

# **Chronic Daily Headache: A Family Guide**

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## INTRODUCTION

Headaches are common in children and adolescents. About 20% of 5 year old children have occasional headaches, and as many as 75% of adolescents get headaches. Migraine headaches, a specific kind of headache, are very common in childhood, as well. About 2% (1 in 50) of 7 year olds and 5% (1 in 20) - or more - of 15 year olds have migraines. Many adults with migraines remember that their headaches began in childhood. Very young children as young can have migraines, other headaches or migraine equivalents.

The brain lacks nerve endings, as might be found in your fingers or toes, so the brain itself cannot "feel" pain. However, the blood vessels within or around the brain and the tissues covering the brain (the dura) have pain sensors. Activation of these sensors can produce the pain that we experience during a headache. Stretching of blood vessels and dura causes headaches when children or adults have brain tumors. Other headaches happen because of continuous, painful contractions of the scalp muscles. Scientists believe that migraine, one of the most common types of headaches, begins with the release of chemical serotonin into the blood stream. This release leads to chemical and electrical changes within the brain as well as to changes in blood vessels that produce the symptoms of migraines.

Because headaches can be caused by many medical conditions, they produce a lot of worry for both parents and physicians. For example, brain tumors can certainly cause headaches. However, the vast majority of children and adolescents with headaches do not have tumors or other severe medical conditions.

Our goals in evaluating and treating your child with headaches are to 1) make sure that the headache is not due to some other serious medical condition; 2) identify the cause or the type of headache your child is having; and 3) recommend the best treatment plan for your child. In most cases, your child will not have any another serious disease causing the headaches and in most cases your child's headaches will be able to be improved a great deal.

**CHRONIC DAILY HEADACHE** (A constant headache that occurs nearly every day almost all day long)

Chronic daily headache is a very distressing, very concerning and often disabling problem for children and families. As the name implies, chronic daily headaches occur daily, often continuously for months or years. The headache tends to be constant, present upon awakening, and persistent throughout the day, although it may wax and wane in severity during the day. Nausea and sensitivity to light can be present. The majority of children and adolescents with chronic daily headache do not have an unrecognized serious medical condition causing their headaches.

Our goals in evaluating and treating your child with chronic daily headache are to: 1) make sure that the headaches are not due to a serious medical condition; 2) identify factors contributing to these constant headaches; and 3) recommend the best treatment plan for your child. In most cases, your child will not have a serious disease causing the headaches, but the treatment can be challenging and you and your doctors must work together to find the optimal approach to treatment. *This will require both medication and non-medication approaches to get to the best results.*

Because your doctor will want to be certain that no serious medical condition is causing this problem, your child requires a detailed evaluation that includes a thorough physical examination. Certain medical tests may be necessary. These may include an MRI of the brain, blood tests and/or urine tests. *However, in the majority of cases these tests will be normal.* Occasionally, high spinal fluid pressure inside the brain can produce chronic daily headaches. This is a rare condition but if it is suspected, an eye examination by an ophthalmologist may be recommended, and a spinal tap may be necessary to measure spinal fluid pressure. Depression can be a major factor in chronic daily headache, and a thorough psychological or psychiatric evaluation may be essential to ensure the best treatment for your child.

### **The Vicious Cycle of Chronic Headaches**

In the majority of cases, chronic daily headaches result from a **“vicious cycle”** in which many factors combine to cause and then keep causing (perpetuate) headaches (see Figure ). Emotional or psychological factors often contribute to this vicious cycle. Many children have a genetic predisposition for headaches and often have had migraines in the past. Then, a trigger such as a head injury, a concussion, an infection such as “mono” (infectious mononucleosis caused by the Epstein Barr virus) or some other illness or stress starts the headache cycle. Once started the cycle keeps going with other factors adding to it. Headache pain causes stress

and tension and this may cause painful muscle contraction of the muscles of the scalp and neck. This in turn worsens the pain, activates serotonin nerves releasing more serotonin, and this aggravates the pain further. Often, the child's sleep is disrupted, and with lack of proper sleep and rest, the problem is worsened. Consequently, most children with chronic daily headaches do not feel well, do not remain active, cannot concentrate, and school becomes very stressful and challenging. All of this feeds into the vicious cycle. In addition, the frequent use of anti-pain ("analgesic") medications such as ibuprofen and acetaminophen can actually make the problem worst by causing a "rebound" or "medication overuse" headache. All of this can lead to discouragement, loss of hope and depression which makes the headache symptoms even harder to bear and the management of your child's pain even more challenging.

