migraine.

In 2009, a taskforce of the Canadian Headache Society met in Halifax to reach consensus on how the management of migraine could be improved in Canada. The taskforce concluded that a national Canadian Migraine Strategy with a patient self-management focus had the potential to improve patient care, and that better management of migraine would be best achieved through a chronic disease management framework.(26) As is the case for other chronic illnesses, such a framework would include a number of components, and would focus on several aspects of migraine therapy as shown in Table 4. Much work is still needed today to develop and implement an effective migraine strategy for Canada.

Table 4: Some components of a disease management program for migraine

1. The proper use of migraine acute (symptomatic) medications including use of these early in the attack.
2. Use of preventative medications if appropriate for the patient.
3. The development of a home “flare up” plan with rescue medications for when the patient’s usual acute (symptomatic) medications fail.
4. Behavioural interventions to enhance patient expertise in headache self-management (stress management skills, relaxation techniques, self-monitoring, and pacing skills).

STRATEGIES TO REDUCE MIGRAINE-RELATED DISABILITY IN CANADA (CONTINUED)

In 2023, the medication treatments available for those with migraine have improved considerably, but an unmet need still exists. Many with migraine still suffer from very significant disability because their migraine does not respond sufficiently to the available treatments. Also important, modern migraine treatments, although they often have advantages over older treatments, are more expensive. Because of cost, not all patients have access to them. Finally, access to multidisciplinary teams can be helpful for those with severe and difficult migraine but they are still not available to most of those who need them.

BARRIERS TO REDUCING MIGRAINE-RELATED DISABILITY IN CANADA

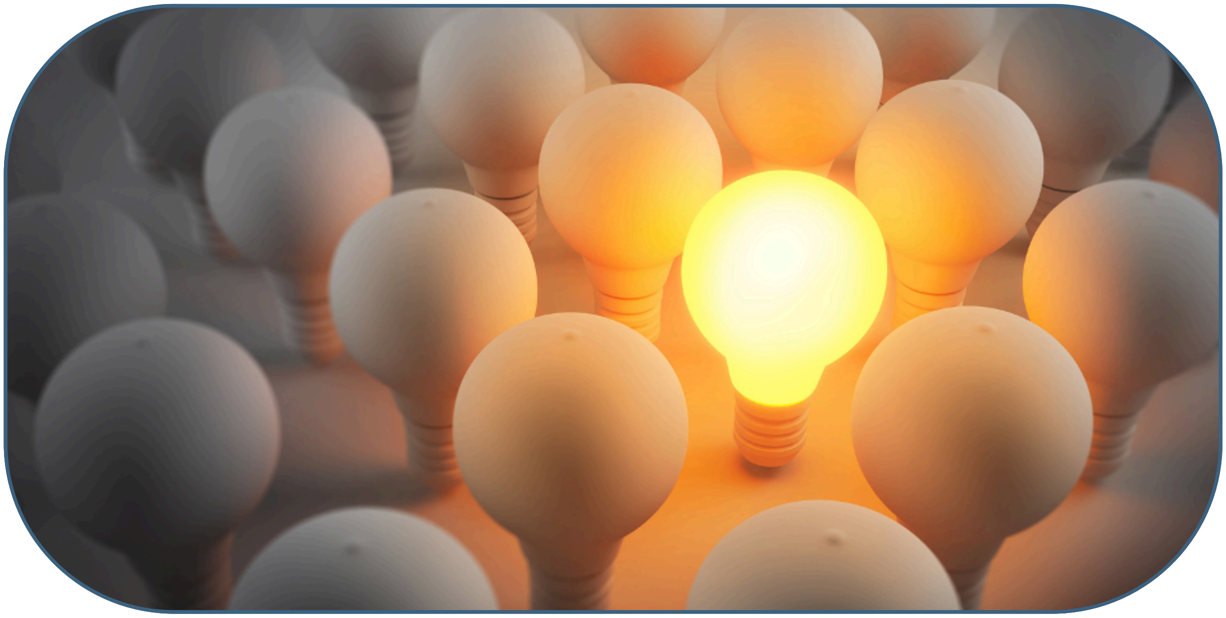
There are many barriers to reducing the impact of migraine on those with migraine and on Canadian society.

Table 5: Barriers to reducing migraine-related disability in Canada

1. The perceived stigma of a migraine diagnosis in the minds of many in the public. Headache is often the subject of jokes, and migraine is not considered a significant neurologic disorder by many.
2. The lack of recognition of the disability caused by migraine by many in our society, including employers and co-workers. People who occasionally experience milder tension-type ("ordinary") headaches often don't appreciate that migraine attacks are often much more debilitating.
3. Not enough patients are prescribed migraine specific medications in Canada, and too many people with migraine use less effective non-specific analgesics, particularly those containing codeine, for migraine.
4. Lack of recognition that using acute migraine medications (triptans and analgesics) too frequently (medication overuse) can worsen migraine and make attacks more frequent.
5. Underuse of migraine preventive (prophylactic) medications by health professionals and patients.
6. Poor availability and insufficient use of non-pharmacological approaches to migraine treatment.
7. Poor access to new medications for migraine because of cost.
8. Inadequate numbers of headache specialists in Canada, which results in poor patient access.

CONCLUSION

Improving migraine care in Canada will take resources and a coordinated approach by health professionals and others including those with migraine. Some progress is being made. Migraine Canada, a national organization and registered charity dedicated to improving the lives of Canadians with migraine and other headache disorders, is actively promoting migraine awareness, education, advocacy, and research. There are now more neurologists and other headache specialists in Canada who are providing leadership in headache medicine, although more are needed. The Canadian Headache Society, an organization of headache specialists in Canada, has produced guidelines for migraine treatment, although these require updating. Finally, several new medication treatments for migraine have become available in Canada over the past decade, and more are expected. These new treatments are helpful for many with migraine. Given the suffering, disability, and cost associated with migraine, it is vital that all of us work together to improve migraine management in Canada.



ISSUES FOR PATIENTS FROM THE MIGRAINE CANADA QUALITY OF LIFE SURVEY

Despite the advances made in some aspects of migraine care, many people with migraine continue to face hurdles to improving their quality of life. From difficulty obtaining effective medical treatments to challenges in the workplace, patients face considerable stigma. The common misperception that patients come up against is that migraine is “just a headache”. The lack of recognition of migraine as a disability limits patients’ access to care and suitable work accommodations, while negatively impacting their relationships.

Patients often face difficulties obtaining support from their employers to manage their condition. The Migraine Canada Quality of Life survey found that of patients who asked their employers for accommodation, 22% did not have their request accepted, and 31% had to provide a medical letter to have the request accepted. Accommodation requests ranged from screen adaptation (14%), to lighting (20%) and noise control (9%). Many patients are wary of the reaction their employer will have to their condition. Just under half of migraine patients who reported not disclosing their condition to their employer did so because they were concerned about the consequences of their disclosure. In fact, nearly two-thirds of patients surveyed feel like their coworkers have little or no understanding of migraine.

Of those who responded to the Quality of Life survey, half of migraine patients are worried about their family’s financial stability because of migraine. Patients reported that migraine has had an impact on their career choice (22%), ability to remain in a work position (25%), ability to find work (11%), and on their educational journey (20%) for those still studying. Only 13% report it not having an impact on their career.

