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What is migraine?

Migraine is thought to be a disorder of the brains control mechanism for the blood vessels in the head. This “chemical imbalance” is often inherited. The disorder can begin in early childhood and persists through most of the adult life. Severe migraine affects 28 million Americans, with a female-to-male ratio of 3:1.

In 2000, the World Health Organization classified migraine among the major public health disorders and recognized that migraine is a leading cause of chronic disability with its extensive impact on patients, families, and work productivity. Migraine was ranked as only slightly less disabling than chronic obstructive lung disease. Migraine costs American employers about \$11 billion a year due to missed work days and impairment while on the job. Annual direct medical costs for migraine are \$1 billion, with about \$100 spent per diagnosed patient.

During a migraine attack there are changes in the electrical and chemical activity of the brain that causes changes in blood flow and inflammation of blood vessels. The alterations in blood flow can produce preceding symptoms called auras. These can be very bizarre experiences and include partial or complete visual loss, numbness, weakness and confusion. The headache usually follows the aura and it is on one side or both sides of the head. It is frequently associated with nausea, vomiting, photophobia and sonophobia. Because migraine is worsened by physical activity, people like to rest in a quiet and dark location during an attack. Migraine headaches typically last from a few hours to one day. Usually people have between four and six of these headaches per month.

Migraine is also common in children but presents slightly different. The attacks are shorter than in adults. Throbbing or unilateral pain or the presence of photophobia and sonophobia, are less common.

Diagnosis of migraine

The diagnosis of headache can be challenging especially since multiple different headache types can coexist. These are questions you might expect your doctor to ask about your headaches:

How many different headache types do you experience?

How old were you when you started having headaches?

Why are you coming to the doctor now?

How frequent are your headaches and how long do they typically last?

What triggers the headache?

Where in your head is the pain and what is its character?
 Do you have any preceding symptoms or do you get a warning prior to the headache?
 Is the headache associated with nausea, vomiting, photophobia or sonophobia?
 What makes it worse and what makes it better?
 Is your inability to function compromised by the pain?
 Is there anybody else in the family who has headaches?
 What medications have used or are you using to treat the pain?

Based on your answers to these questions your doctor will be able to characterize your headache.

Migraine headaches can occur with and without an aura. A typical aura lasts from five to 60 minutes before the headache starts. It consists of transient visual, sensory, and speech disturbances. Visual symptoms are the most common manifestation of an aura and consist of flickering lights, spots or lines, or blind spots.

Headaches that are associated with nausea, photophobia, sonophobia, and are exacerbated by physical activity are most suggestive of migraine headaches. About one third of all people who present to their doctor with headaches have migraines. If the headache is associated with nausea the likelihood of this being a migraine is about 90%.

Migraine Triggers

Migraine triggers fall into several classes including diet, stress, sleep, and environmental factors. These are specific to each individual person. Over time many people with migraines learn what factors commonly trigger a headache. Avoiding these triggers may decrease headache frequency.

This is a good time to mention the usefulness of a **headache diary**. By documenting the headache frequency and severity in conjunction with environmental factors surrounding each episode including food, sleep, stress level, weather and exposures one will be easily able to retrospectively identify common factors that might have triggered the episode. A **headache diary** will also come in handy when you discuss the effectiveness of new headache treatments with your doctor. It will give him objective data to tailor your best headache therapy.

DIET	SLEEP	STRESS	ENVIRONMENTAL
Missed meals	Too much sleep	During periods of stress	Weather changes
Changes in meal time	Too little sleep	After periods of stress	Temperature changes
Alcohol		Anxiety	Change of time zones
Caffeine		Exertion	Glaring lights
Nitrates		Fatigue	Computer screens
Nitrites			Odors & Fumes
Tyramine			High altitude
			Smoking

There are a number of foods that contain chemicals that represent migraine triggers in susceptible persons. However, the food that triggers a headache in one person may not do so in another. Therefore, you must go through the process of evaluating each food to determine if it is a factor in your headache. This is a trial and error process. A simple approach would be the elimination of all potential foods at one time for several months to see if the headache frequency decreases. Afterwards you can then try to reintroduce one food at the time and wait several months to see if the headache returns.

We have outlined below common and rare triggers including specific chemicals that are known to cause migraine headaches.

