Headache is an extremely common problem. It is estimated that 10-20% of all people have recurring headaches. It is one of the most common reasons people visit the doctor’s office. Headache can be the symptom of a serious problem, or it can be recurrent, annoying and disabling, without any underlying structural cause.

WHAT CAUSES HEAD PAIN?

Pain in the head is carried by certain nerves that supply the head and neck. The trigeminal system impacts the face as well as the cervical (neck) 1 and 2 nerves in the back of the head. Although pain can indicate that something is pushing on the brain or nerves, most of the time nothing is pushing on anything. We think that in migraine there may be a generator of headache in the brain which can be triggered by many things. Some people's generators are more sensitive to stimuli such as light, noise, odor, and stress than others, causing a person to have more frequent headaches.

THERE ARE MANY TYPES OF HEADACHES!

Most people have more than one type of headache. The most common type of headache seen in a doctor's office is migraine (the most common type of headache in the general population is tension headache). Some people do not believe that migraine and tension headaches are different headaches, but rather two ends of a headache continuum. The diagnosis of headache type is important since treatment differs for each headache type. Over the course of your life, headache patterns and symptoms may change.

TYPES OF HEADACHE

Migraine Without Aura

Migraine generally runs in families. This means you may have a genetic predisposition to get headaches. You can have mild pain with the features listed below and it is still considered a migraine headache. Sometimes dizziness and blurred vision accompany a migraine headache.

Migraine headaches are usually:

- Inherited
- Moderate to severe pain
- One-sided (can also be two-sided)
- Associated with nausea, vomiting, and/or light and sound sensitivity
- Aggravated by movement or activity
- Pulsing or throbbing
Migraine with Aura
Sometimes people have warning signs that they are going to get a headache. This is called an aura. Auras precede the migraine headache. They are usually visual, but other symptoms can occur, such as numbness or tingling of a hand or face, dizziness, difficulty with speech, and other complicated symptoms. The aura symptoms occur in 15% of patients with migraine.

Typical visual auras include: zig-zag lines, spots, dots, and waves that shimmer and move. Sometimes vision can tunnel. Aura can be present with little or NO Headache.

Tension Headache
Tension headache may occur in anyone. It is often triggered by fatigue, excessive reading, or stress. It can occur in a chronic (greater than 15 days per month) or episodic form.

Tension headaches are usually:
- Mild to moderate pain
- Both sides of head or band-like
- Pressing or tightening
- Not aggravated by activity or alcohol
- Mild light or sound sensitivity (not both)

Cluster Headache and Related Disorders
Cluster headache is a disorder frequently seen in men (5:1 ratio of males to females). It generally starts in the second or third decade of life. The excruciating pain is characteristically over one side of the head and is associated with a drooping eyelid, a smaller pupil, sweating, tearing, and nasal congestion. The pain lasts 15-90 minutes and radiates to the eye, temple, jaw, nose, chin, or teeth. Cluster headaches occur in cycles lasting weeks or months. During the cycle, the attacks can occur 1-3 times in a day and can awaken the individual at night. In between cycle periods, the patient is headache free.
Cluster headaches are precipitated by alcohol, excitement, sleep, and are also associated with smoking. These headaches respond to certain types of medication and often can be treated with oxygen.

A headache type seen in women and similar to cluster is Paroxysmal Hemicrania. This headache is unilateral, lasts only for a few minutes and occurs multiple times a day. It may have symptoms of nasal congestion, droopy eye lid, and redness to the eye. Sometimes it will be a chronic daily headache with superimposed stabbing pain known as *hemicrania continua*. It usually responds to a specific medication called indomethacin. Though it is less common, women can also have cluster headache. In addition, migraine can sometimes manifest in a "cluster-like" manner, either in groups of several headaches, or with some of the features of cluster headache.

**Most people have more than one type of headache.**

**Drug Rebound Headache (Medication Overuse Headache)**
Sometimes medications can cause headaches. Patients can experience daily headache when they take certain medications on a regular basis. When patients take a medicine for quick relief more than 3 days in a week, they are at risk for developing rebound headache. This headache occurs every day, is present upon awakening, and goes away for a short time after taking a medicine. Frequently sleep problems and depression are seen. A vicious cycle occurs.

Typically, people start with headaches that come and go, then something happens, and headaches occur more often, and daily medicines are taken to treat them. Medications like aspirin and acetaminophen, or those in combination with caffeine (Excedrin, butalbital/Fioricet), opioids (codeine, hydrocodone, oxycodone, dilaudid), migraine-specific medications (ergotamines and triptans) – even sinus medications (nasal decongestants)–can cause rebound headaches when used more than 3 days per week. Rebound headache is not limited to pain medicines; it can occur with other medications such as sleep aids, anxiety medications, caffeine, and stimulants.

