For those who strive to live well despite migraine.

Migraineur

More than Just a Headache

THE FOUR PHASES OF A MIGRAINE ATTACK

REGIONAL HEADACHE
ARE CHRONIC TENSION HEADACHES EPIDEMIC IN DC?

MIGRAINE PREVENTION
A TRIAL AND ERROR PROCESS

NOT YOUR AVERAGE DOC
HEADACHE DOCTOR, MULTI-MEDIA ARTIST & AVID SURFER
Urgent, Specialized Headache Care for Kids: TRUST THE EXPERTS

Although headaches are common in children, recurrent or frequent headaches that interfere with daily life are a concern to both parents and children.

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- Interdisciplinary headache evaluations – patients with chronic debilitating headaches have the option of seeing an interdisciplinary team of experts
- Headache infusions
Migraineur
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Cover image courtesy of NathanLe Photography, featuring model Elaine Hua.
For those readers who have had the pleasure of sampling southern Louisiana cuisine in the bars, restaurants and gumbo shops of New Orleans, the term lagniappe may be a familiar one. That 13th barbecued shrimp when the menu indicated a dozen? The dab of crawfish etouffee never ordered yet preceding your main course? The extra beignet on your plate at the Cafe du Monde? Each is a lagniappe: "A little something extra".

Starting with this issue, Migraineur will offer a series of lagniappes. These "extras" may or may not relate directly to migraine or even to headache generally, but even when that linkage is missing, I hope the reader may find the lagniappe interesting, entertaining or both. If so, this will serve the primary purpose of the magazine: to entertain as well as educate...and to do so in a manner that encourages migraineurs who are striving to "live well (and fully) despite migraine."

For our inaugural lagniappe, I succumbed to spring fever and took the liberty of including an essay that describes a spring break vacation I took with my family some years ago. That experience may particularly resonate with parents who have found it...challenging at times to fill in this "break" with activities that appeal to all parties involved.

Read the full article at: migraineurmagazine.com/migraineur/spring-lagniappe

Editor's Note

Migraineur's editor, Dr. John Rothrock, is professor and vice chair of neurology at the George Washington University School of Medicine.

John F. Rothrock, MD

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IMPORTANT SAFETY INFORMATION (Continued)

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. BOTOX® may cause loss of strength or general muscle weakness, vision problems, or dizziness within hours to weeks of taking BOTOX®. If this happens, do not drive a car, operate machinery, or do other dangerous activities.

Do not receive BOTOX® if you: are allergic to any of its ingredients (see Medication Guide for ingredients); had an allergic reaction to any other botulinum toxin product such as Myobloc® (rimatobulinumtoxinB), 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, including itching, rash, red itch welts, wheezing, asthma symptoms, or dizziness or feeling faint. Get medical help right away if you experience symptoms; further injection of BOTOX® should be discontinued.

Tell your doctor about all your muscle or nerve conditions such as ALS or Lou Gehrig’s disease, myasthenia gravis, or Lambert-Eaton syndrome, as you may be at increased risk of serious side effects including difficulty swallowing and 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; 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 (it is not known if BOTOX® passes into breast milk).

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

Tell your doctor if you 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 (tell your doctor exactly which product you received); have recently received an antibiotic injection; take muscle relaxants; take allergy or cold medicines; take sleep medicine; take aspirin-like products or blood thinners.

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

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 the Summary of Information about BOTOX® on the following page.

Find us on
PREVENT HEADACHES AND MIGRAINES FROM EVEN STARTING

STAND UP TO CHRONIC MIGRAINE

BOTOX® prevents on average 8 to 9 headache days and migraine/probable migraine days a month (vs 6 to 7 for placebo).

#1 PRESCRIBED BRANDED TREATMENT FOR CHRONIC MIGRAINE®

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

BOTOX® is a different type of treatment for Chronic Migraine. BOTOX® prevents headaches and migraines before they even start—unlike acute treatments you take once a headache or migraine has already begun. BOTOX® injections take about 15 minutes in your doctor’s office. BOTOX® is not approved for adults with migraine who have 14 or fewer headache days a month.

Indication
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. 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 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, trouble saying words clearly, loss of bladder control, trouble breathing, trouble swallowing.

Please see additional Important Safety Information on adjacent page.

*Data on File.
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Summary of Information about BOTOX®
(onabotulinumtoxinA)

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

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, trouble saying words clearly, loss of bladder control, trouble breathing, trouble swallowing.

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.

BOTOX® may cause loss of strength or general muscle weakness, vision problems, or dizziness within hours to weeks of taking BOTOX®. If this happens, do not drive a car, operate machinery, or do other dangerous activities.

BOTOX® dosing units are not the same as, or comparable to, any other botulinum toxin product.

