



by Tamar Nordenberg

## Heading Off Migraine Pain

In the first quarter of Super Bowl XXXII last January, Denver Broncos running back Terrell Davis was hit hard and walked off the field with a towel draped over his head. A developing migraine made the sunlight difficult to bear.

So how did a person suffering from migraine, a condition that can cause debilitating pain, return after halftime to score the winning touchdown and earn Most Valuable Player status? The answer: He recognized the early warning signs and immediately took an effective drug to control his pain.

Michael John Coleman, founder of [Migraine Awareness Group: A National Understanding for Migraineurs, or MAGNUM](#), appreciates the challenges migraine sufferers face. Coleman has himself suffered with bouts of severe migraine headache pain since age 6. During an attack, he says, "I felt like I was being beaten up by a gang." Coleman's attacks used to last 72 hours or more; a couple lasted more than two weeks straight. "It was nightmarish, when I look back at it. I don't know if I could live through that again."

### Not Your Usual Headache

More than 26 million Americans suffer from the neurologic disorder of migraine, according to the American Medical Association. No medical test exists for migraine, so the diagnosis is based on having some or all of the following symptoms:

- a moderate to severe throbbing pain for four to 72 hours that is frequently on one side of the head (the word migraine comes from the Greek hemicranios, meaning half a head)
- nausea, with or without vomiting
- sensitivity to light and sound (see ["Is It a Migraine?"](#))

About 15 to 20 percent of migraine sufferers experience visual and other disturbances about 15 minutes before the head pain. These symptoms, collectively known as "aura," may include flashing lights, zig-zag lines, bright spots, loss of part of one's field of vision, or numbness or tingling in the hand, tongue, or side of the face. Migraines preceded by an aura are called classic migraines; all others are referred to as common migraines. According to news reports, the Broncos' Davis experienced an aura during the Super Bowl, allowing him to get early treatment to prevent a full-blown migraine.

Migraines strike some people about two or three times a year and others as frequently as twice a week or more. They appear to have a genetic link. According to the [American Council for Headache Education](#), up to 90 percent of people with migraine have a family history of the condition.

While migraines usually appear in young adulthood, children aren't immune. In children, pain sometimes occurs on both sides of the head. Associated symptoms can include nausea, vomiting and diarrhea.

### **Professional and Personal Costs**

Even normal physical activity tends to intensify the pain of migraine. "Migraines are unlike tension headaches in that they often interfere with people's activities to the extent of forcing them to stop what they're doing and lie down," says Randy Levin, M.D., a medical officer in the Food and Drug Administration's division of neuropharmacological drug products. Only 8 percent of migraine sufferers report that the headaches don't significantly interfere with their ability to function, says Fred Sheftell, M.D., the founder and director of the New England Center for Headache.

"A migraine is a hell of an enemy," Coleman says, "and you don't know when your next one's going to come. But you still have to pay the bills. You can be in an incredible amount of pain and put on a happy face, and then when people leave the room, you literally fall on the floor."

Coleman fears generalizations arising from the "Super Bowl migraine." Davis didn't win the Super Bowl with a migraine, he points out, but rather was lucky enough to have a relatively mild migraine that responded to early treatment and allowed him to play to his potential.

Coleman says that his own migraines interfered with every aspect of his life. As his migraines grew worse in the early- to mid-1980s, he gave up his job as an art director with the U.S. Navy, which he'd held for six years. He opened his own art studio, thinking that the hours would be more flexible. But he lost his studio, too, which he calls his "life's work," because he was unable to work enough hours each week.

And Coleman says his migraines also took their toll on his personal life, leading to a break-up of his seven-year marriage. Coleman's wife, a nurse, was "very supportive," he says, "but it wore her down."

### **Modern Medicine**

The over-the-counter and prescription medications that are used to treat migraine pain fall into two general categories: those for use during an attack and those that help prevent attacks. A sufferer may need to take different medications to address distinct symptoms. For example, some drugs can help relieve the nausea and vomiting, while others may ease the head pain.

"It's important to have as many drug options as possible for migraine," says FDA's Levin, "because different people respond differently to medications, and what works for one patient may not help the next."

An over-the-counter drug may help some migraine sufferers with mild to moderate pain. In January 1998, a version of extra-strength Excedrin called "Excedrin Migraine" became the first over-the-counter medicine specifically approved by FDA for migraine.

People who want to use an over-the-counter migraine medication should see their doctor anyway, Levin says, to rule out more serious conditions. (See ["Should You Call a Doctor?"](#))

For many years, Coleman struggled with his pain without professional medical help, treating himself with over-the-counter drugs. But as he kept upping the dosage in search of relief, he noticed his headaches were getting worse instead of better.

Like Coleman, many patients who take headache medicine more than a couple of days a week experience "rebound headaches," where the pain reappears as each dose of medicine wears off, leading patients to take even more medicine.

