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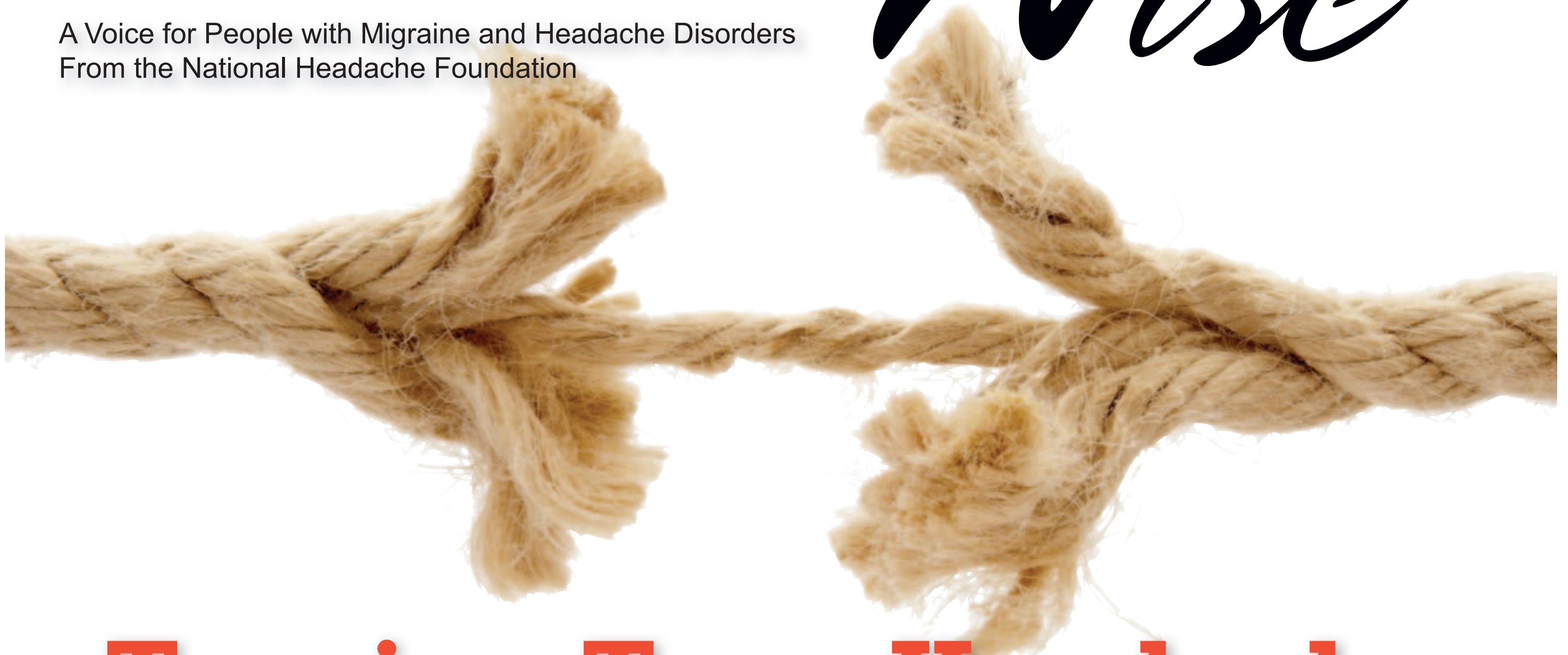
A Voice for People with Migraine and Headache Disorders
From the National Headache Foundation



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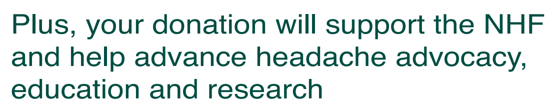

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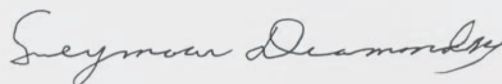
FROM THE EXECUTIVE CHAIRMAN:

Since I established the first comprehensive, private headache clinic in the U.S. in 1972, there has been a proliferation of both headache clinics and the number of practitioners dedicated to headache medicine. In a previous publication (Headache Clinics, published by Associates in Medical Marketing, 1980-1983), which I edited, we featured different headache clinics and practices. These issues, however, were geared for health professionals.

That earlier project engendered the idea that a similar series would be appropriate for inclusion in *HeadWise*™. In future issues, we will continue featuring various headache clinics and practices dedicated to the headache patient. It is our hope that these articles will provide our readers insight into both the various sites providing headache care and also the various approaches to headache management.

This inaugural article features the Mount Sinai Center for Headache and Pain Medicine in New York City. Its director, Mark Green, MD, is a member of the Board of Directors of the National Headache Foundation. The staff physicians at the Center have all contributed to *HeadWise*™, and have moderated chat rooms which are available on our website, **www.headaches.org**.



Seymour Diamond, M.D.
Chicago, Illinois

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A NIGHT AT THE DERBY

On Saturday, May 3, 2014, the National Headache Foundation hosted the 28th annual fundraiser, *A Night at the Derby*–A World Without Headaches, at the Ritz-Carlton Chicago. In addition to dinner and dancing to the Don Cagen Orchestra, our guests enjoyed the Silent Auction of approximately 100 items, including gift cards at Saks and Neiman Marcus, travel getaways, dining certificates at local restaurants as well as national chains, and sports memorabilia. The 3rd annual Wall-of-Wine was a great success, selling all of its wares within 30 minutes. The winners of the premium wines are listed elsewhere in this issue.

To encourage the guests to take their seats for dinner, our trumpeter played *Call to the Post*. Once in the ballroom, the guests sang *My Old Kentucky Home*, in keeping with the Derby theme. Many of the guests donned derby attire–flowery dresses and large, decorated hats for the ladies, and seersucker jackets and bow ties on the gentlemen.

The evening's program was emceed by Board members, Jan Lewis Brandes, MD and Roger K. Cady, MD. The guests were welcomed by our Executive Chairman, Seymour Diamond, MD. In addition to honoring this year's award recipients, we remembered two friends of the NHF who had passed away during the last year–Dawn A. Marcus, MD and Ronald Barnard, Esq.

At the end of the program, Hannah Fastov, granddaughter of NHF President, Arthur Elkind, MD, picked the winning ticket of our annual car raffle. Marlene Medvick, of Oakton, Virginia, and an NHF member since 2006, was the lucky winner. She had the choice of $20,000 in cash or a 2014 Honda Accord LX Sedan.

According to the guests, it was a very enjoyable evening and successful for the NHF. Thank you to all who attended as well as those who supported the Foundation through their contributions. We also want to thank our Volunteer Board for their hard work and dedication: Colleen Albrecht, Marsha Beste, Rhonda Biller, Jane Canepa, Sara Leakey, and James Staulcup, Esq. And finally, a big thank you to the NHF staff and the evening's volunteers who gave the last full measure of their devotion and energy! **HW**

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1. Executive Chairman, Dr. Seymour Diamond, and Associate Executive Chairman, Dr. Roger Cady
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3. Board Members–Drs. Jan Brandes, Roger Cady, Merle Diamond and Timothy Smith
4. Dr. and Mrs. Robert Daroff 5. Volunteers Extraordinaire–Marsha Beste and Rhonda Biller

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2014 National Headache Foundation Honorees

On May 3, 2014, at the fundraising gala, *A Night at the Derby*–A World Without Headache, the NHF presented the following awards:

The Lifetime Achievement Award:
The *Lifetime Achievement* Award is given to a health care practitioner in recognition of an impressive body of work in the field of headache. Previous winners include Roger K. Cady, MD and K. Michael Welch, MB. The 2014 winner is Robert B. Daroff, MD, Professor and Chair Emeritus of Neurology at Case Western Reserve University School of Medicine and University Hospitals Case Medical Center, in Cleveland, Ohio. He is a past president of the American Neurological Association and the American Headache Society. Dr. Daroff has been on the Editorial Boards of 21 scientific journals and served as Editor-in-Chief of *Neurology*, the official publication of the American Academy of Neurology.

Elaine Diamond Service Award:
The *Elaine Diamond Service* Award recognizes excellence and enduring service to the National Headache Foundation. Elaine Diamond was instrumental in the formation of the Foundation, served over 30 years as an NHF Board member, and volunteered countless hours at the Foundation office. This year's honoree is the President of the NHF, Arthur H. Elkind, MD. From 1981 through 2011, Dr. Elkind was the Director of the Elkind Headache Clinic in Mount Vernon, NY. He joined the Board of the NHF in 1988, has served as Secretary and Vice President, and has been President since 2007. Dr. Elkind also serves as Chair of the Board's Editorial Committee and gives much time and effort to this magazine, as well as our e-newsletter, *NHF News to Know*.

Executive Chairman's Award
The NHF Executive Chairman's Award recognizes exceptional volunteer service to the NHF, to healthcare, and to headache sufferers. It is to be presented at the discretion of the NHF Executive Chairman when a candidate with extraordinary qualifications encompasses several of the historical recognition categories offered by the NHF. The award was given this year to June Barnard and Katie Trowbridge, who served as co-chairs of the 2012 and 2013 galas. June Barnard is the owner of Barnard Ltd., a decor and prop company, and Barnard's Boutique which features unique and unusual gifts – both located in Chicago. June has also succeeded her late husband, Ronald Barnard, Esq., as the Executive Director of the Walter S. & Lucienne Driskill Foundation. June's daughter, Katie Trowbridge, serves on the faculty of Naperville North High School, Naperville, IL, as a Communication Arts teacher. She has won numerous education awards and was deemed a Teacher of Excellence in 2013 and 2014 by Western Illinois University.

