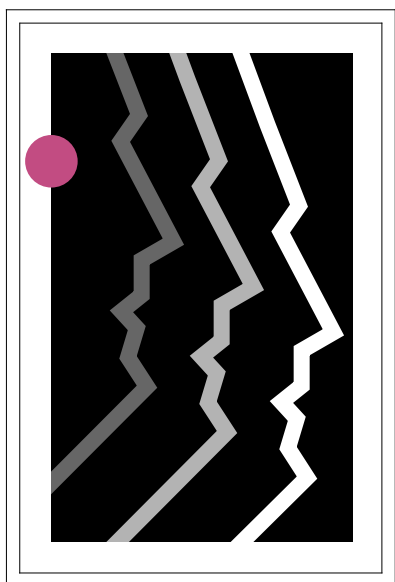


# A PATIENT'S GUIDE TO HEADACHES



**WHAT CAUSES THEM**  
**HOW TO TREAT THEM**  
**HOW TO PREVENT THEM**

*Sponsored by the National Headache Foundation  
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Pfizer Inc.*

**H**eadaches are so common that they seem part of the human condition. For some people, headaches are mild and just an occasional nuisance. For others, headaches are severe and a cause of frequent disability. There are many different causes of headache — and many different consequences. The goal of this booklet is to help you understand what kind of headache you have, how it can best be prevented and treated, and how you can work with your healthcare provider on your treatment plan. We are fortunate to live in an age when the causes of headaches are well understood and even more fortunate to have a variety of effective medications to treat and prevent them.

### TYPES OF HEADACHE

#### Tension-type headache

This is the most common headache type, experienced by 6% of men and 88% of women. The pain of tension-type headaches tends to be dull, with a pressing or tightening, non-throbbing quality. In the vast majority of people with this headache type, pain occurs on both sides of the head, and is not associated with nausea or vomiting. The severity and frequency vary widely. Tension-type headaches are often triggered by emotional stress or fatigue.

#### Sinus headache

When sinuses become infected, facial pain may occur. Other symptoms of sinus headaches include fever and nasal congestion or drainage. The pain is usually dull, aching, and continuous. The headaches may be triggered by changes in the weather. Many people with frequent headaches diagnose themselves as having “sinus headaches.” However, most people with frequent headaches are actually suffering from migraine.

### Cluster headache

Cluster headaches cause severe pain around or behind one eye. The pain of cluster headaches can be very severe. Tears may stream from the affected eye and the nostril on the same side may become congested. Attacks may be as brief as a few minutes or as long as several hours. The attacks come in groups that last for weeks or months (cluster periods) and then may abate for months or even years. During a cluster period, the affected person may have as few as one attack every other day or as many as eight attacks per day. Most cluster headache sufferers are men. Smoking or alcohol consumption can trigger attacks during a cluster period.

### Medication-overuse, or rebound headache

Medication-overuse headache occurs in people who are susceptible to headache who take pain relievers more than two days per week. In these people, falling blood levels of their pain medication actually trigger a headache — which causes them to take even more pain medication. The result is a daily or almost daily dull headache. Many over-the-counter and prescription pain medications can cause medication-overuse headache, including combination products containing acetaminophen or aspirin plus caffeine. Ergotamines, triptans, and opioid painkillers, such as butalbital, have also been shown to cause medication-overuse headaches.

### Migraine with aura

### Migraine without aura

The pain of migraine is usually on one side of the head, moderate to severe, often throbbing, and is made worse by physical activity or head movement. The onset of pain is usually gradual. Migraines can occur at any time of the day or night, but they occur most frequently on arising in the morning. Attacks may last a few hours or as long as several days. Migraine attacks involve more than just head pain. Affected people may be sensitive to light (photophobia) and sound (phonophobia). Many have nausea and vomiting. The attacks may be extremely

disabling, making it impossible for many people to perform normal daily activities. More than 70% of people with migraine have a family history of migraine. Three-quarters of all people with migraine are female.

