Primary care pathway: Headache and migraine

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Patient presents with complaints of headache or migraine

1. Red flags
- Screen for secondary headaches: Use SNOOPPP tool

SNOOPPP

Positive → **2.Targeted investigations** *for red flags*

Follow neurology access pathway for urgent and emergent care

Negative

2. Targeted investigations *for other secondary headaches*
- Choosing Wisely campaign recommends NOT ordering imaging for patients with a clinical diagnosis of migraine or tension-type HA, no red flags and a normal neurological exam.

Specialist Link

3. Confirm diagnosis of migraine

Features for diagnosis (nausea, sensory hypersensitivity) +/- aura, estimated frequency (episodic vs. chronic)

4. Review medication and lifestyle
- Previous trials, overuse detection (**opioids)
- Sleep, pacing, exercise, triggers, diet

5. Identification & optimized management of co-morbidities
- Medical (vascular, inflammatory, sleep apnea, other pain syndrome)
- Psychiatric

6. Explain diagnostics to patient
- Patients need to understand migraine diagnosis in order to optimize self-management
- Set realistic expectations: migraine is managed, not cured

7. Explain/support use of a headache diary
- Migraine may be episodic (<15d/month) or chronic (>15d/month for 3 months or more)
- The headache diary is pivotal for migraine management

8. Plan for tailored behavioural interventions
- Lifestyle review (sleep, diet, pacing, relaxation, triggers, overuse)

9. Therapeutic options for acute migraine
- Less severe attacks controlled with NSAIDS/triptan monotherapy
- Treatment should be initiated when the pain is still mild
- If monotherapy fails, then combination treatment is warranted
- Consider parenteral options (nasal sprays, injectors, suppositories)
- Avoid opioids (including codeine)

10. Preventive treatment (to reduce frequency of headaches)
- > 6 days of headaches per month or disability despite acute meds
- Aim for 50% improvement in frequency and severity of migraines
- Tailor treatment choice according to co-morbidities
- Optimal dose must be reached, side effects may be tolerated
- Re-evaluate prophylactic treatment yearly with the help of headache diary
- Some patients are refractory to all preventives

11. Medication overuse: Detect and withdraw
- Overuse is frequent with chronic migraine
- Withdrawal is a mandatory step if clear overuse is present
- Withdrawal should be combined with a preventive
- Withdrawal may not result in improvement in headache in 30% of cases

12. Consider referral to:

Neurology CAT
- Suspicion of secondary headache, cluster headache or trigeminal neuralgia
- Referrals for migraine will be rejected if they fall within the criteria for family practice migraine clinics

Neurology CAT

Family practice migraine partner clinics
- Migraine having failed >2 triptans and >2 preventive treatments

Migraine clinics

Chronic pain clinic
- Post-traumatic headache

Chronic pain

PATHWAY PRIMER

- Migraine is a common and disabling neurological disorder. It is often underdiagnosed and insufficiently treated. Many patients fall into the vicious cycle of medication overuse.
- Migraine is the most frequent diagnosis made when a patient seeks advice for recurrent disabling headaches. Many terms like “sinus headache,” “neck headaches,” “stress headaches” are used to refer to migraines with a specific trigger. However, it is important to rule out other causes of headaches.
- This pathway focuses on **migraine management** in non-pregnant adults.
- There are many steps to manage migraine. Multiple modifications of lifestyle and medication trials over time may be required. Every aspect of the pathway does not need to be addressed on the first visit.
- Post-traumatic headache (PTH) may present with a migraine phenotype and many concepts of migraine management can apply. However, in general, PTH is associated with many other symptoms (emotional, cognitive, vestibular, musculoskeletal) and often carries a worse prognosis.

EXPANDED DETAILS

1. Red Flags: Screen for secondary headaches

A positive SNOOPPP screen for secondary headache (HA) symptoms indicates a need for further investigations **and referral to neurology.**

SNOOPPP algorithm

		History	Initial targeted investigations
S	Systemic symptoms or signs	History of cancer, immunosuppression, weight loss, fever	CT head enhanced
N	Neurological symptoms or signs	Weakness, sensory deficits, speech difficulty, visual problems, cognitive loss (does not include symptoms fitting criteria for a typical aura).	CT head
O	Onset	Explosive headache, thunderclap	CT head and neck angiogram
O	Older	Any new headache after 50 years old	CT head, CBC, CRP
P	Previous	A headache different than usual	CT head
P	Progression	Progressive, worsens over days or weeks	CT head
P	Postural	Postural, worsens when standing or lying down	CT head and venogram
P	Pregnancy	Pregnancy or postpartum	*if pregnant, no CT head, urgent referral to neurology
P	Precipitated by Valsalva maneuver	Worsening headache with coughing, sneezing, or straining	CT head

2. Targeted investigations for “other” secondary headaches (HA)

The Choosing Wisely campaign recommends **NOT** ordering imaging for patients with a clinical diagnosis of migraine or tension-type HA, when there are no red flags and a normal neurological exam.

