

Patient Information:

Migraine Headaches: There is Hope!

- **Migraine Characteristics**
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About 95% of recurrent headaches are either migraine or tension headaches. Some people have both kinds. Some medical texts refer to this as "mixed-headache disorder." For many years, these two headache types were thought to be independent disorders, but now many neurologists feel the mechanisms that cause both of them are similar and treatments for them overlap. Like two flavors of ice cream, migraine and tension headache lie on the same spectrum of headache. There are other notable forms of "primary" headache such as cluster headaches. These are fortunately uncommon and will not be discussed here.

Most headaches can be diagnosed by your health care provider through a history of symptoms and a physical exam. Rarely, there may be a secondary cause of headache such as a tumor or blood vessel problem. In the event a rarer cause of headache is suspected, blood work, neurology referral, or even imaging by CT or MRI may be needed. Typically, no scanning is warranted for uncomplicated migraine and tension headaches, as they are usually normal and are costly to the patient.

CHARACTERISTICS OF COMMON HEADACHES

Migraine Headaches:

- Usually have a pulsing or throbbing quality, but may be continual dull ache, or pressure. Some describe stabbing or sharp pains.
- Are felt on one or both sides of the head, in regions of the cheeks, behind eyes, forehead, temples, crown, sides or back of the head
- May be first experienced in childhood, but most have their first in late teens or 20's
- May be mistaken for recurrent "sinus infections" or "sinus headaches" as they can occur with nasal congestion and result in pressure under and behind the eyes
- May have neck tension at the beginning or throughout - mistaken as a tension headache
- Lasts several hours to several days
- Usually occur abruptly; often a patient feels fine at bedtime, and wakes with the pain; pain may develop in a short time of several minutes to hours; pain may quickly rise to moderate or severe intensity

- May be debilitating or just severe enough to impair daily function or performance
- May have nausea or vomiting along with pain
- May be improved or relieved by sleep, often a person seeks a darkened room and bed for relief
- May be worsened with activity, exercise, bright lights or noise
- May be preceded by visual changes, such as an aura of zigzagging lines or blind-spots
- May occur as infrequently as once a year or several times a week
- Often there is a family history of one or more family members with migraine, tension headaches, "sick headaches", or "sinus headaches"
- Over-the-counter pain medications may completely relieve, blunt, or not help pain

Tension Headaches:

- May present as a constant dull ache, often progressively worsening over several hours
- May be felt on both sides of the head, the frontal area, or at the base of the head and neck
- Usually felt as a squeezing, tightness or band like constriction around the head
- Severity is usually not disabling as migraine can be, but may impair performance or function
- Precursor of neck and shoulder stiffness common
- May be experienced on an infrequent basis, or become a daily occurrence with time
- Are noted at the end of work or class days or at times of "stress-let-down," after exams or on vacation
- Over-the-counter pain medications frequently help, but with time not be as effective
- Exercise, sleep, massage may help but seldom worsens it
- With time can go from an occasional or episodic to a chronic or near daily headache;

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through the course of the day may intensify and take on more qualities of migraine

What Causes Headaches?

Estimates are that over 28 million Americans suffer from headache and meet criteria for migraine on history alone. Only 14 million are currently diagnosed. So many still go through life self-treating them as “regular” or “plain-old headaches,” thinking they are “sinus” headaches or sinus infections, or simply don’t feel they are “bad enough to be a migraine.” Perhaps 3% of these are tension headache.

We all have the ability to experience headache but some people have a higher headache threshold or point which the headache process is triggered and pain begins. Others have low thresholds and get more frequent headaches. Migraine (and it is theorized tension headache) is a complicated process that begins with exposure to a trigger or group of triggers. This subsequently causes the propagation of an aberrant neurochemical process in the brainstem structure (nucleus caudalis) outward along one or both cranial nerves (trigeminal nerves) to the cheeks, eyes, forehead and temples. The cervical nerves (cervical roots C2,C3,C4) may also be activated affecting the base of the skull and upper neck. Affected nerves and blood vessels along the way experience swelling and release pain generating chemicals (called neurogenic vasoinflammation). The process eventually spreads like a forest fire to the furthest extents of neurons in the brain and surrounding structures (called central sensitization). It causes pain over a portion of or the entire head. Neck stiffness and pain can erroneously be thought of as a tension or muscle-contraction headache. Sudden onset mask-like pain in the cheeks, eyes or forehead can wrongly be thought to be sinusitis.