What is BOTOX®?

BOTOX® is prescription medicine a medical professional injects into muscles 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 and older.

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

Who should not take BOTOX®?

Do not use BOTOX® if you are: allergic to any of the ingredients in BOTOX® such as botulinum toxin type A and human serum albumin; had an allergic reaction to another botulinum toxin product such as Myobloc® (rimabotulinumtoxinB), Dysport® (abobotulinumtoxinA), or Xeomin® (incobotulinumtoxinA); or have a skin infection at the planned injection site.

What should I tell my doctor before treatment?

Tell your doctor about all your muscle or nerve conditions, such as amyotrophic lateral sclerosis (Lou Gehrig's disease), myasthenia gravis, or Lambert-Eaton syndrome, as you may be at increased risk of serious side effects.

Tell your doctor if you have or have had breathing problems such as asthma or emphysema; swallowing problems; bleeding issues; plan to or have had surgery; have forehead muscle weakness such as trouble raising your eyebrows; drooping eyelids; or any changes to your face.

Tell your doctor if you are pregnant, plan to become pregnant, are breastfeeding or plan to breast feed. It is not known if BOTOX® (onabotulinumtoxinA) can harm your unborn baby or if BOTOX® passes into breast milk.

What Are Common Side Effects?

The most common side effects include neck pain; headache; migraine; slight or partial facial paralysis; eyelid drooping; bronchitis; musculoskeletal stiffness; muscular weakness; pain in 1 or more muscles, ligaments, tendons, or bones; muscle spasms; injection site pain; and high blood pressure. Other side effects have been reported including allergic reactions e.g. itching, rash, red itchy welts, wheezing, asthma symptoms, or dizziness or feeling faint.

These are not all of the possible side effects. Call your doctor for medical advice if you experience any side effects after treatment with BOTOX®.

What Should I Tell My Doctor About Medicines and Vitamins I Take?

Using BOTOX® with certain 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. Tell your doctor if you have received an injection with another botulinum toxin product in the last 4 months, such as Myobloc®, Dysport®, or Xeomin®. Be sure your doctor knows which product you received.

Tell your doctor about all prescription and over-the-counter medicines and supplements you take including; vitamins and herbal products; recent antibiotic injections; anticholinergics; muscle relaxants; allergy or cold medicine; sleep medicine; aspirin-like products; and blood thinners. Ask your doctor if you are not sure whether your medicine is listed above.

To Learn More

If you would like more information, talk to your doctor and/or go to BotoxChronicMigraine.com for full Product Information.

You may report side effects to the FDA at www.fda.gov/medwatch or call 1-800-FDA-1088.

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Xeomin® is a registered trademark of Merz Pharma GmbH & Co KGaA
For those who have never experienced migraine, migraine is generally considered "just a headache". To the other 12% percent of Americans who are migraineurs, however, a migraine attack often is something much more: a "whole body experience", as some patients describe it...and typically not a pleasant one.

What most migraineurs may not know is that a migraine episode may contain 4 separate phases, each distinct in itself but with one phase often overlapping into another. By no means will all 4 phases occur during every migraine episode; some migraine episodes will involve only 1 of the 4, and, conversely, when multiple phases occur during an episode, the symptoms associated with one phase may overshadow those of the accompanying phases in their prominence.

So what are the individual phases?

**PRODROME**
The majority of migraineurs at least occasionally experience a prodrome that most typically occur hours in advance of a migraine headache. Commonly reported prodromal symptoms are numerous and include: irritability, inexplicable sadness, euphoria, somnolence, hyperactivity, frequent urination, problems concentrating or speaking, yawning, light sensitivity and food cravings (classically for sweets). Because the symptoms are so nonspecific, the migraineur may not recognize them as being an integral part of a migraine attack. Alternatively, prodromal symptoms may be blamed as the cause of the subsequent headache. For example, prodrome-related sweet craving that leads one to eat chocolate, which in turn is followed by headache that was destined to occur in any event, may lead to the misidentification of chocolate as being a migraine "trigger".

**AURA**
When aura and prodrome occur together in the same episode, the aura phase tends to follow the prodrome. Contrary to what many believe (including many healthcare providers), aura is not a sine qua non for the diagnosis of migraine. Only about 30% of migraineurs ever experience aura, and very few of those who do will experience an aura with every migraine episode.

The most common aura involves visual symptoms; less common but still occurring at high frequency are sensory aura and aphasic aura. The sensory aura most often is characterized by numbness and tingling that spreads from one part of the body to another (for example, from lips, tongue and cheek on one side to the hand and fingers on that same side). Aphasia implies a disorder of language, either expressive (manifested by difficulty finding and producing the desired words in a fluent manner) or receptive (difficulty comprehending what others are saying).