Common Triggers	More Rare Triggers	Specific Chemicals
<p>Cheese (except cottage, farmers, ricotta, and crème)</p> <p>Alcohol (red wine is very common)</p> <p>Caffeine (coffee, tea, Coke, caffeinated beverages)</p> <p>Chocolate</p> <p>Aged meat and liver (cold cuts, Bologna, Ham, hot dogs, Bacon, Sausage, Sauerkraut)</p> <p>Legumes (Soybeans, Italian green beans, Broad bean pots, Garbanzo beans, Lentils)</p> <p>Nuts (especially peanuts)</p> <p>Yeast (especially in homemade breads and sourdough)</p>	<p>Salad dressing</p> <p>Yoghurt and buttermilk</p> <p>Rennet tablets</p> <p>Dried fruits (raisins)</p> <p>Fruit (Rhubarb, Citrus fruits, ripe Avocado, ripe Banana, fresh Raspberries, red Plums</p> <p>Figs, Papaya, Passion fruit)</p> <p>Imitation crab</p> <p>Licorice</p> <p>Mushrooms</p> <p>Snails</p> <p>Salty foods</p> <p>Onions</p> <p>Worcester Shire and</p> <p>Teriyaki sauce</p> <p>Wheat</p> <p>Black Cohosh</p>	<p>MSG</p> <p>Tyramine (meat, fish, poultry, and eggs that are dried or fermented or pickled or salted or smoked; Salami, sauerkraut, pepperoni, liverwurst; aged cheese, Fava or broad beans, pickles, olives; Miso, soy and teriyaki sauce; all alcoholic and fermented beverages)</p> <p>Tannins (black walnuts, red wine, tea, chocolate, vanilla, raspberries, herbal products and vitamins)</p>

The **MSG** relationship to migraine does not apply to all persons but may be significant in some. MSG is in many processed foods and may not be listed on the label. It may be necessary to ask restaurants if MSG is used.

They are also foods that may help migraine. Serotonin is a brain chemical important in migraine. Foods that increase serotonin levels may help with migraine headaches. The body does not get serotonin from food but makes serotonin from tryptophan in the diet so foods high in tryptophan are useful. Foods that may increase serotonin levels and are high in tryptophan are turkey, chicken, duck, black-eyed peas, black and English walnuts, almonds, sesame or pumpkin seeds, cheeses (Cheddar, Gruyere, cottage or Swiss), whole grains, rice and dairy products.

Overall you should eat a balanced diet and try to eat small amounts during the day. Falling blood sugar levels may be a factor in precipitating migraine headaches.

A useful cookbook for people living with migraine is: “Migraine Headaches And The Foods You Eat: 200 Recipes For Relief” by Agnes Hartnell and Scott Tyler. Another useful book is the “Migraine Cookbook” by a Sharp.

Hormonal Influence on Migraine.

Many women have migraine attacks timed to their menstrual cycles, called menstrual migraines. Migraines often change during pregnancy. They are usually decreasing in intensity and frequency.

Oral contraceptives may increase the frequency of migraine and is probably associated with a greater stroke risk in women with migraine headaches.

Migraine tends to decrease and stop with age. Estrogen therapy for menopause can increase the intensity and frequency of migraine headaches.

Migraine Aura

Migraine headaches can occur with and without an aura. A typical aura lasts from 5 to 60 minutes before the headache starts. It can consist of transient visual, sensory, and speech disturbances.

Visual symptoms are the most common manifestation of an aura and consist of flickering lights, spots or lines, or blind spots.

Treatment approach

Treatment of migraine involves several approaches that may be used alone or together. These approaches include:

- ✚ Identifying and controlling triggers.
- ✚ Encouraging healthy behaviors and lifestyles.
- ✚ Medications to prevent attacks of migraine (prophylaxis).
- ✚ Medications to treat an individual migraine attack (acute treatment).

Acute Migraine Treatments

These medications are only taken only once or for a short time to stop an acute attack.

Specific migraine drugs are:

- ✚ **Triptans.** They are more than seven drugs in this category in one or more may be tried. Examples of these drugs include Amerge, Axert, Frova, Imitrex, Maxalt, Relpax, and Zomig. Failure to respond to one of these drugs does not necessarily mean that the other ones won't work.
- ✚ **Ergots.** DHE 45 (dihydroergotamine) is the best-known medication in this category.
- ✚ **Midrin**

Other pain medications that are commonly used for acute migraine treatment include:

- ✚ Over-the-counter pain medications like aspirin, ibuprofen (Advil, Motrin), or acetaminophen (Tylenol).
- ✚ Prescription pain medications. The use of these medications on a regular basis may increase headache frequency, called rebound headache or analgesic headache (please see our section on *rebound headaches* for details).
- ✚ Anti-inflammatory medications that are also known as non-steroidal or arthritis medications.