Daily use of pain killers may interfere with the brain’s pain-fighting mechanisms. As the medicine wears off, you are even MORE vulnerable to get a headache! Fortunately, just getting off the daily medication gives you a good chance of decreasing headache frequency. However, it often takes several months of being off the offending medication before rebound headache improves.
Sinus Headaches
Sinus headache usually occurs as the result of an infection or inflammation and congestion in the sinus cavities. Sinuses are located around the eyes, nose and cheeks. The nerve endings produce pain behind these areas. Sinus headaches are usually associated with a cold and worsen with coughing or changes in head position. The face is usually tender to pressure or touch.

Sinus headache is RARE, not common like some people believe. In fact, migraine can occur around the face and feel like it is coming from the sinuses, leading people to treat sinus headache when the problem is really a migraine.

Trigeminal Neuralgia and Other Types of Facial Pain
These are face and head pains that are unlike migraine but diagnosable by your health care provider. Trigeminal neuralgia is a pure facial pain with seconds-long jabs and no features of migraine.

Headaches from Abnormalities in Your Head or Neck
Your doctor will examine you and determine if these may be present. Possible causes include tumors, abnormally formed blood vessels, blood vessel disease, infection or inflammation, and consequences of head or neck trauma. Some of the warning signals of a potentially life-threatening headache include:

- A sudden onset of the most severe headache in one’s life
- A one-sided or side-locked headache that is progressively worsening
- Headache occurring with coughing, straining or sexual activity
- Headache associated with confusion, fever, or drowsiness
- New headaches after age 50
- Headaches associated with abnormalities of the neurological examination (loss of vision, slurred speech, weakness)

Headaches Associated with Metabolic Abnormalities
Headaches may occur when something goes wrong in the blood or with metabolism. Causes include anemia, diabetes, thyroid problems, sleep apnea, or inflammatory conditions such as arthritis. Low levels of certain vitamins (Vitamin D, B12) as well as overly high vitamin levels (from supplements) may also result in headache.
Chronic Daily Headache (CDH)
CDH (headache more than 15 days in a month) may be caused by chronic migraine, chronic tension-type headache, chronic cluster headache, hemicrania continua, and new daily persistent headache. The most frequent cause of CDH is medication overuse or rebound headache.

New Daily Persistent Headache
These headaches start one day, are persistent, and are difficult to treat. They are experienced after viral illnesses and other causes.

Transformed migraine (old terminology) is a migraine that occurs almost daily after several events such as infections, meningitis, head injury or trauma, overuse of medications (Drug Rebound), fibromyalgia/myofascial, and serious illness.

What can Travel with CDH and May Put You at Risk?
It is extremely important to recognize all of the factors that fuel your chronic daily headaches:
- Depression/Anxiety - Biochemically linked to headache, depression seems to run in families with headache and vice versa. Treating depression often helps with headache.
- Psychological Conflict or Stress - Any time a person has been through a event of serious psychological conflict (for example, sexual abuse, PTSD) chronic headaches can occur
- Any chronic pain syndrome (fibromyalgia, chronic neck, back, stomach/IBS, and pelvic pain) can worsen headaches and vice versa
- Obesity
- Not getting enough sleep, snoring, and sleep apnea

KNOW YOUR HEADACHE
You will get a list of all your headache types and any other relevant diagnoses that can contribute to headaches. Since headache is diagnosed based on your history, you will need to keep track of your different headaches so that you can begin to understand the different types. It is important that you and your provider consider how your other medical problems (depression, heart disease, sleep apnea, etc.) can affect your headaches and vice versa.

Education is Power – The More You Know the Better You Do!
You are the primary guardian of your own health. Your job is to learn all you can about your headaches and triggers to help yourself feel better.
MANAGE YOUR HEADACHE

Know Your Triggers!
A trigger is something that can bring on a headache in certain people. The best way to know your triggers is to keep a diary and write down what was happening at the time the headache started. Examples of some triggers are:

Diet
Diet can affect headache in some people. Keeping track of what you eat in your diary is helpful. Here are a few examples of common food triggers:
- Monosodium Glutamate (MSG) - Contained in many foods, especially soups, pizza, chips, and Chinese food (read all Nutrition Facts labels)
- Caffeine - coffee, tea (no more than 2-3 cups per day), sodas, hot chocolate, energy drinks
- Alcohol - red wine, champagne, beer
- Dairy - aged cheese, yogurt, sour cream
- Meats - processed meats with nitrites (hot dogs, sausage, smoked meats)
- Fruits - citrus, bananas, avocado
- Dessert - chocolate and other "high sugar treats"
- NutraSweet and other artificial sweeteners

The most important things to remember about diet:
- Avoid excessive sugar and processed foods
- Protein servings: 5 - 10 grams every 3 hours
- Eat regularly and don’t skip meals
- Aim to eat at least 5 servings of fruits & vegetables per day
- Drink plenty of water (enough that your urine is clear)

Environment (minimize exposure to these triggers when possible—for questions, talk to your provider)
- Light - glare, fluorescent, strobes and stripes, computer and television screens
- Sounds - loud noises
- Smells - strong odors
- Weather - marked changes in temperature, humidity, winds
- Travel - altitude changes, including airplane travel