EMERGING ISSUES FOR PATIENTS

The negative effect of migraine can extend into every area of life, with patients reporting that migraine makes them miss workdays, family time, and social events. For parents, this means experiencing six or more days per month when they've missed an occasion to spend quality time with their children due to a migraine (57%). Even those with migraine who are in a committed relationship feel that their partner doesn't fully understand the condition (54%). One patient summarized it this way: "I feel like a burden and cannot do normal day-to-day things with [my family]." The resulting feeling is a general lack of control over life, which three-quarters of migraine patients who completed the survey reported experiencing on a minimum of six days per month. Both patients and migraine specialists report a large impact on mental health. As one specialist says, *"we need more appreciation of migraine as a disease and a debilitating disease."*

> *"Depending on how long that delay in diagnosis is… you get people who come to you with gastritis and ulcers from all the NSAIDs they're using, and then of course, the impact on their social life and their work life… so many come to you not able to hold down regular jobs or are underemployed or unemployed… and to be in chronic pain is so difficult on people's mental health. So now, they're not coming to you with just migraine, they're coming to you with migraine and medication overuse headaches and depression and anxiety and a marriage that's on the verge of breakup and whatever else, like it impacts so many aspects of life. So, I think that faster diagnosis will then lead to better outcomes in general, and not just in the migraine itself."* ***(Nurse Practitioner)***

EMERGING ISSUES FOR PATIENTS (CONTINUED)

While 50-60% of Canadians have private insurance coverage, the variability in coverage for migraine treatments by private insurers is high. Recently approved drugs are more costly than generic ones and often not covered on private plans, which requires significant efforts for patients to obtain coverage. This may include obtaining a formal diagnosis from a specialist such as a neurologist, which can delay access to effective treatment due to long wait times for specialist appointments. For example, many private insurers are denying medication coverage when prescribed by a Nurse Practitioner practicing in a headache clinic, rather than by a physician. When patients do obtain the required diagnosis, they and their care provider are inundated with forms to complete to support the prescription. Clinicians estimate that many hours are spent each week on paperwork, often unpaid and in addition to regular clinical hours.

As well, newer and more effective migraine medications may only be covered if the patient can show they have tried and failed a number of first line treatments. Insurance companies often require a trial of three months per treatment, which prolongs patient suffering through migraine attacks with insufficient treatments that may include challenging side effects. In interviews, migraine specialists report that many patients are having success with dual injection therapies, which are newer and more costly therapies, but that insurers are unwilling to cover combination therapy. The longer effective treatment is delayed, the greater the risk of developing chronic migraine and experiencing greater disability.

> *"… to have to fail three first-line [treatments] for some insurance companies [to approve a new prescription] is a little bit ridiculous. And some of them require you to have done [and failed] three months of three medications. So, nine months down the road, in theory, is when you can access the treatments that you want to do."* ***(Nurse Practitioner)***

EVOLUTION OF PATIENT ADVOCACY

One opportunity to support migraine patients is through organizations advocating on their behalf and supporting them to do so. Faced with stigma and the lack of control over their condition, patients need someone in their corner to give them hope, to act as an information source, and to advocate for improved migraine care and treatment. Although some local initiatives exist, historically support groups have been largely lacking in the Canadian migraine space.

The only registered provincial advocacy group is Migraine Quebec, which was founded in 2014. Nationally, two organizations exist. The Canadian Headache Society, composed mainly of healthcare providers, was created in 1988. Its primary purpose is to educate care providers and does not feature patient support prominently. Migraine Canada is a relatively new organization, established in 2018 to develop a voice for the migraine community in Canada. Its goal is to grow to become the go-to resource for patients and the government on migraine-related issues.

Migraine Canada has quickly become the authority representing a wide group of stakeholders involved in headache care. In 2021, the organization completed its first quality of life survey of migraine patients in Canada confirming the need for a Canadian Migraine Strategy that addresses education, access to care by qualified specialists and coverage of effective migraine treatments. To date, little has been done to develop the recommended disease management program for migraine that was first proposed in 2009 by the Canadian Headache Society. Migraine Canada is committed to advocating on behalf of patients and to collaborating with the government on the implementation of the strategy.

THE REALITIES OF MIGRAINE CARE AND TREATMENT IN CANADA

Evolution of Patient Advocacy (Continued)

Despite the availability of several effective treatments and preventions for migraine and other headache disorders, many patients across Canada experience difficulty obtaining migraine treatment and care. A Health Canada survey found only 42% of people with migraine were taking a prescription medication.(27) Deficiencies and disparities in access to migraine and headache care and treatment exist across the country, including:

1. A general lack of education and knowledge surrounding migraine treatment amongst healthcare professionals;
2. A shortage of neurologists and headache specialists, resulting in long wait times and threatening the ability of those living with migraine to receive the care they need;
3. Disparities in the medications available to migraine patients in different provinces/territories;
4. Coverage restrictions on migraine medications that create barriers to accessing migraine treatment, forcing many Canadians to pay out of pocket for expensive medications and devices.

THE REALITIES OF MIGRAINE CARE AND TREATMENT IN CANADA

DIAGNOSIS AND MANAGEMENT BY QUALIFIED SPECIALISTS

Despite the fact that migraine affects an estimated 5 million Canadians, migraine is often not diagnosed, with estimates reporting that only 40% of those living with migraine receive an accurate diagnosis.(28) Two contributing factors to the issue with diagnosis are the lack of knowledge about migraine amongst primary care providers and a shortage of neurologists and headache specialists.

> *"There are not enough headache specialists. The waiting lists are long and that's a burden because we want to see more patients."* ***(Neurologist)***

Headache, including migraine, is the most common reason why patients are referred to a neurologist by primary care providers.(29) Family physicians are essential to identifying and treating migraine and other headache disorders and should have the necessary knowledge and skills to diagnose and treat most patients with migraine. However, delays in diagnosis, misdiagnosis, and inadequate care continue to be major problems in primary care across the globe.(30) In Canada, family physicians are often not trained adequately to diagnose and manage headache disorders effectively. Some will often refer patients to neurologists due to a lack of comfort in this area. Some neurologists are also not well-trained in headache care, and some do not treat migraine.

> *"The biggest problem … is a lack of education for doctors. Doctors haven't really been taught how to deal with headache in medical school … and [the] patient suffers."* ***(Family Physician)***

DIAGNOSIS AND MANAGEMENT BY QUALIFIED SPECIALISTS (CONTINUED)

> *"Like many other healthcare professionals, pharmacist don't really receive a lot of education about migraine when it comes down to our schooling. Most pharmacists wouldn't have basic knowledge about how to approach treating migraine properly […] I think we received about four to five hours of didactic lecture dedicated to migraine and headaches, which is not nearly enough for something as complex as this." (**Pharmacist**)*

> *"With this patient population, I always see them with delayed diagnosis… we run into a deepening of the problem and the maladaptive behaviors around it, and it's harder to break those. And as this is a pain problem, we run into things like complex pain wind-up and central sensitization [neurological changes that create persistent pain]." **(Physiatrist)***

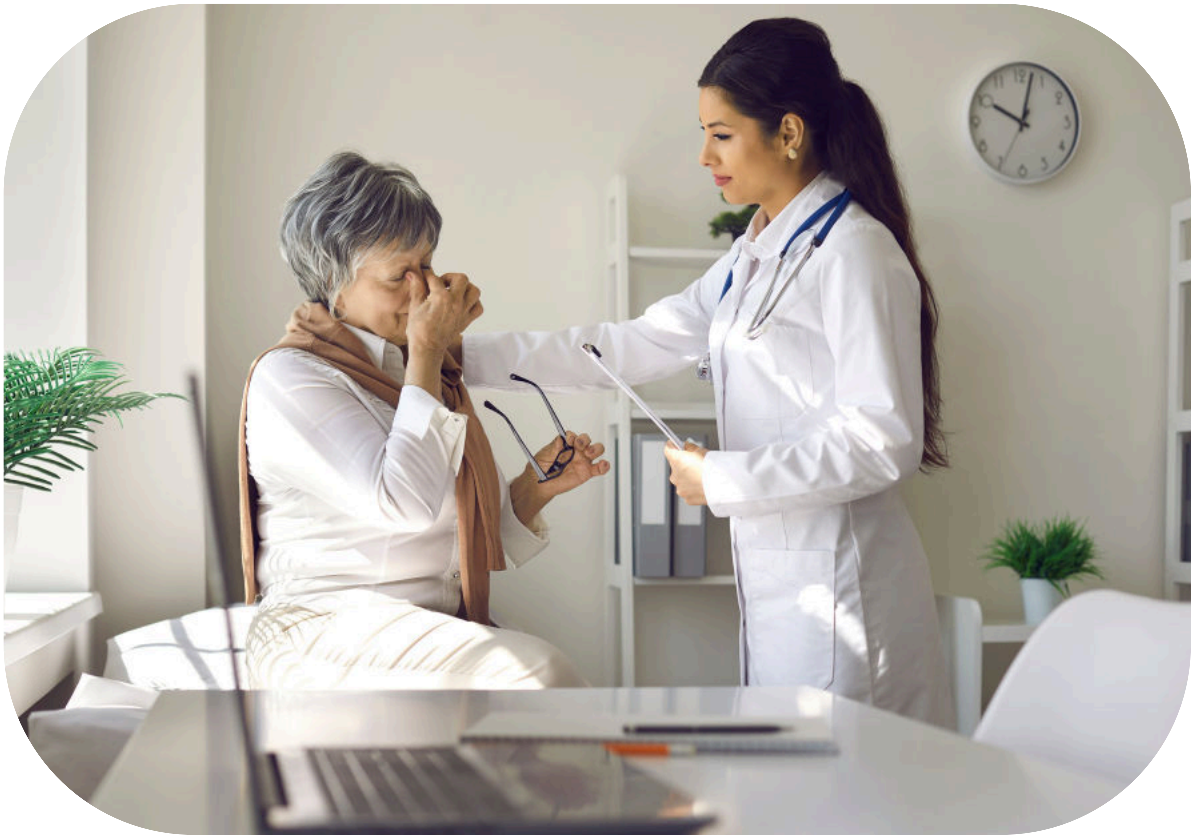
Even if all neurologists were well versed in migraine care, Canada has a shortage of neurologists. Table 6 below illustrates the number of neurologists across the country, however, the number who treat migraine is unknown. Where headache specialists do exist, there are long wait times.