Migraines can be triggered by many factors, including foods, such as ripened or aged cheese, red wine, chocolate, smoked or processed meats, pickled foods, MSG, or excessive amounts of caffeine. Table 1 lists foods that often trigger migraines in susceptible people. Weather changes, certain odors, and flickering lights can trigger migraines in some people. Others have migraines when their normal daily routines are changed. Because of hormonal changes, as many as 60% of women with migraine have increased attacks around the time of menstruation. Most patients have a number of migraine

**Table 1. Foods that may trigger migraines**

- Caffeine (limit intake to less than 200 mg/day)
- Any meats prepared with meat tenderizers, yeast extracts, or soy sauce
- Any meats or fish that are aged, cured, pickled, marinated, canned or processed (no nitrates or nitrites)
- Alcoholic beverages, especially red wines, vermouth, sherry, or beer
- Aged cheeses (e.g., cheddar, parmesan, mozzarella, Romano, and provolone)
- Canned soups, bouillon cubes, and any soup containing MSG
- Lima beans, snow peas, fava beans, soy beans, lentils, sauerkraut
- Nuts, seeds (e.g., sesame and pumpkin seeds)
- Chocolate, mincemeat, licorice, molasses

triggers. Some patients can greatly reduce the number of headache attacks they get by identifying their triggers and then simply avoiding them.

Migraine attacks pass through several distinct phases; these are listed in Table 2. What happens when a migraine is triggered? Scientists believe that, in a person predisposed to migraine, the trigger activates areas in the brain that cause nerves in the skin and the brain to become extremely sensitive. The skin of the scalp and forearms are most frequently affected. Even before the headache starts, patients may complain that their “hair hurts,” or “I can’t even wear my jewelry.” The sensitization of nerves in the brain is called *central sensitization*, while sensitization of nerves in the skin is called *peripheral sensitization*.

**Table 2. | Migraine phases**

- The *prodrome* occurs in about 60% of patients, hours or days before the attack. The patient may experience sensitivity to light or sound, mood changes, food cravings, diarrhea, or constipation.
- The *aura* of migraine gives a patient warning signs that a headache will occur, usually within one hour after the aura ends. Auroras often involve visual disturbances, such as flashing lights, zig-zagging lines, or areas of partial blindness. Other aura symptoms include tingling or numbness in an arm or leg, confusion, and disturbances of speech or thought. Most migraine sufferers have migraine without aura.
- The *headache phase* may last from a few hours to several days and is often accompanied by nausea, vomiting, and sensitivity to light and/or sound.
- During the *postdrome*, the patient often feels weak, “drained,” irritable, or agitated.

### How to get the help you need

**A**s many as one out of six people have severe headaches, yet a great many of them never seek medical care or receive effective treatment. More than half of the people who suffer from migraines have never received a diagnosis for their headaches and treat themselves exclusively with over-the-counter medications. Too many people suffer unnecessarily with headaches; it is particularly unfortunate because effective treatments are readily available.

If you have headaches, when should you seek medical care? Many people have occasional headaches that are usually triggered by muscle tension and that they treat with nonprescription painkillers. These people generally do not require special medical care. Other people have severe but infrequent headaches. They should see their healthcare providers for a medical diagnosis and effective treatment. Frequent, severe headaches can take a terrible toll in pain and disability: work, play, and family life all suffer. People who fall in this category should definitely seek medical help. If you experience a sudden very severe headache — perhaps the worst headache you've ever had — you should seek medical care immediately. This is especially true if you're over age 50, when a very severe headache of sudden onset may indicate the presence of a serious medical condition.

### The diagnostic work-up

The diagnosis of headache is unusual in that it depends almost entirely upon your healthcare provider obtaining an accurate history. For this reason, good patient/doctor communication is an essential part of the diagnostic and treatment process. One of the most important goals of the initial work-up is to determine whether your headaches might be caused by a serious underlying disorder, or are *benign*, which means not harmful, apart from the pain and disability. You will be asked about your symptoms (“Is the pain on one side or both sides of your head?”) or about what you do when you have a headache (“Do you

keep working? Do you lie down in a darkened room?") Your symptoms and behavior during a headache give your healthcare provider very revealing clues as to what kind of headache you have and how you might best be treated. It's easy to see why both you and your healthcare provider need to be effective communicators.