The hallmark of a migraine aura is that it tends to have both "positive" and "negative" features, and the aura symptoms tend to be dynamic. For example, a visual aura may involve an expanding (thus dynamic) blind spot (a negative feature) in the visual field, and at the periphery of that blind spot the affected migraineur may perceive a crescent of "zig-zags" (a positive feature) which marches repetitively across the field of vision (again, dynamic). An episode of migraine may involve only one type of aura, or a combination of aura symptoms may occur (for example, visual followed immediately by sensory). Although aura symptoms most often persist for about 15-20 minutes, many patients experience aura phases that are shorter or longer; in some rare cases, a migraineur may experience persistent visual aura that never entirely ceases.

In the majority of cases the headache phase begins as the aura fades, but in some migraineurs the aura symptoms will extend well into the headache phase or even first become apparent after the headache already has begun.

Many migraineurs with aura will experience aura symptoms with little or no temporally associated headache whatsoever. When this occurs with visual aura, healthcare providers may refer to the phenomenon as "ocular" or "ophthalmic" migraine. A more appropriate term for aura occurring in the absence of headache is simply "typical aura without headache".

There are very few disorders that can mimic a typical migraine aura. A detached retina can produce symptoms identical to migrainous visual aura, and a
sensory or aphasic TIA (transient ischemic attack=warning of stroke) at times can mimic migrainous aura, but an established history of migraine with aura symptoms typical of that which the individual is experiencing will help to exclude these mimickers. To learn more about aura, read Aura: Migraine's Odd Companion.

The headache phase typically follows the prodrome and the aura phase (if any), but in up to a third of migraineurs who experience aura the aura may occur during peak headache intensity.

The headache of migraine is widely variable in its severity, location and other characteristics. Migraine is the Baskin-Robbins of headache: it comes in a variety of flavors. There may or may not be associated with nausea or sensitivity to light, sound, odors, motion or a variety of other environmental stimuli. The pain may be throbbing...or not. The pain may be localized to one side of the head...or not. The pain may be worsened by head motion and by coughing/sneezing...or not.

The duration of the headache phase most often ranges from 4 hours to 3 days but at times may be briefer or more prolonged. A migraine headache that persists for more than 72 hours is characterized as status migrainosus, and in some unlucky migraineurs an acute migraine headache may persist indefinitely and evolve into the chronic daily headache variant of chronic migraine.

One can argue that there is a "classical" migraine headache (severe, incapacitating, pounding, one-sided, etc.), but it is an absolute truth that there is no one typical migraine headache.

POSTDROME
The last phase of a migraine attack, and one that is experienced by many migraine auras, is the postdrome. Although some degree of "background" headache still may be present during the postdrome, more notable are the sensation of feeling "washed out", fatigued, "hung over", physically clumsy, depressed or cognitively impaired ("brain fog" is a common postdromal symptom). The migraineur in the midst of a postdrome may experience scalp tenderness, an uncomfortable hypersensitivity of the skin, stiffness of the neck and back and diffuse muscle aches.

The biologic origin of postdrome currently remains as obscure is that of prodrome, and the treatment of postdromal symptoms is non-specific and not substantially different from what one does for a hangover resulting from a big Saturday night: hydration, aspirin or acetaminophen for residual low-intensity headache, modest aerobic exercise, fresh air... and wait it out. In over 90% of migraineurs who experience postdrome, the postdromal symptoms resolve within 24 hours.

In short, while the headache may be gone are or largely gone during the postdromal phase, those who experience postdrome will assure you that the migraine attack is still very much active.

SUMMARY
Again, an episode of migraine may involve any combination of these phases-sometimes all 4, sometimes only 2 or 3, sometimes only 1. In regards to the last, migraineurs sometimes speak of a "migrainous day", wherein they feel generally "off" and sense that a headache is looming in the background...but no headache ever emerges; this conceivably may represent a prodrome or postdrome occurring independent of the other phases. Similarly, and as indicated earlier, many migraineurs who experience aura will at times have aura without any temporally associated headache and with or without associated prodrome or postdrome.

All permutations of migraine exist, and the clinical expression of a predisposition to migraine differs not just from migraineur to migraineur but even for a single afflicted individual.

Prodrome>aura>headache>postdrome. Migraine is indeed a multiphasic "whole body experience". 
Regional Variations in Headache

Is there an epidemic of chronic tension type headache in Washington, DC?

Surveys conducted to determine the proportion of headache subtypes typically have demonstrated so-called tension type headache to be the most common primary headache disorder in the general population, closely trailed by migraine.