Other secondary headaches	Specific history or test needed
Post-traumatic headache	• History shows a link between trauma and headache. CT can be considered in acute setting.

Medication overuse headache	• History of over-the-counter medication-use to treat headaches ≥ 15 days a month, or triptan or combined therapy ≥ 10 days a month
Sleep apnea (morning or nocturnal headaches)	• Home sleep study, consideration for polysomnogram • Treatment may significantly improve headache

3. Confirm diagnosis of migraine

The key distinctions between headache types are important, as management will vary depending on the type and frequency of headache that is present. **Any patient with cluster headache should be referred to neurology.**

- Toward Optimized Practice (TOP) diagnosis algorithm for headache

ALL RED FLAGS ARE EXCLUDED, and neurological exam is normal. Attacks have occurred many times and are stereotyped.			
	Tension type	**Migraine**	**Cluster headache**
Sex	F = M	3-4 F / 1M	3-4 M / 1F
Location	• Often bilateral • May involve jaw and neck (myofascial)	• Often unilateral, may progress to holocephalic • Fronto-temporal typical • Neck pain 60% • “Sinus headache”	• Almost always unilateral • Fronto-temporal, focus on the eye. • May involve jaw, neck, teeth.
Character	• Tightness, vice-like • Pressure • Not throbbing	• Throbbing is suggestive butmay be non-throbbing	• Hot poker or knife • Pressure on eyeball
Severity	• Mild-moderate • Usually not severe	• Moderate to severe • Frequently disabling	• Severe to excruciating • Ideas of suicide during attacks

Other symptoms	• May rarely have mild photo or phonophobia
	• NO nausea
	• NO aura
	• Can be improved by physical activity and distraction
		• Aura (20%)
		• Nausea/ vomiting
		• Photophobia
		• Sonophobia
		• Osmophobia
		• Increased by activity
		• Difficulty concentrating
		• Vestibular symptoms
			• Ipsilateral to pain:
			  ○ Lacrimation
			  ○ Ptosis
			  ○ Rhinorrhea
			  ○ Miosis
			  ○ Lid edema
			• Restlessness, pacing, rocking
			• May have nausea, photophobia

Duration	• Hours, days (not specific)	• >4h to many days	• 30 min to 3h
Frequency	• Highly variable. • Chronic form very rare.	• Episodic <15 days per month • Chronic > = 15 days per month	• 1/2 day to 8/day • Circadian rhythm • Alternance of «bouts» and remission
Triggers	• Stress is common	• Multiple triggers	• Sleep, neck posture • Alcohol
What to do	• Usually managed in primary care	• Managed in primary care, refer to neurology accordingto criteria	• Should be referred to neurology

4. Review medications and lifestyle

Review previous behavioural attempts, acute treatments, preventive trials, hormonal interventions, procedures, and psychiatric medications. Keep track of trials to avoid losing time reviewing notes.

5. Identification and optimized management of comorbidities

Comorbidities can influence migraine severity because of the interaction between the brain, the metabolic and mental state of the individual. For example, the treatment of sleep apnea and co-existent mental health issues can significantly improve headaches.

6. Explain diagnosis to the patient and clarify expectations

Education is key to better coping and self-management as patients suffering from migraine are often stigmatized. The three axes of migraine management: **Behavioural, acute, and preventative** should be understood. Discuss expectations that migraine is a highly variable disease. It will not be cured but can be managed.

7. Explain and support use of a headache diary

Headache diary

A headache diary is the cornerstone of migraine management and can empower patients to monitor their symptoms.

- The physician and patient should work together to determine a method that works for both individuals. Some options include:
  - A headache diary app (Canadian Migraine Tracker - https://migrainetracker.ca/),
  - Paper headache diaries - (https://migrainecanada.org/diaries/), or
  - A calendar.
- Ensure that a patient's headache diary is reviewed at follow-up visits (this will support the use of the diary).
- Patients need to understand the goals of a headache diary, which are to:
  a. Establish the frequency of headaches of different severity
  b. Detect patterns and triggers
  c. Observe the frequency of aura
  d. Diagnose menstrual-related migraine
  e. Monitor the frequency of acute medication intake, and prevent medication overuse
  f. Observe the efficacy of acute medications (attack control success rate)
  g. Determine the efficacy of prophylactic treatments (decrease in intensity and frequency of attacks).Some improvement may be subtle at the beginning.
- Suggest the headache diary be filled using the 0-1-2-3 approach.
  - 0 is a headache-free day
  - 1 is a mild headache that does not impair activities
  - 2 is a moderate migraine, but patient may still function
  - 3 is a severe migraine usually requiring bedrest
  - Days of missed work or bedrest due to migraine may be tagged with a star * next to the coding.
- The patient should record the treatment used for each attack with the following codes:
  - F = failure
  - S = success (able to return to activity in 1-2h)
  - P = partial benefit
  - R = recurrence (initial success but headache comes back the same day)
  - E = side effects

Headache diary and instructions for patients can be found at the end of this pathway and at:

https://migrainecanada.org/diaries/

8. Plan for tailored behavioural interventions

Patients should understand why it is important to make changes in their lifestyle, how to learn the skills to incorporate change and how to practice so that changes become part of their daily routine. Brief information (explanation in the office, PDFs, web references) will often not be enough. Regular follow-up and engagement of a multidisciplinary team (social work, dietician, psychologist, among others) may be helpful. Despite ideal behavioural interventions, chronic migraine is a disease and many patients remain severely affected.