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Tired of searching the internet for answers?

It's time to learn from those in the know. In every issue of *HeadWise*™, our experts respond to reader-submitted questions about migraine and headache disorders.

HYPERTENSIVE HEADACHE VERSUS HYPNIC HEADACHE

For about six months I have been waking up with what are, for me, unusual headaches—at the front of my head above my eyes. They start in the very early morning between 1 am and 3 am and are still there when I wake up at 7 am. This happens every day without fail. The headaches disappear about an hour after waking. I also have lightheadedness and some blurred vision.

Two weeks ago my doctor diagnosed high blood pressure (220/114). He put me on amlodipine. My lightheadedness has nearly disappeared, but I still get the headaches even though my blood pressure is now down to 145/79. Do you think these headaches are still linked to hypertension or are they something more sinister? – *Jenn A.*

The pattern of your "waking" headaches is typical of hypertensive headache. Usually the diastolic (lower) reading is over 120 in a true hypertensive headache. The fact that you not only had severe hypertension, but blurred vision, makes me think that your pressure may actually have been even higher at times.

Another cause of a waking headache that eases after being up and about is sleep apnea. This is thought to be caused by low blood oxygen and retention of carbon dioxide. Hypnic headache is another headache that comes on in the early morning hours and tends to last for two to three hours. Its cause is unknown and it generally remits after a while, but may require preventive medication. It is not caused by any underlying illness.

Certainly your blood pressure needs to be brought under control. If the headaches persist, then other possible causes should be investigated.

Robert Kaniecki, MD
The Headache Center
University of Pittsburgh
Pittsburgh, PA

HEADACHES FOR 18 YEARS–AND NO RELIEF

I started having migraines while pregnant with my third child, when I was 37. The pain is located at the left temple and over my left eye. Sometimes it feels like the side of my face is kind of numb and sometimes my teeth hurt.

At first, my doctor thought I was having sinus headaches although a sinus series x-ray showed everything normal. I took Benadryl® for sinus

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headaches for about 10 years. I suspected the headaches were worse around or before my menstrual cycle, but my doctor never seemed to see any association. Eventually he referred me to a neurologist who diagnosed me with migraine.

My neurologist put me on amitriptyline and then nadolol, with Amerge® being the "heavy" drug that I take when an out-of-control headache is coming on. I recently went off of amitriptyline and nadolol, as it has been three years and I didn't feel good about taking a daily prescription for that long. I wasn't better anyway. I still take Amerge when I need it, which is about every two weeks. It seems someone should have an answer for me. Eighteen years is a long time.–*Susan S.*

The majority of women who suffer from migraine will have worse headaches around menses and ovulation, evidence of a hormonal trigger. Your situation is unusual because of the onset of migraine at age 37, which is much later than usual. Migraine attacks are often more frequent during menopause, presumably because of varying hormone levels. Sometimes the headaches are better when taking a low, steady dose of estrogens, but some women will have worsening of their migraine with taking any extra estrogen. Remember, however, that the hormone cycle is just one of many possible triggers.

Taking a daily preventive medication will often reduce the frequency and severity of attacks, though apparently amitriptyline and nadolol didn't do much in your case. If the headaches are occurring only every two weeks and you can control them with a triptan, then a daily preventive may not be indicated. Perhaps it would be worth trying a different triptan other than Amerge to see if you get more reliable relief.

Robert Kunkel, MD
Emeritus staff
Cleveland Clinic
Cleveland, OH
NHF President
(1994-2005)

A NEW TYPE OF HEADACHE AFTER MENOPAUSE

I am a chronic migraine headache sufferer since the age of 15. I was assured that once I went through menopause it would all go away. I have now reached that age, and while they have reduced, I still have at least one migraine per week. However, I now experience another type of headache on a daily basis. This type of headache does not respond to drugs. The pressure I feel on my head when lying down for more than a few hours, no matter what type of pillow or mattress, gives me a headache. This has led to restless sleep and reduced performance at work and even the need to call in sick.

Have you ever heard of this? Is this normal for headache sufferers?–*Allison P.*

The development of "new" or "different" headaches in a post-menopausal woman or older gentleman provides a measure of concern for those of us who specialize in headaches. The absence of a response to medication also is a bit disquieting. This presentation is not particularly compatible for a post-menopausal migraine variant and should trigger further testing to determine the root cause.

Although these headaches may be merely secondary to some mechanical compression of nerves in your upper neck or skull base from degenerative disease–arthritis, for example–a brain scan and other testing are necessary to exclude more ominous options. I would advise you contact your physician with these complaints as soon as possible.

Robert Kaniecki, MD
Director, The Headache Center
Chief, Headache Division
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HEADACHES AND

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DIZZINESS AND MIGRAINE

For the past year, off and on, and for the past 3 months continuously, I have had headache/dizziness related to the sensation of clogged ears. Per the advice of an ear, nose and throat specialist, I do a saline sinus rinse, take a dose of Flonase, and I breathe steam with eucalyptus oil on a daily basis. I put a humidifier on my CPAP. I have also tried Sudafed, Claritin, and Coricidin with no relief. I am miserable, and the condition disturbs my sleep. Is there any hope for me? *Jessica R.*

If I understand your question correctly, you are looking for a neurological explanation to your headaches and "dizziness." A successful treatment plan must begin with a precise diagnosis.

First, it is important to describe "dizziness" more precisely. This term sometimes could mean lightheadedness, or it could mean vertigo or a spinning sensation. Lightheadedness is never due to ear problems, but vertigo can be caused by ear problems or by problems in the central nervous system. Lightheadedness could relate to a reduction in blood flow to the brain, and this needs to be evaluated.

Next, your headaches need to be characterized. So-called "sinus headaches" are commonly misdiagnosed in patients who actually have migraine or cluster headaches. Migraine patients can have spinning sensations or vertigo as part of their migraine, and a small percentage of migraine patients, and a larger percentage of cluster headache patients, experience a sensation of stuffiness of their nose or tearing in their eyes during an attack.

In summary, a more precise diagnosis is necessary before launching a treatment plan. Treatments for sinus problems or allergies are generally ineffective in patients with migraine or cluster problems. You should see a headache specialist and, above all, don't give up hope.

Edwund Messina, MD
Medical Director
Michigan Headache Clinic
East Lansing, MI

MITRAL VALVE PROLAPSE

I have severe mitral valve prolapse (MVP) as well as migraine with aura. My options are to do surgery for the MVP now or possibly wait another year.

I have read of correlations between migraine and MVP. Over the past 2 years, my migraines have been more frequent than ever and some pretty severe. Could I be having more migraines because of my MVP, which has gradually gotten worse over the last several years? If there is any chance that my MVP has an effect on my migraines, I would choose to do the surgery sooner rather than later.–*Rebecca F.*

Mitral valve prolapse is usually a benign condition that is found in up to 4% of the general population, with predominance in younger women. There is a higher incidence of MVP in patients with migraine than expected, compared to the general population. However, treating severe MVP with surgical valve replacement is not clearly associated with improvement in migraine. There are no longitudinal, controlled studies evaluating this association.

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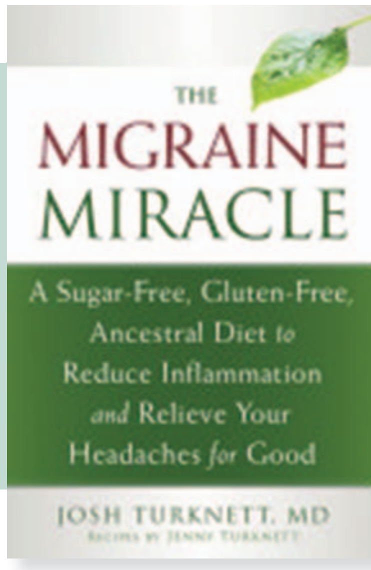
book review

by Arthur H. Elkind, MD



The Migraine Miracle–A Sugar-Free, Gluten-Free, Ancestral Diet to Reduce Inflammation and Relieve Your Headaches for Good.
By Josh Turknett, MD, and Recipes by Jenny Turknett

Published in the U.S. by New Harbringer Publications.
Copyright: 2013. List price: $16.95. 219 pages.
ISBN: 978-1-60882-875-3

When I was invited to review this book, *The Migraine Miracle*, I was personally interested because I have been diagnosed with adult coeliac disease, and have experienced this disorder since infancy. The disorder, i.e. gluten sensitivity, was identified early in the 20th century, resulting in gastrointestinal disease. In childhood, it is described as coeliac disease, and in adulthood, as sprue.