In international surveys the incidences and proportions of the primary headache disorders may differ somewhat from one country to another, perhaps reflecting cultural differences that influence an individual’s response to such a survey. In China, for example, investigators have recorded a significantly lower incidence of self-reported migraine, and some have speculated that this result reflects a tendency to minimize one’s health problems rather than a true difference in the disorder’s frequency. Within the United States, however, the incidences and proportions of the specific primary headache disorders appear to be more or less the same from one region to another.

When one examines the groups of individuals who seek medical attention for their recurrent headaches, however, some interesting regional differences emerge. Studies comparing headache patient populations at university-based headache clinics in the greater San Diego area, Alabama and western Nevada found that the proportions of headache disorders were roughly the same in all three areas, with chronic migraine by far the most common diagnosis recorded.

Patients in the Alabama cohort were more likely to have previously seen a medical provider for headache, to previously have had a brain imaging study, to have tried an appropriate treatment for migraine prophylaxis and to have tried a triptan for acute headache treatment. Compared to patients in metropolitan District of Columbia (DC), headache clinic patients in Nevada who had chronic migraine were more likely to be using overusing symptomatic medication and, specifically, more likely to be overusing an opiate or opioid (“narcotic”). Particularly striking, in comparison to greater San Diego, Alabama and western Nevada, there was a much higher proportion of chronic tension type headache (CTTH) in the headache patient population seen at George Washington University in DC.
Why are patients with CTTH so seldom seen in most headache clinics? The International Classification of Headache Disorders criteria indicate that CTTH typically involves pain of mild to moderate intensity that does not significantly reduce one's ability to carry out routine activities of daily living, is not accompanied by nausea or light/sound sensitivity and is not accompanied by the aura symptoms that migraine patients (and medical providers) often find alarming and attribute to other more ominous diagnoses (stroke, warning of stroke, brain tumor, etc.).

Therapies known to be effective for chronic migraine (eg, onabotulinumtoxin A/ "Botox A") have not been shown to suppress CTTH. Therapies developed for acute migraine treatment (the triptans in particular) do not "work" for acute tension type headache. Amitriptyline remains the mainstay of pharmacologic therapy for suppression of CTTH, and its degree of effectiveness remains as murky an issue as its mechanism of action. Other treatments currently recommended for CTTH suppression (biofeedback, acupuncture) possess little in the way of objective evidence of benefit and may be expensive.

Why does CTTH appear to be so much more prevalent in DC...at least in the university-based headache clinic population? Is it DC's horrendous traffic and long commutes? The relative intensity of urban living? Selection bias that favors high-functioning, ambitious individuals who cannot abide any imperfection that might potentially limit their productivity? The lack of an ocean or good surf?

Our study began in the last 18 months of Mr. Obama's administration and extended into the first years following Mr. Trump's ascension to the Oval Office, so this is at least one aberration that cannot be attributed to the current president.

I can't tell you why I've seen more CTTH in my first 4 years at George Washington then I saw in my previous 20 in other regions of our country, but having lived in and evaluated thousands of headache patients in each of those regions – San Diego, Alabama, Nevada and, now, DC – I do have my suspicions. And they involve what I perceive to be cultural reinforcement of an emotionally and physically unhealthy lifestyle. To counter that lifestyle I emphasize patient-initiated interventions that include:

- Aerobic conditioning
- Meditation and other relaxation techniques that can induce "self-hypnosis"
- Improved sleep hygiene and diet
- Psychotherapy

Such therapies often are not palatable to patients who seek a "quick fix", and to me and my colleagues remains the task of providing clear proof that these (or other) therapies are effective. Four years ago, before coming to our nation's capital, I would have considered this task a low priority. Now, however, with CTTH such a part of my community and my clinical practice, action clearly is required. [1]

JFR
Even working with a medical provider you trust, the process of finding an effective migraine prevention treatment can be frustrating. What you want is a treatment that will significantly reduce your headache burden, will do so within a relatively short time of beginning the treatment and will not cause a bundle of side effects worse than the migraine it’s intended to treat. With all the treatments now available, why is it so difficult and time-consuming for medical providers to identify a migraine prevention treatment that meets the needs of the individual patient? To provide a meaningful answer to that vexing question it may help to take a brief detour.

While migraine is the most common neurologic disorder that leads one to seek medical attention, stroke is the most common neurologic disorder to require hospitalization. Each year about 800,000 Americans suffer an acute stroke, and about 80% of those strokes are ischemic (with an ischemic stroke, a blood vessel supplying the brain is obstructed by clot, and the area of brain supplied by that vessel consequently dies; with hemorrhagic stroke, a blood vessel ruptures and spills blood into the area around it).

Despite its prevalence, until 1996 there was no FDA-approved therapy for the treatment of acute ischemic stroke. At that point intravenously administered tissue plasminogen activator (TPA), a protein that dissolves blood clots, became available for general clinical use.

