Headaches & Migraines

Headaches are a common pediatric complaint, and rarely signify something serious. Many children experience headaches in conjunction with fever, strep throat, and viral infections. However, some kids do experience recurrent headaches unrelated to illness.

If your child experiences recurrent headaches, much of our diagnosis will be based on headache history. Please have the answers to the following questions ready when coming in for an appointment:

- When did the headaches begin?
- What is the pattern of the headaches- daily or monthly, morning or evening? Are they worsening or increasing in frequency?
- How often does the headache occur, and how long does it last?
- Does your child have one type of headache or more than one type?
- Are there warning signs or can your child tell that a headache is coming?
- Where is the pain located and what is the quality of the pain: pounding, squeezing, stabbing, or other?
- Are there any other symptoms that accompany the headache: nausea, vomiting, dizziness, numbness, weakness, or other?
- What makes the headache better or worse? Do any activities, medications, weather patterns, menses or foods cause or aggravate the headaches?

- What do your child do when they get a headache? Do they stop activities with a headache?
- Does your child have other symptoms between headaches?
- What are you using to treat the headache? If medication, what is it and how often do you use it?
- Is there a family history of migraine?

Diagnosis:

Headaches are usually diagnosed based on history alone in children. CT scans and MRIs are typically only necessary if there are neurological findings on exam, or if the headaches have changed in nature over time. EEGs are rarely indicated unless there is reason to believe the headache is part of a seizure. Blood tests are also not indicated unless there are other symptoms consistent with infection (i.e. Lyme Disease) or endocrine abnormality (i.e. thyroid disease.)

Headache Diaries:

We can often identify headache triggers by keeping a diary. Each time your child has a headache, record it noting the time of day, what she ate and drank in the preceding 24 hours, and where and what she was doing when the headache began. Other conditions to take note of include the weather (changes in barometric pressure), menses, sleep deprivation, and medications. Note any medication given to treat the headache and whether it helps. Nowadays there are several free apps available on your smartphone to help with this. Try searching "headache diary" or "headache log."

Recurrent headaches fall into several categories:

- **Tension Headache:** dull pressure or tightness in a bandlike distribution around the head, sometimes involving the neck. Can last 30 minutes to several days, and can occur either infrequently or daily. Often accompanied by fatigue.

- **Cluster headache:** sharp, severe pain developing rapidly on one side of the head (usually around or behind the eye.) Lasts 15 minutes to several hours, and can recur several times over a day/days in "clusters." Often accompanied by nasal congestion, unilateral runny nose, eye redness and/or eye tearing, and feeling of agitation.

- **Migraine Headaches:** Moderate to severe throbbing on one side or both sides of the head, lasts several hours to several days, and can recur with varying frequency. Often accompanied by nausea, vomiting, sensitivity to light, smell and/or sound, and increased pain with physical activity.

Pediatric migraines can also fall into various categories, including **migraine without aura** (common migraine), **migraine with aura** (classic migraine) and several periodic conditions that can present along with migraines (**cyclic vomiting, abdominal migraine**, and **benign paroxysmal vertigo of childhood**.)
Many migraines are preceded by an "aura"- an early warning sign such as flashing lights, ringing in the ears, blind spots, smelling an unusual aroma or tingling in the face, arm or leg.

Basilar migraines are characterized by episodes of dizziness, vertigo, visual disturbances, dis-coordination and double vision, followed by a headache. The pain may be in the back (occipital) part of the head.

Benign paroxysmal vertigo is marked by sudden unsteadiness and ataxia (uncoordinated gait, shaky inaccurate reach) along with nausea. These episodes often result in (and go away with) sleep.

Cyclic vomiting is a pattern of episodes of severe vomiting every 2-4 weeks with intervening periods of wellness. There are typically no other symptoms (such as diarrhea or fever) that indicate an gastrointestinal infection as the cause of the vomiting.

Abdominal migraine is characterized by episodic, vague, periumbilical (around the belly button) pain that generally lasts for hours without other symptoms or cause.

What causes migraines?