Physical Factors
- Daily mild aerobic exercise is an important headache preventive
- Massage may or may not be helpful
- Sexual activity can trigger headaches

Eating healthy is an important way to avoid headache triggers.
Sleep Hygiene
- Spend at least 8 hours in bed overnight. Do no other activity in bed except sleep and sex
- Visualize sleep (you will fall asleep faster)
- Avoid large meals close to bedtime
- Do not nap during the day
- Sleep disorders may need additional evaluation and treatment. Talk to your primary care provider

Emotional Factors
- Stress releases many chemicals in our brains that can either trigger headache or make headache worse. As the stress subsides and the chemicals fall, people may experience headache (weekend let down headache). Learning stress management techniques are important in headache sufferers
- Anxiety: Fear of headaches and inability to manage the pain precipitates worsening headaches

Hormonal Factors
- Sex hormones can affect headache in certain people. For example, migraines can be associated with the menstrual cycle. Though it is less common, male hormones can also be associated with headache
- Pregnancy can exacerbate headache early on. Frequently in the later stages of pregnancy, headaches may improve. After delivery, headaches may resume

Medications
- A complete and accurate list of all your medications, supplements, and vitamins is essential to ensure a complete evaluation. Bring all medications, supplements, and vitamins to your visit

HEADACHE MEDICATION MANAGEMENT

Medication treatment is divided into Prevention and Acute or Rescue. Prevention is always the primary goal. You must first know your diagnoses, triggers, and medication management plan.

Preventive Medications For Migraine
The choice of therapy is individualized and depends on headache symptoms and frequency, other disease states, other medications you are taking, and many other pain-specific factors. Your provider will work closely with you to determine the best treatment for your situation. Preventive medicines are usually started at a low dose and increased gradually to reduce side effects and to find the lowest dose
that works for you. Every medicine can have a side effect and any side effect that is bothersome should be brought up with your provider. The best medicine for you depends on what other diseases you have, what side effects you can tolerate, and what other medicines you take.

Preventive medicines may include one or more of the following:

**Blood Pressure Medications**
Heart medicines are often used to prevent headaches. Some beta blocker medicines are FDA-approved for migraine prevention. Other types of blood pressure medicines are thought to reduce headaches through their effects on blood vessels in the brain. They may also help with other types of heart and blood vessel problems. (appendix, page 13)

**Tricyclic Antidepressants**
This class of medication works for preventing migraine and tension headache. They increase serotonin and norepinephrine and help you sleep. They can increase your appetite, so you should watch what you eat. Much smaller doses are used for headache than for treating depression. (appendix, p.15)

**Other Antidepressants**
This encompasses a larger class of medications that are also used for preventing headache. These are especially helpful in patients who are also depressed. (appendix, p. 15)

**Anticonvulsants or Anti-Seizure Medicines**
This class of medication affects the way nerves transmit their signals. They may also help mood and nerve pain along with preventing headaches. (appendix, pp. 13-15)

**Non-Steroidal Anti-Inflammatory Drugs (NSAIDS)**
Typically, NSAIDS are used to treat joint and muscle pain. Sometimes they can help prevent headaches (appendix, pp. 15). Risks associated with daily use: kidney failure, heart disease, stomach bleeding, and rebound headaches.

**Sleep Medications**
Some of these can also be used only as needed for acute treatment to help you sleep with a bad headache. (appendix, p. 17)

**Botox: OnabotulinumtoxinA**
FDA approved for chronic migraine (15 days or more per month). (appendix, p. 16)

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**CAUTION:** Antidepressant and antiepileptic medications have been shown to increase the risk of severe depression and suicidality in a small percentage of patients.
COMPLEMENTARY MEDICINE HEADACHE TREATMENTS

Dietary Supplements
Some vitamins and herbs may be helpful for certain patients, but it is important to remember that these products affect the body and cause side effects and drug interactions just like any other medication. Dietary supplements are not regulated or FDA-approved and manufacturers do not have to prove their products are effective. (appendix, p. 17)

TREATMENT FOR ACUTE HEADACHE & RESCUE MEDICATIONS

Once a headache has started, it is important to remember 3 principles:

1. PREVENT NAUSEA
2. TREAT HEADACHE PAIN
3. IF ALL ELSE FAILS, SLEEP

NAUSEA MANAGEMENT

Gastroparesis is a state of partial paralysis in your stomach that occurs in migraine. It is difficult for oral migraine medications to work effectively when this is not treated. Even if you don't have nausea, it is important to treat the stomach. Medications improve the nausea that comes with migraine, improve absorption and tolerance of other medications, and may assist in reducing headache pain. (see appendix, p. 18)

ACUTE HEADACHE PAIN MANAGEMENT

Migraine Specific Medications: (appendix, p. 18)

Triptans
This class is a specific treatment for migraine and affect a specific type of serotonin receptor in the brain. Many triptans are available and are slightly different from each other. If one is not effective, it is still worth trying another. Do not take different triptans together or within a 24 hour time period of each other. Common side effects include chest and/or neck pressure/tightness, skin sensations such as burning or tingling, nausea, dizziness, drowsiness, and dry mouth.
Ergotamines (Ergots)
Ergotamines are effective medicines to treat migraine and were developed prior to triptans. Ergots can cause nausea, so you should take a nausea medicine first. They often have more side effects than triptans.