Headaches are easier to trigger in some people than others. Some common triggers of migraine are:

- Acute or chronic emotional and/or physical stress
- Weather changes such as barometric pressure drops with storm fronts, changes in altitude or depth such as with flying or scuba diving
- Odors like perfumes or colognes
- Irregular sleep; too much, too little (less than or greater than 7–8 hours a night)
- Low blood sugar from skipping meals
- Caffeine use or withdrawal from it if regular daily intake has been high
- Menstrual cycles, typically drops in estrogen just prior to beginning menstruation
- Ingestion of MSG (monosodium glutamate) and its many hidden forms found in an abundance of packaged and frozen foods, restaurant foods,

chips and spice mixes

- Ingestion of foods with nitrates, found in most processed meats
- Ingestion of instant soups (bouillon), cheeses, and gravies found in All-You-Can-Eat bars
- Ingestion of alcohols like wine (from sulfites), and beer (from yeasts)
- Ingestion of NutraSweet, especially multiple servings through the day (Splenda is OK!)
- Ingestion of chocolate, onions, aged cheeses, smoked or pickled foods, nuts, bananas, pineapples, and even citrus fruits and juices
- Lengthy exposure to flickering lights, fluorescent lights, even bright sunlight, and computer screens

Remember that any one trigger or the combined effects of several triggers may spawn a migraine. Due to similar mechanisms, tension headache may result from these too. The effects of triggers are cumulative each day or mount over time from regular exposure. Small doses of triggers are sometimes all it takes to cause a headache.

What Can Medications Do To Help Control My Headaches?

Migraine and tension headaches can not be cured. You must consider them a chronic condition like diabetes or high blood pressure. Regardless of the type, they can be treated with similar medications. Medications for headache are classified as “abortive,” “rescue,” and “preventive.”

ABORTIVE MEDICATIONS stop the headache process and with it pain and accompanying symptoms. The goal with these is to become pain-free and reduce recurrence of another headache. Occasional use of over-the-counter (OTC) abortive medications such as acetaminophen (*Tylenol*), aspirin (*Bayer*), ibuprofen (*Motrin*, *Advil*) or naproxen sodium (*Aleve*, *Naprelan*) can relieve both migraine and tension headaches (if used early at onset of headache). The doses of OTC medications are typically lower than those prescribed by your healthcare provider. Ask for safe doses. For headaches resistant to these drugs, prescription medications are needed. The family of drugs called Triptans are considered “the gold-standard” for use early in the course of migraine. There are seven (*Imitrex*, *Maxalt*, *Zomig*, *Amerge*, *Frova*, *Relpax*, *Axert*) and they have subtle differences. All are effective in aborting migraine and even tension headaches. They prevent recurrences too. They should be used no more than twice a week. Older medications, like *Midrin*, work well in headache provided it is used early in the beginning stages of migraine and tension headaches. It is cheap and well tolerated. Ketorolac (*Toradol*) is a potent

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injectable anti-inflammatory that works well for early migraine. Dihydroergotamine (*Migranal*) nasal spray has been effective for years and is an option for those who don't tolerate Triptan family abortive drugs. Drug interactions are an issue with this one.