If a patient presented to emergency room with symptoms and signs suggesting acute stroke (for example, inability to move the left arm and leg), a brain CT scan demonstrated no evidence of bleeding within the brain and there was no other contraindication to treatment, intravenous TPA was administered.

If the paralysis of the left arm and leg reversed, it was assumed that the brain tissue rendered unable to function by the loss of blood supply had not yet died and now had resumed functioning due to TPA having dissolved the obstructing clot and restored blood flow. If the paralysis persisted unchanged despite restoration of blood flow, then it was assumed the brain tissue was dead by the time the TPA was administered. Before the fact, there was no way to accurately predict who would or would not benefit from TPA.

How things have changed: when the author of this article is on call for stroke, he receives a text message that provides precisely the information included in the example (“Acute Stroke”) provided below. This particular patient has suffered an acute stroke involving the left hemisphere of the brain. The green areas in the CT-derived images on the right demonstrate what portion of the brain is not receiving an adequate supply of blood. The dark pink areas in the images on the left demonstrate how much of the brain within the green area is irreversibly damaged. The images below these scans demonstrate the major blood vessels within the brain, and in this case a major
artery supplying the left hemisphere is blocked by clot. A computer calculates the ratio of brain volume deprived of blood compared to brain volume irreversibly damaged, and if that ratio is favorable the patient immediately goes for arteriography to confirm the artery is indeed blocked and then mechanical thrombectomy to restore flow (the thrombectomy involves insertion of a clot retrieval device located at the end of a long catheter that is inserted in a groin artery and threaded up to the brain). To someone who has been involved in stroke and stroke research for many decades, this seems to me nothing short of miraculous. Contrast this vast technological leap to our use of therapies for stroke prevention. While the medical provider may obtain a brain imaging study or other diagnostic tests to exclude conditions mimicking migraine, the diagnosis of migraine ultimately lies in the history provided by the patient. Unfortunately, there often is little in that history to guide the choice of a prevention therapy. If the patient has truly tried and failed a given therapy in the past, then it makes little sense to walk down that same path once again. Certain therapies (e.g., onabotulinum toxinA/BotoxA) have been proven to be effective for chronic migraine, but not episodic migraine; others (e.g., certain beta-blockers/ propranolol, timolol) are effective for episodic migraine but have no solid evidence of benefit in treating chronic migraine; and yet others (e.g., the anti-CGRP Mabs) are known to be effective for prevention therapy in both varieties of migraine.

Beyond this, there is little in the patients' histories that will assist a provider in selecting the "correct" prevention therapy, and there exists no diagnostic test or biologic marker that will indicate whether a given prevention treatment is more or less likely to succeed. Thus migraine prevention therapy remains a process of "educated trial and error". It is the responsibility of the provider to carefully take into account the patient's headache burden, the patient's previous experience with prevention therapies, the presence or absence of any coexisting disorders (e.g., high blood pressure, depression, chronically disrupted sleep), co-existing medications, pregnancy issues and a variety of other less tangible variables to select for the individual patient those options which seem to be the best "fit".

On the other side of the therapeutic alliance, it is the patient's responsibility to provide the best history he or she can, to comply with the therapy prescribed and promptly to report to the provider any side effects or other problems that make it difficult or impossible to comply.

As with ischemic stroke, the day will come when we will have far more sophisticated tools for guiding migraine prevention therapy. It's not inconceivable that "gene editing" from a simple blood specimen will enable providers to select therapies that fit" the individual patient biologically as well as clinically, and the day may come when gene editing will permit modification of the manner in which the patient's "migraine providers to select therapies that fit" the individual patient biologically as well as clinically, and the day may come when gene editing will permit modification of the manner in which the patient's "migraine.
Dr. Schim begins his days a bit differently than the rest of us. He arises well before the sun is up, collects his board and wet suit and drives a short distance to one of his favorite spots along the North County coast to check out the conditions. If the waves are hitting, he zips up his suit, ducks below the slap of that first cold wave, paddles out and gets in a session before showering off and donning his usual work outfit - aloha shirt, jeans or casual slacks - to begin seeing patients (the white coat evident in this photograph is as much an anomaly as snowfall in San Diego). If the waves are blown out, he instead may unpack a camera and take some photographs of the ocean and coastline as they emerge in the first light of day.

Jack already was an avid surfer when he moved from Miami to California decades ago, but the bug really bit when he exchanged the meager offerings of South Beach for the more challenging swells that roll in at Swami's, San Onofre and a dozen other breaks that lie within a short drive of his home in Encinitas.