- **Sleep:** The following behavioural changes on sleep have been shown to improve migraine:
  - Schedule a regular sleep routine that allows 8 hours in bed but avoids staying awake in bed for more than 20-30 minutes.
  - Eliminate TV, reading, screens, and work in bed.
  - Use relaxation techniques to shorten time to sleep onset (breathing, body scanning, visualization).
  - Move supper ≥4 hours before bedtime; limit fluids within 2 hours of bedtime.
  - Discontinue naps during the day (most people with insomnia spend more time in bed than they should).
- **Nutrition:** There is no unique proven diet for migraine. Anecdotal evidence is reported for elimination diets (stopping all possible triggers and reintroducing them one by one), gluten-free, lactose free, modified ketogenic and FODMAP diets. Food triggers tend to be overestimated and are not universal, but some patients are very sensitive to specific triggers. In certain cases, it is best to focus on other factors than diet. The impact of skipping meals (especially breakfast) is underestimated. Increasing protein intake and reducing rapidly absorbed carbohydrates and processed foods is advisable.
- **Hydration:** Improving hydration is often recommended but the evidence to support it is limited. Increasing hydration is still certainly worth a try. According to the Dietitians of Canada, 2L per day for a woman and 3L for a man should be the target. Water should be prioritized over juices and coffee.
- **Caffeine:** Excessive caffeine intake (more than 200mg per day) can make headaches chronic. Be aware of sources other than coffee (energy beverages, black tea). Intake should be restricted to less than 200mg per day (2 cups of filtered coffee). If caffeine restriction/cessation does not lead to an improvement, it is probably advisable to maintain the lowest intake possible.
- **Exercise:** Exercise should be part of a healthy living style and has been demonstrated to decrease migraine frequency. In some patients, exercise may trigger migraines (postural, metabolic and vascular effects). Exercise during a migraine attack is not recommended. Some activities and postures tend to be difficult for patients with neck pain (running, cycling, yoga). Warm up/cool down and proper hydration are very important. Regular moderate practice should be favoured over exhausting workouts (many patients struggle with this due to current social trends with High Intensity Training and CrossFit). Walking is the easiest thing to do. It can be a good investment to ask for the supervision of a professional to adapt the exercises (kinesiologist, physiotherapist, yoga therapist).
- **Relaxation:** Progressive muscular relaxation, biofeedback, breathing exercises, mindfulness and cognitive behavioural therapy have shown benefit for migraine management. Just telling the patient to “learn how to relax” is not enough. Many techniques can be learned to manage anxiety, but regular practice is the key to success and patients must engage in the long term. If there is significant psychiatric comorbidity, it must be addressed specifically.
- **Pacing:** Pacing refers to the ability to manage physical and mental energy and adapt schedules to avoid attacks. Many migraineurs tend to exhaust themselves, suffer their attack, then try to catch up, triggering the next attack.

Managing a busy life with migraine requires significant skills. See *Better Choices, Better Health* resources (https://www.albertahealthservices.ca/services/bcbh.aspx).

- **Acupuncture:** There is some limited literature support for acupuncture in migraine prevention. As with any procedure, part of the benefit comes from a placebo response (which can be significant). It is safe and may be used by pregnant women. The treatments have to be regular (once or twice per week) and it may be financially limiting in the long term. It can be a useful tool for exacerbations.
- **Massage:** Massage may be helpful especially if there is a myofascial component. Benefits are usually short lasting. Massage may trigger a migraine if the pressure on sensitive zones is strong and is better avoided during an attack. It may be a better investment to learn stretching exercises with a physiotherapist than pay for regular massages.
- **Homeopathy is <u>not recommended</u>** for migraine prophylaxis (according to the WHO, there is proof of absence of benefit).
- **Hyperbaric and normobaric oxygen is <u>not recommended</u>** for migraine prevention (insufficient evidence).
- **Cannabis:** The impact of cannabis on migraine is currently unknown. Some preliminary data has shown potential benefit for pain, but efficacy, safety and long-term outcomes have not been studied. The use of cannabis for the treatment of migraine and headache should not be encouraged. More research is needed.
- There is a myriad of "miracle treatments" for migraine, some of them even surgical (e.g. nerve decompression, daith piercing). The migraine patient should be very wary of any promise of cure. Any intervention can lead to a placebo effect that is not useless, but physicians should advocate for safety and reasonable cost as many unproven therapies have risks and can be expensive.