One of the most important ways you can play an active — and important — role in your own diagnosis and treatment is by keeping a headache diary. The purpose of a headache diary is to provide detailed and accurate information about a patient's headache frequency and the amount of medication used to treat headaches. Many patients have surprisingly inaccurate ideas about their medication use and headache frequency. By keeping an accurate headache diary, you will assist your healthcare provider in designing an effective treatment plan for your headaches.

### The importance of early intervention

When the triptans became available in the 1990s, these drugs revolutionized the treatment of migraine. They were very effective and they targeted the specific mechanism that causes migraine. When triptans were first introduced, patients were instructed to take them when their pain reached the moderate to severe stage. It was soon discovered, however, that if patients took their medications when pain was mild, there was a much better chance they would be pain-free two hours later. The same is believed to be true of most, if not all headache medications: they are most effective when taken early in the pain phase of a headache.

### Treatment options for migraine

There are two major categories of migraine treatment. The first type is called acute, or abortive treatment. Acute treatment is used to relieve pain and other symptoms once the headache has begun. If you have only occasional migraines, an acute medication may be appropriate for you. See Table 3 for a list of acute medications commonly used to treat migraine.

The other type of treatment is called preventive, or prophylactic therapy. The objective of preventive therapy is to reduce the frequency of your headaches. If you have very severe or very frequent migraines, your healthcare provider may also prescribe a preventive medication. These medications are taken on a daily basis to reduce the frequency of migraine attacks. These drugs usually require a trial of a few months to become effective. Preventive medications act to stabilize the mechanism that causes migraines, but are not effective if taken after the headache begins. For this reason, you will also be provided with an acute medication, often a triptan, to treat an occasional “breakthrough” headache. A treatment plan for preventing migraine may also include strategies for avoiding your migraine triggers. After your headaches have been stabilized for six months to one year, your healthcare provider may decide to withdraw your preventive medication. There is a good chance that you will remain free of headaches for a prolonged period. Table 4 lists medications commonly prescribed to prevent migraines. Your healthcare provider has a wide variety of acute and preventive medications, some with different modes of action, to choose from. The chances are excellent that your migraines will be effectively controlled. Before you start any new medication for migraine, be sure to ask your healthcare provider about possible side effects and potential drug interactions. ❁ ❁ ❁

**Table 3. Acute medications for migraine**

| Prescription acute medications | Dosage form   |
|--------------------------------|---|
| <b>Triptans:</b>               |   |
| ■ Amerge®<br>(naratriptan)     | Oral  |
| ■ Axert®<br>(almotriptan)      | Oral  |
| ■ Frova®<br>(frovatriptan)     | Oral  |
| ■ Imitrex®<br>(sumatriptan)    | Injectable, oral,<br>nasal spray, rapid-<br>dissolving tablet |