Note: Ergots should not be used more than 2 days per week. Do not use a triptan within 24 hours of an ergot. Triptans and ergot medicines should not be used if you have heart disease, stroke, or uncontrolled high blood pressure.

Other Migraine Medications (appendix, p. 19)
Can be used in patients who do not tolerate triptans or ergots, such as:

- Isometheptene/Acetaminophen/Dichloralphenazone (Midrin)
  Combination analgesic of acetaminophen, barbiturate, and vasoconstrictor

- Combination Analgesics
  Combination of aspirin or acetaminophen, butalbital, and caffeine (e.g. Excedrin, Fiorinal/Fioricet)

- Narcotics/Opioids
  Medications usually used for pain from surgery or cancer and should be avoided in migraine treatment.

Other pain medications, especially narcotics, carry a strong risk of rebound headache, habituation, and even addiction. Special caution should be used with these medications as they are habit forming, strong inducers of rebound headache, and potentially deadly in overdose. Examples include morphine, hydrocodone, dilaudid, oxycodone, and codeine.

Every medicine can have side effects and any side effect that is bothersome should be brought up with your provider.

CAUTION: ALL medications used to treat pain can cause rebound. Rebound headaches have been shown to occur when narcotics are used more than 8 days per month, when butalbital/caffeinated products are used more than 5 days per month, and when triptans are used more than 10-14 days per month.
SLEEP MANAGEMENT

On occasion, sleep aids are used for acute headache treatment. Keep in mind that good sleep can refresh your brain.

HEADACHE AND PREGNANCY

When you are pregnant, everything changes. The use of medications must be carefully reviewed and discussed with your provider.

- We use the FDA classification of drugs as a guideline for treatment (Preventive/Rescue)
- Pregnancy Risk Line is available for more information: (801) 328-2229

BEHAVIOR STRATEGIES AND TREATMENT IN CDH

- Regular routine including restorative sleep, diet, and exercise
- Lose weight if you are overweight (obesity = BMI of 30 or greater)
- Keep a headache diary
- Learn all you can about your headaches
- Do not overuse acute/rescue medications
- Follow through on your treatment plan (e.g. preventive medications)

NON-MEDICATION WAYS TO PREVENT & TREAT HEADACHES

- Light sensitivity can be treated with FL-41 tint glasses, which seem to decrease the flickering associated with computers, fluorescent lighting, and televisions
- Progressive muscle relaxation is practiced by alternately contracting then relaxing muscle groups
- Visualization
- Biofeedback/hypnosis/energy management
- Ice packs, massage
- Muscle stimulators
- FDA approved devices for migraine: Cefaly® and Spring TMS® (Require prescriptions)
- Acupuncture
- Physical therapy body tools (e.g. Thera Cane, body foam roller)
- Exercise - Do at least 20-30 minutes of aerobic exercise per day, plus stretching. Yoga, pilates, and tai chi can be helpful
- Mindful relaxation
1. Reading about headache will help you understand what you can do for yourself to help with headaches. Recommended websites to consider joining and browsing include:

- American Migraine Foundation
  www.americanmigrainefoundation.org
- American Headache Society
  www.americanheadachesociety.org
- National Headache Foundation
  www.headaches.org
- American Headache and Migraine Association (AHMA)
  https://ahma.memberclicks.net
- American Academy of Neurology
  http://patients.aan.com
- Medline Plus
  www.nlm.nih.gov/medlineplus

2. Learning and implementing strategies regarding mindfulness, trigger point release, and movement therapies (tai chi, yoga, etc.) can enhance your treatment program. There are many free resources online, such as:

- Mindful Relaxation
  www.dawnbuse.com
  www.marc.ucla.edu
  www.youtube.com/watch?v=YFSc7Ck0Ao0
- Trigger Point Workbook

3. Some suggested reading materials are:

- Migraine: The Complete Guide. ACHE, Constantine and Scott, 1994
- Headache Relief. Rapaport and Sheftell (Simon and Schuster)
- Hope for Your Headache Problem (More Than Two Aspirin). Diamond and Vye
- Taking Control of Your Headaches-How to Get the Treatment You Need. Duckro, Richardson, Marshall (The Guilford Press)
- Understanding Migraine. Migraine Trust
- Living Well with Migraine. Terry Roberts
- Overcoming Migraine. Betsy Wycoff

4. Electronic Diaries: There are several online and/or smartphone diary apps (e.g. Migraine Buddy, iHeadache, Headache Relief Diary, My Headache Log Pro). These can be of significant value to you and your provider in understanding triggers and other symptoms impacting your headache diagnosis.
**WARNING:** Only medicines with a (*) are approved by the FDA for migraine or headache prevention. Other listed medications may be helpful based on expert opinion, or studies in patients with migraines or other types of headaches.