Since many factors feed into this vicious cycle and make the headache process worsen over time, the approach to treatment similarly requires several approaches and usually takes weeks or months to result in substantial improvement. Families have an understandable tendency to give up too quickly on treatments when they do not work right away, but often a treatment has to be given a proper chance to work effectively. Though difficult, it is very important to be patient and to "hang in there" with treatments that might be helpful over time.

### *Treating Chronic Daily Headaches*

If a specific cause is identified for the headaches, this condition will require specific treatment, and your child's neurologist will recommend and discuss that. But, remember, *in the majority of children with chronic daily headache, no specific cause or other medical problem can be identified.* Helping these children and adolescents relies on an understanding of three contributing and interacting components:

<b>Vulnerabilities:</b>	In other words, why me?
<b>Precipitants:</b>	Why did headaches happen now?
<b>Maintenance factors:</b>	Why won't headaches stop?

The following material addresses each of these components.

**Vulnerabilities:** Most individuals who experience chronic headaches appear to be predisposed to migraines or other headaches. In addition, 50% or more of the adolescents with chronic daily headaches have family members with headaches, usually migraine. This suggests that hereditary factors make headaches more likely to begin with.

**Precipitants:** Chronic daily headaches often begin with an event that significantly changes a person's daily routines. This can be an illness, such as infectious mononucleosis; an injury, such as a tear of knee ligaments that prevents a teenager from playing sports; or a major family stress, such as divorce or death of a close friend or relative. Understanding that these events can provoke headaches enables parents, teachers and friends to support children and teenagers through a life crisis or difficult period.

**Maintenance Factors:** Why some children's headaches last a few hours with little impact while others' headaches continue for months and disturb daily routines is not well understood. Medical, genetic and other factors play important roles in maintaining the vicious cycle. It is important to understand that personality traits and family responses often play important roles in this as well. Adolescents who are perfectionists or have high internal ("over-achievers") or external (parental) expectations may be more likely to develop chronic, daily headaches.

Parents should be aware of how their own behavior affects their child with headaches. Displaying excessive worry ("There must be something the doctors are missing"), providing excuses ("You have a headache, you shouldn't go to school today."), and undermining self confidence ("You won't do well on the test today because you have a headache.") can make chronic headaches continue or worsen. Seeking many other medical opinions from one specialist after another can also prolong rather than shorten chronic headaches. If you trust your pediatrician, primary care physician or pediatric neurologist, rely on her or him to guide the evaluation and treatment.

Parents should be alert for signs of depression in their child with chronic headaches, such as poor sleep habits, excessive weight loss or gain, anger, declining school performance, or withdrawing from friends and family. Depression can be the cause and/or the result of chronic headache. Current information suggests that 1 in 4 women and 1 in 6 men experience at least one bout of major depression during their lifetimes. Depression often appears first in adolescence. Headaches will not improve unless depression is recognized and treated adequately.

Treatment relies on all options that can hopefully "break" the vicious cycle of chronic daily headache. This includes: 1) general health measures including proper diet, activity and sleep; 2) elimination or dramatic reduction in the frequent use of pain medications; 3) medications to try to prevent the headaches from returning and continuing; and, 4) non-medication approaches to help cope with and gradually recover from the headaches.

## ***Medication and Non-Medication Management***

Many of the same medications that prevent migraine can be used to treat chronic headaches. These include divalproex sodium (Depakote), gabapentin (Neurontin), topiramate (Topamax), and amitriptyline. However, many children and adolescents may not respond to these medications, and headaches continue. Non-medication approaches may be very helpful in reducing the severity of headaches or in coping with the headache problem. These include, relaxation training, massage therapy, physical therapy directed a reduction of muscle tension, biofeedback, self-hypnosis and imagery therapy (<http://imagerytraining-institute.com/imagery.html>). These are all safe therapies that may be very helpful and do not have side effects (although costs can be a problem).