The second reason that I wanted to review this book is that the subject involved my professional interest in primary headache disorders. The primary headache disorders include the principal types: migraine and tension-type headaches. Throughout my career, I specialized in treating headaches, and during the past three decades, I have reviewed many articles and books about headache–both migraine and related disorders. Many authors, including physicians, allied health professionals, PhDs, and lay individuals have written books for the public that purported to find a supposed cure or the answer to the resolution of their headache problems. Often, the basis of their books is anecdotal.

This particular book was written by Doctor Josh Turknett, a practicing and board-certified neurologist, and a migraine sufferer. It offers the reader a method to “relieve your headaches for good.” The anecdotal relief that he obtained was due to Doctor Turknett following a sugar-free, gluten-free diet. Without lingering on the numerous books that are presently available on all types of diets (food inclusion or avoidance, high fat, low carbohydrate, vegetarian, etc), I will attempt to make some reasonable assessment of the author’s 219 pages (including references).

For the lay reader, the first three chapters offer a reasonable explanation and discussion of migraine, “sinus headache,” and “tension” headaches. Dr. Turknett appears to dispense with the thought that these individuals may be experiencing tension-type headaches. He believes all headaches of the tension-type are variants of migraine. The author offers the usual factors causing migraine: family history, lifestyle, and dietary.

A standard review of abortive treatments, including over-the-counter agents and the triptans, is provided

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along with prophylactic (preventive) therapies with pharmacologic agents. The author does believe, although skeptical at first, that Botox may be effective. Natural remedies appear to Dr. Turknett to be as effective as prescription drugs, including those medications that have received approval from the FDA. However, the author views the treatments recommended by most neurologists, their professional organizations, and other physicians specializing in headache, to be off-track. I surmise his theory from the discussion of standard, effective therapy versus his curative sugar-free, gluten-free diet. The reader should be aware of the author's comments –somewhat casual–regarding triptan therapy and its serious complications, which have, fortunately, been reported by observant treating physicians.

As an individual with sprue, I find the latter part of the book with gluten-free diet recipes very helpful. The reductions in sugar in these recipes may be tasty or extremely discouraging to an individual maintaining a diet that is already difficult to follow. Patients leading active lives–working, traveling, frequently eating at restaurants, as well as homemakers with busy schedules will find this diet limiting and costly.

The true gluten-sensitive individual without migraine must follow the gluten-free diet but not necessarily the sugar-free portion, to avoid a malabsorption syndrome, gastrointestinal symptoms, weight loss, etc. If migraine patients are not responding well to standard therapy, I would recommend a trial period of strict gluten avoidance. Dr. Turknett's global suggestion of his diet for migraine extends his own "cure" to the world around him. This is a very unscientific approach to medical treatment of most disorders. His suggestions of why the gluten-free diet is curative appears to be a very personal subjective approach unless he can demonstrate otherwise with peer-reviewed, controlled studies. I would be wary of his recommendation to increase ingestion of animal fats which may burden the migraine sufferer with future cardiovascular disease, namely myocardial infarction, and cerebrovascular disease.

References are cited which support the author's conclusions but studies by peer-reviewed journals supporting opposite conclusions are omitted. Much of the information that is published in medical journals will be confusing to the lay public. The answer to these diet issues and migraine treatment are certainly ambiguous. The results may vary in individuals.

I would be open to the suggestion that a gluten-free diet could be tried in a moderate to severely disabling case of migraine, unresponsive to treatment, by an experienced specialist in headache medicine. The patient should be cognizant of the difficulties encountered while trying to follow the diet, as well as the cost. For the gluten-sensitive individual or one with sprue as well as migraine, I would certainly recommend following a gluten-free diet. The introduction of a sugar-free component is Dr. Turknett's biased opinion and I question its validity.

In conclusion, this book is one of many texts written by a professional who is offering a cure based on personal experiences with the use of science, pseudo-science, anthropology, and very controversial issues outside of the author's expertise. If the reader would like to follow the gluten-free diet for their migraine problem on a trial basis, I would recommend consulting a professional nutritionist in advance. It would be most productive to consult an experienced headache specialist as well.

We have come a long way in effectively treating migraine, using a scientifically-based pharmacological approach. It is regrettable to have this effort bypassed for subjective personal experience. HW

Doctor Elkind retired in 2011 as the Director of the Elkind Headache Clinic in Mount Vernon, New York, and served as Clinical Associate Professor of Medicine at New York Medical College, Valhalla, New York. He is the President of the National Headache Foundation, and has served on the Board of Directors since 1988.

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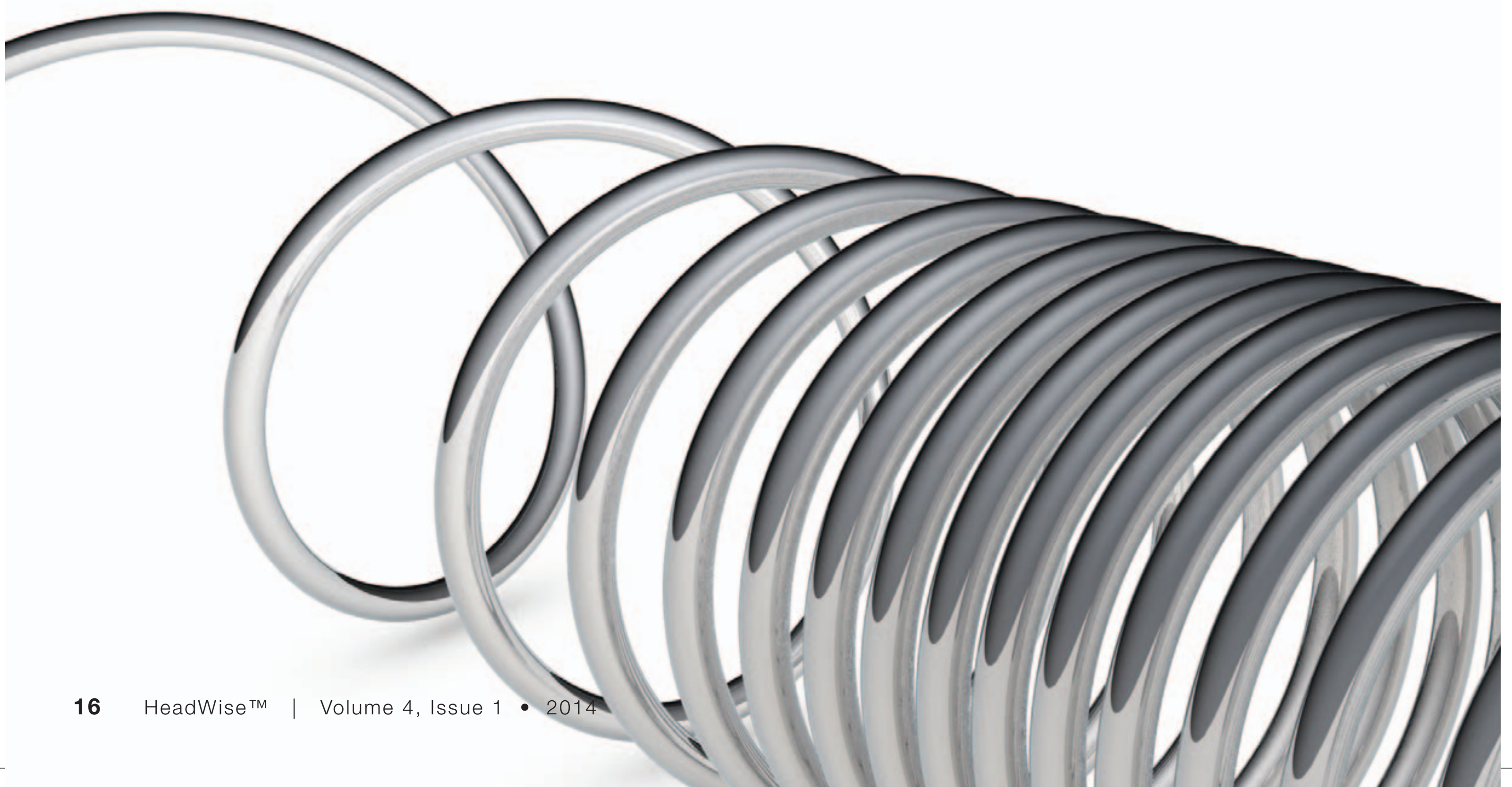
TENSION TYPE

Almost all adults will experience a headache at some time, with most describing "tension" headaches. Known at times as "stress" or "muscle contraction" headaches, these are now formally termed "tension-type" headache. In adults, this is the most common headache, affecting 40 percent of the adult population each year.



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HEADACHE

Robert Kaniecki, MD,
Director, The Headache Center
Assistant Professor of Neurology
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Most will experience "episodic" tension-type headache, a label applied to those reporting headache on fewer than 15 days per month. Those describing headache of greater frequency are termed "chronic." Most develop tension-type headache prior to age 30 with peak prevalence in the decade of ages 40 to 49, and a subsequent decrease with age in both genders. Women are slightly more likely to be affected than men. Tension-type headache is as prevalent as migraine in both children and adolescents. Although no clear genetic underpinnings have been identified, approximately 40 percent will report a family history of some form of headache disorder.