9. Therapeutic options for acute migraine

Clinical principles for acute treatment of the migraine attack:

Goal:

- Relief and return to function within two hours, with good tolerability and reliability.

Treat early principle:

- All acute treatments should be taken as early as possible. Delaying acute treatment decreases the chances of success.
  - If the patient has 10 days or less per month of headache, this is an easy rule to follow.
  - If the patient has more than 10 days of headache per month, there is a risk of chronification and overuse. Patients with more than 10 headache days per month may be instructed to avoid treating their milder headaches. This situation is not always clear, as delaying treatments also may lead to failure and longer attacks.

- Less severe attacks can be controlled with NSAID or triptan monotherapy. Dosage information is included in the table below.
- **If monotherapy fails**, then combination is warranted. Many patients have two types of attacks and may need to tailor their treatment. Attacks difficult to control include:
  - Fast rising attacks.
  - Attacks starting during sleep or upon awakening.

- Attack with prominent nausea or vomiting.
- Attacks occurring during the menstrual period.

- **If attacks are difficult to control, consider the following approaches:**
  - Combinations (NSAID + triptan taken early together).
  - Use of adjunct therapy (anti-emetics).
  - Use of parenterals (nasal sprays, suppositories, injectors).
  - Start prophylaxis (may increase efficacy of acute treatments).
- **Avoid use of opioids for migraine** (including combined analgesics with codeine). Opioids are associated with a high risk of chronification because they cause medication-overuse headache. Studies have indicated that 90% of patients who use opiates regularly or as a preventive did not improve, deteriorated, or developed aberrant opioid related behaviour.

Triptans

- Triptans can be life changing for a migraine patient and they are cost-effective.
- Triptans are not contra-indicated with SSRIs and SNRIs in monotherapy and usual doses. The risk of serotonin syndrome is very low.
- Eletriptan has been studied at the 80 mg dose and there is no rationale to restrict use to only one dose of 40 mg per day.
- Triptans can be used for migraine with aura but should be avoided if there is motor aura (i.e. hemiplegic migraine. Note: patients with hemiplegic migraine should be referred to neurology).
- There is usually no cross risk of allergy to triptan if the patient has an allergy to sulfa.
- There is no strict contra-indication to triptans in patients with Raynaud's phenomenon.
- Blue Cross (and other insurance companies) may ask for a special authorization form for triptans.

Acute treatment of migraine

	Name	Brand name	Usual dose
NSAIDs	Acetylsalicylic acid / ASA	Aspirin	1000 mg Suppository 650 mg
	Ibuprofen	Advil, Motrin	400 - 600 mg
	Naproxen Naproxen sodium	Aleve	500 mg 550 mg
	Diclofenac potassium Diclofenac potassium powder	Voltaren Cambia	50 mg 50 mg sachet
	Indomethacin	Indocid	50 - 100 mg Suppository 50 and 100 mg
Triptans	Almotriptan	Axert	12.5 mg 6.25 mg (pediatrics)
	Eletriptan	Relpax	40 mg
	Frovatriptan	Frova	2.5 mg
	Naratriptan	Amerge	2.5 mg
	Rizatriptan	Maxalt	10 mg tab or oral dissolving wafer (PDT), 5 mg if patients are taking propranolol

	Sumatriptan	Imitrex	50-100 mg tab 20 mg Nasal Spray 6 mg Subcutaneous injection
	Zolmitriptan	Zomig	5 mg TAB or rapimelt 2.5 and 5 mg Nasal Spray
Gepants	Ubrogepant	Ubrelvy	50-100 tab
Others	Domperidone		10 mg
	Metoclopramide	Metonia	10 mg
	Prochloperazine		10 mg Suppository 10 mg
	Ondansetron	Zofran	4 - 8 mg
Narcotics	Narcotics (including codeine alone)		**Should be avoided for migraine in primary care**
	Codeine combined analgesics	T2-3-4 Excedrin Fiornal	15 - 60 mg Use ONLY if ALL other treatments have failed or are contra-indicated. **High risk of chronification, may be harmful to patient.**
	Tramadol	Tramacet	**Should NOT be used for migraine**

10. Preventative treatment to reduce frequency of migraine headaches

- Less than 30% of patients who would be candidates for prevention actually receive prescriptions. Compliance with migraine preventives is also very low due to partial or lack of efficacy, side effects and perception that migraine should not be treated long term with medications.
- Most patients with >5 days per month of migraine should be offered a preventive treatment. The decision is made with the patient based on the headache-related disability and impact on function.
- Start low, go slow, but increase the dose within the range indicated in Table 5 until there is either a response or side effects.
- Maintain the optimal dose for at least one month (a complete trial could be 1-2 months increase and 1-2 months observation = 3-4 months).
- Aim for 30-50% improvement in frequency and severity. Always use a headache diary to monitor the response.
- If a preventive does not lead to a clinically significant benefit, taper it down and stop it. There is no evidence that adding a second preventive to an ineffective therapy increases its effect.
- If a preventive is partially effective, it can be kept and another can be added. There is no proof that combining preventives is effective, but in practice most experts do it.
- Reevaluate treatment every year:
  - If frequency is below six days per month and patient is stable, wean progressively.
  - If efficacious based on annual re-evaluations, treatment may also be continued safely for years.
- Migraine frequency may fluctuate significantly from one month to the other. Do not modify preventives for 1-2 bad months. Consider an adjustment if the frequency is deteriorating for more than 1-2 months without obvious reason or if the causative factor is expected to last (after a trauma, perimenopause, major stressor), and behavourial modifications are not helping.