Table 6: Number of neurologists in Canada

	AB	BC	ON	QC	SK	NB	MB	NL	NS	PEI	Territories
# of Neurologist	151	141	380	311	22	8	28	13	24	2	0
# of Neurologist per 100k population	3.5	2.8	2.6	3.7	1.9	1.0	2.1	2.5	2.5	1.3	0

Source: 2019 CMA Physician Masterfile

THE REALITIES OF MIGRAINE CARE AND TREATMENT IN CANADA



HEADACHE CLINICS

Some neurologists and headache specialists have created clinics devoted to headache diagnosis and care. However, it is difficult to measure the number of clinics, accessibility for patients, or effectiveness of the care offered due to a lack of criteria or guidelines to be considered a “headache clinic” in Canada. There is an opportunity to support migraine patients through clinics that provide specialized and holistic care, bringing together headache and other specialists (e.g., psychiatry, physiatry) as well as allied health care providers to support behavioural approaches to prevention and treatment. A model of care that includes services such as education sessions, lifestyle management coaching, cognitive behavioural therapy, physiotherapy, nutrition counselling and other supportive services would be beneficial to many migraine patients.

THE REALITIES OF MIGRAINE CARE AND TREATMENT IN CANADA

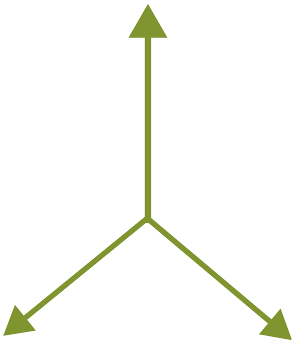
TREATMENT OF MIGRAINE IN CANADA: LANDSCAPE

The ultimate goal of migraine care is migraine freedom.

For most patients the objective of migraine care is to decrease the frequency and intensity of the attacks, and their impact on the person's function in all spheres of life.

Overview of the global approach: three axes

Migraine care can be summarized along three key axes:



1. Behavioural approaches are based on two basic principles: the management of triggers and the adoption of protective habits that raise the migraine threshold.
2. Acute treatments aim at ending each individual attack and are used on an "as needed" basis.
3. Preventive treatments are used to decrease the frequency and intensity of attacks. They are used on a regular basis (daily for oral medications, at regular intervals for injections).

Some more recent treatments may be used both for acute and preventive therapy (gepants, neuromodulation).

Therapeutic education should be available to all people with migraine.

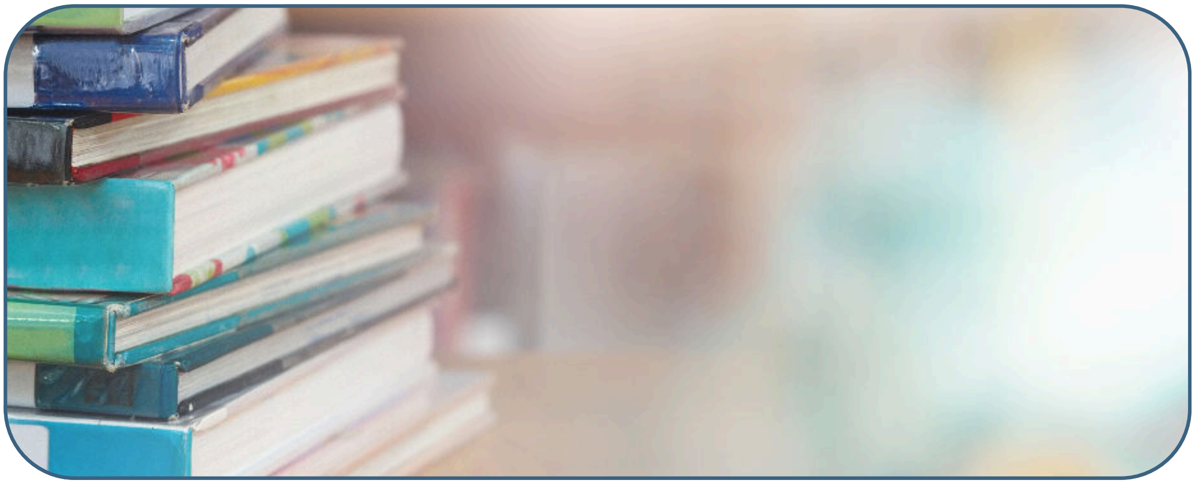
TREATMENT OF MIGRAINE IN CANADA: LANDSCAPE

Therapeutic education for migraine

Developed in the 1980s in the field of diabetes and then applied to chronic diseases in general, therapeutic education is recommended by the World Health Organization.(31,32)

Therapeutic education allows a person living with a disease to gain the knowledge and skills necessary to manage the condition. It provides individuals affected by a disorder the ability to choose treatments according to their specific needs and adjust their lifestyle based on their preferences and abilities. In a patient-centered care approach, every therapeutic decision should be made in partnership with the patient and be accompanied by the information necessary for self-care and optimal autonomy.

Migraine is a chronic disease even if it is unfortunately not listed as such in Canada. It is essential to clarify that the term “chronic migraine” is based on headache frequency and has been used historically to define the more severe end of the migraine spectrum. Still, migraine, even in its episodic form, is a chronic disease as it affects people over their lifespan. Therefore, therapeutic education should be part of migraine management.(33)



TREATMENT OF MIGRAINE IN CANADA: LANDSCAPE

Behavioural options

The term “non-pharmacological” has been used in many publications but defining something by the negative is not ideal. The term behavioural should be used, as it includes most aspects of the life of a person living with migraine.

Lifestyle adaptations: the acronym SEEDS is often used to summarize these aspects.(34)

Table 7: SEEDS, an acronym for behavioural aspects of migraine management.

Sleep	Sufficient sleep is essential to stabilize the brain and lower attack frequency. Management of sleep disorders includes treatment of sleep apnea and insomnia.
Exercise	Regular exercise improves sleep, mood, and overall well-being, and favours weight control. Targeted exercise may improve neck issues and posture.
Eat/drink	There is no single perfect “migraine diet,” but basic recommendations include limiting sugar, alcohol, caffeine, processed foods; increasing hydration; adding protein to meals and avoiding skipping meals.
Diary	Record relevant information for clinical assessment Use paper diaries or apps, for example the Canadian Migraine Tracker App. https://migrainetracker.ca/
Stress	Becoming aware of emotions and learning to decrease “energy drains” will help to stabilize the mood and decrease attacks. Managing the mental load and pacing activities (not doing too much at once) allow a regular function instead of a roller coaster of rush-crash-downtime-recovery-rush.

Lifestyle adaptations and management of triggers are part of migraine management but should not delay pharmacological care. Migraine is a neurological disease, not a consequence of poor lifestyle. For the majority of people living with migraine, medications will be necessary.

THE REALITIES OF MIGRAINE CARE AND TREATMENT IN CANADA

TREATMENT OF MIGRAINE IN CANADA: LANDSCAPE

Allied healthcare providers

People with migraine often seek treatment by allied health care providers at their own expense (i.e. chiropractors, massage therapists, physiotherapists, etc.) before they reach out to and eventually access physicians. Allied health care can be an important part of migraine management, but it should not delay a medical approach for patients impacted by attacks.