Tension-type headache may be the most common, but it is also the least distinct of all the headache disorders treated by medical professionals. The symptoms of tension-type headache may be reported by patients with various clinical issues. Diagnosis requires the exclusion of an underlying medical or neurological problem that might present with the features of a tension-type headache. Similar headaches may be seen in the presence of conditions as benign as viral infections or as severe as brain tumors. In addition, many patients with migraine will sometimes experience milder headache attacks that mimic tension-type headaches. Ultimately, the label of tension-type headache cannot be applied until other underlying conditions and migraine have been considered and excluded.

Diagnosis and Clinical Features

The diagnosis of tension-type headache is made on the basis of clinical criteria. No specific testing is available, but blood work and either head CT or brain MRI scans are sometimes done to exclude other medical or neurological problems. By definition, the pain of tension-type headache should exhibit two of the following four features:

- bilateral location
- a steady non-throbbing quality
- mild or moderate intensity
- severity either unaffected or improved with physical activity.

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No warning signs or “aura” are present, no nausea is reported, and sensitivities to light or noise are limited or absent. In essence, tension-type headache is defined by the absence of features characteristic of migraine (one-sided, throbbing pain of moderate-to-severe intensity, worsening with physical activity, with associated nausea or sensory sensitivities).

Tension-type headaches often begin during daytime hours and gradually progress over the course of the day. Muscle tension, soreness, or spasm may be noted in the scalp or neck – hence the term “tension-type” headache. Stress is a widely accepted contributing factor to tension-type headache, but the mechanisms underlying the relationship are unclear. Sleep deprivation, skipped meals, and dehydration might behave as additional instigating factors. Excessive caffeine intake, or caffeine withdrawal in those consistently using caffeinated beverages, may also trigger attacks. Diet, otherwise, has seemingly little impact.

For many medications, headache is listed as a potential side effect, and typically medication-induced headache will appear as a tension-type headache. In the presence of excessive pain medication use, some individuals with migraine or tension-type headache may also develop daily or near-daily “rebound” headache (now known as “medication-overuse” headache) that exhibits many features compatible with tension-type headache.

Physiology and Cause

An exact cause for tension-type headache has yet to be established. A number of research studies have documented problems with either the scalp and neck muscles, or the nerve endings in those muscles (“peripheral”). Other studies have determined that the abnormality may reside deep within the brain itself (“central”). A number of studies have demonstrated increased levels of pericranial (head) and cervical (neck) muscle tenderness in patients when compared to unaffected control subjects. This tenderness has also been correlated directly with both frequency and intensity measures of the headaches. Since this abnormality has been detected on headache-free days as well as headache days, it is speculated that this represents a cause rather than an effect of headache occurrences. These “peripheral” muscular components

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appear to be more relevant to the processes underlying episodic tension-type headache. On the other hand, "central" brain abnormalities are more likely to explain those with chronic tension-type headache. Various measures of central nervous system pain processing reflect a hypersensitivity of nerve fibers in those with chronic tension-type headache.

Additionally, brain MRI scans in these patients have documented reduced size of several structures along the pain processing circuitry. Additional research is required to provide clarification to these findings.

Management

The typical approach to the management of tension-type headache involves a combination of lifestyle, as well as physical and medical measures. We generally recommend strict regulation of sleep and meal patterns, with avoidance of skipped meals and naps. Adequate hydration is important and we suggest 40 to 60 ounces of water intake daily. Alcohol, caffeine, and artificial sweetener intake should all be limited. Exercise is often beneficial and we recommend walking 1 to 2 miles over 30 minutes each day.

Stress management techniques may also be of great benefit. These may involve prayer, meditation, yoga, or additional activities that individual patients may find relaxing. Massage and cervical muscle stretches are therapeutic for some individuals. Physical therapy may be indicated for those with significant tightness in the neck muscles or for those with underlying arthritic changes in the cervical spine. Behavioral therapies such as biofeedback have also been shown to be helpful in such situations. Acupuncture may also be beneficial

The acute treatment of a tension-type headache generally involves simple and nonspecific analgesics. Acetaminophen, aspirin products, and traditional nonsteroidal anti-inflammatory agents (NSAIDS) have all been shown to be helpful in the treatment of these headaches. Among these agents, the NSAIDS (ibuprofen, naproxen) may have the highest degrees of success. If simple analgesics are ineffective, it is recommended to next try products that combine pain relievers with caffeine since these may be more potent. The use of any analgesic-containing products should be strictly limited to an average of 2 to 3 days per week at most. More frequent use could eventually contribute to toxic side effects (kidney, liver, stomach) or to the potential development of a medication-overuse ("rebound") headache disorder.

For those individuals who experience headaches more frequently than 2 to 3 days per week, certain prescription "preventive" medications may be used on a daily basis to decrease the frequency of episodes. Most clinicians advise forms of antidepressants or anti-seizure medications to help stabilize tension-type headaches. One review suggested that the antidepressants (amitriptyline, venlafaxine, and mirtazapine) had the most evidence for use in this condition. In general, muscle relaxants do not provide significant lasting benefit and their long-term use is generally discouraged. Although onabotulinum toxin (Botox) has a known effect on the muscles, studies have not demonstrated any significant effect in the management of tension-type headache. There are no surgical procedures deemed to be either necessary or effective.

Prognosis

Those with episodic tension-type headache often report headache occurrences spread over years or even decades, most with frequency below one episode per month. The prognosis is generally favorable, with limited disability during headache occurrences and age-related improvement or resolution of episodes later in life. Those less likely to improve include patients with the chronic form of tension-type headache, those with coexisting migraine or sleep disorders, and interestingly, those who are unmarried. HW

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The Surgical Treatment of Migraine: A Perspective for Patients

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Migraine is a common headache disorder that affects approximately 1 in 5 women and 1 in 20 men. It is a complex disorder, which tends to be inherited in families, and in recent years more genes have been identified that play a role in the genesis of migraines. Although many sufferers will deny a family history of migraines, the truth of the matter is that they actually have family members who suffer with migraines. Some family members have infrequent migraines, and down play the level of disability that they suffer by calling it "my normal headache." Alternatively, family members often blame another disease process for their symptoms such as a sinus infection or the flu, when they are actually in denial or fail to realize they are experiencing a migraine.

Migraine medication treatment can be divided into two major categories. Abortive medications are medications that are taken at the time of a migraine attack for termination of the headache and associated symptoms. Abortive medications include many different classes including nonsteroidal anti-inflammatory drugs (ibuprofen, naproxen), triptans (sumatriptan, rizatriptan, naratriptan, almotriptan, zolmitriptan, frovatriptan, eletriptan), ergotamines (dihydroergotamine), and anti-nausea agents (metoclopramide, promethazine). Preventative medications, as the name implies, are taken on a daily basis to prevent migraine attacks from occurring. Preventative medications include many different classes, such as blood pressure medications (verapamil, atenolol, propranolol, nadolol, timolol, metoprolol), tricyclic antidepessants (amitriptyline, nortriptyline, protriptyline), anti-seizure medications (topiramate, gabapentin), and injectable therapies such as botulinum toxin (Botox, BTX).

Although people with migraines can suffer from similar symptoms such as throbbing pain, nausea, vomiting, and sensitivity to light, sound, and smell, individual patients can have very different responses to treatment. As such, it is not uncommon for physicians to try several different medications before finding the right combination of abortive and preventative medications to adequately control a patient's headaches. This approach in most cases leads to an improvement of headache frequency and intensity. However, in some cases, it may require months to achieve a good outcome as each medication trial can typically take weeks. For some medications, side effects can limit increasing the dose to one that would be effective for the treatment of the patient's migraines.

Considering the large number of individuals experiencing migraine, the inadequate number of

