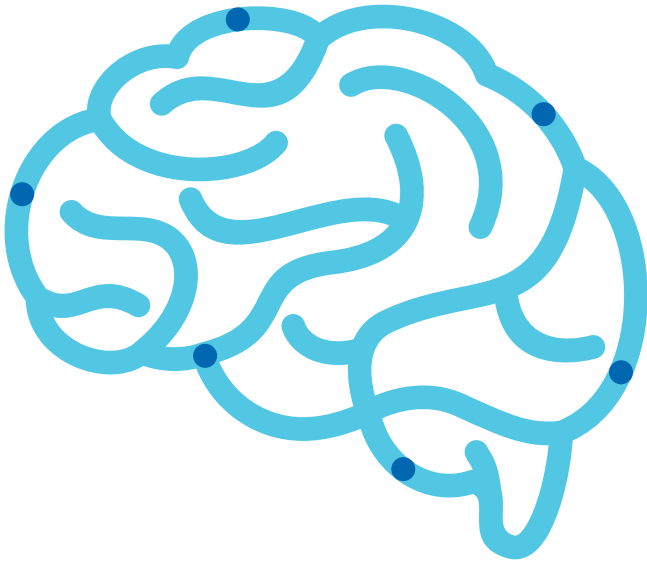




# Headaches in children and adolescents

Jane and John Justin Institute for Mind Health at Cook Children's



## What causes headaches?

There are a number of theories around the causes of chronic headaches. Family history, environmental factors and certain foods are all possible causes. In addition, the dilation of blood vessels in the head, changing serotonin levels, as well as activation of the trigeminal vascular system, also may play a role in causing pain.

## How common are headaches in children?

Recurrent headaches occur in approximately 54 percent of children and adolescents. However, migraines occur in only about 9 percent of children and adolescents. Migraines and tension headaches are considered to be chronic when they occur at least 15 days per month for longer than three months.

## What are the different types of headaches?

### Tension-type

**Duration:** May last for 30 minutes up to several days.

**Symptoms:** Usually described as a tight band around the head; muscle tightness in the neck and shoulder may be reported.

**Causes:** These headaches can be associated with sensitivity to light and sound and may occur near the end of the day.

**Treatment:** Usually these types of headaches do not require medical attention and can be treated with analgesics or serotonin receptor, massage, rest, alternating between hot or cold packs and reducing stress triggers.

### Migraine

**Duration:** Lasts two to 72 hours if not treated with rest, sleep or medication. In children, they can be shorter and last 30 to 60 minutes.

**Symptoms:** Often described as throbbing, pounding or pulsating pain; also may be described as stabbing or pressure-like. Pain is usually located on one side of the head. In younger children, the pain can be on both sides of the head. Associated symptoms include: nausea, vomiting, stomach pain, difficulty with bright lights, sunlight, loud sounds and strong smells. Warning signs (auras) usually are visual symptoms that begin before a headache. Rarely auras can be changes in sensation, tastes, strength and even confusion. A typical aura lasts five to 60 minutes before the headache starts.

**Causes:** Activity, including normal daily activity can aggravate symptoms.

**Treatment:** There are a number of treatments for migraine headaches including over-the-counter and prescription options. Some patients may need to see a specialist to help them determine the best course of treatment for their migraines.

### Medication overuse headaches

**Duration:** Can occur daily, or most days, waking you from sleep.

**Symptoms:** Headache followed by nausea, trouble concentrating and/or irritability.

**Causes:** Caused by overuse of both prescription and over-the-counter pain medications for greater than 10 days per month.

**Treatment:** Stop all pain medications for at least two to three weeks, and up to six weeks; dependent on how long the overuse has been occurring. It is important to limit the use of pain medications to no more than two to three days per week or less than 10 days per month.

**NOTE:** Caffeine can make a medication overuse headache worse.

## When to refer a patient

Cook Children's Headache Clinic is here to help relieve the pain and determine the cause of your patient's headaches so we can give them the best possible quality of life. Contact us if a child complains of one or more of the following frequent symptoms:

- Headaches that awaken the child from sleep.
- Early morning vomiting without upset stomach.
- Worsening or more frequent headaches.
- Personality changes.
- Complaints that "this is the worst headache I've ever had!"
- The headache is different than previous headaches.
- Headaches with fever or a stiff neck or headaches following an injury.

## Our approach

Treatment depends on the type of headaches and the triggers that may be causing it.

### Triggers

Prevention is an important part of treating chronic headaches. Our goal is to understand the unique triggers for a patient's chronic headaches and encourage them to develop healthy habits for prevention and/or reducing their frequency.