Medical evaluation and follow-up

The majority of people with migraine should be managed in primary care. The high prevalence of migraine makes it impossible for all patients to see a specialist.Since primary care providers (PCPs) are so important in migraine care, it is critical that they receive more education in migraine management so that they can provide better treatment for those with migraine.

It is estimated that family medicine residency programs include insufficient teaching, exposure, and training in the management of headache disorders compared to other chronic conditions (e.g hypertension, vascular diseases, depression, and asthma). Research should be done to quantify this assumption.

Neurology is the specialty usually consulted for migraine when family physicians need advice.

Medical evaluation and follow-up (continued)

Other medical specialties may be involved in the care of people with migraine in the context of significant comorbidities:

- Obstetrics and Gynecology: hormonal aspects
- Psychiatry: mental health comorbidities
- Physiatry: musculoskeletal pain, procedures
- Pain Clinics: other painful syndromes
- Sleep Medicine: sleep apnea
- Dentists: bruxism
- Internal medicine, cardiology, vascular neurology: vascular issues including cardiovascular disease and stroke

Acute treatments

The goal of acute treatment is to end each individual migraine attack and enable the patient to function.(35) These treatments are used on an "as needed" basis. Different classes of medications are used to treat migraine.

Table 8 : Acute medications and devices for migraine attacks

Treatment Class	Examples	Comments
Analgesic	Acetaminophen	Commonly used but often not effective for migraine
Non-steroidal anti-inflammatories	Ibuprofen, aspirin, naproxen, diclofenac, indomethacin	Often tried first
Triptans	Sumatriptan, zolmitriptan, rizatriptan, almotriptan, eletriptan, naratriptan, frovatriptan	If NSAIDs are not effective
Gepants	Atogepant,ubrogepant, rimegepant	Place in algorithm to be determined with updated Guidelines
Anti-emetics	Metoclopramide, prochlorperazine, dimenhydrinate, odansetron	Adjunct treatments for nausea. May be used IV in the emergency department
Opioids	Morphine, codeine, oxycodone, hydromorphone	Avoid due to many health risks including medication overuse headache and addiction May be used in exceptional circumstances after careful evaluation
Devices	Gamma Core, Cefaly	Safe but can be cost inhibitive
Other	Hot, cold, essential oils, pressure points, dark glasses, ear plugs	Adjunct approaches used by patients; every source of relief is important

Acute treatments (continued)

Acute treatments are evaluated on different factors:

1. Effectiveness to relieve pain.
2. Effectiveness to relieve associated symptoms (photophobia nausea).
3. Tolerability (limited side effects).
4. Safety (no risk of harm/ serious adverse events).
5. Consistency (patient can rely on the effect from one attack to the next).
6. Affordability.
7. Convenience of use (pills are easier to use than injections or suppositories).

Several principles are used by clinicians to tailor acute treatments to each patient.

1. Therapeutic education on what to use, how to use, when to use.(36)
2. Tailored therapies adapted to different types of attacks.
3. Using the treatment that works first for expected type of attack (stratified care).
4. AVOID using weaker medications first (stepped care) if it delays the intake of effective medications.
5. Treat the attack early when symptoms are mild.
6. Combination of different classes for optimal relief (example: NSAID+ triptan).
7. Use of parenteral or fast onset therapies for refractory attacks (severe pain, fast onset of pain, early nausea).
8. Use of rescue therapy in case of refractory attacks.
9. Education on when and why to go to the Emergency Department.
10. Optimization of preventive medications to increase attack response to acute medications.

TREATMENT OF MIGRAINE IN CANADA: LANDSCAPE

The key challenges in managing acute medications include:

1. Lack of effectiveness.
2. Side effects and safety issues.
3. Medical contra-indications.
4. Medication overuse headache.
5. Lack of coverage.
6. Specific populations (children, elderly, pregnant or breastfeeding).

Medication overuse headache

Medication overuse headache (MOH) is a complex topic following a chicken-and-egg paradigm.(37) It adds to the burden of chronic migraine. People with migraine have brains that are prone to sensitization. This phenomenon can be summarized as: pain leads to more pain. Both nerves (peripheral sensitization) and brain zones (central sensitization) may develop higher activity or lower thresholds. This results in more pain sensitivity, allodynia (painful perception of non-painful stimuli) and increased attack frequency. Using acute medications too often, something that can easily happen in those with frequent migraine attacks, may lead to sensitization and make migraine worse. Other aspects linked to MOH are catastrophizing, anxiety and certain personality traits.

Most acute migraine treatments can lead to chronification and MOH. Opioid and barbiturates carry a higher risk, and NSAIDs a lower risk.

The paradigm for MOH prevention and management is now moving away from purely restricting patients in their acute medication use to a more proactive preventive approach. Medication withdrawal is a proven approach to treat MOH but is sometimes very difficult for patients to go through. It requires intensive medical counselling and support. In up to 30% of cases it is impossible for people to stop their medication overuse, or withdrawal is achieved but ineffective. Therefore, MOH should be prevented at all costs by therapeutic education, proactive prevention and avoidance of opioids and barbiturates. Medication overuse headache is best managed by educating the patient about the need to reduce their frequency of acute medication use while at the same time starting a migraine preventive medication.

Management of severe attacks in the emergency department

Unfortunately, migraine attacks can be severe, refractory and persist over many days (even weeks).(38) Patients will usually try to avoid a visit to the Emergency Department (ED) since waiting times are very long and difficult in the ED environment that is filled with migraine triggers and sensory stimuli like noise and bright lights. Still, in some cases migraine patients will resort to it, especially if they have been bedridden and unable to eat or drink for days. They may also be worried that another cause of headache is at play and seek medical investigation.

The treatment of migraine in the Emergency Setting has been reviewed in Canadian Guidelines in 2013.(39)

Migraine Canada asked respondents to its Quality-of-Life survey about their experience visiting the ED during a migraine attack. Only 14% of patients who visited an ED were very satisfied with the care they received. Only 8% said they obtained relief from their migraine attack and were able to go back to normal activities the next day; 29% of respondents with chronic migraine said they left the ED with the same or worsened symptoms.

Other acute treatments used by patients

Application of hot, cold, and essential oils are regularly used. Patients will often wear dark glasses and ear plugs. They will adapt their food intake to what they can tolerate.

Patients will sometimes seek an appointment in osteopathy, massage therapy, chiropractic medicine or acupuncture to break an attack of long duration.

Cannabinoids

Cannabis is legal in Canada and heavily advertised as a treatment for many health issues. It is popular among certain patients who perceive it as “natural”. The evidence to support cannabis to treat migraine attacks is scarce and of low quality.(40-42) The use of cannabis, especially THC, is associated with MOH, reversible vasoconstriction syndrome and hyperemesis syndrome. The safety of cannabinoids to treat migraine has not been established.

At present time, cannabis is not recommended to treat migraine attacks. CBD preparations may carry less risks than THC containing products, but once again the evidence is lacking. Some patients will report a benefit on sleep and anxiety, with positive repercussions on migraine. The case of cannabinoids is interesting because it is a widely accessible and heavily promoted product but not supported by evidence.

Preventive treatments

The goal of preventive treatment is to decrease the frequency and intensity of attacks. They are used on a regular basis (daily for oral medications, at regular intervals for injections). Canadian Guidelines on migraine prevention have been published and are currently being revised to include more recent options.(43)

Randomized controlled trials on preventive treatments usually include the following parameters:(44)

1. Mean decrease in headache days per month: Diaries are used to establish the frequency of migraine or headache days at baseline, then at a determined time point (usually three months). Decrease in headache days is useful for statistical comparisons between groups, but since response is very heterogeneous, it somewhat dilutes the results seen in responders.
2. Responder rates (50%, 75%, 100%): the responder rate shows the percentage of a cohort where the headache frequency improves by a given percentage. The 50% responder rate indicates what percentage of people had a reduction in headache frequency of 50% or more during treatment. 75 and 100% responders are often called “super responders” in practice.
3. Decrease in acute medication use.
4. Patient Reported Outcomes: different validated questionnaires allow evaluation of the impact on function beyond migraine frequency. The most common are HIT6 and MIDAS (see questionnaires in Appendices).