- Instruct patients not to stop their preventive if they were initially stable but then deteriorate. There is probably another cause and stopping the preventive medication could lead to further deterioration of headache management.

Migraine preventives

	Usual dose	Main side effects	Choose for patients with:	Avoid in patients with:
Frequently used (*brand name*)				
Amitriptyline *Elavil* Nortriptyline *Aventyl*	10 to 50 mg at bedtime	▪ Weight gain ▪ Drowsiness ▪ Confusion ▪ Urinary retention ▪ Constipation	▪ Insomnia ▪ Other pain ▪ Tension type headache * No effect on depression at lower doses	▪ Overweight ▪ Glaucoma ▪ Prostate disease ▪ Heart block ▪ Bipolar disorder ▪ Elderly
Propranolol *Inderal* Nadolol *Corgard*	80 to 160 mg qd (slow release or BID)	▪ Fatigue ▪ Reduced exercise tolerance ▪ Sexual dysfunction ▪ Nightmares	▪ Hypertension ▪ Anxiety ▪ Essential tremor	▪ Raynaud Asthma ▪ Heart block ▪ Hypotension ▪ Bradycardia
Candesartan *Atacand*	8 to 16 mg qd	▪ Hypotension ▪ Dizziness	▪ Hypertension	▪ Hypotension
Topiramate *Topamax*	50 to 200 mg	▪ Cognitive difficulties ▪ Paresthesias ▪ Weight loss ▪ Kidney stones ▪ Anxiety ▪ Mania ▪ Visual disturbances ▪ Glaucoma (rare)	▪ Obesity ▪ Epilepsy ▪ Essential tremor ▪ Chronic migraine	▪ Kidney stones ▪ Glaucoma ▪ Use with caution in depression/ anxiety
OnabotulinumToxin Type A *Botox*	155 to 195 units IM every 3 months	▪ Local pain ▪ Cosmetic asymmetry ▪ Neck weakness (rare)	▪ Chronic migraine only	▪ Neuromuscular disease ▪ Coagulation disorders are not a strict contraindication.
Monoclonal antibodies against Calcitonin Gene-Related Peptide (CGRP mAbs)	Erenumab (*Aimovig*) 70mg or 140mg SC monthly Galcanezumab (*Emgality*) 240mg SC once, followed by 120mg SC monthly Fremanezumab (*Avojy*) 225mg SC monthly or 675mg SC every 3 months Eptinezumab (Vyepti) 100 mg or 300 mg every	▪ Constipation and potential hypertension (Aimovig) ▪ Injection site reactions	▪ Lack of efficacy or intolerance to other preventatives	▪ Latex allergy and constipation (*Aimovig*) ▪ Vascular disease (CAD, CVD, PVD, Raynaud's) (*all*) ▪ Can be used with other types of monoclonal antibodies that are treating co-existant medical conditions in the same patient ▪ No known drug interactions

	3 months			
CGRP receptor antagonists	Atogepant (Qulipta) 10-60 mg qd	▪ Constipation ▪ Nausea ▪ Dizziness ▪ Fatigue/somnolence	▪ Episodic migraine ▪ Chronic migraine (not currently approved by Health Canada)	▪ Severe renal and hepatic impairment ▪ Dose adjustment when co-administered with strong CYP3A4 inhibitors or inducers
Natural products and supplements				
Magnesium citrate or glycinate	300 mg BID or 500-600 mg QHS	▪ GI cramps, diarrhea	▪ Constipation	▪ Loose bowel movements, cramps
Vitamin B2 (riboflavin)	400 mg daily	▪ Yellow/orange urine	▪ None	▪ None
Coenzyme Q10	100 mg TID or 300 qd	▪ GI upset	▪ None	▪ None
Should NOT be first line, less frequently used, low evidence for efficacy but may be used in selected cases with significant comorbidity				
Verapamil *Isoptin*	240 mg qd	▪ Constipation ▪ Peripheral edema ▪ AV block ▪ Fatigue	▪ Hypertension ▪ Angina	▪ Constipation ▪ Hypotension
Gabapentin *Neurontin*	1200- 2400 daily (divided doses)	▪ Drowsiness ▪ Dizziness	▪ Epilepsy ▪ Neuropathic pain ▪ Insomnia	▪ Kidney failure (dose adjustment)
Venlafaxine *Effexor*	150 -225 mg daily	▪ Nausea ▪ Vomiting ▪ Nightmares ▪ Drowsiness	▪ Depression ▪ Anxiety	▪ Hypertension ▪ Kidney failure

* Side effects and contra-indications NOT exhaustive. For specific recommendations for pregnancy please refer to other sources. Please consult the product monograph if necessary. **Valproic acid, flunarizine and pizotifen are not included in this table since they are usually not prescribed in primary care. They have many side effects.