RESCUE MEDICATIONS are used when the initial abortive treatment didn't work or was taken too late in the headache process to be effective. The goal when using these drugs is to provide relief from pain with the risk of sedation and/or gastrointestinal side effects being an acceptable trade-off. Tramadol (*Ultram*) is a good option. Commonly, oral opioids like Codeine (*Tylenol#3*), and propoxyphene (*Darvocet*), hydrocodone (*Lortab*, *Vicodin*) or oxycodone (*Percocet*) are used. Over-use of these drugs can lead to rebound headaches and risk of addiction. Injectable opioids like meperidine (*Demerol*) are sometimes used in the emergency room. Opioids should NEVER be used as the only drug to treat regular migraine. In this authors' opinion, butalbital containing drugs (*Bupap*, *Fiorinal*, *Fioricet*) should never be used because of addiction and rebound headache concerns. In fact, it is banned in Europe. *Imitrex* can be injected and is the only drug in its class indicated for migraine of several hours to days duration. Anti-emetics (*Phenergan* and *Compazine*) and anticonvulsants (*Depakote*) are sometimes used in the emergency room setting as rescue, but are not practical for regular home use due to marked sedation, adverse event risk or need for IV administration.

PREVENTIVE MEDICATIONS are those taken daily and long-term. Usually it takes 1-3 months to see benefit. Some frequent headache sufferers have taken these for years. The goal when using these drugs is to reduce headache frequency and/or intensity. They are indicated for patients suffering few disabling headaches a month, or person suffering frequent headaches that affect daily performance and quality of life. Anticonvulsant medications like *Depakote*, *Topamax*, *Neurontin*, and *Zonegran* are now used to great success for migraine. Low doses of older antidepressants like amitriptyline (*Elavil*) and nortriptyline (*Pamelor*) are very good for migraine and tension headache. Depression or anxiety often co-exist in the headache sufferer and recent SSRIs (*Lexapro*, *Paxil*, *Prozac*, *Zoloft*, etc.) or similar acting ones like, *Effexor XR* and *Wellbutrin XR*, are helpful in co-existing conditions. Beta-blockers, like propranolol (*Inderal*), and tenormin (*Atenolol*), help many with migraine. Sometimes muscle relaxants like Tizanidine (*Zanaflex*) are taken in a preventive fashion for tension headaches as well. Preventives are combined for some headache patients. Hormones such as *Mircette* and *Seasonale* contraceptive pills are used in some menstrual migraine patients.

A STATEMENT OF CAUTION. It is critical to note that overuse of pain medication can actually result in more frequent headache, a phenomenon called analgesic rebound headaches. Most neurologists believe use of OTC medications that contain caffeine in combination

with aspirin, acetaminophen, and/or ibuprophen (*Excedrine*, *Excedrine Migraine*, *Anacin*, *BC Powders*, *Goody Powders*), *Midrin*, all butalbital products, all Triptans, and all opioids used on more than 2 occasions a week can put a person at risk for rebound headaches. Your healthcare provider should instruct you on their appropriate use and recommend preventive medications if you are at risk. Thus headache prevention is a critical component of care.

There are **ALTERNATIVE METHODS** that are helpful. Some are more effective than others in relieving headaches. Over-the-counter pain rubs like *Arthrocreme* and *Ben Gay* (or generic rubs with 10-30% salicylate), *Blue Emu*, or *Blue Ice Gel* (menthol) are effective as an adjunct or alone for tension headache. Rub them on the neck. *Biofreeze* gel and *Head-On* sticks are very helpful for daily pain of tension headache and mild to moderate migraine pain. They are good adjuncts/alternatives to OTC medicines if rubbed on the forehead as needed. Microwaveable heat pads (gel-packs or gel neck wraps) are excellent for long periods of studying, computer work, and lab work. Hot tub or whirlpool massage to the neck and shoulders help many. Vitamins and herbal supplements that have good data to support their use in migraine prevention include vitamin B2, magnesium, and feverfew (Go to www.migrelief.com to order a product called Migrelief containing all 3 at recommended doses). Co-enzyme Q10 has been shown in a few studies to be helpful in reducing migraine frequency. These need to be taken in regular daily doses to be beneficial. Omega-3 and Omega-6 fatty acids (in fish oil and flaxseed oil) may also be of benefit and are being studied. Ginseng is said to relieve tension and help headache in tea, capsules and powders. Guarana, from Brazil, is a popular headache remedy, probably because of the caffeine it contains.