Coleman now treats his migraines with prescription drugs, including sumatriptan (Imitrex), a popular migraine drug since its approval by FDA in 1993. "It's night and day," Coleman says of his pain before and after Imitrex.

Other prescription drugs approved specifically for migraine include ergotamine tartrate (Cafergot, Wigraine, Ergostat), isometheptene mucate combinations (Midrin, Isocom), and dihydroergotamine (DHE-45). Some of the newest anti-migraine medicines are zolmitriptan (Zomig), naratriptan (Amerge), and a nasal spray form of dihydroergotamine (Migranol), which was reportedly used by Davis during the Super Bowl. At press time, companies were developing additional anti-migraine drugs.

Drugs to prevent migraine are sometimes recommended for those whose migraines are especially frequent or debilitating. Two of the many drugs that are tried for migraine prevention are approved by FDA for this use: Inderal (propranolol) and Depakote (divalproex sodium).

While a medical professional can help a patient choose the right treatment for his or her particular symptoms, patients themselves also play a critical role in controlling pain by observing what triggers their migraines and avoiding those things when possible.

### **Individual Triggers**

Many scientists think migraine is a vascular disorder caused by a tightening (constriction) and sudden opening (dilation) of the blood vessels in the head, neck or scalp.

Others believe that the throbbing pain of migraine is caused by an abnormal release of neurochemicals in the brain, such as serotonin or noradrenaline.

Migraine sufferers may be born with a hypersensitive nervous system that makes them prone to the headaches. Then, a lifestyle or environmental "trigger," such as a hormonal change or a certain food or chemical, can provoke an attack.

A simple change in lifestyle to avoid personal triggers may minimize the frequency of migraines in some patients. (See ["Tracking Your Triggers."](#))

Potential dietary triggers include:

- alcoholic drinks (especially red wine)
- foods containing a chemical called "tyramine" (for example, aged cheeses, sour cream, and yogurt)
- chocolate
- dairy products
- foods with additives such as nitrites, MSG, or aspartame.

A change in caffeine intake, either up or down, can also trigger migraine.

Other lifestyle factors, such as change in sleep habits and even overuse of headache medicines, may sometimes provoke migraines, as can environmental factors, such as:

- change in weather (often the approach of a low-pressure weather front) or temperature
- high altitudes
- bright or fluorescent lights or sunlight
- loud noises
- strong odors.

The role of hormones in provoking migraine helps explain why three times as many women as men suffer from this type of headache. "Hormones seem to play the most important role in this women-men differential," Sheftell says. Because of the impact of hormones, women who are pregnant, using birth control pills, or going through menopause often experience an increase or decrease in the frequency of headaches.

Migraines can also be triggered by emotional factors, including not only negative feelings like frustration, anxiety or depression, but also by relaxation and positive feelings such as excitement. "Someone can go through a very stressful time--no headache--and then the weekend or holiday comes and they can finally relax, and the headache comes on," Levin says.

For Coleman, weather is a key trigger. But things that trigger migraine in one person might not affect another, even someone else in the same family. For this reason, experts say that keeping a personal "headache diary" may help in determining the best treatment approach. The diary should include characteristics of each attack, including triggers as well as the date and length of the attack,

preheadache symptoms, level of pain (on a scale of 1 to 4, for example), sensitivities during the headache, medicine taken within 48 hours before the attack started, and other observations.

### **Stress as Aggravator**

The fact that stress can play a role in migraine, experts say, doesn't mean that migraine is a psychological disorder. "Does stress or worry ever provoke a headache? Of course," says Neil Raskin, M.D., a neurologist at the University of California at San Francisco. "But it's simplistic to think that someone is having a headache solely because of stress. That would be extraordinarily unusual."

The role of psychological stress on migraines, Sheftell explains, is like the role of psychological factors on epilepsy, asthma, hypertension, and heart disease. "Stress is not the cause of migraines, but psychological issues can worsen migraines as they can these other medical conditions."

Like someone with high blood pressure or heart disease, people with migraines should maintain a healthy lifestyle, including regular sleep patterns, a healthy diet, and exercise. Beyond those traditional healthy habits, some people report benefiting from behavioral treatments even though these have not been scientifically proven effective. These treatments include relaxation therapy, yoga, or biofeedback, which teaches people to reduce their muscle tension.

Despite the biological cause of migraine, Coleman says the myth persists that the pain is imagined or rooted in a psychological problem. "My in-laws used to say, 'Michael, are you still pretending to have those little headaches to get attention?'"

Many doctors, too, lack knowledge about migraines, which Sheftell says may account at least in part for the high rate of undiagnosed migraine cases--an estimated 60 percent of women sufferers and 70 percent of men.