Preventative Headache Medications

These medications are taken on a regular daily basis to prevent migraine attacks much as blood pressure medications are taken regularly to prevent hypertension.

- ✚ Antidepressants such as Amitriptyline, Nortriptyline, and Zoloft.
- ✚ Beta-blockers such as Propranolol, Atenolol, and Metoprolol.
- ✚ Calcium channel blockers such as Verapamil, and Amlodipine.
- ✚ Anticonvulsants such as valproic acid (Depakote), gabapentin (Neurontin), pregabalin (Lyrica), topiramate (Topamax), and levetiracetam (Keppra).
- ✚ Vitamin B1, magnesium, hormones.
- ✚ Botulinum toxin (Botox®).

Other preventative approaches may not use medication at all but include relaxation training, biofeedback, acupuncture, and stress management.

Additionally smoking, large amounts of caffeine, and poor sleep can make headaches worse. Therefore it is strongly recommended to quit smoking, and to avoid the frequent consumption of caffeinated beverages.

If poor sleep is an issue and one complains of excessive daytime sleepiness (as demonstrated by easily falling asleep during watching TV, driving a car as a passenger, or even during conversation) this could be a sign of a sleep disorder like obstructive sleep apnea. It is therefore recommended to seek evaluation by a sleep specialist. Sleep apnea for example can cause a chronic daily headache and also increases one's cardiovascular risk for stroke and heart attacks. Treatment of this disorder by a specialist is therefore highly recommended.

Rebound Headaches

Most people with chronic daily headache are experiencing rebound headaches. The medication which is being used for today's pain “rebound” and cause tomorrow's headache.

Typically rebound headaches are described as daily or almost daily, bilateral, continuous or almost constant, dull tension type headache. People usually are using daily or almost daily pain medications for its treatment. In addition almost all of these people have superimposed migraine attacks, which are more frequent, more intense and more prolonged than any episodic migraine they might have experienced in earlier years. After developing the daily headaches many people start noticing symptoms of depression including fatigue, weakness, difficulty sleeping, and trouble thinking clearly. Some people note mild elevations of blood pressure and/or symptoms of fibromyalgia.

The unusual presentations of rebound headache and include:

- ✚ Only unilateral headache or even localized pain.
- ✚ Very frequent migraine attacks without a tension type headache component.
- ✚ Young children with chronic daily headaches.
- ✚ Chronic daily headache despite only using one or two analgesic tablets each day.
- ✚ Development of daily headaches by using daily medications for pain for short periods of time but then development of daily headaches after reducing the medications to only one or two days per week.
- ✚ People whose headaches began following head injury which are commonly misdiagnosed as chronic post traumatic headache.

Medications which might cause this phenomenon include aspirin, acetaminophen (Tylenol), any non-steroidal anti-inflammatory drug (including Aleve, BC powders, Bufferin, Excedrin, Excedrin migraine, Fioricet, Motrin, naproxen), any opiate (codeine, Demerol, Fentanyl, morphine, OxyContin, Stadol, Ultram), ergotamine (Cafergot, Methysergide, with the exception of DHE 45), any tryptan (Amerge, Axert, Frova, Imitrex, Maxalt, Relpax, and Zomig; see our section on *acute migraine treatment*) or any combination of the above. The exact role that caffeine plays in causing rebound headaches is unknown.

It is very important to know that medications to prevent headache and antidepressants are ineffective in treating this type of headache as long as the offending agent(s) are still used.

The chemical basis for rebound headache is possibly a change in serotonin receptors. There is no laboratory test for this condition. The diagnosis can only be confirmed by observing the gradual reduction and finally the termination of the previous daily headache after the offending pain relief medications have been completely withdrawn.

Upon withdrawal of the offending agents they headache might intensify for the first week. Your doctor may consider adding preventative medication for headaches as noted in our section for *acute migraine treatment* in an attempt to make this period more tolerable for you.

The endpoint of treatment should be six consecutive pain-free days. In the meantime to reach this goal is three months and some people may need six to 10 months to get there.

Once you have reached the treatment goal here are the important points to consider in preventing this headache from reoccurring:

- ✚ Limit the previously forbidden pain medications to 2 days per week. If this limit is exceeded, there is a risk of return of the daily headaches.
- ✚ Caffeinated beverages can be resumed. There's a very slight risk of return of the daily prolonged headache. If this type of headache returns stop the caffeine.
- ✚ Triptans can be used at the onset of migraine but should not be taken more often than twice a week.

If you have questions or comments regarding this topic that you would like for us to address here in the future please don't hesitate to email us at Headache@Wisedoctors.com.