Preventive treatments (continued)

Many other parameters are used to evaluate treatments for migraine prevention. The importance of headache intensity and symptoms other than pain is somewhat under-recognized in the randomized controlled trials. Severely affected patients often report a significant improvement in function even with only modest decreases in headache frequency. Clinical improvements reported by patients but not yet used in clinical studies include the following:

1. Decrease in the intensity of the attacks.
2. Decrease in emergency department visits.
3. Improved response to acute treatments.
4. Increased resistance to triggers.
5. Increased ability to make plans without having to cancel.
6. Improved sleep.
7. Improved mood.

Supplements and neutraceuticals

Patients often prefer to try natural options first. Dietary supplements and nutraceuticals can be used for migraine prevention. The literature on these options has been reviewed.(45,46)

Table 9: Supplements for migraine prevention

Supplement	Dose
Magnesium citrate (glycinate often used)	300 mg twice a day
Riboflavin (vitamin B2)	400 mg once a day
Coenzyme Q10	150 mg twice a day
Petasites Hybridus (Not all available formulations are of good quality. Petadolex brand is known to meet quality standards and is Health Canada approved since 2022)	75 mg twice a day

Oral medications for migraine prevention

For centuries, the mechanisms underlying migraine attacks has remained elusive. Therefore, preventive medications used until recently were approved for other indications (e.g., depression, epilepsy, hypertension). Since migraine is very common, effectiveness for migraine was observed in the clinic when these medications were used for other medical disorders, and this effectiveness was later proven in randomized controlled trials. Many publications review oral migraine preventives and provide guidance for their use.(47)

Table 10: Examples of preventive medications for migraine

Class	Examples Generic (Brand Name)	Mechanism of action
Anti-hypertensive	Candesartan (Atacand) Propranolol (Inderal) Nadolol (Corgard) Verapamil (Isoptin	Unclear. Some decrease the electrical hyperexcitability of the brain.
Anti-depressant	Amitriptyline (Elavil) Nortriptyline (Aventyl) Venlafaxine (Effexor)	Modulate pain networks (serotonin, adrenalin, noradrenalin)
Anti-seizure	Topiramate (Topamax)	Decrease the hyperexcitability of the brain neurons

Oral preventives for migraine have certainly helped many patients, but they have significant drawbacks. Their effectiveness for a 50% response is between 40% and 50%, which leaves many patients not sufficiently improved. Even in responders, side effects are common and frequently lead to the need to stop taking the medication. Patients living with migraine are often working and otherwise healthy, and side effects limiting their function are not acceptable. It has been reported that up to 80% of patients with chronic migraine will stop their oral prevention within a year after initiation.(48)

Table 11 : Oral preventive medications and associated side effects

Drug	Associated Adverse Events
Topiramate	GI (nausea, anorexia), renal calculi, paresthesia, acute glaucoma, CNS (dizziness, tremor, sedation, cognitive impairment, depression); weight loss, metabolic acidosis
Anti-Antidepressant (amitriptyline, nortriptyline, venlafaxine)	Weight gain, drowsiness, confusion, anticholinergic effects (dry mouth, constipation), decreased seizure threshold, sexual dysfunction, cardiovascular effects, blurred vision, nausea/vomiting
Beta-blockers (propranolol, nadolol,	Fatigue, reduced exercise tolerance, bradycardia, heart failure, hypotension, bronchospasm, impotence, sleep disturbance
Calcium channel blockers (flunarizine, verapamil)	Weight gain, depression, drowsiness, extrapyramidal effects, constipation, peripheral edema, Auriculo-ventricular conduction disturbances
ACEIs/ARBs (candesartan, lisinopril)	Hypotension, dizziness, fatigue, nonproductive cough, angioedema (rare)
Serotonin antagonists (pizotifen)	Drowsiness, weight gain (can be significant)
Other Anti-epileptics (divalproex sodium, valproic acid, gabapentin)	Nausea/vomiting, tremor, weight gain, alopecia, hepatic enzyme elevation, drowsiness, dizziness, neural tube defects (if used during pregnancy)

ACEIs: angiotensin-concerting enzyme inhibitors **ARBs:** angiotensin II receptor blockers

OnabotulinumtoxinA (Botox)

OnabotulinumtoxinA (commercial name is Botox) became indicated for the treatment of chronic migraine in Canada in 2011. Its use is supported by two pivotal clinical trials named PREEMPT 1 and 2.(49) Pooled analyses have been published. It's fair to say that Botox was a revolution for the treatment of chronic migraine. It provided patients who had failed many oral medications with significant relief, and with very good tolerability and safety. Super responders to Botox are seen, and the effect in such patients is usually sustained over years.

Overview of Botox for chronic migraine prevention:

- Dose in the PREEMPT protocol is 155 to 195 units injected every 12 weeks.
- A trial of Botox should include up to 3 cycles before making conclusions on the response as the improvements may be incremental.
- Side effects include pain after the injections, cosmetic changes, and weakness of the injected muscles. All side effects are reversible and can be managed by adjustment of the injection protocol.
- The effect of Botox is usually sustained over time, and no risk of long-term harm has been demonstrated

CRGP antibodies

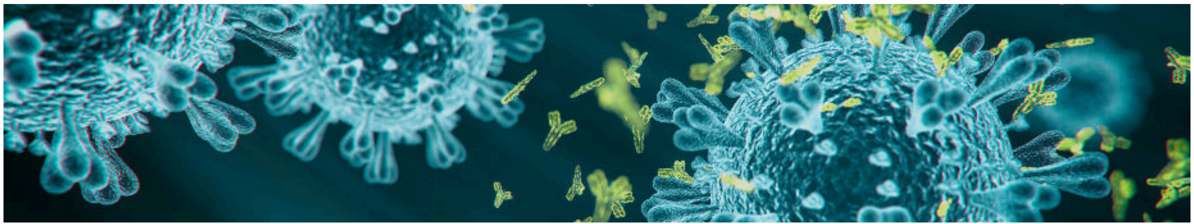
Calcitonin Gene Related Peptide or CGRP is a peptide initially studied for its vascular properties, but it soon became a target in migraine research. A strong body of basic science now supports the role of CGRP in migraine pathophysiology, both centrally and peripherally. The next step was the design of medications able to block CGRP to treat migraine. Antibodies, (biologic agents) were the first to market, arriving in Canada from 2018. Four CGRP monoclonal antibodies (CGRP MABs) are now available.

Table 12: CGRP antibodies available in Canada

Examples	**Health Canada approved indication**	**Route of administration**	Year approved in Canada
Erenumab	Aimovig®	Sub-cutaneous monthly	2018
Galcanezumab	Emgality®	Sub-cutaneous monthly	2019
Fremanezumab	Ajovy®	Sub-cutaneous every 1-3 months	2020
Eptinezumab	Vyepti®	Intravenous every 3 months	2021

The effectiveness of this class of medications is as good or a little better than oral preventives for the 50% response (varies between 50% and 60% across RCTs), and super responders are seen more often (20% to 30% of patients).(50) For the first time in migraine research, 100% responders have been observed (free from attacks over months).

The tolerability of CGRP MABs in RCTs was favorable, with constipation and skin reactions to the monthly injections being the most commonly reported side effects. In Real World Evidence (RWE), rare cases of severe constipation, hypertension and hypersensitivity reactions were observed. Other side effects seen in RWE include joint and muscle pain, fatigue, and hair loss, but overall, this class seems much better tolerated than oral medications according to clinicians and published studies.(51-53)



Treatment options that are both acute and preventive

Gepants

Gepants are oral medications that act through the blockade of CGRP. Interestingly, they are indicated both for the acute and preventive treatment of migraine, blurring the difference between those two classical categories.(54)

Table 13: Gepants

Gepant	Dose	Indication	Health Canada Approval
Atogepant	10, 30 or 60 mg QD	Prevention	2023
Rimegepant	75 mg every other day or PRN*	Prevention and acute treatment	Expected 2024
Ubrogepant	50 or 100 mg PRN*	Acute treatment	2023

***PRN:** Take as needed, pro re nata

The current data on gepants suggests that they do not lead to chronification and MOH. Basic science suggests that they do not induce sensitization in animal models.(55) Since they have been shown to prevent migraine when used daily, it would be logical to assume that frequent intake of an acute gepant would not lead to MOH. This is the first time that the vicious circle of MOH would not bear on patients with frequent migraine attacks who for years have been facing a “to treat or not to treat” dilemma. As such, gepants might be a preferred option for patients with frequent attacks in need of an acute medication.