# A PATIENT'S GUIDE TO HEADACHES

**Table 3. Acute medications for migraine** *continued*

| <b>Prescription acute medications</b>  | <b>Dosage form</b>   |
|--|--|
| <b>Triptans:</b>   |  |
| ■ Maxalt®<br>(rizatriptan)   | Oral, MLT<br>(orally disintegrating tablets)                                       |
| ■ Relpax®<br>(eletriptan)  | Oral   |
| ■ Zomig®<br>(zolmitriptan)   | Oral, ZMT (orally disintegrating tablets), nasal spray                             |
| ■ D.H.E.® 45<br>(dihydroergotamine mesylate, USP)                            | Intramuscular, subcutaneous (under the skin), intravenous, nasal spray (Migranal®) |
| ■ Depacon®<br>(valproate sodium injection)                                   | Intravenous  |
| ■ Ergotamine/caffeine*   | Oral, suppository, sublingual tablet (with ergotamine alone)                       |
| ■ Indomethacin   | Oral, suppository  |
| ■ Meclofenamate  | Oral   |
| ■ Midrin®<br>(isometheptene mucate/<br>dichloralphenyzone/<br>acetaminophen) | Oral   |
| ■ VIOXX®<br>(rofecoxib)  | Oral   |
| <b>Analgesics/narcotics:</b>   |  |
| ■ Butalbital/caffeine plus aspirin or acetaminophen*                         | Oral   |
| ■ Ketorolac  | Oral, intramuscular  |
| ■ Stadol® NS™<br>(butorphanol)   | Nasal spray  |
| <b>Nonprescription acute medications</b>                                     |  |
| ■ Acetaminophen  | Oral   |
| ■ Advil® Migraine  | Oral   |
| ■ Excedrin® Migraine   | Oral   |
| ■ Ibuprofen*   | Oral   |
| ■ Motrin® Migraine Pain  | Oral   |
| ■ Naproxen sodium*   | Oral   |

\* Marketed under two or more brand names

**Table 4. | Prevention medications for migraine**

(All are taken orally)

**Anticonvulsants:**

- Depakote® (divalproex sodium)\*
- Depakote® ER (divalproex sodium)\*
- Gabitril® (tiagabine HCl)
- Neurontin® (gabapentin)
- Topamax® (topiramate)

**Alpha-2 anonist:**

- Guanfacine

**Antidepressants:**

- Amitriptyline
- Fluoxetine
- Nortriptyline
- Protriptyline

**Beta blockers:**

- Atenolol
- Blocadren® (timolol maleate)
- Inderal® (propranolol)\*
- Inderal® LA (propranolol)\*
- Metoprolol
- Nadolol

**Calcium channel blockers:**

- Verapamil
- Diltiazem
- Nimodipine

**MAO inhibitor**

- Phenylzine

**Nonsteroidal anti-inflammatory drug (NSAID)**

- Aspirin
- Aspirin plus dipyridamole
- Ibuprofen
- Ketoprofen
- Naproxen

**Other**

- Sansert® (methysergide maleate)\*
- CoQ10 (Coenzyme Q10)
- Estradiol (estrogen)
- L<sub>5</sub>-HTP (L-5-hydroxytryptophan)
- Cyproheptadine

**Nondrug agents used for migraine**

- Butterbur extract
- Feverfew
- Magnesium
- Vitamin B<sub>2</sub> (riboflavin)

\* Approved by the FDA for migraine prevention

### Alternative (nondrug) therapies for migraine

Alternative therapies for migraine have received a great deal of attention in recent years. Some have been evaluated scientifically and found to be effective, while others cannot pass rigorous scientific testing. For many, the evidence for their effectiveness is largely anecdotal. If you are interested in a nondrug approach to migraine prevention, perhaps the best advice is simply: talk to your healthcare provider to see if it might be appropriate for you. Most patients who try nondrug therapies don't do so because they are not satisfied with their medical care. They see alternative approaches as complements to, rather than replacements for, their usual migraine medications. It's also important that, when you use any alternative therapy, you advise your healthcare provider, because some of these therapies can interact with medications you might be taking.

There are many nondrug approaches to migraine, but they tend to fall in a few major categories. These include: avoiding migraine triggers, relaxation, biofeedback and stress-reduction techniques, and dietary or herbal supplements. The following list is far from complete, but it does include some of the more popular nondrug approaches to reducing migraine frequency and severity.

**Avoiding migraine triggers.** In addition to the foods listed in Table 1, there are a variety of environmental factors that may trigger headaches. These include sudden changes in the weather and extreme cold or humidity. Bright lights, fluorescent lighting, or flickering lights can trigger migraines in some people. For example, sunlight flickering through the trees as seen from a moving vehicle may trigger a migraine. In others, fumes, vapors, perfumes, or tobacco smoke can trigger headaches. Many people can reduce the frequency of their headaches by avoiding changes to their daily routines: eating, sleeping, and awakening at regularly scheduled times.