### PREVENTION

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<td>Trigeminal neuralgia</td>
<td>Dizziness</td>
<td>fewer side effects and</td>
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<td>Other uses</td>
<td>Low blood sodium levels</td>
<td>drug interactions</td>
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<td>Seizures</td>
<td>Blood count abnormalities</td>
<td>Lab monitoring required</td>
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<td>Mood stabilizer</td>
<td>Liver problems</td>
<td>May make migraines worse</td>
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<td>Nerve pain</td>
<td>Rash</td>
<td>Interacts with birth control pills</td>
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<td>Oxcarbazepine</td>
<td>Headache uses</td>
<td>Nausea</td>
<td>Avoid in pregnancy</td>
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<td></td>
<td>(Trileptal)</td>
<td>Face pain</td>
<td>Drowsiness</td>
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<td>Trigeminal neuralgia</td>
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<td>Other uses</td>
<td>Low blood sodium levels</td>
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<td>Nerve pain</td>
<td>Rash</td>
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<td>Medication Type</td>
<td>Examples</td>
<td>Uses</td>
<td>Sides Effects</td>
<td>Other Comments</td>
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<td>Seizure Medications (continued)</td>
<td>Lamotrigine (Lamictal)</td>
<td>Headache uses</td>
<td>Drowsiness</td>
<td>Many drug interactions</td>
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<td>Face pain</td>
<td>Nausea</td>
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<td>Other uses</td>
<td>Rash</td>
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<td>Seizure</td>
<td>Liver problems</td>
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<td>Zonisamide (Zonegran)</td>
<td>Headache uses</td>
<td>Drowsiness</td>
<td>Similar to topiramate, but not as well studied</td>
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<td>Migraine prevention</td>
<td>Memory problems</td>
<td>Avoid in patients with sulfa allergy</td>
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<td></td>
<td>Other uses</td>
<td>Weight loss</td>
<td>Lab monitoring required</td>
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<td>Seizure</td>
<td>Numbness/tingling</td>
<td>Drink plenty of fluids</td>
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<td>Taste changes</td>
<td>Avoid in pregnancy</td>
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<td>Blood test abnormalities</td>
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<td>Phenytoin (Dilantin)</td>
<td>Headache uses</td>
<td>Nausea</td>
<td>May make migraines worse</td>
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<td>Face pain</td>
<td>Dizziness</td>
<td>Lab monitoring required</td>
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<td></td>
<td></td>
<td>Other uses</td>
<td>Rash</td>
<td>May alter blood sugar levels</td>
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<td>Seizure</td>
<td>Coordination problems</td>
<td>Many drug interactions</td>
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<td>Aspirin 81 mg</td>
<td>Headache uses</td>
<td>Upset stomach</td>
<td>Avoid in pregnancy</td>
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<td></td>
<td>Diclofenac</td>
<td>Tension headache</td>
<td>Kidney problems</td>
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<td></td>
<td>Piroxicam</td>
<td>Migraine prevention</td>
<td>Easy bleeding and bruising</td>
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<td></td>
<td>Naproxen</td>
<td>Acute migraine treatment</td>
<td>Small increased risk for heart attack</td>
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<td></td>
<td>Celecoxib</td>
<td>Other uses</td>
<td></td>
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<td></td>
<td>Meloxicam</td>
<td>Arthritis/Other pain</td>
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<td>Ibuprofen</td>
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<td></td>
<td>Aspirin 81 mg</td>
<td>Headache uses</td>
<td></td>
<td>Take with food</td>
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<td></td>
<td>Indomethacin (Indocin)</td>
<td>Episodic stabbing</td>
<td>Upset stomach</td>
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<td>Paroxysmal hemicrania</td>
<td>Kidney problems</td>
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<td></td>
<td>Hemicrania continua</td>
<td>Easy bleeding/bruising</td>
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<td></td>
<td></td>
<td>Other uses</td>
<td>Ringing in ears</td>
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<td>Gout</td>
<td>Dizziness</td>
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<td>Arthritis</td>
<td>Kidney problems</td>
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<tr>
<td></td>
<td>Tricyclic Antidepressants</td>
<td>Amiatriptyline (Elavil)</td>
<td>Headache uses</td>
<td>Elderly patients are more prone to side effects</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Nortriptyline (Pamelor)</td>
<td>Migraine prevention</td>
<td>Lower doses used for headache than for treating</td>
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<td>Desipramine (Norpramin)</td>
<td>Tension headache</td>
<td>depression</td>
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<td>Impiramine (Tofranil)</td>
<td>Face pain</td>
<td>Do not stop taking suddenly</td>
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<tr>
<td></td>
<td></td>
<td>Doxepin (Sinequan)</td>
<td>Other uses</td>
<td>Can worsen bipolar disorder</td>
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<td>Depression</td>
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<td>Anxiety</td>
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<td>Nerve pain</td>
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<td></td>
<td>Fibromyalgia</td>
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<tr>
<td>Medication Type</td>
<td>Examples</td>
<td>Uses</td>
<td>Sides Effects</td>
<td>Other Comments</td>
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<tr>
<td>Selective Serotonin Reuptake Inhibitors</td>
<td>Fluoxetine (Prozac) Citalopram (Celexa) Sertraline (Zoloft) Paroxetine (Paxil) Escitalopram (Lexapro)</td>
<td>Headache uses Migraine prevention Other uses Depression Anxiety Hot flashes Obsessive compulsive disorder (OCD) Post-traumatic stress disorder (PTSD) Premenstrual dysphoric disorder (PMDD)</td>
<td>Dry mouth Diarrhea Upset stomach Trouble sleeping Sexual side effects</td>
<td>Do not stop suddenly Most helpful for patients with mood disorders plus headache Can worsen bipolar disorder</td>
</tr>
<tr>
<td>Serotonin and Norepinephrine Reuptake Inhibitors</td>
<td>Duloxetine (Cymbalta) Venlafaxine (Effexor) Desvenlafaxine (Pristiq) Milnacipran (Savella) Levomalnacipran (Fetzima)</td>
<td>Headache uses Migraine prevention Face pain Other uses Depression Anxiety Fibromyalgia Neuropathy OCD</td>
