

HEADACHE DISORDERS IN CHILDREN AND ADOLESCENTS (6-17 YEARS OLD): A PARENTAL EDUCATION GUIDE

Criteria: Migraine

You need to have 5 headache attacks that **meet the following criteria (A+B+C)**:

A: The headache lasts 2-72 hours long (in adults 4-72 hours)

B: The headache pain **must have TWO** of the following:

- On ONE side or BOTH sides (often at the front and sides in youth)
- Has a pulsing quality
- Level is moderate or severe
- Worsens with physical activity or causes you to avoid physical activity

C: There **must be ONE** of the following:

- Nausea and/or vomiting
- Sensitivity to light **AND** noise (must have BOTH)

Tension Type Headache

You need to have 10 headache attacks that **meet the following criteria (A+B+C)**:

A: The headache lasts between 30 minutes to 7 days

B: The headache pain **must have TWO** of the following:

- The pain is on BOTH sides of the head
- The pain has a pressing or tightening quality
- The pain level is mild or moderate
- The pain does not get worse with physical activity

C: There **must be BOTH** of the following:

- NO nausea or vomiting
- Can have sensitivity to light OR noise (NOT both)

STRATEGIES THERE ARE 2 MAIN STRATEGIES FOR MANAGING MIGRAINE

1: Migraine Attack Treatment: What can be done to reduce the number of migraine attack days each month?

- Take medication EARLY (within the first 30-60 minutes) to allow it to work better.
- Always follow the product-specific dosing instructions for your child's age or weight. Your healthcare provider may recommend a higher dose.
- If you do not feel better, then you may be able to repeat a dose or add another medication (speak to a healthcare provider to ensure appropriate administration interval and maximum dosage).
- Sometimes taking more than one medication at the start of an attack can be helpful.
- Nausea or vomiting during a migraine attack may need a separate medication.
- There is a LIMIT to how many days/month a medication can be taken.
 - If you are taking a total of 10 days a month or more of acute medication, then you may be at risk to get more migraine attacks (i.e., medication overuse headaches). Please discuss with a healthcare provider about other options to help.

2: Migraine Prevention: What can be done to reduce the number of migraine attack days each month?

- Lifestyle Management (see next page).
- Supplements for migraine prevention (Dosage may vary based on formulation available and the child's need. Check the dose with your pharmacist):
 - Magnesium (elemental): 9 mg/kg taken once a day or divided into 2-3 doses per day (Max 600 mg/day).
 - Coenzyme Q10 or ubiquinol: less than 30kg = 100 mg once a day; equal to or over 30 kg = 100 mg twice a day or 200 mg once a day.
 - Vitamin B2 (Riboflavin): 200-400 mg/day (Max 400 mg/day).
- Neuromodulation (ask your doctor; see next page)
- Daily prescription medication: some youth need to take a prescription medication every day to have fewer migraine attacks. (A trial of treatment for 2 months at the goal dose is recommended).
- Always follow the product-specific dosing instructions for your child's age or weight. Your healthcare provider may recommend a higher dose.

MEDICATION & DOSAGE

Weight in kg: _____ **kg;** _____ **Date (yyyy/mm/dd):** _____

- Always follow the product-specific dosing instructions for your child's age or weight. Your healthcare provider may recommend a higher dose.
- If your child cannot swallow a tablet, then use chewable tablets (or liquids).
- Some prescription medications come as an oral dissolving tablet or nasal spray, which are particularly useful if nausea or vomiting occur.
- Always check dosage with your pharmacist as medication formulations will vary in strength.

SELF-MANAGEMENT RECOMMENDATIONS

Non-pharmacological recommendations for daily headache prevention.

Movement
Physical exercise 30 to 60 minutes a day; try to build up an exercise routine; start small and increase the intensity and duration over time; if possible, try to reach a moderate to high intensity of exercise.

Sleep
Establish a regular sleep routine (with a consistent wake schedule) and ensure adequate amount of sleep; try to avoid screens and other stimulating activities 1 hour prior to sleep.

Food and diet

- Regular meals and fluid intake throughout the day (goal of 8 cups of water/day) recommended.
- Maintain blood-sugar levels; avoid skipping meals.
- Include protein and fibre-rich foods in every meal.
- Limit or reduce the amount of caffeine in the diet to avoid caffeine withdrawal migraine attacks. (Caffeine includes iced tea, caffeinated soda, energy drinks, chocolate, coffee, tea).
- A small number of people may have specific food triggers (e.g. tyramine, histamine). Triggers can be identified by keeping a migraine diary and eliminated if identified.
- It is NOT recommended to undertake multiple elimination diets.