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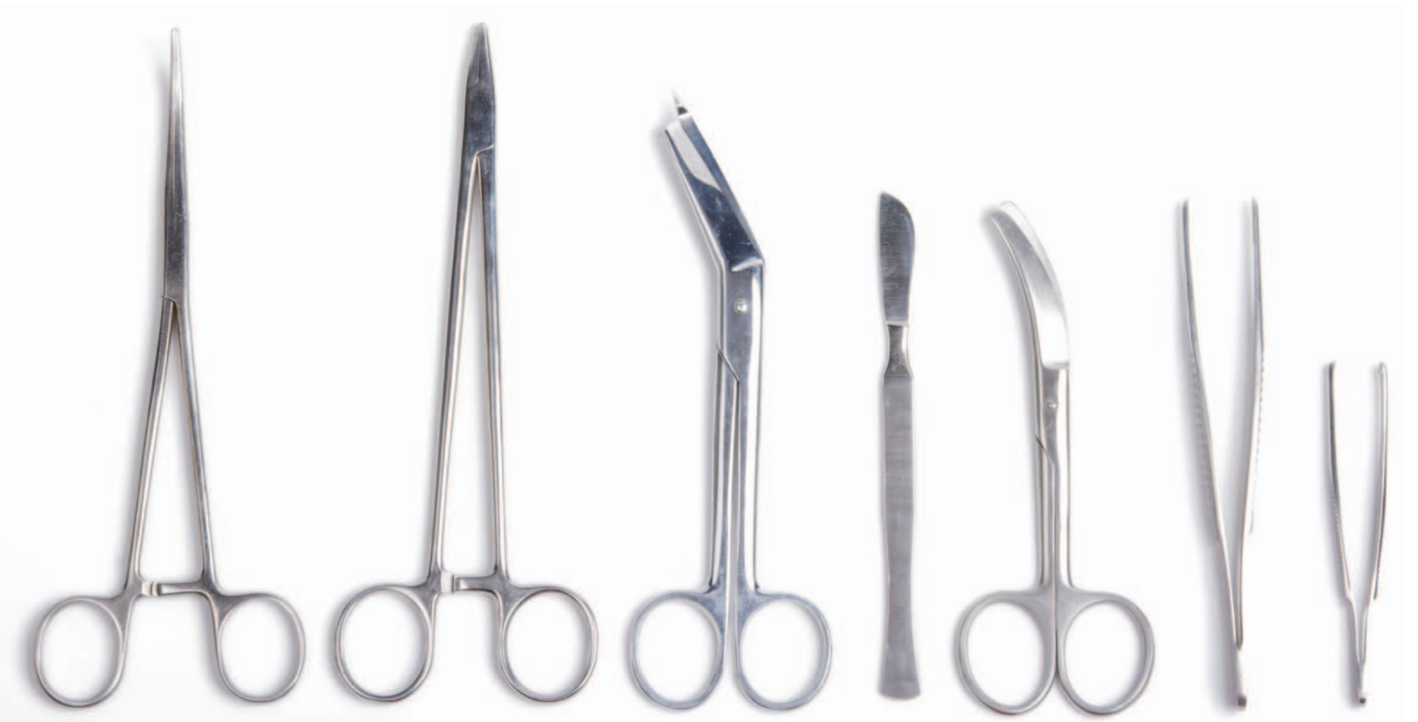

headache specialists, and the patients who are poorly responsive to current therapies, new treatments are constantly being sought for the management of migraine. One such treatment is migraine trigger side deactivation surgery (MTSDS). MTSDS is a term that encompasses four procedures that are performed based on the onset location of migraine headache pain:

1. If the migraine starts around the nose/sinuses, surgery is performed to straighten a deviated nasal septum.
2. If the headaches start around the eyes, forehead muscles are surgically removed.
3. If the headaches start around the temples, a portion of a nerve in the temples is cut and removed.
4. If the headaches start around the back of the head, a massive incision is made in the back of the head, a piece of neck muscle is removed, and the neighboring nerves are padded with fat before the incision is closed.

The underlying principle behind these surgeries is that a compressed nerve is what is triggering the migraine attacks.

A general principle of medicine is that surgery should only be pursued when conservative management with medication has failed, or in emergency situations when failure to perform surgery can lead to devastating outcomes, including death. Although oral medications and BTX can have temporary side effects, stopping these treatments will lead to resolution of the side effects. My mentor and colleague, Doctor Michael Cutrer at Mayo Clinic, Rochester, MN, once said, "When you cut through a pain sensitive structure, chances are good that the pain will probably get worse." Unfortunately, in the case of MTSDS, once the surgery has been performed, there is no way to undo the procedure. At times, MTSDS can result in complications, including cosmetic disfigurement, worsening pain, permanent numbness, and permanent itching.

In addition to complications, the studies that have been performed to date have not shown any clear data demonstrating the effectiveness of MTSDS. In the analysis of the data, there was significant manipulation of the statistics in an attempt to skew weak supporting data into significance. Many of the patients enrolled in these poorly constructed studies had infrequent headaches, and may not have failed conservative treatment with migraine medications. For example, surgery was performed on subjects with less than 5 headache days per month, which could have potentially been treated effectively with a symptomatic medication, such as sumatriptan, and behavioral

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"A general principle of medicine is that surgery should only be pursued when conservative management with medication has failed, or in emergency situations"

modification including adjusting sleep patterns.

In clinical practice, if a specific MTSDS is ineffective for migraine treatment, a revision surgery in the same area or multiple surgeries in other locations are performed. MTSDS is not only invasive, but can also be expensive with an out-of-pocket cost as high as $15,000 per procedure.

In patients who are evaluated for MTSDS, surgeons will often perform BTX injections or nerve block injections to confirm that a patient is a good surgical candidate. This practice would be similar to giving a patient ibuprofen for low back pain, and if the pain improved, proceeding with invasive spinal surgery. Clearly, there are many causes of low back pain, ibuprofen is a non-specific pain reliever, and surgical treatment is not indicated in the vast majority of patients with low back pain.

In the literature, both BTX and nerve blocks have proven effectiveness in the treatment of multiple headache disorders through mechanisms that are not necessarily related to nerve compression or overactive muscles. If BTX and nerve block Injections are found to be effective forms of treatment, continued treatment with these modalities should be considered rather than urging these migraine sufferers to proceed with surgery,

It is possible that some patients who reported improvement of their pain with MTSDS, may have been experiencing a different pain disorder of the head in addition to their migraine, Such pain disorders include contact point headache as well as occipital and other neuralgias. The term, neuralgia, in this case refers to pain in a particular location due to irritation of a specific nerve outside of the brain. Neuralgia is very different from the pain of migraine and its associated symptoms which are generated within the brain. As such, future studies should focus on the use of MRI and other imaging techniques to determine whether nerve compression is present. Pain due to nerve compression that is confirmed on a scan, may respond to decompression surgery, rather than blindly proceeding with other surgical procedures.

In conclusion, one of the longtime paradigms of surgery is to perform elective surgery based on a favorable risk-to-benefit ratio once best medical management has failed. This paradigm has clearly not been followed in clinical practice regarding MTSDS. The American Headache Society does not endorse the treatment of migraine with MTSDS. Any patients who wish to pursue MTSDS should undergo an evaluation by a headache specialist (someone who has completed a headache medicine fellowship or is board certified in headache medicine), and should be advised of the risks of these procedures in the absence of any convincing evidence of efficacy. MTSDS may be useful in a subset of migraine patients, but further studies need to be performed. Any surgeries that are performed should be undertaken in the setting of a properly conducted study in order to determine better screening tests for potential surgical candidates Future studies may establish whether certain migraine features when present may suggest a better outcome, and determine which risk factors may predict prolonged/permanent adverse events.

HW

Suggested reading:

Lipton RB, Diamond S, Reed M, Diamond ML, Stewart WF. *Migraine diagnosis and treatment: Results from the American Migraine Study II*. Headache 2001; 41:638-645.

Mathew PG. *A critical evaluation of migraine trigger site deactivation surgery*. Headache 2014; 54: 142-152

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A NIGHT AT THE DERBY

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1983 Chave Hermitage, Rhone
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1986 Chateau Margaux, Margaux/Bordeaux
Barb & Gary Salyers

IMPORTANT SAFETY INFORMATION (Continued)

Do not take BOTOX® (onabotulinumtoxinA) if you: are allergic to any of the ingredients in BOTOX® (see Medication Guide for ingredients); had an allergic reaction to any other botulinum toxin product such as *Myobloc®* (rimabotulinumtoxinB), *Dysport®* (abobotulinumtoxinA), or *Xeomin®* (incobotulinumtoxinA); have a skin infection at the planned injection site.

The dose of BOTOX® is not the same as, or comparable to, another botulinum toxin product.

Serious and/or immediate allergic reactions have been reported. These reactions include itching, rash, red itchy welts, wheezing, asthma symptoms, or dizziness or feeling faint. Tell your doctor or get medical help right away if you experience any such symptoms; further injection of BOTOX® should be discontinued.

Tell your doctor about all your muscle or nerve conditions such as amyotrophic lateral sclerosis (ALS or Lou Gehrig's disease), myasthenia gravis, or Lambert-Eaton syndrome, as you may be at increased risk of serious side effects including severe dysphagia (difficulty swallowing) and respiratory compromise (difficulty breathing) from typical doses of BOTOX®.

Tell your doctor about all your medical conditions, including if you: have or have had bleeding problems; have plans to have surgery; had surgery on your face; weakness of forehead muscles, such as trouble raising your eyebrows; drooping eyelids; any other abnormal facial change; are pregnant or plan to become pregnant (it is not known if BOTOX® can harm your unborn baby); are breastfeeding or plan to breastfeed (it is not known if BOTOX® passes into breast milk).

Tell your doctor about all the medicines you take, including prescription and non-prescription medicines, vitamins, and herbal products. Using BOTOX® with certain other medicines may cause serious side effects. **Do not start any new medicines until you have told your doctor that you have received BOTOX® in the past.**

Especially tell your doctor if you: have received any other botulinum toxin product in the last 4 months; have received injections of botulinum toxin such as *Myobloc®*, *Dysport®*, or *Xeomin®* in the past (be sure your doctor knows exactly which product you received); have recently received an antibiotic by injection; take muscle relaxants; take an allergy or cold medicine; take a sleep medicine; take anti-platelets (aspirin-like products) or anti-coagulants (blood thinners).

Other side effects of BOTOX® include: dry mouth, discomfort or pain at the injection site, tiredness, headache, neck pain, and eye problems: double vision, blurred vision, decreased eyesight, drooping eyelids, swelling of your eyelids, and dry eyes.

For more information refer to the Medication Guide or talk with your doctor.