Neuromodulation devices

Medications act chemically on different neurotransmitters and peptides. Neuromodulation uses electrical currents to modulate the nervous system. Over the past decade, different neuromodulation devices have been studied and approved for the treatment of migraine. Interestingly, they are used both for acute and preventive treatment.

Cefaly is a transcutaneous device for trigeminal stimulation. It can be used 20 minutes daily for prevention or for 1 hour as needed for acute treatment. Cefaly can be purchased without a prescription.

Gamma Core is a non-invasive vagus nerve stimulator that can be used twice a day for prevention or as needed (a few stimulations). It can be bought with a physician signed form.

Update of Practice Guidelines, in Canada and in other countries

Several Guidelines and Consensus publications are available.(56-58)
Canadian Guidelines are currently being updated.

The explosion of research and new options in the field of migraine now warrant an update of practice guidelines. Reviewing the abundant literature on both acute and preventive treatments is no small endeavour. Indeed, with options like gepants and neuromodulation being used both as acute and preventive treatments, one could wonder if clinical thinking might change over the years to come. Comprehensive guidelines will need to be made available to clinicians. Guidelines should include the use of multidisciplinary care and therapeutic education, which has not been done before despite the importance of these elements.

Barriers to optimal migraine management

Access to migraine treatment is limited at all levels in Canada. From being able to see a Primary Care provider to having coverage for second line preventives, **Canadians living with migraine often do not benefit from optimal care.** A group of experts published a review of the situation with suggestions to improve access in 2010.(26) The arrival of new therapies makes it even more important to improve access to care.

> *"I think we can definitely do a lot better for migraine care in Canada. There is so little being done for migraine... more people suffer from migraine than diabetes and yet we have so much more for diabetes. We can definitely do a lot better in the form of like improving access to care [for migraine]." (**Pharmacist**)*

1. Access to medical care in general

Many Canadians do not have access to a family physician. This varies between provinces and geographical areas, with rural areas being especially underserved. Other psychosocial factors influence access to medical care, including ethnicity, education, and income.(59)

Access to a Neurologist can be very difficult for Canadians. Headache is a very frequent reason for consultation in Neurology but is usually not prioritized, increasing wait times significantly and delaying care. As an example, in Quebec a person can easily find 21 clinics specialized in Multiple Sclerosis, but barely one for headache.

Even if a patient sees a Neurologist for migraine, it is common practice for patients to be sent back to their Primary Care Provider with a treatment plan that is often not implemented for different reasons (lack of knowledge, lack of time, lack of consideration).

2. Educational Gap in migraine management both in primary and specialty care

The number of hours spent on headache diagnosis and care during the Family Medicine Residency is insufficient. This limited exposure leads to limited knowledge and skills, lack of confidence and sends a very negative message about the importance of headache disorders, including migraine.

The majority of Medicine Departments or Neurology Divisions in Canada do not have a dedicated Headache Clinic. As a consequence, Neurology Residents are not exposed to organized headache care during their training and are less likely to develop an expertise in the field. The lack of academic positions available for Headache specialists also limits the development of tertiary and quaternary care, and the capacity for Canadian research in the field. It is fair to say that Canada is far behind in headache research compared to many other developed countries.

3. Coverage of treatments

Insurance coverage for medications in Canada can be roughly summarized as follows:

- 50-60% of patients have private coverage.
- 20-30% of patients have public coverage.
- 10% of patients pay out of pocket.

THE REALITIES OF MIGRAINE CARE AND TREATMENT IN CANADA

There is a wide variability in public plans between provinces and in private plans overall. The coverage of Botox and CGRP antibodies is limited. Physicians are forced to complete forms to allow their patients to access care. The time spent on forms by physicians treating headache patients is frequently reported as a significant loss of time and a risk factor for burnout. Physicians have been reporting that they might limit their prescription of therapies requiring forms due to the impact on their clinical time.

> *"I have an entire day, so 20% of my time, dedicated to admin work… dedicated to insurance paperwork… And that's never paid time. So, you can see why some people would be discouraged from taking that on."*
> ***(Nurse Practitioner)***

> *"I feel like they [insurance companies] are intentionally inserting obstacles for the purposes of having broader criteria to reject and deny claims. So, it's not just the paperwork that's tedious, it's the constant decline and rejection and the number of loopholes that you know are intentionally put in there so that they can stop a claim. […] As a clinician, I'm deciding to go ahead with this [treatment] and you [the insurance company] are deciding arbitrarily that it's not the case. I think it speaks to the stigma and disregard for the profound impact of migraine by simply saying no, we're not going to approve that medication. These are obviously people that have no idea how disabled people can be with this […] So that's a larger systemic issue."*
> *(**Nurse Practitioner**)*

The coverage of neuromodulation devices is extremely limited. This is unfortunate as these options are very safe and could be used by patients who cannot use certain medications (elderly, pregnant and breastfeeding).

4. Access to procedures

The key procedure indicated for migraine prevention is onabotulinumtoxinA injection. There is a limited number of trained injectors in Canada, with significant variation in their numbers across geographical areas. Injection fees paid by the public system vary a lot between provinces. If there is no injection fee, physicians might steer away from using onabotulinumtoxinA or ask patients to pay the injection fee out of pocket. For those on government benefit plans and with lower household income, this may lead the patient to decline treatment due to the injection fee. In some provinces (like Quebec), fees charged to patients are illegal, limiting access even for patients who might be willing to pay.

> *"I think most patients are willing to pay out of pocket because migraine pain is just that bad. I've had a patient who paid $700 out of pocket for their injectable because it [migraine] was just that bad. Let's put it this way, most patients with migraine are willing to go hungry to make the pain go away. So, the reimbursement programs are not great." (**Pharmacist**)*

Other procedures used for migraine care include occipital nerve blocks, sphenopalatine nerve blocks and different intravenous infusions (DHE is an example).

Conclusions

While **migraine is a frequent and often disabling neurological disease, it can be treated** and many options, pharmacological and behavioural, are available. Barriers to appropriate care should be addressed to allow Canadians to decrease the migraine burden with equitable access across the country.

LACK OF ACCESS TO MIGRAINE TREATMENT AND SERVICES

People living with migraine experience a range of social and economic difficulties, including social isolation, loss of productivity, inability to participate in daily life activities, and economic insecurity.(60) The burdens these difficulties place on people living with migraine result in significant social and emotional strain that can further exacerbate migraine. As such, access to safe and effective medications that treat symptoms and/or prevent migraine attacks is vital and should be made available to all people living with migraine. However, barriers to effective treatment for migraine are experienced widely, affecting those living with migraine, their families, and society. **While provincial and territorial drug programs fund many off-label preventative and acute analgesic medications used for migraine, many migraine-specific medications (e.g., the triptans and newer drugs that act on the calcitonin gene-related peptide (CGRP) pathway) and onabotulinumtoxinA (Botox) can only be accessed with special authorization, if at all.**(60)

Thus, to determine the access to medications and treatment for people living with migraine across Canada, we searched the provincial, territorial, and NIHB drug formularies (effective as of September 1, 2023). This search identified several key issues regarding access to treatment in Canada:

1. No province or territory covers all of the recommended treatments for migraine.
2. Several provinces place restrictions on medications:
    a. Patients must fail on other less effective drugs before migraine-specific medications can be prescribed.
    b. Several drugs are provided in limited amounts and must be continually renewed.
    c. The paperwork involved with receiving special authorization for migraine treatments is complicated and onerous for both patients and healthcare providers.