People who suffer from migraines are thought to have hyper-excitable brains; when a disturbance of the calcium channels within the brain takes place a "wave" of cortical depression spreads throughout the brain which can trigger auras such as visual and auditory distortions. The depolarization also triggers vascular dilation that causes inflammation around the vessels in the brain's covering (dura and pia maters.) This inflammation causes pain as well as hypersensitivity to many types of stimulation (light, sound, touch.) The sympathetic nervous system also responds with feelings of nausea, diarrhea, and vomiting.

The most common triggers for migraines include:

- **Sleep changes**: getting too much or too little sleep, jet lag

- **Stress and anxiety**
- **Medications:** oral contraceptives and vasodilators.
- **Strong odors**: perfumes, paint/other fumes or secondhand cigarette smoke
- **Bright lights (sun glare) or loud sounds**
- **Foods**: The most common food offenders include **aspartame**, an artificial sugar substitute; foods that contain **tyramine** (a substance that forms as foods age), such as aged cheeses, hard sausages, and Chianti wine; foods that contain **monosodium glutamate** or MSG, a key ingredient in many broths, Asian foods, and processed foods; **caffeinated or alcohol drinks**, particularly beer and red wine; **citrus fruits**; and foods that contain **nitrates**, such as hot dogs, bacon, and salami. Skipping a meal or fasting may also increase your likelihood for a migraine.
- **Changes in the weather and barometric pressure**
- **Hormonal changes**: In many women fluctuations in estrogen, caused by menstruation, pregnancy, or menopause, may cause a migraine. Hormone medications, including oral contraceptives and hormone replacement therapy, can trigger or even worsen migraines, too.
- **Physical activity**: Physically exerting yourself—whether through exercise, sexual activity, or physical labor—may cause a migraine.
- **Medication-overuse:** If pain medication is used more than 3-5 times a week for a period of several months, overuse headaches

can develop. The medications not only stop relieving pain but also cause recurrent headaches.

Other Risk Factors:

- **Genes**: About 90 percent of people with migraines have a family history of the severe headaches. If your parents, siblings, or children have migraines, you're more likely to have them.

- **Gender**: Seventy percent of migraine sufferers are women. However, in childhood, boys are more often affected than girls. The gender switch begins around the time of puberty.

- **Age**: Most people will experience their first migraine in adolescence, but they can occur at any age.

- **Weight**: Women who are mildly obese or obese have a greater risk for migraine headaches than women with a lower BMI.

Treatment:

The best treatment for migraines is prevention. That means avoiding risk factors such as food and odor triggers, fatigue, hunger, thirst and stress. If medication is necessary, we recommend:

- **Non-steroidal anti-inflammatory drugs** such as **ibuprofen** are our first line of treatment. These should be given as soon as an aura headache begins. Used chronically, they can cause gastritis (inflammation with or without bleeding in the stomach) and medication overuse headaches.

- **Triptans** which work by promoting constriction of dilated blood vessels and blocking pain pathways in the brain. **Sumatriptan nasal spray** and **zolmitriptan disintegrating tablets** are most

commonly used in children. These medications can also cause nausea, vomiting, dizziness and drowsiness.

- If migraines are associated with menses (menstruation), you can start treatment with ibuprofen just prior to the predicted onset of menstruation.
- **Opiods**- narcotic containing medications such as **codeine** are typically only used for severe migraines, and for when NSAIDs cannot be used.
- **Anti-nausea medication**- because migraines and the medications used to treat them can both cause nausea and vomiting, we will often combine an anti-nausea drug with a pain reliever. **Zofran** can be given as a dissolvable under-the-tongue medication.

Preventative Medications:

We may recommend regular preventative medication if your child has 4 or more attacks a month, if the attacks last more than 12 hours, if pain relieving medications are not effective or if the migraine symptoms include neurological symptoms such as numbness or weakness. These medications need to be used everyday for at least 4-8 weeks, and often longer.

The most common medications used for migraine prevention in children are **Topamax** (an anti-seizure drug), **Amitryiptyline** (a tricyclic antidepressant), and **Periactin** (an anti-histamine.)

Alternative Medicine:

Some non-traditional therapies such as acupuncture and biofeedback have been found to be helpful in some patients. Magnesium supplements may also be effective. We do not routinely recommend the use of various herbs, vitamins or minerals as none have been found to be definitely safe and effective in children. Please talk to us or your neurologist prior to trying any alternative therapies.