He rarely misses a day, and he supplements his usual routine on the waves at home with surf trips to Mexico, Central America, Fiji and other far-flung locales. His routine was interrupted a few years back by a serious spinal injury he sustained when another surfer fell on him, breaking his neck. After spinal fusion surgery and a prolonged period of recovery, he returned to the waves. His only modification: he tends to avoid crowded breaks, choosing instead the early morning hours when he has the waves to himself.

Jack obtained his Master of Fine Arts at the University of Miami (focusing on ceramics and photography) and then completed medical school at the University of California San Diego, an internship at Cedars Sinai in Los Angeles and a neurology residency at the University of California San Diego. He is the co-founder and co-director of the highly regarded Headache Center of Southern California located in North County/greater San Diego.

A highly respected clinician, educator and clinical research investigator, an accomplished ceramic artist and photographer, a longstanding virtuoso in medical and non-medical computer applications...and a superb surfer, Dr. Schim's eclectic talents could make him a target of malicious envy were it not for the fact he is a soft-spoken, laid-back surfer doc who avoids self-promotion and is universally regarded by those lucky enough to know him to be a kind and generous friend.

Go to bit.ly/2D2BVTC to view Jack's compelling wave photography.
Attacks of migraine vary widely in the time required to reach peak headache intensity. At times you may awaken with a headache that is already fully developed and severe, and even during days when you awaken pain-free a migraine headache may build rapidly to become full-blown. At other times the headache may build slowly, over hours, providing you the opportunity to potentially nip it in the bud.

Given this wide range in the time required for migraine headache to develop, it makes sense that acute treatment intended to terminate the headache is not a “one size fits all” proposition. To treat your acute migraine headaches effectively, you need several weapons in your arsenal: specifically, a therapy to use early, when the headache is just beginning to build; a therapy to use when the headache has reached the mild to moderate level of intensity; and a therapy for times when the headache either builds to become severe or is severe from the start.

There are a variety of medications which are appropriate for use at each of these 3 stages. One commonly prescribed arsenal includes a "simple analgesic" (aspirin, acetaminophen or both plus caffeine) or a nonsteroidal anti-inflammatory drug (NSAID; e.g.s, ibuprofen, naproxen sodium) plus caffeine for early headache; the combination of an NSAID, a "fast onset" oral triptan (e.g.s, sumatriptan, rizatriptan); and injectable sumatriptan for "rescue" from one’s most severe headaches (link to "treatment of the month").

Use of one of these options within a given 24 hour period does not prohibit use of another. For example, if you awaken with a headache that already has reached the level of severe intensity, injectable sumatriptan is likely to be the most effective treatment of those listed. Because injectable sumatriptan has a short half-life in the body, early recurrence of headache following its use is common. If the headache begins to recur, it’s appropriate to turn to the simple analgesic (versus NSAID)/caffeine option, and if the headache continues to build despite this, it’s time to try the oral triptan/NSAID/caffeine option.

"To treat your acute migraine headaches effectively, you need several weapons in your arsenal..."

One last thing. Migraine-associated nausea may cause one to avoid using an oral therapy, and vomiting obviously will eliminate any effectiveness oral therapy might have to offer. If you are prone to nausea and vomiting during an attack of migraine, make sure you have an anti-nausea medication in your arsenal (the ondansetron "melt" is a good choice), and use a non-oral route (e.g.s, intranasal, subcutaneous injection) to administer the medication you are taking for the headache itself.
Ever since injectable sumatriptan was released (as Imitrex) for general clinical use in 1992, investigators have searched for a needle-less alternative for delivery of a triptan or triptan-like medication which would offer the same level of effectiveness, the same rapidity of effectiveness and the advantage of avoiding the oral route of administration in migraineurs experiencing nausea and vomiting with their headaches.

We have witnessed a parade of such alternatives: intranasal sumatriptan and zolmitriptan, Migranal (intranasal dihydroergotamine), Sumavel (needle-free injectable sumatriptan), Zecuity (sumatriptan delivered via a transdermal patch) and Onzetra (sumatriptan delivered via an "exhalant" mechanism). With the exception of Zecuity (which was taken off the market due to its potential for causing burn injury), each continues to be used successfully by many patients. Even so, for various reasons none has really come close to knocking injectable sumatriptan off its perch as the treatment for self-administered rescue from moderate to severe migraine headache and associated nausea, vomiting and light/sound sensitivity.

In late January the FDA approved a new medication, Tosymra, for the acute treatment of migraine. Tosymra is a nasal spray which delivers 10 mg of sumatriptan intranasally, with 1 spray delivered into one nostril. Patients may use up to 30 mg within a given 24-hour period. The medications label contains the usual warnings regarding triptan use in patients who have or may have heart disease, stroke or other medical disorders which at least theoretically could put them at risk for a drug-related vascular complication.