Do not underestimate the potential benefit of having your child or adolescent see a psychologist or psychiatrist. Occasionally, a psychologist finds an unrecognized learning disability or life stress that may be underlying reasons for your child's headaches or school absences. A psychologist can also help your child when school absences become an additional burden. Encourage your and adolescent to go to school whenever possible. Attending school is an important part of the successful treatment of chronic daily headaches in adolescents and children.

In rare cases, we may recommend hospitalization to allow for intravenous medication administration to try to "break the headache cycle." This is most likely to be helpful if the headaches are a migraine-type headache that has become out of control. Usually, hospitalization will also include evaluation by a psychologist or psychiatrist to address other important issues and strategies to cope with and combat the headache. The most commonly used intravenous medication is dihydroergotamine (DHE) which is given intravenously (IV) every 8 hours along (often in increasing doses) with an anti-emetic medication (an anti-nausea agent). This IV approach is effective in about 50% of cases. Other approaches may also be used.

With proper attention to good health measures, a consistent treatment plan and common efforts on the part patient, family and physician, most children and adolescents will recover from their headaches.

## **Suggested Reading**

Linder. SL, Winner P. Pediatric headache. Med Clin North Am 85:1037-53, 2001. A Useful article, written for physicians, that contains abundant medical information regarding migraine and chronic headache.

[www.headaches.org/consumer/educationalmodules/chilrensheadache/agborne.html](http://www.headaches.org/consumer/educationalmodules/chilrensheadache/agborne.html)

An informative website with information written by Dr. David Rothner, headache expert and former head of child neurology at the Cleveland Clinic.

[www.mayoclinic.com](http://www.mayoclinic.com)

Search the Mayo Clinic's website for up-to-date information regarding medications and non-medications approaches to treating headaches.

[www.aafp.org/afp/20020215/625.html](http://www.aafp.org/afp/20020215/625.html)

An online medical article written by another headache expert, Dr Don Lewis.

[www.achenet.org](http://www.achenet.org)

An online website sponsored by the American Headache Society, with educational information for families and providers.

## **Table 1: Foods that May Trigger Migraines/Headaches**

Aspartame

Caffeine

Cheeses (especially aged cheeses)

Chocolate

MSG (frozen dinners, processed food)

Nuts (peanut butter)

Pizza

Processed meats (hot dogs, bacon, bologna, pepperoni, salami, sausage)

**Table 2: Interruptive Medications**

<b>Medication</b>	<b>Possible Side Effects</b>
Ibuprofen (Advil)	Gastrointestinal pain or upset
Naproxen (Aleve)	Gastrointestinal pain or upset
Excedrin	Gastrointestinal pain or upset
Isometheptene –with other components (Midrin)	Tiredness, dizziness ****may no longer be available****
<b>Triptans:</b>	
sumatriptan (Imitrex) plus many others	Pains elsewhere, tiredness, anxiety, tingling, flushing

These medications are best used as soon as the headache starts. Your doctor will give you details on usage. Excedrin comes in various types many of which contain aspirin which we generally do not recommend in children. Excedrin Tension does not contain aspirin. All of these are best used less than three times per week to avoid “rebound headaches.” Triptans have technically not been approved for use in children but many doctors in the United States do prescribe these cautiously in children.

**Table 3: Medications for headache prevention (prophylactic medications)**

<b>Medication</b>	<b>Possible Side Effects</b>
Cyproheptadine	Sleepiness, tiredness, weight gain
Topiramate	Tiredness, reduced alertness, tingling, decreased appetite and weight loss, memory problems, kidney stones.
Propranolol	Tiredness, less energy with exercise, depression
Amitryptiline	Dry mouth, tiredness, palpitations, weight gain
Valproic acid	Weight gain, tiredness, blood and liver side effects
Verapamil	Low blood pressure, dizziness

All of these possible side effects are less common or rare at low doses. Other less commonly used medicines are not listed in this table. Valproic acid increases the risk of serious birth defects if taken during pregnancy.