Access to triptans

Triptans are a safe and effective therapy for the acute treatment of migraine attacks.(61)

There are currently seven triptans available in Canada, (almotriptan, eletriptan, frovatriptan, naratriptan, rizatriptan, sumatriptan, zolmitriptan), and one combination triptan/NSAID (sumatriptan plus naproxen). Triptans are available in various dosages and formulations, including oral tablets, oral disintegrating tablets, injectable and nasal formulations. Guidelines from various headache organizations recommend that triptans be used to treat moderate to severe migraine attacks.(35) However, studies have shown that only a small minority of Canadians living with migraine list triptans as their primary medication for treating migraine, and many Canadian women are unhappy with their migraine treatments.(33) Clinical experience has shown that a patient's response to a triptan is very individualized and cannot be predicted. Whereas one patient may find one triptan to be superior to another, a second patient may find the opposite. As a result, migraine patients should have equitable access to different triptans to find the treatment that works best for them.

> *“My patients’ access to medication is one that really breaks my heart. So, if you look at triptans, none of them are covered by ODB [Ontario Drug Benefit] and I can't understand why. They cost something like $40 a month, versus medications that cost thousands of dollars [and are covered by ODB]. And a patient needs Exceptional Access that says they have failed Tylenol and Advil for them to get triptans, while triptans are first-line [treatment] for people living with migraine. So, that is a big one.” (**Pharmacist**)*

A search of the provincial, territorial, and NIHB drug formularies uncovered that all public drug programs provide some coverage for triptans to eligible patients, either as a general benefit or as a restricted benefit (i.e., requiring special authorization).

Access to triptans depends on where patients live

Table 15: Funding status by province of medications indicated to treat migraine on provincial public drug plans or formularies.

Drug Name (brand)	Dosage Form	AB	BC	ON	QC	SK	NB	MB	NL	NS	PEI	YT	NIHB
Almotriptan (Axert, generic)	Tablet	SA	Open	SA	Open	SA	Open	No	Open	SA	Open	No	Open
Eletriptan (Relpax, generic)	Tablet	No	No	No	Open	No	Open	No	Open	No	No	No	Open
Frovatriptan (Frova)	Tablet	No	No	No	No	No	No	No	No	No	No	No	No
Naratriptan (Amerge, generic)	Tablet	SA	Open	SA	Open	SA	SA	SA	SA	SA	SA	Open	Open
Rizatriptan (Maxalt, generic)	Tablet	SA	Open	SA	Open	SA	Open	SA	Open	Open	Open	Open	Open
Sumatriptan (Imitrex, generic)	Tablet	SA	Open	SA	Open	SA	Open	SA	Open	SA	Open	Open	Open
	Nasal Spray	SA	Open	SA	Open	SA	SA	SA	SA	SA	SA	Open	Open
	Injectable	SA	SA	SA	Open	SA	SA	No	SA	SA	SA	Open	Open
Sumatriptan + naproxen (Suvexx)	Tablet	No	No	No	No	No	No	No	No	No	No	No	No
Zolmitriptan (Zomig, generic)	Tablet	SA	Open	SA	Open	SA	Open	SA	Open	Open	Open	Open	Open
Zolmitriptan (Zomig, generic)	Nasal spray	SA	Open	No	Open	SA	SA	SA	SA	SA	No	No	Open

Legend :

- SA infers there are conditions before reimbursement is approved.
- Open infers there are no conditions (forms or criteria) to be met for reimbursement to be available.

Abbreviations: While we have used SA (Special Authorization) in this report it is approximately equivalent to the corresponding reimbursement terminology used in other provinces (ie. Ontario uses LU or EAP and Saskatchewan uses EDS).

EDS = Exception Drug Status
LU = Limited use
n/a = Not applicable
CxC = Case by Case
PA = Prior Authorization
GB = General Benefit
MDE = Médicament D'Exception
EAP = Exceptional Access Program
Open = general benefit (means no criteria or forms

NIHB = Non-Insured Health Benefits provides coverage for registered First Nations and Inuit persons. NIHB formulary is used by NT and NU

Table 16: Limitations on the number of triptans covered each month on provincial public drug plans / formularies

Drug Name (brand)	AB	BC	ON	QC	SK	NB	MB	NL	NS	PEI	YT	NIHB
Almotriptan (Axert)	None	None	None	None	6 doses /30 days	None	N/A	6 doses /30 days	6 doses /30 days	6 doses /30 days	N/A	6 doses /30 days
Eletriptan (Relpax)	N/A	N/A	N/A	None	N/A	None	N/A	6 doses /30 days	N/A	N/A	N/A	12 doses /30 days
Frovatriptan (Frova)	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Naratriptan (Amerge)	None	None	None	None	6 doses /30 days	6 doses /30 days*	144 doses /yr	6 doses /30 days	6 doses /30 days*	6 doses /30 days	None	12 doses /30 days
Rizatriptan (Maxalt, generic)	None	None	None	None	6 doses /30 days	None	144 doses /yr	6 doses /30 days	None	6 doses /30 days	None	12 doses /30 days
Sumatriptan (Imitrex)	None	None	None	None	6 doses /30 days	None	144 doses /yr	6 doses /30 days	6 doses /mo*	6 doses /30 days	None	12 doses /30 days
Sumatriptan (Imitrex Nasal Spray)	None	None	None	None	6 doses /30 days	6 doses /30 days*	144 doses /yr	6 doses /30 days	6 doses /30 days*	6 doses /30 days	None	None
Sumatriptan (Imitrex Injection)	None	None	None	None	6 doses /30 days	6 doses /30 days*	N/A	6 doses /30 days	6 doses /30 days*	6 doses /30 days	None	12 doses /30 days
Sumatriptan + naproxen (Suvexx)	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Zolmitriptan (Zomig, generic)	None	None	None	None	6 doses /30 days	Full	144 doses /yr	6 doses /30 days	None	6 doses /30 days	None	12 doses /30 days
Zolmitriptan (Zomig, generic)	None	None	N/A	None	6 doses /30 days	6 doses /30 days*	144 doses /yr	6 doses /30 days*	6 doses /30 days*	N/A	N/A	None

Legend :

- “None” infers there are no restrictions of how many doses can be prescribed
- “N/A” infers coverage does not exist in that province.

Notes: * Requests for patients who have >3 migraines/month despite migraine prophylaxis therapy will be considered for a max of 12 doses/month

Access to Botox

Table 17: Funding status by province of Botox indicated for migraine

Drug Name (brand)	AB	BC	ON	QC	SK	NB	MB	NL	NS	PEI	YT	NIHB
Onabotulinum toxin A (Botox)	Open	No	SA	SA	No	No	No	No	No	No	No	No
Coverage of Injection Fees	Yes	No	No	Yes	No	No	No	No	No	No	No	No

Abbreviations:
SA = Special Authorization (also called “limited use” and “exceptional drug status”).
Open = There are no conditions (forms or criteria) to be met for reimbursement to be available.
NIHB = Non-Insured Health Benefits provides coverage for registered First Nations and Inuit persons.
NIHB formulary is used by NT and NU.

Access to CGRP antibodies

Table 18: Funding status by province of CGRP monoclonal antibodies indicated for migraine prophylaxis

Drug Name (brand)	AB	BC	ON	QC	SK	NB	MB	NL	NS	PEI	YT	NIHB
Fremanezumab (Ajovy)	SA	SA	SA	SA	SA	SA	SA	SA	SA	SA	SA	SA
Galcanezumab (Emgality)	SA	SA	SA	SA	SA	SA	SA	SA	SA	SA	SA	SA
Erenumab (Aimovig)	No	No	No	No	No	No	No	No	No	No	No	No
Eptinezumab (Vyepti*)	SA	No	SA	SA	SA	SA	No	SA	SA	SA	SA	SA

Abbreviations: SA = Special Authorization (also called “limited use” and “exceptional drug status”.) NIHB = Non-Insured Health Benefits provides coverage for registered First Nations and Inuit peoples. NIHB formulary is used by NT and NU.

Combining Botox and CGRP antibodies

Despite the success many patients have had with dual therapy, many insurance companies are now refusing to cover the combination of Botox and a CGRP monoclonal antibody (BTX + CGRP MAB). This barrier to medical care is unwarranted, as there is no medical reason to deprive patients of this therapeutic combination. Migraine Canada has heard multiple clinicians and patients voicing concerns as they are forced to choose between two drugs that had both significantly contributed to an improvement in quality of life.

RECOMMENDATIONS TO IMPROVE MIGRAINE CARE IN CANADA

Migraine Canada calls on the federal and provincial governments, healthcare providers and other stakeholders to collaborate and commit to implementing the following recommendations to improve migraine care.