How well does it work? While we know from experience that results from clinical research studies cannot always be duplicated in "real world" clinical practice, in one study over 40% of participants with moderate to severe acute migraine headache were headache-free by 2 hours following administration of the drug. "Headache-free" is a high bar to reach; all FDA-approved triptans on the market have returned that approval on the basis of studies using "pain relief" as a primary endpoint for clinical outcome (i.e., what percentage of patients with moderate to severe headache had no or mild headache within 2 hours of study drug administration), and with the oral triptans that percentage generally hovered between 50 and 60%. Tosymra's pain-free percentage of 44% at 2 hours approaches what one would expect from injectable sumatriptan.

It will take the experience from real world clinical practice to know, but hopefully Tosymra will represent an attractive alternative to injectable sumatriptan for those patients who prefer a non-injectable therapy for migraine headache "rescue".
Many patients presenting to a medical provider for evaluation of migraine become uneasy - even angry - when that provider fails to order a brain CT or MRI scan. Understandably convinced that "there must be something wrong with my brain to cause this terrible pain", they worry that a brain tumor, aneurysm or some similarly serious structural abnormality will be missed unless a scan is performed.

As indicated elsewhere in this issue, the diagnosis of migraine is made largely on the basis of the history provided by the patient; even with its remarkable resolution, brain MRI will not demonstrate the presence or absence of a structural abnormality responsible for a patient's migraine. Migraine is believed to be a genetic disorder whose clinical manifestations reflect a biologically hypersensitive brain (link to vol 2, pg 6), and we currently lack any test or biologic marker that is sufficiently specific or sensitive to confirm the clinical diagnosis. The physical examination that the provider performs and whatever tests he or she may order are done to exclude other conditions that may mimic migraine...not to “make the diagnosis”.

The diagnosis of migraine is made largely on the basis of the history provided by the patient;"
New Books

**Understanding Your Migraines**
by Morris Levin, MD and Thomas Ward, MD
*Oxford University Press, ISBN 9780190209155 (paperback)*

The reviewer knows few people in the community of headache medicine as well liked and respected as Drs. Levin and Ward. Aside from having a profound knowledge of the biologic intricacies of headache, both are superb clinicians and educators. It's hardly surprising that together they have produced such an outstanding resource for the millions of citizens.

Most important for such a guide, the information presented is relevant to the reader's needs. The questions that arise each day in clinic - how can I treat my migraine if I'm planning to become pregnant, am pregnant or am breast-feeding? Are there dietary supplements that may help reduce my migraine burden? What about nerve blocks and nerve stimulators for migraine treatment? - are elegantly but concisely addressed.

If you are a migraineur and wish to understand your disorder thoroughly, there is not a better guide currently available.

*John F. Rothrock, MD*

**The Heart's Hard Turning**
a novel by John Farr Rothrock
*books.friesenpress.com/store/title/119734000034674127 (also available thru Amazon)*
*ISBN 978-1-5255-0839-4 (hardcover)*
*978-1-5255-0840-0 (paperback)*
*978-1-5255-0841-7 (ebook)*

Set largely in Sonoran Mexico, Baja California, and the strange, deep sea that divides them, The Heart's Hard Turning is a story of loyalty and betrayal, despair and courage, friendship and death; a story of a deliverance from evil; and, ultimately, a story of our struggle to learn where to love and whom.

*John Rothrock is an American author, physician, and clinical neuroscientist. He previously has authored various medical texts and papers, three children's novels, and five adult novels. He served as the editor-in-chief of a medical journal, Headache, for twelve years and now publishes Migraineur, a quarterly health-related magazine. Dr. Rothrock currently is professor and vice chair of neurology at the George Washington University School of Medicine. He lives in Maryland with his wife and three sons.*
Ligia Mendizabal, a Guatemalan-born artist and long-time native of Corpus Christi, was featured in volume 4 of Migraineur. In response to the many expressions of interest we received from the readership, we have included here further examples of her work and a link for more information.

Ligia freely acknowledges that her migraine has influenced both her artistic productivity and the character of the art itself: "Colors simply appear...well, different to me when my migraine is active. More vivid."

For inquiries regarding her work, Ligia may be reached via ligmendi@yahoo.com
Emilia, a 27-year-old law student at Georgetown University writes:

I feel like someone from Victorian times worrying about my monthly "curse", but I'm really having a problem with my periods. I started having menses when I was 13, and almost from the start I've had a headache that begins like clockwork 1 day prior to onset of flow and continues nonstop for the next 3-5 days. I occasionally have migraines at other times of the month as well, but those are infrequent and involve more of a temporary problem with my vision than much in the way of a headache. During my periods I have no visual aura, but the headache is much more severe. It's causing me to fall behind in my reading for school, and the pain is often so bad that I can't make it to classes for several days in a row. I thought maybe if I took my birth control pill every day it would stop my periods and maybe stop my headaches, too. But when I asked my doctor about it, he told me that because of my visual aura and the risk of stroke I shouldn't be taking a birth control pill at all. Now I'm stuck using condoms, and I still have both my periods and my headaches. What can I do?