### Relaxation/stress reduction techniques

**Biofeedback training** uses special equipment to teach patients to reduce their levels of stress by controlling the physical changes that lead to headache-inducing stress. Eventually, patients learn to reduce their stress levels without the presence of monitoring equipment. Studies have shown that children can successfully learn biofeedback techniques.

**Deep-breathing techniques** allow some patients to reduce the pain or even stop a migraine attack. At the first sign of an approaching migraine, the patient breathes slowly, deeply, and steadily while concentrating on the muscles of the diaphragm.

**Progressive muscle relaxation** is a similar technique, where the patient contracts and then relaxes different muscle groups one after another until a deep sense of relaxation is achieved.

**Creative visualization** combines muscular relaxation with visualization of images or situations the patient has found to be pleasant and relaxing. **Guided imagery** uses imagined pleasant images to produce a positive and calming effect on the central nervous system. **Autogenic training** resembles self-hypnosis; it uses a series of 12 suggestions to progressively relax various parts of the body. Each suggestion expresses one state of relaxation; after the twelve are completed, a near-total degree of relaxation may be achieved. Others have found that the meditative techniques of **yoga** can produce a similar beneficial state of relaxation and well-being. In summary, all of the techniques discussed in this paragraph use the mind's own power to change the central nervous system in a manner that can stop a migraine attack before it progresses to the pain phase.

### Nutritional and herbal supplements

Recent studies have found that migraine patients often have a deficiency in **magnesium**. Magnesium supplements were tested in both adults and children with migraine and the results were promising: magnesium appears to have some benefits in both the acute treatment and the prevention of migraine attacks. Additional tests of magnesium are underway. The suggested dose is 300-600 mg/day.

**Feverfew** is one of the best documented herbal remedies for migraine. Its active ingredients are known as parthenolides, and a number of studies have shown it to be effective in the prevention of migraine. There are few side effects and the herb is available as an extract in tablets or capsules to be taken daily. The suggested dose is 100 mg/day.

High-dose **riboflavin** (vitamin B<sup>2</sup>) has also been scientifically studied and shown to be highly effective in preventing migraine. Riboflavin has the additional advantages of excellent tolerability and low cost. The suggested dose is 400 mg/day.

**Butterbur root** extract (*petasites hybridus*) has been shown in clinical studies to reduce the frequency, duration, and severity of migraine attacks. This herbal extract is also well tolerated. The suggested dose is 100-150 mg/day.

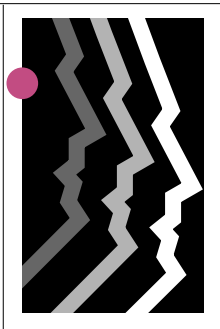
**5-HTP (5-hydroxytryptophan)** is an amino acid that has been shown to reduce the frequency and intensity of migraine attacks, apparently by correcting some of the nervous system abnormalities that are part of the migraine mechanism. Side effects are mild (usually stomach upset). The suggested dose is 300-600 mg/day.

Some people have migraines that are related to an abnormal function in cellular energy metabolism. This can be improved with **coenzyme Q10, or CoQ10**, which has been shown to reduce to reduce the frequency of migraine attacks. The suggested dose is 150 mg/day.

### Conclusions

**I**f you have migraines or one of the other headache types described in this booklet, you are in good company: over 28 million Americans have migraines. Fortunately, we live in an age when the biological basis of headaches is well understood and effective headache medications are readily available. That's the good news. The bad news is that too many people with headaches don't seek medical care. Studies have shown that more than 50% of people with migraines have never received a medical diagnosis and treat their headaches exclusively with nonprescription medications. It's appropriate then, that the final message of this booklet is simply: if you have headaches, see your healthcare provider because help is available. Today, healthcare providers have the knowledge and resources to dramatically reduce the frequency and severity of your headaches.





## **NATIONAL HEADACHE FOUNDATION**

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