Special notes:

- **Botox is indicated for chronic migraine only**. It has a 50-60% response rate and a good tolerability profile. A Botox trial should encompass at least 3 injection cycles (every 3 months) before evaluating response. Patients can be referred to a Botox injector in the community: https://www.specialistlink.ca/assets/CHAMP-Clinic-Referral-Sites-for-Follow---January-12,-2024.pdf Some insurance companies will require that the patient try at least 2 other preventatives before approving Botox.
- **Monoclonal antibodies against Calcitonin Gene-Related Peptide (CGRP):** Recent studies have demonstrated the efficacy and tolerability of these self-injectable treatments for migraine prevention. There is a 40-50% response rate and a good tolerability profile.
- **Erenumab (Aimovig), galcanezumab (Emgality), fremanezumab (Ajovy) and Eptinezumab (Vyepti)** have been approved by Health Canada for patients with episodic and chronic migraine who have 4 or more migraine headache days per month.
  - All CGRP mAbs have similar side effect profiles however, constipation is reported most with erenumab. **Hypertension (either de novo or aggravation of underlying hypertension) has also been reported with erenumab.**
  - It is best to prescribe any of these medications through each company's patient support program, as many patients will qualify for full or partial reimbursement of the cost.

- Many private insurance companies will cover partial or full cost, but typically require that the patient try **at least 2 other preventatives** before approval and have **at least 8 headache days per month**.
- Public health insurance plans (e.g., AISH, Seniors Blue Cross) currently cover fremanezumab (Ajovy), as of February 2022.
- These are best prescribed by physicians familiar with headache management (can be family physicians) If unsure, call Specialist Link (www.specialistlink.ca) or refer to guidelines.
- CGRP mAbs have not been studied in children, during pregnancy, and in those who are breastfeeding, and should not be used in these cases. Pediatric studies are currently ongoing.
- A fourth agent in this family (eptinezumab or Vyepti) has also been approved by Health Canada. This is a quarterly IV infusion with a similar efficacy and safety profile to the other CGRP mABs.
- Patient support programs for CGRP monoclonal antibodies are available via drug companies:

The **Erenumab (Aimovig) patient support program**, (GO program), can be reached at: *Phone:* 1-855-745-5467 *Email:* goprogram@novartis.com *Fax:* 1-855-888-9188
The **Galcanezumab (Emgality) patient support program** (LillyPlus program), can be reached at: *Phone*: 1-855-433-8130 *Email*: Migraine@LillyPlus.ca *Fax*: 1-844-684-6152 *Website*: https://www.lillyproducts.ca (Information on the PSP can be navigated to by Canadian Health Care Professionals)
The **Fremanezumab (Ajovy) patient support program** (Ajovy Support Solutions Patient Support Program Ajovy TSS) *Phone*: 1-833-302-0121 *Email*: TSS@ajovycanada.com *Website*: https://www.ajovy.ca/
The **Eptinezumab (Vyepti) patient support program** (Vyepti TODAY® Patient Support Program), *Phone:* 1-833-8-VYEPTI (893784) *Email:* support@vyeptitoday.ca *Fax*: 1-833-9-VYEPTI (893784) *Website:* http://www.vyepti.ca
The **Atogepant (Qulipta) patient support program** (Abbvie care support program) *Phone:* 1-833-570-0818 *Website*: https://www.qulipta.com

- **CGRP receptor antagonists (Gepants):** Gepants were the first oral agents specifically designed to prevent migraine. Up to 60% of treated patients may experience a 50% reduction in migraine frequency. It is a safe and well tolerated option for migraine prevention. There are two gepants demonstrated the efficacy in the treatment of episodic migraine. Only Atogepant is currently available in Canada.

11. Medication overuse: detect and withdraw

Although the recent evidence demonstrated the efficacy of migraine preventive medication in medication overuse headache without switching or limiting of two treatment days per week. If a patient is using opioids for migraine, then a screening tool for opioid use disorder would be appropriate. A general recommendation is to stop medication overuse, if possible.