You are encouraged to report negative side effects of prescription drugs to the FDA. Visit www.fda.gov/medwatch or call 1-800-FDA-1088.

Please refer to full Medication Guide including Boxed Warning on the following pages.

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For adults with Chronic Migraine, 15 or more headache days a month, each lasting 4 hours or more,

BOTOX® is the first and only preventive treatment proven to reduce headache days every month.

BOTOX® is the only FDA-approved, preventive treatment that is injected by a doctor every 3 months for people with Chronic Migraine. BOTOX® prevents up to 9 headache days a month, versus up to 7 days for placebo. BOTOX® is not approved for adults with migraine who have 14 or fewer headache days a month.

FOR ADULTS WITH
CHRONIC MIGRAINE

Find a headache specialist near you at
BotoxChronicMigraine.com

BOTOX® is a prescription medicine that is injected to prevent headaches in adults with Chronic Migraine who have 15 or more days each month with headache lasting 4 or more hours each day in people 18 years or older. It is not known whether BOTOX® is safe or effective to prevent headaches in patients with migraine who have 14 or fewer headache days each month (episodic migraine).

IMPORTANT SAFETY INFORMATION

BOTOX® may cause serious side effects that can be life threatening. Call your doctor or get medical help right away if you have any of these problems any time (hours to weeks) after injection of BOTOX®:

- **Problems swallowing, speaking, or breathing,** due to weakening of associated muscles, can be severe and result in loss of life. You are at the highest risk if these problems are pre-existing before injection. Swallowing problems may last for several months.
- **Spread of toxin effects.** The effect of botulinum toxin may affect areas away from the injection site and cause serious symptoms including: loss of strength and all-over muscle weakness, double vision, blurred vision and drooping eyelids, hoarseness or change or loss of voice (dysphonia), trouble saying words clearly (dysarthria), loss of bladder control, trouble breathing, trouble swallowing. **If this happens, do not drive a car, operate machinery, or do other dangerous activities.**

There has not been a confirmed serious case of spread of toxin effect away from the injection site when BOTOX® has been used at the recommended dose to treat Chronic Migraine.

Please see additional Important Safety Information on adjacent page.

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MEDICATION GUIDE
BOTOX® and BOTOX® Cosmetic
(Boe-tox) (onabotulinumtoxinA)
for Injection

Read the Medication Guide that comes with **BOTOX** or **BOTOX Cosmetic** before you start using it and each time it is given to you. There may be new information. This information does not take the place of talking with your doctor about your medical condition or your treatment. You should share this information with your family members and caregivers.

What is the most important information I should know about BOTOX and BOTOX Cosmetic?

BOTOX and BOTOX Cosmetic may cause serious side effects that can be life threatening, including:

- **Problems breathing or swallowing**
- **Spread of toxin effects**

These problems can happen hours, days, to weeks after an injection of BOTOX or BOTOX Cosmetic. Call your doctor or get medical help right away if you have any of these problems after treatment with BOTOX or BOTOX Cosmetic:

1. Problems swallowing, speaking, or breathing. These problems can happen hours, days, to weeks after an injection of BOTOX or BOTOX Cosmetic usually because the muscles that you use to breathe and swallow can become weak after the injection. Death can happen as a complication if you have severe problems with swallowing or breathing after treatment with **BOTOX** or **BOTOX Cosmetic**.

- People with certain breathing problems may need to use muscles in their neck to help them breathe. These people may be at greater risk for serious breathing problems with **BOTOX** or **BOTOX Cosmetic**.
- Swallowing problems may last for several months. People who cannot swallow well may need a feeding tube to receive food and water. If swallowing problems are severe, food or liquids may go into your lungs. People who already have swallowing or breathing problems before receiving **BOTOX** or **BOTOX Cosmetic** have the highest risk of getting these problems.

2. Spread of toxin effects. In some cases, the effect of botulinum toxin may affect areas of the body away from the injection site and cause symptoms of a serious condition called botulism. The symptoms of botulism include:

- loss of strength and muscle weakness all over the body
- double vision
- blurred vision and drooping eyelids
- hoarseness or change or loss of voice (dysphonia)
- trouble saying words clearly (dysarthria)
- loss of bladder control
- trouble breathing
- trouble swallowing

These symptoms can happen hours, days, to weeks after you receive an injection of **BOTOX** or **BOTOX Cosmetic**.

These problems could make it unsafe for you to drive a car or do other dangerous activities. See "What should I avoid while receiving **BOTOX** or **BOTOX Cosmetic**?"

There has not been a confirmed serious case of spread of toxin effect away from the injection site when **BOTOX** has been used at the recommended dose to treat chronic migraine, severe underarm sweating, blepharospasm, or strabismus, or when **BOTOX Cosmetic** has been used at the recommended dose to treat frown lines and/or crow's feet lines.

What are BOTOX and BOTOX Cosmetic?

BOTOX is a prescription medicine that is injected into muscles and used:

- to treat overactive bladder symptoms such as a strong need to urinate with leaking or wetting accidents (urge urinary incontinence), a strong need to urinate right away (urgency), and urinating often (frequency) in adults when another type of medicine (anticholinergic) does not work well enough or cannot be taken.
- to treat leakage of urine (incontinence) in adults with overactive bladder due to neurologic disease when another type of medicine (anticholinergic) does not work well enough or cannot be taken.
- to prevent headaches in adults with chronic migraine who have 15 or more days each month with headache lasting 4 or more hours each day.
- to treat increased muscle stiffness in elbow, wrist, and finger muscles in adults with upper limb spasticity.
- to treat the abnormal head position and neck pain that happens with cervical dystonia (CD) in adults.
- to treat certain types of eye muscle problems (strabismus) or abnormal spasm of the eyelids (blepharospasm) in people 12 years and older.

BOTOX is also injected into the skin to treat the symptoms of severe underarm sweating (severe primary axillary hyperhidrosis) when medicines used on the skin (topical) do not work well enough.

BOTOX Cosmetic is a prescription medicine that is injected into muscles and used to improve the look of moderate to severe frown lines between the eyebrows (glabellar lines) in adults for a short period of time (temporary).

BOTOX Cosmetic is a prescription medicine that is injected into the area around the side of the eyes to improve the look of crow's feet lines in adults for a short period of time (temporary).

You may receive treatment for frown lines and crow's feet lines at the same time.

It is not known whether **BOTOX** is safe or effective in people younger than:

- 18 years of age for treatment of urinary incontinence
- 18 years of age for treatment of chronic migraine
- 18 years of age for treatment of spasticity
- 16 years of age for treatment of cervical dystonia
- 18 years of age for treatment of hyperhidrosis
- 12 years of age for treatment of strabismus or blepharospasm

BOTOX Cosmetic is not recommended for use in children younger than 18 years of age.

It is not known whether **BOTOX** and **BOTOX Cosmetic** are safe or effective to prevent headaches in people with migraine who have 14 or fewer headache days each month (episodic migraine).

It is not known whether **BOTOX** and **BOTOX Cosmetic** are safe or effective for other types of muscle spasms or for severe sweating anywhere other than your armpits.

Who should not take BOTOX or BOTOX Cosmetic?

Do not take **BOTOX** or **BOTOX Cosmetic** if you:

- are allergic to any of the ingredients in **BOTOX** or **BOTOX Cosmetic**. See the end of this Medication Guide for a list of ingredients in **BOTOX** and **BOTOX Cosmetic**.
- had an allergic reaction to any other botulinum toxin product such as *Myobloc*®, *Dysport*®, or *Xeomin*®
- have a skin infection at the planned injection site
- are being treated for urinary incontinence and have a urinary tract infection (UTI)
- are being treated for urinary incontinence and find that you cannot empty your bladder on your own (only applies to people who are not routinely catheterizing)

What should I tell my doctor before taking BOTOX or BOTOX Cosmetic?

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Tell your doctor about all your medical conditions, including if you:

- have a disease that affects your muscles and nerves (such as amyotrophic lateral sclerosis [ALS or Lou Gehrig's disease], myasthenia gravis or Lambert-Eaton syndrome). See "What is the most important information I should know about **BOTOX** and **BOTOX Cosmetic**?"
- have allergies to any botulinum toxin product
- had any side effect from any botulinum toxin product in the past
- have or have had a breathing problem, such as asthma or emphysema
- have or have had swallowing problems
- have or have had bleeding problems
- have plans to have surgery
- had surgery on your face
- have weakness of your forehead muscles, such as trouble raising your eyebrows
- have drooping eyelids
- have any other change in the way your face normally looks
- have symptoms of a urinary tract infection (UTI) and are being treated for urinary incontinence. Symptoms of a urinary tract infection may include pain or burning with urination, frequent urination, or fever.
- have problems emptying your bladder on your own and are being treated for urinary incontinence
- are pregnant or plan to become pregnant. It is not known if **BOTOX** or **BOTOX Cosmetic** can harm your unborn baby.
- are breast-feeding or plan to breastfeed. It is not known if **BOTOX** or **BOTOX Cosmetic** passes into breast milk.