<td>Dry mouth Upset stomach Trouble sleeping Sexual side effects Liver problems Increased blood pressure</td>
<td>Do not stop suddenly Lab monitoring</td>
</tr>
<tr>
<td>Other Antidepressants</td>
<td>Bupropion (Wellbutrin)</td>
<td>Headache uses Migraine prevention Other uses Depression Smoking cessation ADHD</td>
<td>Upset stomach Dry mouth Anxiety Headache Increased risk of seizures</td>
<td>Do not stop suddenly Often helps fatigue</td>
</tr>
<tr>
<td>Mirtazapine (Remeron) 7.5-45 mg</td>
<td></td>
<td>Headache uses Migraine prevention Other uses Depression Sleep</td>
<td>Drowsiness Weight gain Increased appetite Dry mouth Constipation</td>
<td>Can help chronic nausea Lower doses are more sedating than higher doses May help chronic nausea</td>
</tr>
<tr>
<td>Trazodone (Desyrel)</td>
<td></td>
<td>Headache uses Migraine prevention Other uses Depression Sleep</td>
<td>Drowsiness Dizziness Dry mouth Constipation Changes in heart rhythm</td>
<td>Lower doses used for headache and sleep than for treating depression</td>
</tr>
<tr>
<td>Miscellaneous</td>
<td>Memantine (Namenda)</td>
<td>Headache uses Migraine prevention Other uses Alzheimer’s disease Tremor</td>
<td>GI upset Dizziness Confusion Blood pressure changes</td>
<td></td>
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<tr>
<td>OnabotulinumtoxinA (Botox)</td>
<td></td>
<td>Headache uses Chronic migraine Other uses Cervical dystonia Facial wrinkles Excessive sweating Bladder problems Severe arm spasticity</td>
<td>Muscle weakness (rarely including weakness of muscles used for breathing) Blurry vision Drooping eyelids Trouble swallowing</td>
<td>Typically injected into several areas of the face and neck every three months Not FDA approved for reducing migraines in patients who have &lt;15 migraine days per month</td>
</tr>
<tr>
<td>Medication Type</td>
<td>Examples</td>
<td>Uses</td>
<td>Sides Effects</td>
<td>Other Comments</td>
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<td><strong>Sleep Medications and Muscle Relaxants</strong></td>
<td>Tizanidine (Zanaflex) Cyclobenzaprine (Flexeril) Baclofen (Lioresal) Methocarbamol (Robaxin)</td>
<td><strong>Headache uses</strong></td>
<td>Drowsiness</td>
<td>Tizanidine can interact with ciprofloxacin and verapamil and may require lab monitoring</td>
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<tr>
<td></td>
<td></td>
<td>Tension headache</td>
<td>Dry mouth</td>
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<td>Migraine prevention</td>
<td>Dizziness</td>
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<td></td>
<td>Other uses</td>
<td>Low blood pressure</td>
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<td>Sleep</td>
<td>Liver problems</td>
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<td>Muscle spasms</td>
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<td>Quetiapine (Seroquel) Olanzapine (Zyprexa) Chlorpromazine (Thorazine)</td>
<td><strong>Headache uses</strong></td>
<td>Increased blood sugar or diabetes</td>
<td>Do not stop suddenly</td>
</tr>
<tr>
<td></td>
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<td>Migraine prevention</td>
<td>Increased cholesterol</td>
<td>Chlorpromazine injectable form can be helpful for intractable migraine</td>
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<td>Acute treatment of migraine</td>
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<td></td>
<td>Other uses</td>
<td>Drowsiness</td>
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<td>Bipolar</td>
<td>Dizziness</td>
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<td>Schizophrenia</td>
<td>Abnormal heart rhythm</td>
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<td>Depression</td>
<td>Abnormal blood counts</td>
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<td>Sleep</td>
<td>Involuntary movements</td>
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<td>Anxiety</td>
<td>Psychosis</td>
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<td>Ramelteon (Rozerom)</td>
<td><strong>Headache uses</strong></td>
<td>Drowsiness</td>
<td>Works like melatonin</td>
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<td>Migraine prevention</td>
<td>Dizziness</td>
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<td>Cluster headache</td>
<td>Nausea</td>
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<td>Other uses</td>
<td>Hallucinations</td>
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<td>Sleep</td>
<td>Worsening depression</td>
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<td>Behavior changes</td>
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<td>Liver problems</td>
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<td>Facial swelling</td>
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<td><strong>Dietary Supplements and Herbals</strong></td>
<td>CoEnzyme Q10</td>
<td><strong>Headache uses</strong></td>
<td>Usually well tolerated</td>
<td>Can interact with blood thinners</td>
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<td>Migraine prevention</td>
<td>Upset stomach</td>
<td>May be energizing</td>
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<td>Chronic daily headache</td>
<td>Rash</td>
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<td>Other uses</td>
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<td>Heart failure</td>
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<td>Reducing heart attack risk</td>
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<td>Other uses</td>
<td>Antioxidant</td>
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<td>Riboflavin (Vitamin B2)</td>
<td><strong>Headache uses</strong></td>
<td>Diarrhea</td>
<td>Do not stop suddenly</td>
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<td>Migraine prevention</td>
<td>Orange/yellow urine</td>
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<td>Other uses</td>
<td>Vitamin deficiency</td>
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<td>Magnesium</td>
<td><strong>Headache uses</strong></td>
<td>Diarrhea</td>
<td>Avoid in kidney disease</td>
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<td>Migraine prevention</td>
<td>Abnormal heart rhythms (high doses)</td>
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<td>Acute treatment of migraine</td>
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<td>Other uses</td>
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<td>Constipation</td>
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<td>Heartburn</td>
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<td></td>
<td>Ginger</td>
<td><strong>Headache uses</strong></td>
<td>Heartburn</td>
<td>Morning sickness</td>
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<td>Nausea</td>
<td>Gas</td>
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<td>Melatonin</td>
<td><strong>Headache uses</strong></td>
<td>Mood changes</td>
<td>Do not use if pregnant or breast feeding</td>
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<td>Sleep</td>
<td>Increased blood sugar</td>
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</tbody>
</table>