Step	
Does the patient have chronic headache?	• 15 or more days per month • Since > 3 months
Determine if overuse is present Evaluate monthly frequency of intake	• NSAID OR acetaminophen ONLY: 15 or more days per month. • Any other or mixed: 10 or more days per month. • Use a headache diary as many patients underestimate their intake.
Determine comorbidities and factors of severity If many factors present, withdrawal will be more difficult	• Anxiety • Addiction • Other chronic pain • Sleep difficulty • Long duration of overuse • Multiple medications • Any opioid or barbiturate • Previous attempts at withdrawal
Is overuse likely to cause the chronicheadache?	• Parallel increase in headache frequency and medication intake • Morning headache (rebound). • Tension type quality to daily headache in addition to migraine. • Increase in doses, meds do not work anymore/are less effective.
Explain diagnosis to patient	• Education is the very first step. • 30% of patients may stop after education only.
Prepare withdrawal	• Withdrawal must be planned at a proper time for the patient (impact on work, family, support etc.). • A sick leave note (7-14 days) may be very helpful.
Choose bridging	• Not always needed. Discuss with patient. • Naproxen 500 mg BID is often used. • Steroids have not been proven to be effective but are sometimes used.
Choose preventive	• Withdrawal only is very unlikely to be sufficient in most patients as they have frequent migraines to start with. • May decide to start preventive **before** initiating withdrawal to make sure that the preventive is tolerated.
Decide “cold turkey” vs “progressive”	• Cold turkey is reasonable unless the patient uses a more than 20 mg of morphine equivalent daily (100 mg codeine). • To avoid opioid withdrawal symptoms, decrease gradually before stopping completely.
Be aware of prognosis In most MOH detox cohorts:	• 10% will not be able to withdraw (complex patients). • 30% will withdraw and NOT improve. • 50% will withdraw AND improve, but still will have frequent migraines. • 10% will have a very significant improvement.
Have a plan if withdrawal fails	• Start another preventive. • Refer to neurology.

Article by Tepper et al: Breaking the cycle of medication overuse headache, Cleveland Clinic
Diener et al: European academy of neurology guideline on the management of medication overuse headache. Eur J Neurol. 2020 Jul;27(7):1102-1116.

12. Consider referral to:

If you suspect a secondary headache:

Neurology Central Access and Triage (NCAT)

Please see the Neurology Central Access and Triage Alberta Referral Directory for information to include in your referral.

Please use the QuRe referral format: see https://www.albertahealthservices.ca/info/page13720.aspx

- You may decide to send the patient to the emergency department or to the urgent neurology clinic. Referral criteria for the urgent neurology clinic can be found at: https://cumming.ucalgary.ca/departments/dcns/programs/dcns-programs-urgent-neurology-clinic-2/dcns-programs-unc
- If there is medication overuse, basic education of the patient and an attempt at withdrawal must have been tried. Depending on the referral question, your patient will be triaged to either general neurology (less complex cases) or CHAMP (more complex cases).

If a patient with migraine has failed >2 triptans and >2 preventive treatments:

Family practice migraine partner clinics

Please see a list of providers: https://www.specialistlink.ca/assets/pdf/Physician-list.pdf

This excludes patient with:

- No headache red flags: SNOOPPPP (see section 1 above).
- No opioid misuse/dependency/regular use of opioids.
- No post-traumatic or non-migraine headache disorders.
- Pregnancy

If a patient has post-traumatic headache:

Chronic Pain Centre

Please refer directly: See the link below for details:
https://www.albertahealthservices.ca//findhealth/Service.aspx?serviceAtFacilityID=1098341

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BACKGROUND

About this pathway

- This pathway was originally created in 2018 as part of a collaboration between neurology and primary care physicians through the Calgary Zone specialty integration task group. This pathway was updated in May 2024.

Authors and conflict of interest declaration

- This pathway was reviewed and revised in May 2024 as part of a collaboration between neurology and primary care physicians through the Calgary Zone specialty integration task group.

Pathway review process, timelines

- Primary care pathways undergo scheduled review every three years, or earlier if there is a clinically significant change in knowledge or practice. The next scheduled review is May 2027. However, we welcome feedback at any time. Please email comments to info@calgaryareapcns.ca with “Headache and migraine pathway” in the subject line.

DISCLAIMER

This pathway represents evidence-based best practice but does not override the individual responsibility of health care professionals to make decisions appropriate to their patients using their own clinical judgment given their patients’ specific clinical conditions, in consultation with patients/alternate decision makers. The pathway is not a substitute for clinical judgment or advice of a qualified health care professional. It is expected that all users will seek advice of other appropriately qualified and regulated health care providers with any issues transcending their specific knowledge, scope of regulated practice or professional competence.

PROVIDER RESOURCES

Advice options

- Specialist Link hosts a tele-advice service that connects family physicians and specialists in the Calgary Zone in real time. Calgary and area family physicians can request non-urgent advice from a neurologist via specialistlink.ca. The service is available from 8 a.m. to 5 p.m. Monday to Friday (excluding statutory holidays). Calls are returned within one hour.
- Neurology advice is also available across the province via Alberta Netcare eReferral Advice Request (responses are received within five calendar days). View the Referring Provider – FAQ document for more information.