Tell your doctor about all the medicines you take, including prescription and nonprescription medicines, vitamins and herbal products. Using **BOTOX** or **BOTOX Cosmetic** with certain other medicines may cause serious side effects. **Do not start any new medicines until you have told your doctor that you have received BOTOX or BOTOX Cosmetic in the past.**

Especially tell your doctor if you:

- have received any other botulinum toxin product in the last four months
- have received injections of botulinum toxin, such as *Myobloc*® (rimabotulinumtoxinB), *Dysport*® (abobotulinumtoxinA), or *Xeomin*® (incobotulinumtoxinA) in the past. Be sure your doctor knows exactly which product you received.
- have recently received an antibiotic by injection
- take muscle relaxants
- take an allergy or cold medicine
- take a sleep medicine
- take anti-platelets (aspirin-like products) and/or anti-coagulants (blood thinners)

Ask your doctor if you are not sure if your medicine is one that is listed above.

Know the medicines you take. Keep a list of your medicines with you to show your doctor and pharmacist each time you get a new medicine.

How should I take BOTOX or BOTOX Cosmetic?

- **BOTOX** or **BOTOX Cosmetic** is an injection that your doctor will give you.
- **BOTOX** is injected into your affected muscles, skin, or bladder.
- **BOTOX Cosmetic** is injected into your affected muscles.
- Your doctor may change your dose of **BOTOX** or **BOTOX Cosmetic**, until you and your doctor find the best dose for you.
- **Your doctor will tell you how often you will receive your dose of BOTOX or BOTOX Cosmetic injections.**

What should I avoid while taking BOTOX or BOTOX Cosmetic?

BOTOX and **BOTOX Cosmetic** may cause loss of strength or general muscle weakness, or vision problems within hours to weeks of taking **BOTOX** or **BOTOX Cosmetic. If this happens, do not drive a car, operate machinery, or do other dangerous activities.** See "What is the most important information I should know about **BOTOX** and **BOTOX Cosmetic**?"

What are the possible side effects of BOTOX and BOTOX Cosmetic?

BOTOX and BOTOX Cosmetic can cause serious side effects. See "What is the most important information I should know about **BOTOX** and **BOTOX Cosmetic**?"

Other side effects of BOTOX and BOTOX Cosmetic include:

- dry mouth
- discomfort or pain at the injection site
- tiredness
- headache
- neck pain
- eye problems: double vision, blurred vision, decreased eyesight, drooping eyelids, swelling of your eyelids, and dry eyes.
- urinary tract infection in people being treated for urinary incontinence
- painful urination in people being treated for urinary incontinence
- inability to empty your bladder on your own and are being treated for urinary incontinence. If you have difficulty fully emptying your bladder after getting **BOTOX**, you may need to use disposable self-catheters to empty your bladder up to a few times each day until your bladder is able to start emptying again.
- allergic reactions. Symptoms of an allergic reaction to **BOTOX** or **BOTOX Cosmetic** may include: itching, rash, red itchy welts, wheezing, asthma symptoms, or dizziness or feeling faint. Tell your doctor or get medical help right away if you are wheezing or have asthma symptoms, or if you become dizzy or faint.

Tell your doctor if you have any side effect that bothers you or that does not go away.

These are not all the possible side effects of **BOTOX** and **BOTOX Cosmetic**. For more information, ask your doctor or pharmacist.

Call your doctor for medical advice about side effects. You may report side effects to FDA at 1-800-FDA-1088.

General information about BOTOX and BOTOX Cosmetic:

Medicines are sometimes prescribed for purposes other than those listed in a Medication Guide.

This Medication Guide summarizes the most important information about **BOTOX** and **BOTOX Cosmetic**. If you would like more information, talk with your doctor. You can ask your doctor or pharmacist for information about **BOTOX** and **BOTOX Cosmetic** that is written for healthcare professionals.

What are the ingredients in BOTOX and BOTOX Cosmetic?

Active ingredient: botulinum toxin type A

Inactive ingredients: human albumin and sodium chloride

This Medication Guide has been approved by the U.S. Food and Drug Administration.

Manufactured by: Allergan Pharmaceuticals Ireland a subsidiary of: Allergan, Inc.
2525 Dupont Dr.
Irvine, CA 92612
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THE HEADACHE CLINICS

featuring:

The Center for Headache and Pain Medicine, The Mount Sinai Hospital, New York, New York

With this issue, we are introducing a new series, *The Headache Clinics*. We are pleased to feature as our inaugural site, The Center for Headache and Pain Medicine, at The Mount Sinai Hospital, in New York City. The following is based on an interview with the Center's Director, Mark W. Green, MD. Doctor Green is also Professor of Neurology, Anesthesiology, and Rehabilitation Medicine at the Icahn School of Medicine.

Doctor Green attended medical school, and received his neurological training at Albert Einstein College of Medicine, Bronx, NY. During his residency, he worked in the Montefiore Headache Unit at Albert Einstein, where he later served as director of the unit. Doctor Green has been involved in headache medicine since 1978, and he has served as a Board member of the National Headache Foundation since 2010.

The Center for Headache and Pain Medicine at The Mount Sinai Hospital was established in 2010 when Doctor Mark Green joined the faculty at the Icahn School of Medicine following his tenure at Columbia University where he had organized a section on headache and facial pain in the Department of Neurology. Because there were no specialized headache centers in that area of New York, and the overwhelming amount of headache care was provided by health care practitioners who did not have specialized training, the Center for Headache and Pain Medicine was established at Mount Sinai. In New York, Mount Sinai is the largest headache program with the highest number of physicians with a subspecialty in headache medicine. The clinic is in an academic setting and provides cutting-edge technology.

In addition to Doctor Green, the staff includes neurologist, Kathleen Mullin, MD. Doctor Mullin is an Assistant Professor of Neurology at the Icahn School of Medicine. She completed a fellowship in headache medicine at Montefiore Headache Center, and she is board certified in Neurology and Headache Medicine.

Children with headaches may be evaluated at the Center by Shannon Babineau, MD, who serves as the Director of Pediatric Headache Medicine and Assistant Professor of Neurology at Mount Sinai. She completed her residency in pediatrics at Mount Sinai

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Shannon Babineau, MD

Medical Center and her child neurology residency at Columbia University Medical Center. Doctor Babineau is board certified in child neurology and headache medicine. Sarah Rahal, MD, who is completing her neurology training is also a member of the staff. Because the Center has a multidisciplinary approach to headache treatment, there are many other staff members in various related specialties including anesthesia and physical medicine, psychiatry, ENT, neuro-ophthalmology, and psychology.

To be seen at the Center, patients do not need a referral from another physician. At the initial visit, patients will spend at least one hour with a specially-trained physician, reviewing their medical history and undergoing a neurological examination. If needed, further testing may be ordered. Appointments are usually available within 2 weeks or less. A typical day at the Center involves outpatient care from 9am to 5pm, but hospitalized patients are also seen by a staff physician. The Center does not specialize in any particular headache or facial pain condition.

All evaluations are individualized and there is no standing treatments or testing. The treatment philosophy is established as a joint decision between the physician and the patient. Treatment is selected on evidence-based information supplied by the staff physicians. Alternative therapies are utilized including biofeedback, acupuncture, a variety of nerve blocks, and implanted nerve stimulators. Although there is not a dedicated inpatient headache unit, patients requiring hospitalization will be admitted to The Mount Sinai Hospital and will be followed by staff physicians from the Center for Headache and Pain Medicine.

In regards to growth or changes to the Center in the next few years, Doctor Green does foresee an expansion of the pediatric component. When asked what he enjoyed most about working in headache medicine, Doctor Green remarked that most of the patients seen at the Center have never received medical care or attention for their headache complaint. These patients are most grateful for the help that they receive at the Center. Finally, when questioned about any general advice he would impart to a patient experiencing headaches, Doctor Green responded: "Regardless of the cause, if headaches disable you, you should receive medical attention." HW

For more information on theCenter, please visit:
http://www.mountsinai.org/patient-care/service-areas/neurology/areas-of-care/center-for-headache-and-pain-medicine
Center for Headache and Pain Medicine

The Mount Sinai Hospital
5 East 98th Street
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Mark Green, MD

Kathleen Mullin, MD

Sarah Rahal, MD

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A PRESIDENTIAL HEADACHE***

Seymour Diamond, MD
Executive Chairman and Founder
National Headache Foundation
Director Emeritus and Founder
Diamond Headache Clinic
Chicago, IL

Mary A. Franklin
Director of Operations
National Headache Foundation
Chicago, IL

****This article is based on a previously published article of the same name which appeared in Headache Quarterly 2002: 13: 123-124*

Thomas Jefferson (1743-1826), the third president of the United States, was an astute scholar of science, poetry, and politics, as well as a prolific writer. You will also note Jefferson's name on the lists of famous migraine sufferers. This knowledge results from Jefferson being a prolific diarist, maintaining a daily journal which provided historians with tremendous insight into his activities, beliefs, and personal life. On his own tombstone, he wrote the dedication–"Here was buried Thomas Jefferson. Author of the Declaration of American Independence, of the Statute of Virginia for religious freedom, and Father of the University of Virginia." Jefferson had requested–"not another word more." The original tombstone was moved from Monticello, Jefferson's Virginia home, because of souvenir hunters vandalizing the obelisk. It now sits in the Francis Quadrangle at the University of Missouri in Columbia, MO.