17
The choice of acute treatment is individualized and depends on your headache symptoms, other disease states, other medications, how often your headaches occur, and how disabling your headaches are. Your provider will work with you to determine the best treatment plan for your specific situation.

Migraine-Specific Pain Management

<table>
<thead>
<tr>
<th>Triptans</th>
<th>Formulations Available</th>
<th>Comments</th>
</tr>
</thead>
</table>
| Sumatriptan (Imitrex) | Tablet 25, 50, 100 mg  
Nasal Spray 5, 20 mg  
Injection 3, 4, 6 mg  
Needleless injection (Sumavel) 6 mg  
Combination with Naproxen (Treximet) 85/500 mg  
Nasal Powder (Onzeta) 22 mg | Generic available  
Widest variety of formulations  
Injection is fastest acting of all triptans  
Injection has highest rate of side effects of all triptans |
| Rizatriptan (Maxalt)  | Tablet 5, 10 mg  
Dissolving tablet (Maxalt MLT) 5, 10 mg | Generic available  
Must use 5 mg dose if also taking propranolol |
| Zolmitriptan (Zomig)  | Tablet 2.5, 5 mg  
Dissolving tablet (Zomig ZMT) 2.5, 5 mg  
Nasal spray 2.5, 5 mg | Generic available  
Nasal spray may have better taste than sumatriptan nasal spray |
| Eletriptan (Relpax)   | Tablet 20, 40 mg | More drug interactions than other triptans  
Cannot be used with clarithromycin (Biaxin), ketoconazole, and some HIV medications |
| Almotriptan (Axert)   | Tablet 6.25, 12.5 mg | May have fewer side effects than other triptans |
| Naratriptan (Amerge)  | Tablet 1, 2.5 mg | Generic available  
Slower acting, but longer lasting than most other triptans |
| Frovatriptan (Frova)  | Tablet 2.5 mg | Slower acting, but longer lasting than most other triptans |

<table>
<thead>
<tr>
<th>Ergotamines</th>
<th>Formulations Available</th>
<th>Comments</th>
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</thead>
</table>
| Dihydroergotamine   | Nasal Spray (Migranal 0.5 mg/spray)  
Injection (DHE 1 mg/mL) | May cause nausea  
Typically more side effects than triptans  
Many possible drug interactions  
IV form may be given for 3 days in the hospital |
| Ergotamine          | Sublingual, 2 mg (Ergomar)  
Tablet, 1 mg + 100 mg caffeine (Cafergot)  
Suppository 2 mg + 100 mg caffeine (Cafergot) | May cause nausea  
Typically more side effects than triptans  
Many possible drug interactions |

WARNING: Triptans and Ergotamines should be used with supervision. They have caused heart attack and death in individuals with underlying heart disease. Therefore, discuss the use of these medications with your provider. Triptans and ergotamines should not be used within 24 hours of each other and should be used with caution in combination with other drugs that increase serotonin, such as antidepressant medications.
Non-Specific Pain Management
WARNING: These medications should not be used more than twice weekly to avoid rebound. Can be habit-forming.