Sheftell recommends forming a partnership with your health-care professional to ensure the most effective treatment. Seek a knowledgeable and interested doctor who will work with you, he says, and get information yourself from headache organizations. (See "[Headache Help.](#)")

"There's a great deal more that can be done for migraine today than 20 years ago," Sheftell says. "Don't accept 'You have to live with it.'"

Tamar Nordenberg is a staff writer for FDA Consumer.

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### ***Is It a Migraine?***

Migraines are "primary headaches," meaning they are not caused by an underlying medical condition such as a tumor. Two other forms of primary headaches are tension-type and cluster headaches.

Tension headaches are the most common type and are usually characterized by a steady ache rather than the throbbing pain that is typical of migraines.

Cluster headaches affect only about 1 percent of the population, mostly males. The headaches come in groups over weeks or months. The pain is very severe, usually centering around one eye, but rarely lasts more than an hour or two.

--T.N.

	<b>Migraine</b>	<b>Tension-Type</b>	<b>Cluster</b>
<b>Location of pain</b>	one or both sides of head	both sides of head	one side of head
<b>Duration of pain</b>	4 to 72 hours	2 hours to days	30 to 90 minutes
<b>Severity of pain</b>	mild, moderate or severe	mild or moderate	excruciating
<b>Nausea, sensitivity to light, sound, odors</b>	common	no	no
<b>Redness or tearing of eyes; stuffy or runny nose</b>	sometimes	no	yes

(Source: "Migraine and Other Headaches: A Patient Guide to Headache Management," American Medical Association, copyright 1997)

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### ***Should You Call a Doctor?***

Some headaches, called "secondary" headaches, result from another medical condition, ranging from a relatively harmless condition like the flu to a serious condition such as a tumor. Headaches very rarely result from a condition as serious as a tumor, but to be safe, the American Council for Headache Education recommends that you contact a health professional if your attacks start after age 50 or your headache:

- appears suddenly and is more severe and different from past headaches, or worsens over time
- is triggered by exertion, coughing, or bending
- is linked with a stiff neck and fever

- is accompanied by disturbed vision or speech or numbness, tingling or weakness in a part of the body
- makes it difficult for you to think and remember
- causes severe vomiting
- follows a head injury.

--T.N.

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### ***Tracking Your Triggers:***

Check the items that seem to bring on your migraines.

#### **Dietary Factors**

- alcoholic beverages
- foods containing tyramine:
  - aged cheeses
  - Chianti wine
  - pickled herring
  - dried smoked fish
  - sour cream
  - yogurt
  - yeast extracts
- chocolate
- citrus fruits
- dairy products
- onions
- nuts
- beans
- caffeine (excess, withdrawal)

- fatty foods
- food additives:
  - nitrites (e.g., in hot dogs, luncheon meats)
  - monosodium glutamate (MSG)
  - aspartame artificial sweetener (NutraSweet, Equal)

### **Environmental Factors**

- bright light
- flickering light sources
- fluorescent lighting
- perfumes
- strong odors
- fumes from industrial complexes
- air pollution
- secondhand cigarette smoke
- motion
- travel
- complex visual patterns (e.g., checks, zig-zag lines)
- weather changes

### **Lifestyle Factors**

- stress
- disrupted sleep patterns
- "letdown"
- fatigue
- irregular eating habits
- cigarette smoking

## **Medications**

- blood vessel dilating drugs (e.g., nitroglycerin)
- drugs for high blood pressure (e.g., hydralazine, reserpine)
- diuretics
- anti-asthma medications (e.g., aminophylline)
- too-frequent use of analgesics, ergotamine

## **Physical Factors**

- head trauma
- invasive medical tests (adverse effect)
- exertion (e.g., sports, sexual orgasm)
- disorders of the neck

## **Hormonal Factors**

- onset of puberty in girls
- menstruation
- menopause
- pregnancy
- delivery
- birth-control pills
- estrogen replacement therapy

(Source: "Migraine: The Complete Guide," American Council for Headache Education, copyright 1994)

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### ***Headache Help***

In 1993, migraine sufferer and artist Michael Coleman founded an organization called "MAGNUM" (Migraine Awareness Group: A National Understanding for Migraineurs), which uses art as a vehicle to help educate people about migraine. You can contact MAGNUM at:

113 South Saint Asaph Street, Suite 300  
Alexandria, VA 22314  
703-739-9384  
[www.migraines.org](http://www.migraines.org)

Other groups that specialize in headache:

American Council for Headache Education  
19 Mantua Road  
Mount Royal, NJ 08061  
1-800-255-ACHE (1-800-255-2243)  
[www.achenet.org](http://www.achenet.org)

National Headache Foundation  
428 West Saint James Place, 2nd Floor  
Chicago, IL 60614  
1-800-843-2256  
[www.headaches.org](http://www.headaches.org)

National Institutes of Health Neurological Institute  
P.O. Box 5801  
Bethesda, MD 20824  
301-496-5751  
[www.ninds.nih.gov](http://www.ninds.nih.gov)

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