Resource	Location
Alberta Healthy Living Program	https://www.albertahealthservices.ca/assets/programs/ps-cdm-calgary-ahlp-handbook.pdf
Canadian Headache Society	https://www.headachesociety.ca/
Migraine Canada	https://migrainecanada.org/
Online tool to take a headache history	https://www.bontriage.com/
TOP Guideline for Primary Care Management of Headache in Adults 2016	https://actt.albertadoctors.org/CPGs/Lists/CPGDocumentList/Quick-Reference-Headache.pdf
Calgary and area botox injectors for chronic migraine (Resources: Botox Injectors Link):	https://www.specialistlink.ca/assets/CHAMP-Clinic-Referral-Sites-for-Follow---January-12,-2024.pdf
Alberta Referral Directory: Neurology Central Access and Triage	https://albertareferraldirectory.ca/PublicSearchController?direct=displayViewServiceAtFacility&serviceAtFacilityId=1119415&pageNumberToDisplay=1&publicSearch=true
Chronic Pain Centre	https://www.albertahealthservices.ca//findhealth/Service.aspx?serviceAtFacilityID=1098341

PATIENT RESOURCES

Migraine resources	Location
Migraine Canada	http://www.migrainecanada.org/%20library A collection of resources for patients with migraine, including handouts and videos.
Better Choices, Better Health	https://www.albertahealthservices.ca/services/bcbh.aspx
Facebook	• Migraine Warriors (private support group in Calgary) • Migraine Canada
USA:	http://www.americanmigrainefoundation.org/
UK:	http://www.migrainetrust.org/
Quebec:	http://www.migrainequebec.com/
Community:	http://www.migraine.com/
To learn from experts:	http://www.migraineworldsummit.com/
Cluster Headache:	https://clusterbusters.org https://ouchuk.org
Other resources	
Relaxation	http://www.dawnbuse.com/ Free relaxation tracts.
Chronic Pain Resources	Live Plan Be (Pain BC) https://www.liveplanbe.ca/ A free online self-management tool for people living with chronic pain.
Anxiety Resources	https://www.anxietycanada.com/ Free resources and programs to help with anxiety.
Alberta Healthy Living Programs	https://www.albertahealthservices.ca/info/page13984.aspx Free educational resources within Alberta Health Services on various chronic conditions.

Migraine Canada

Headache diary 3 months

DOWNLOAD on www.migrainecanada.org
Want an APP? migrainetracker.ca
Filling a diary is the best way to make the right decisions about your migraines.

	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31
Headache **0 1 2 3***																															
Period																															
Preventive Meds																															
Tx:																															
Tx:																															
Tx:																															
Effect of medication																															

	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31
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Headache **0 1 2 3***																															
Period																															
Preventive Meds																															
Tx:																															
Tx:																															
Tx:																															
Effect of medication																															

INSTRUCTIONS: HOW TO FILL MY HEADACHE DIARY?
Write down all your headache according to their severity (1 = mild, 2= moderate, 3 = severe).
ADD a star * if you missed work or needed bed rest. The free line can be used to track anything relevant.
Write the name(s) of preventive meds and indicate the days when you change the doses
Write the names of your acute medications in the Tx squares on the left. Put a check if you used them for each day.
Write codes for efficacy: F=faillure, P=partial benefit, S=success, R=recurrence (attacks comes back the same day).

How to use my headache diary?
Applies to the 2 and 3 month diaries

The Table:

- Headache 0-1-2-3*:
  - Write down your highest headache severity/disability for each day (0= headache free, 1 = mild, 2= moderate, 3 = severe).
  - ADD a star * if you missed work, could not perform your activities or needed bed rest.
- Aura or another symptom of interest: can be tracked.
- Period: if you have menstrual cycles, identify the days of bleeding. This can be very useful to determine if you have menstrual migraines and adjust your treatment.
- Lifestyle: instead of writing triggers, put the focus on the protective factors and habits. E=exercise. S=sleep routine. M =meditation. R=relaxation. Any code you choose is good.
- Tx = write the names of the acute treatments that you use. You may use initials (Z=zomig, N=naproxen...) especially if you use many and regroup them by categories (NSAIDs, triptans...)
- Effect of acute treatment: if you have treated an attack, what was the result? F=faillure, P=partial benefit, S=success, R=recurrence (pain comes back the same day). E = side effects.
- Stable Prev: Write the name(s) of preventive meds that you are already taking with the doses.
- New Prev: write the names of the new preventive you are trying and track the dose changes so you can monitor your response.
- Notes: use this column to track anything else.

Download at https://migrainecanada.org/diaries/
Want an APP? Visit www.migrainetracker.ca

The summary:

- Please do not forget to bring your diary to your appointment!
- Write the number of days for each severity level, then calculate a total of headache days per month.
- At the end of the acute tx rows, you have a space to count how many days per month you used this treatment.
- Sum the total number of days where you took ANY acute treatment. This helps to detect overuse.
- Before your appointment, make the counts on your diary sheets.
- Think about the treatments you tried. Were they useful? Do you wish to keep them? Try others?
- Your diary will make your appointment more useful for you.