<table>
<thead>
<tr>
<th>Combination Products</th>
<th>Formulations Available</th>
<th>Comments</th>
</tr>
</thead>
<tbody>
<tr>
<td>Midrin, Migrazone, Migratene (Isometheptene + acetaminophen + dichloralphenazone)</td>
<td>Capsule</td>
<td>Midrin and Epidrine are FDA approved brand names for tension and vascular headaches</td>
</tr>
<tr>
<td>Fioricet, Esgic (Caffeine + Acetamineophen + Butalbital)</td>
<td>Tablet or Capsule</td>
<td>High risk of causing rebound headaches Also available in combination with codeine</td>
</tr>
<tr>
<td>Fiorinal (Caffeine + Aspirin + Butalbital)</td>
<td>Tablet or Capsule</td>
<td>High risk of causing rebound headaches Also available in combination with codeine</td>
</tr>
</tbody>
</table>

Nausea Management

<table>
<thead>
<tr>
<th>Anti-Nausea Medications</th>
<th>Formulations Available</th>
<th>Comments</th>
</tr>
</thead>
<tbody>
<tr>
<td>Metoclopramide (Reglan)</td>
<td>Tablet 5, 10 mg Injection 5 mg/ml</td>
<td>Helps improve absorption in gut Typically not sedating May cause abnormal, involuntary movements - Avoid in Parkinson's disease</td>
</tr>
<tr>
<td>Promethazine (Phenergan)</td>
<td>Tablet 12.5, 25, 50 mg Suppository 25, 50 mg Syrup 6.25 mg per teaspoon Injection 25 or 50 mg per mL</td>
<td>Typically cause drowsiness May cause abnormal, involuntary movements - Avoid in Parkinson's disease</td>
</tr>
<tr>
<td>Prochlorperazine (Compazine)</td>
<td>Tablet 5, 10 mg Suppository 25 mg Injection 5 mg mL</td>
<td>Typically cause drowsiness May cause abnormal, involuntary movements - Avoid in Parkinson's disease</td>
</tr>
<tr>
<td>Trimethobenzamide (Tigan)</td>
<td>Capsule 300 mg</td>
<td>Typically not sedating Less likely to cause abnormal, involuntary movements</td>
</tr>
<tr>
<td>Ondansetron (Zofran)</td>
<td>Tablet 4, 8 mg Dissolving tablet 4, 8 mg</td>
<td>Typically not sedating Less likely to cause abnormal, involuntary movements</td>
</tr>
</tbody>
</table>

Acute Sleep Management
WARNING: These medications should not be used nightly. Can be habit-forming.

<table>
<thead>
<tr>
<th>Sleep Medications</th>
<th>Formulations Available</th>
<th>Comments</th>
</tr>
</thead>
<tbody>
<tr>
<td>Temazepam (Restoril)</td>
<td>Capsule 15, 30 mg</td>
<td>May cause drowsiness, dizziness, weakness, dry mouth, diarrhea, nausea, frequent urination, blurred vision, changes in sex drive or ability</td>
</tr>
<tr>
<td>Lorazepam (Ativan)</td>
<td>Tablet 0.5, 1 mg</td>
<td>May cause drowsiness, dizziness, weakness, dry mouth, diarrhea, nausea, frequent urination, blurred vision, changes in sex drive or ability</td>
</tr>
<tr>
<td>Zolpidem (Ambien, Edluar, Zolpimist)</td>
<td>Tablet 5, 10 mg Controlled release 6.25, 12.5 mg</td>
<td>May cause drowsiness, headache, dizziness, lightheadedness, heart burn, sleepwalking FDA recommendation 5 mg dose for women</td>
</tr>
</tbody>
</table>
BASIC MECHANISM OF MIGRAINE

TRIGGERS

Hunger  Fatigue  Hormones  Senses  Pain

holocranial headache  tension  mixed-muscle-vascular  migraine without aura  migraine with aura

- rare vomiting
- non-descriptive pain

- severe nausea
- vomiting
- pulsatile pain
- unilateral headache
- neurologic symptoms

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729 Arapeen Drive
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Authors:
Kathleen B. Digre, MD
Susan K. Baggaley, APRN
K.C. Brennan, MD

Contributors:
Karly Pippitt, MD
George Zinkhan, MD
Jeanette Sherman, APRN

Project Management:
Lauren Brown