

**Headache**

**Overview:** Nearly 40 million Americans experience chronic headaches. The problem is severe and sometimes disabling for half of these people. There are only a few structures in the head that hurt. These consist of the skin, the muscles and the blood vessels. The brain itself lacks pain sensitive nerve fibers. Most chronic headaches come from the muscles or the blood vessels. Headaches can be an early warning symptom that something serious is wrong such as a tumor or brain infection.

**Diagnosis:** When a patient first sees a doctor complaining of a headache, it is the doctor's responsibility to make sure nothing serious is going on. The doctor will take a careful history and do a thorough physical and neurologic evaluation. If there is some doubt as to the nature of the headaches, the doctor may order blood work and X-ray studies. A test called an encephalogram (EEG) can be used to measure brain activity and rule out the possibility of epilepsy. The primary X-rays used in evaluating the head are the CAT scan and the MRI. Sometimes dye is injected through the vein prior to a CAT scan or MRI to enhance the pictures further. On the basis of the history, physical examination and radiographic tests, the physicians are almost always able to determine abnormalities in the brain. The vast majority of patients will not have headaches secondary to tumor, infection, etc. These patients will have what is referred to as chronic benign headaches. There are two primary types of benign headaches: migraines which are vascular headaches, and muscle tension headaches.

**Migraine Headaches:** The most common vascular headache. They are usually characterized by:

Severe pain on one or both sides of the head  
Nausea  
Vomiting  
Occasional disturbed vision  
Sensitivity to light  
A so-called aura prior to the migraine

Eyes experience flashing lights or zigzagging lines  
Temporary loss of vision  
Speech difficulty  
Weakness in the arms or legs  
Tingling of the face or hands  
Confusion

It is during this phase the blood vessels supplying the brain are believed to be constricting. Because of the low blood flow, neurological findings described above develop. This can occasionally be confused with a stroke-type process. The difference is the symptoms remain in a stroke while symptoms quickly dissipate over a period of 30 to 60 minutes with a migraine. Migraine headaches can come at almost any time and with any frequency. However, most patients suffer severe migraines one to two times a week or less.

**Migraine Progress:**

There is some debate as to the precise cause of migraine headaches, but it is mainly believed the blood vessels constrict and get very tight due to various triggers. When this happens, blood elements called platelets clump together and release a drug called serotonin. Serotonin causes the blood vessels to further tighten and reduces the supply of blood to the brain. This can give rise to the distorted speech or vision commonly seen with migraines. Ultimately, the same blood vessels that are constricting, dilate and widen in order to re-establish

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proper blood flow to the brain. Because the brain has been deprived of blood for a period of time, the blood vessels open extra wide in order to make up for the blood flow that was initially denied. It is during this dilation process the pain is experienced. Additionally, during this phase, chemicals that cause irritation and swelling are also released, resulting in the throbbing headache. Migraine headaches can begin anywhere between the age of 5 and 35 and are more common in women. Women may also suffer from menstrual migraines, which are headaches that appear around the time of their menstrual period and may disappear with pregnancy. There may be numerous triggers to a migraine headache such as:

Genetic predisposition	Certain foods (foods high in tyramine should be avoided)
Stress	Alcohol in any form
Fatigue	
Flickering lights	
Changes in the weather	

**Treatment:** The classic treatment for migraine headaches is drug therapy. There are two approaches to the medications: 1.) prevent the headaches 2.) relieve the symptoms. For infrequent migraines, drugs can be taken at the first sign of a headache to help ease the pain and stop the attack. These include:

Anti-inflammatory drugs such as aspirin or Naprosyn  
Vasoconstrictive drugs such as ergot alkaloids and sumatriptan

If the headaches are occurring frequently, that is three or more times a month, preventative treatment is usually recommended. Drugs to prevent the classic migraine include:

High blood pressure medications, which help reverse constriction of the blood vessels (beta blockers and calcium channel blockers)  
Anti-depressants (amitriptyline)

New drugs for migraines are being released all the time and your doctor will be aware of them.

**Muscle Contraction Headaches:** These are generally related to stress, which induces muscle tension. However, other studies now suggest muscle tension and vascular headaches may be one and the same. Chronic muscle contraction headaches, unlike migraines, can last weeks, months or sometimes years. These headaches are described as a tight band around the head with pain that is steady and is usually felt on both sides of the head. The muscles of the head are frequently painful to light touch; combing the hair can even be painful.

**Treatment:** Treatment of muscle contraction headaches is similar to migraines. The first consideration is to try to relieve the headache with anti-inflammatory drugs. In

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addition, preventing the headaches with the same medications used for migraine patients is reasonable. Non-drug therapy for chronic muscle contraction headaches includes biofeedback, relaxation training and counseling. Biofeedback is a technique that gives people better control over their body functions, such as blood pressure, heart rate, muscle tension and brain waves. By learning this technique, patients are able to reduce stress and relax the muscles in the head and even open up blood vessels. This technique is ideal because it does not require the use of any medications and has no side effects. Patients can practice it at any time and when they feel a headache starting. In order to learn biofeedback, the patient must see an experienced biofeedback practitioner and practice at home with a portable monitor. Biofeedback is helpful for both types of headaches. Sometimes headaches may respond to hot showers or moist heat placed to the back of the head or neck. In certain patients, ice may be more effective. Physical therapy, massage and gentle exercise of the neck may also be helpful. Ultimately, patients who have chronic headaches can live normal, active lives. Working with the doctor, a good program of medications, behavioral interventions and proper diet to reduce the frequency, severity and duration of headaches can be developed.