Improve Knowledge

1. Improve the education of health professionals including Primary Care Providers, allied health care providers and specialists, starting at an early stage of training.
2. Encourage the Royal College of Physicians and Surgeons of Canada to specifically recommend dedicated training in headache medicine for neurology trainees and encourage every Neurology division to offer academic positions for headache medicine.
3. Undertake public awareness campaigns to reduce stigma and increase the knowledge of the general public about migraine.
4. Increase recognition that migraine can cause significant disability and that those with migraine may need appropriate accommodation in the workplace.

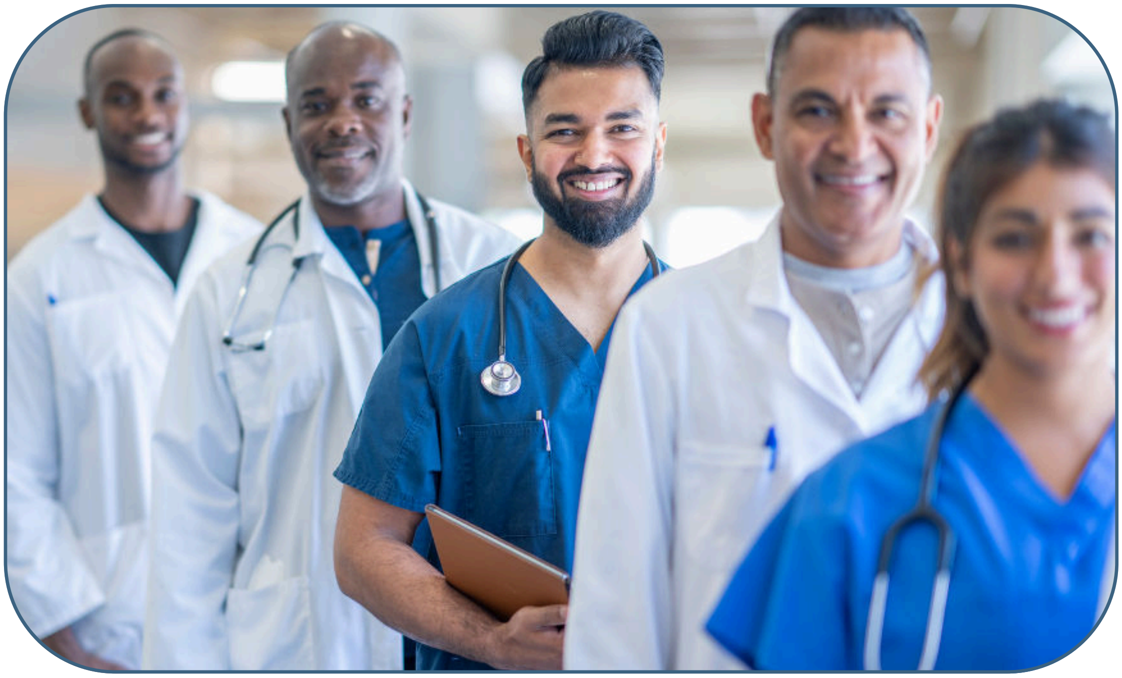
Improve Management

1. Promote early migraine diagnosis.
2. Adopt a chronic disease management model, including therapeutic education and behavioural approaches, patient empowerment and shared decision making.
3. Optimize the use of acute migraine therapies and prevent medication overuse through better patient education and long-term follow up.
4. Optimize the use of migraine preventive therapies.

RECOMMENDATIONS TO IMPROVE MIGRAINE CARE IN CANADA

Improve Access to Treatment

1. Ensure equitable access to treatment and medication irrespective of where you live.
2. Improve insurance coverage—both public and private—and criteria so that patients can access new and better migraine medications as they are developed.
3. Remove restrictions that limit access to just six doses per month of Triptans.
4. Ensure devices and injections are included as part of treatment options and coverage in drug plans.
5. Consider combination therapy where two or more effective treatments are combined for inclusion in drug plans.
6. Implement a nation-wide model of care with well-defined roles at all levels of care in an interdisciplinary vision.
7. Implement specialized multidisciplinary clinics for refractory patients with access to multidisciplinary teams and advanced procedural care including injection therapies and nerve blocks.
8. Support investment in migraine research to provide better treatment options in the future.



APPENDIX A

Facts About Migraine

- Migraine is the third most common medical condition in the world and the first most common neurological disease.
- Migraine is the first cause of years lived with disability in people under 50 years old.
- Migraine affects roughly 10% of children, 8% of men and up to 25% of women of reproductive age.
- Migraine is a chronic disease, often starting at a young age and persisting throughout a person's life.
- Migraine affects more women than men and should be considered in any Women’s Health strategy or program.
- The frequency of migraine attacks varies from person to person. Almost one quarter of those with episodic migraine have fewer than one attack per month. The majority, almost two-thirds, have between one and four attacks a month. 14% have 5 or more attacks per month.(22)
- Migraine affects all aspects of one’s life: family, social life, personal activities, studies, and work.
- Migraine is very diverse in its symptoms, severity, impact, triggers, and response to medications. Treatment of the person with migraine must be individualized and adapted.
- Migraine is a neurological disease for which many treatments exist, pharmacological and behavioral.
- Migraine is underdiagnosed and undertreated, and this leads to more disability, loss of productivity and suffering for affected Canadians, their close ones, and their networks, over the duration of their adult lives.
- Access to appropriate care is limited by well-known factors including stigma, lack of education of health care professionals, and lack of treatment coverage.
- Migraine may lead to the prescription of opioids, which could be avoided by more appropriate care. In Alberta, for example, opioids are still the most frequently prescribed acute medication for migraine even though better alternatives like the triptans are available.(62)
- Untreated migraine has significant consequences for Canadians. Migraine treatment can and must be improved.
- Our mission is to decrease the burden of migraine and allow people with migraine to live their lives at their full potential.

APPENDIX B

The Migraine Disability Assessment Test (MIDAS)

The **MIDAS** (Migraine Disability Assessment) questionnaire was put together to help you measure the impact your headaches have on your life. The information on this questionnaire is also helpful for your primary care provider to determine the level of pain and disability caused by your headaches and to find the best treatment for you.

INSTRUCTIONS: Please answer the following questions about ALL of the headaches you have had over the last 3 months. Select your answer in the space next to each question. Select zero if you did not have the activity in the last 3 months. Add all of the numbers together for your final score. Please take the completed form to your healthcare professional.

1. On how many days in the last 3 months did you miss work or school because of your headaches? _____

2. How many days in the last 3 months was your productivity at work or school reduced by half or more because of your headaches? (Do not include days you counted in question 1 where you missed work or school.) _____

3. On how many days in the last 3 months did you not do household work (such as housework, home repairs and maintenance, shopping, caring for children and relatives) because of your headaches? _____

4. How many days in the last 3 months was your productivity in household work reduced by half of more because of your headaches? (Do not include days you counted in question 3 where you did not do household work.) _____

5. On how many days in the last 3 months did you miss family, social or leisure activities because of your headaches? _____

What your Physician will need to know about your headache:

A. On how many days in the last 3 months did you have a headache? (If a headache lasted more than 1 day, count each day.) _____

B. On a scale of 0 – 10, on average how painful were these headaches? (where 0=no pain at all, and 10=pain as bad as it can be.) _____

APPENDIX B

Total Score = ________

MIDAS Grade	Definition	MIDAS Score
I	Little or No Disability	0-5
II	Mild Disability	6-10
III	Moderate Disability	11-20
IV	Severe Disability	21+

Headache Impact Test (HIT6)

https://www.aspiremedicine.ca/wp-content/uploads/2020/10/HIT-6.pdf

https://migrainecanada.org/resources/assessments/hit6/

DISCLOSURE

As a registered charity, Migraine Canada does not have core funding or government funding. We rely on project financial support to enable us to conduct important patient-centered research activities, such as this Report. Our objective with this project was to create a resource to demonstrate the data on what access to medications looks like for migraine care across Canada. This report is intended to highlight how the current gaps impact Canadians living with migraine. Migraine Canada is committed to improving existing gaps and in finding solutions to system barriers detailed in this Report.

All projects, regardless of revenue sources, are executed at an arms-length, non-influencing manner.

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