More costly methods (often because of insurance reimbursement shortfalls) include Chiropractic/Osteopathic manipulation, message, acupressure, acupuncture, and biofeedback. These have been used by headache patients with variable degrees of success.

Some headache sufferers are relieved by just a single medication occasionally. Others may require all manner of medications and modalities to manage difficult headache patterns. Most satisfied headache patients find that using a combination of lifestyle modification, OTC and/or prescription medications, and even alternative medicine products and modalities help manage their headaches. The key to controlling headaches is to educate yourself about migraine and create your own "headache toolkit" with the help of your healthcare provider. Medication use whether OTC or prescription should be stratified based on the severity of pain and disability, rate of intensification of pain, and duration of headache. Simply put, use well tolerated, cheap, and usually effective medications (e.g. naprosyn, caffeine, acetaminophen) for mild pain, and more potent, more costly, and clinically reliable prescription medications

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(e.g. Triptans drugs, Midrin) for moderate to severe pain. In time, you will determine what quality of headache will require which medication.

How Do I Start Taking Control of My Headaches?

In general, as a headache sufferer, you should do these things:

- Get regular daily exercise
- Maintain a regular sleep schedule, even on weekends, getting 7-8 hours nightly
- Maintain a regular eating schedule, avoiding skipping meals and seriously consider the dietary triggers of headache whenever you do dine
- Eliminate caffeine, NutraSweet, and alcohol; use Splenda in your diet drinks, and if you use alcohol, consider gin or vodka as the least migrainous
- Consider caffeine as a medication, use only when your healthcare provider recommends it
- Make your work station ergonomically correct, including soft-pleasant lighting with daylight bulbs and computer screen covers/filters; wear sun-glasses outdoors and when driving
- Control use of OTC headache medication, especially those with caffeine, using them no more than 2 occasions a week
- If your headaches are affecting your school performance and general quality of life, or they rarely occur, but are debilitating, seek help from a healthcare provider (doctor, physician assistant or nurse practitioner) who is comfortable treating headache
- Keep a headache diary. Log dates, severity, duration, medication you take and effects, and triggers you can pin point. (Bring this to your next appointment with your healthcare provider)
- Treat your migraine and tension headaches EARLY, with appropriate and effective OTC and/or prescription abortive medications
- Inquire about preventive medications and supplements. Take these medications regularly, as directed.
- Use rescue medications appropriately and with caution. Over-use may lead to trouble
- Go to www.headache.org or other similar websites and educate yourself on headache. The better you understand them the better you will be able to help yourself and your healthcare provider regarding treatment and prevention.
- Read *Headache Help*, 2nd edition, Houghton and Mifflin and/or *Heal Your Headache*, David

Buchholz, MD, Workman Publishing, 2002. These are just 2 of many good books out there on the subject!

When Should I See A Healthcare Provider?

There are certain situations that require an urgent visit to your healthcare provider as they may represent serious and/or "secondary" causes of headache:

- Sudden onset of a headache often described as "the worst headache I have ever felt" or a "thunder clap" headache
- Worsening of what was once a stable headache pattern
- First headache in a patient older than 50 years
- Headache with fever of 101 degrees with neck stiffness, vomiting, altered mental status, and skin rash
- Neurological signs of paralysis, weakness, decreased cognition and alertness, or vision changes not typically experienced by the patient with headache
- Onset of pain with exertion, coughing, sneezing, or orgasm

The causes of about 95% of recurrent headache are migraine and tension headaches. Some people have both kinds, called a mixed-headache disorder in some medical texts. For many years, these two headache types were thought to be independent disorders, but now many neurologists feel the mechanisms that cause both of them are similar and treatments for them overlap. Like two flavors of ice cream, migraine and tension headache lie on the same spectrum of headache. There are other notable forms of "primary" headache, like cluster headaches, but are fortunately uncommon and will not be discussed here.

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