Mind & Body Connection

- Daily mindful exercises (meditation, visualization, deep breathing, biofeedback) and body relaxation techniques (yoga, massage, physiotherapy exercises) can be used for prevention of a migraine attacks and to lower pain/prevent escalation of pain during a migraine attack.
- Activity pacing is a helpful tool to support children and adolescents to stay engaged in daily activities and limit activity avoidance.
- Anxiety and depressive symptoms (sometimes suicidal thoughts) are more common in children and adolescents with migraine.

If there are concerns about these symptoms, consult with your healthcare provider to discuss mental health support resources. If you/your child are having suicidal or self harm thoughts visit suicideprevention.ca for more resources.

Migraine Diary:

- Keep a diary to track migraine attacks, medications that have been tried and what medications have helped or didn't help. Take this information to your healthcare provider.
- There are many app based migraine diaries.
- Canadian Migraine Tracker: <https://migrainetracker.ca>
- N-1 Headache: <https://n1-headache.com/>
- Migraine Buddy: <https://migrainebuddy.com/>
- Traffic Light of Migraine: https://migrainecanada.org/posts/mgc_archived/thetraffic-light-system/

Neuromodulation Devices

- Neuromodulation is an option for preventing and treating migraine attacks. These devices must be purchased. Ask your doctor if you are eligible to try one of these devices. Neuromodulation devices relieve migraine pain and prevent migraine attacks by sending electrical or magnetic signals to areas that control pain. They are applied over the skin at the head, neck, or arm (they do not require a needle or to take a pill). There are several different neuromodulation devices. Not all devices are currently licensed for use in Canada:
- Non-invasive vagal nerve stimulator device (approved in Canada, 12 + years).
- External trigeminal nerve stimulation device (approved in Canada, 18 + years).
- Single pulse transcranial magnetic stimulator device.
- Remote electrical neuromodulation device.
- External combined occipital and trigeminal neurostimulation.

Disclaimer
The recommendations and all other information in this resource are based on published guidelines and on the expert consensus by the Pediatric Canadian Headache Network (PeCaHN). The advice is intended solely for your information only and to engage in informed consultation with healthcare providers. Migraine Canada, PeCaHN and CHEO expressly disclaim any direct or indirect liability to any patient.

MIGRAINE ATTACK TREATMENT: PRESCRIPTION OPTIONS

Some people benefit from specific prescription medication for treating migraine attacks (speak to your healthcare provider).

Prescription medication for 6-17 year olds	
Name of the Medication (formulation)	Approval for ages
Rizatriptan (tablet, oral dissolving tablet)	Approved by FDA* for 6 yrs and up
Zolmitriptan (tablet, oral dissolving tablet, nasal spray)	Approved by FDA* for 12 yrs and up
Sumatriptan (nasal spray)	Approved by European Medicines Agency for 12 yrs and up
Almotriptan (tablet)	Approved by Health Canada and FDA* for 12 yrs and up
Sumatriptan/Naproxen (combined tablet: Sumatriptan and Naproxen)	Approved by FDA* for 12 yrs and up

*Federal Drug Agency

MIGRAINE ATTACK TREATMENT: OVER THE COUNTER OPTIONS

Medication available over the counter for 6-17 years old (no prescription). You can choose one of the over the counter medications listed below.

Medication Families	You can take one medication at the start of an attack or take 2 medications (as long as they are from different medication families) at onset. For example, you can take: Ibuprofen + Acetaminophen OR Naproxen + Acetaminophen
Non-steroidal anti-inflammatory (NSAID) medication family	
Ibuprofen	Avoid aspirin-containing products in children and adolescents unless advised to use by your healthcare provider.
Naproxen	
Acetaminophen medication family	
Acetaminophen	

***Do not give more than the maximum number of doses per day as noted on the product specific instructions.**

Online Resources:

- Migraine Canada: <https://migrainecanada.org/>
- American Migraine Foundation: <https://americanmigrainefoundation.org/>
- The Comfort Ability <https://www.thecomfortability.com/> (see Pediatric Pain Blog, Guided Exercises, Coping Stories and Resources):
- Migraine at School: <https://www.migraineatschool.org>