#### Fluids

Determine if the patient is drinking enough fluids. Dehydration is a big trigger for headaches. Electrolyte beverages, sports drinks and coconut water can be helpful during a headache.

#### Caffeine

How much caffeine does the child drink? Drinking caffeine regularly will lead to more headaches.

#### Meals

Is the child skipping meals? Irregular eating habits can trigger headaches. Specific food triggers may play a role. These include aged cheese, artificial sweeteners, caffeine, chocolate, citrus fruits, cured meats, packaged lunch meat, sausage, hot dogs and pepperoni, MSG, nuts, onions and salty foods.

#### Sleep

Is the child sleeping enough? Too little sleep can trigger a migraine. So can too much. Children and adolescents need 8.5-9.5 hours of sleep each night. Sleep should be at regular times every day, including weekends. Avoid taking naps.

#### Screen time

Assess a child's screen time. This includes TV, tablet, phone, computer and video games. The American Academy of Pediatrics recommends less than two hours per day of screen time. Turn off electronic devices at least one hour prior to bedtime to allow time to unwind.

## Stress management and biofeedback therapy

Recent research has shown the importance of biofeedback therapy, mindfulness, relaxation techniques and stress management in the prevention of headaches. Try to avoid overcrowded schedules or stressful and potentially upsetting situations.

## Medications

Preventive medications are usually reserved for patients that are having headaches consistently more than once per week or more than six times per month.

- Preventive medications can have side effects.
- Preventive medications do not eliminate headaches completely.

**When medications are needed in children/adolescents, these are the most commonly used:**

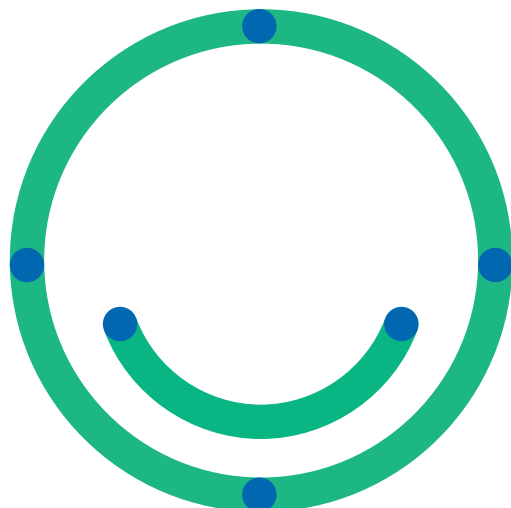
**Amitriptyline (tricyclic antidepressant)** – influences the body's use of serotonin, which is involved in pain regulation. Common side effects: dry mouth, dry eyes, constipation, sedation (this may help with overnight sleep).

**Topiramate (anti-seizure)** – this medication is thought to reduce the brain's sensitivity to triggering a migraine attack. It may alter how serotonin is regulated. Common side effects: numbness/tingling, decreased appetite, slowed thinking, word-finding difficulty, decreased sweating.

**Propranolol (blood pressure)** – this medication may work by blocking adrenaline and impact a body's response to stress, a known migraine trigger. Common side effects: dizziness and lightheadedness.

**Cyproheptadine (allergy)** – has properties that act against serotonin, which is involved in the migraine pathway. Common side effects: increased appetite, sedation and weight gain.

**NOTE:** If headaches do not respond to the above treatment options, there are other treatments considered for specific patient cases. Treatments can include Botox® and anti-calcitonin gene-related peptide (anti-CGRP) migraine treatments.



## Preventive supplements

There is evidence for the use of over-the-counter supplementation with riboflavin (vitamin B2), magnesium and coenzyme Q10. Dosing would be based on age and weight as recommended.

## Education for patients and parents

- “As needed medications” should be taken as soon as pain is felt or an aura presents. The sooner, the better. The longer the headache goes, the harder it is to treat and it may not respond to treatments.
- Make sure the child’s medication is available at school.
- Do not take medications more than two to three days per week. This can cause an increase in headaches. Educate the patient family about headache prevention and advise them to call the doctor if medications are needed more than two days per week.
- Tracking headaches may help isolate triggers and assist the patient and family in identifying what to do to avoid the trigger. Daily, weekly, monthly tracking diaries are available on the American Headache Society website ([achenet.org](http://achenet.org)). Migraine Buddy is also a helpful app available for download.

## Our team:



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Or visit our paperless referral platform

[epiccarelink.cookchildrens.org](http://epiccarelink.cookchildrens.org)

For information on our support group for teens: Living with, adapting, understanding, and navigating chronic headaches (L.A.U.N.C.H.), contact us at 682-303-0479.