Jefferson's accomplishments are legion–he served in the Continental Congress where he was assigned the task of writing the draft of the Declaration of Independence, served as the wartime governor of Virginia, and during the early years of American independence, he was chairman of the committee dealing with governing of western territories. In 1784, Jefferson drafted an ordinance, which declared that the western territories should be self-governing, and after reaching a certain state of growth, should be admitted to the Confederation of states. Although Jefferson was a slave owner, he proposed that slavery be excluded in all western territories after 1800. This provision was narrowly defeated as the anti-slavery representative, John Beatty of New Jersey, was absent during the vote. Jefferson later wrote, "Thus, we see the fate of millions unborn hanging on the tongue of one man, and heaven was silent in that awful movement."

Thomas Jefferson was absent during the writing and passage of the U.S. Constitution as he served as Minister to France from 1785 to 1789. Jefferson was the first U.S. Secretary of State, serving during the first term of George Washington (1789 to 1793). In 1797, when Washington decided to not seek a third presidential term, Jefferson became a candidate. As runner-up to the winner, John Adams, Jefferson served as Vice President. However, in the 1800 election, Jefferson was victorious.

During Jefferson's presidency (1801-1809), the U.S. underwent tremendous growth due to the Louisiana Purchase, adding 828,000 square miles to the nation. The Louisiana territory encompassed all or part of 15 present U.S. states and two Canadian provinces (Alberta and Saskatchewan). Following his presidency, Jefferson devoted his efforts to establishing the University of Virginia in Charlottesville, VA. On the fiftieth anniversary of the Declaration of Independence–July 4, 1826–both Jefferson and his political rival, John Adams, died.

But what about his headaches? Because of his daily journals and correspondence with family, friends, politicians, and his legion of admirers, we can get an understanding of Jefferson's malady. In a letter from 1786, Jefferson revealed that "The Art of life is the avoiding of pain." Through these documents, it appears that his headaches did have a periodic quality, occurring at intervals of several years. In correspondence from 1790, Jefferson described "an attack of the periodical headache, which came on me about a week ago rendering

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me unable as yet to write or read without great pain." In 1808, during the last year of his presidency, Jefferson wrote to his granddaughter, Cornelia Randolph, of his headaches – "I mentioned in my letter of last week to Ellen, that I was under an attack of periodical headache. This is the tenth day. It has been very moderate, and yesterday did not last more than three hours."

In spite of these periodic headaches, Jefferson persevered, refusing to focus on his headaches. Jefferson sought to encourage others, including his young nephew, Peter Carr, in an 1785 letter, "In order to assure a certain progress in this reading, consider what hours you have free from school. Give about two of them, every day, to exercise. For health must not be sacrificed to learning. A strong body makes the mind strong….Never think of taking a book with you. The object of walking is to relax the mind…. divert your attention by the objects surrounding you. Walking is the best possible exercise. Habituate yourself to walk very far ….No one has occasioned so much, the degeneracy of the human body….I would advise you to take your exercise in the afternoon….A little walk of half an hour in the morning, when you first rise, is advisable also. It shakes of sleep, and produces other good effects….Rise at a fixed and an early hour, and go to bed at a fixed and early hour also. Sitting up late at night is injurious to the health, and not useful to the mind."

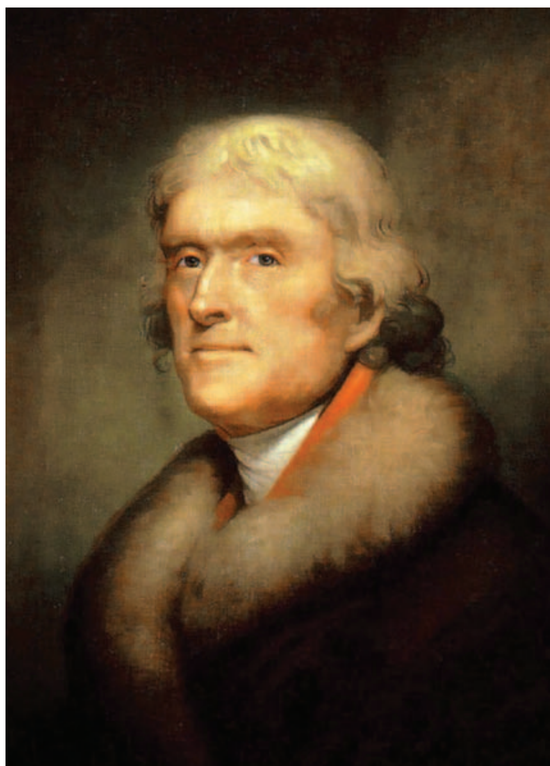
Photo credit (PD-US)published in the US before 1923

Jefferson's instruction on healthy, active living is still appropriate for all, especially those with chronic headaches. He understood the importance of maintaining regular sleep habits and exercise. An increase in headache occurrence is often observed on weekends, vacations, and holidays, when the individual sleeps past the normal waking time, may skip the morning cup of coffee, and then experiences a headache.

Throughout his life, Jefferson preached about a positive outlook on health. This was demonstrated in an 1816 letter to his old political nemesis, John Adams:

"I think that it is a good world on the whole…and more pleasure than pain dealt out to us. There are…. gloomy and hypochondriac minds….disgusted with the present, and despairing of the future; always counting that the worse will happen, because it may happen. To these I say, how much pain have cost us the evils which have never happened."

After reviewing Jefferson's correspondence about his "periodic" headaches, we are skeptical about his listing with famous migraineurs. It is very possible that our third president was in fact a cluster headache sufferer. Cluster headache is defined by its characteristic periodicity. In Jefferson's letter to Cornelia Randolph, he mentions that it was the 10th day of the headaches, and the attack did not last more than 3 hours the day earlier. Cluster is also characterized by attacks of brief duration.

As a person ages, migraine and cluster headaches typically diminish, and may completely disappear. Jefferson was no exception. In 1819, at the age of 76, Jefferson replied to a correspondent who had inquired about the state of his health, "A periodical headache has afflicted me occasionally, once, perhaps, in six or eight years, for two to three weeks at a time, which seems now to have left me."

In summary, Jefferson inspires anyone who values knowledge and freedom. But he should also serve as an example to those who experience severe headache, that despite debilitating pain, one can persevere and accomplish the incredible. HW

Suggested reading:

Ellis JJ. American Sphinx: *The Character of Thomas Jefferson*. New York: Alfred A. Knopf, 1997.

Meacham J. Thomas Jefferson: *The Art of Power.* New York: Random House, 2012.

Padover SK. *A Jefferson Profile*. New York: Day; 1956.

Padover SK. A Jefferson Profile; New York: Day; 1956.

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Leave a legacy to the National Headache Foundation.

Charitable Giving

There are different ways that individuals can support the mission of the National Headache Foundation through donations. A present donation of money or other items of value is the most frequent manner of support. Provisions for specific bequests or residual bequests in one's will or trust are often utilized. As part of one's estate planning or planned giving, an individual can provide for charitable giving that may minimize gift and estate taxes while providing for (a) the smooth transfer of ownership, (b) the care and support of dependents, and (c) the avoidance of disputes among survivors.

Three commonly used planned giving vehicles are:

1. **Charitable remainder annuity trust.** Assets (generally securities) are transferred to a trust. The trust makes fixed annual payments to the donor or other specified beneficiaries named by the donor. When the trust terminates upon the death of the donor or other specified beneficiaries, the remainder of the assets in the trust pass to the charity. A trust document is required. The donor retains the ability to change the designated charity.

2. **Charitable remainder unitrust.** Assets are transferred to a trust. The donor or other specified beneficiaries named by the donor receive fluctuating payouts from the trust (a percentage of the value of the principal) and, upon the death of the donor or other specified beneficiaries, the remainder of the assets passes to the designated charity. A trust document is required. The donor retains the ability to change designated charity.

3. **Charitable gift annuity.** The donor, under a contract with a charity, transfers cash or securities to the charity. The charity pays the designated beneficiary a fixed income for life. Upon the death of the beneficiary, the remaining balance passes to the charity. No trust document is required and the charity cannot be changed.

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Your Contributions to the National Headache Foundation Help Fund Projects

What's being done to help your headache problem? There is an unprecedented amount of research being undertaken regarding migraine and other headache pain. The National Headache Foundation is involved in this effort with the help of funding from you. Contributions are a key part of the financial support of important headache research. Your gift provides funds for (a) NHF-financed research projects, (b) advocacy with health policy decision makers, and (c) patient-education initiatives. You can help! The National Headache Foundation, the #1 source for headache help, provides these services and many others through the generosity of people like you.

Please select one of the following giving categories:

❒ $250 ❒ $125 ❒ $100 ❒ $75 ❒ Other ______________

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Payment:

☐ Payment enclosed (check payable to National Headache Foundation)

Charge to my credit card: ☐ Amex ☐ Discover ☐ Mastercard ☐ Visa

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Cardholder's Signature

Billing Address (If different from mailing address)

City/State/Zip/Country

Please mail this form with your payment to: National Headache Foundation, 820 N. Orleans, Ste. 411, Chicago, IL 60610 or renew online by visting www.headaches.org

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