THE DOCTOR'S REPLY

First, Emilia, you are far from alone. Studies investigating the issue indicate that as many as two-thirds of actively cycling female migraineurs experience menstrually-related worsening of their migraine. The majority of those females experience migraine at other times of the month as well, but menstrually-related migraine tends to be qualitatively different. Aura occurs less commonly, and the headache of menstrually-related migraine often is longer in duration and less responsive to medications administered for relief from acute headache.

While it seems plausible that eliminating menses invariably would spell an end to menstrually-related migraine, some females who experience spontaneous or surgically induced menopause— or Others, however, do enjoy relief from menstrually-related migraine from measures such as daily use of an estrogen-secreting oral contraceptive. Unfortunately, the use of such contraceptives is linked to an increased risk of stroke in females who have a history of migraine with aura (as does about 25% of the migraine population overall). For such individuals, use of an IUD which releases very small amounts of estrogen may suppress menses and eliminate menstrually-related migraine without conveying any definite/established increase in stroke risk.

Some females find that "mini-prophylaxis" may be quite effective in stopping menstrually-related migraine before it starts. While all of the triptans can be effective for acute headache treatment in the setting of menstrual migraine and potentially could be effective for mini-prophylaxis, frovatriptan enjoys the distinction of being FDA-indicated for that purpose. Any medication taken for mini-prophylaxis of menstrually-related migraine tends to be more effective if treatment is begun prior to headache onset, and in the case of frovatriptan patients generally are advised to take 5 mg twice daily 2 days prior to anticipated onset of menstrually-related migraine headache and then 2.5 mg twice daily for the next 5 days.

This may be too pricey a proposition for some patients, and reasonable alternatives include magnesium oxide 400 mg once or twice daily or naproxen sodium 550 mg twice daily. As with frovatriptan, in each case the medication ideally is begun 1 or 2 days prior to anticipated onset of headache and continued throughout the high risk week. Success or failure of mini-prophylaxis often hinges on how regular is the woman cycle, how well she can predict the date of flow onset and how consistent is the time relationship between flow onset and onset of menstrually-related migraine headache.

These are but a few of the therapies commonly used to treat menstrually-related migraine, and I would encourage you to consult with a healthcare provider experienced in the treatment of this highly aggravating disorder so as to hear your options and pick the one that seems to suit you best.
Family vacations can be trying. They consistently seem to involve an unpredictable blend of the best and worst of times, and I've found that maximizing the best while minimizing the worst does not come naturally.

What with three young and highly energetic boys, my wife and I learned early that an extended holiday vacation spent entirely at home could be a trying experience. Youthful attention spans are short, and a young boy's threshold for boredom can be set alarmingly low. Sometimes a change of scenery is required.

For us, long holiday weekends were a snap. Living a few hours from the Florida panhandle's best beaches, we'd simply pile in the car and head eastward. The beach resort where we habitually stayed made it easy, providing rapid access to recreational diversions sufficient to keep everyone more or less content and at peace. Days were spent constructing a multitude of sandcastles doomed by the incoming tide, and nights involved a lot of take-out pizza and cruising Blockbuster for movies that would pass muster with mom.

Spring break presented a greater challenge. Too long to remain homebound but too early for the local beaches, at times spring break seemed to us a sadistic punishment imposed by the public school system for crimes unspecified. So one year we decided to spend spring break away from home and on vacation.

As per protocol, my wife and I waited until the very last minute to arrive at this momentous decision. Raised in the Sunbelt, our two older boys were eager for snow, and we considered various destinations involving ski resorts. Not much was available at that point, however, and we consequently reversed field and shifted our focus from winter sports and wood burning stoves to beaches, sun bathing and warm, salty water. Within a remarkably short time we were winging our way to Miami and driving eastward on Card Sound Road to Key Largo. Final destination: Key West.

I'd been to Key West several times before, albeit never as a father with young children in tow. My experience had been positive. If New Orleans is the most European of American cities, Key West is a yet more subtropical anomaly, culturally and geographically detached from the rest of the country. I'd liked the eclectic and eccentric native population, the fact that dogs were welcome just about anywhere, the surrounding ocean and even the innumerable chickens scratching in the dirt. Adding to its appeal, Key West and Ernest Hemingway are inextricably linked, and Hemingway, both the author and the man, long have intrigued me.

When I was ten, I happened upon *Farewell to Arms* and thrilled to the book's terse prose: "In the springtime we went to war." I found compelling the emotional restraint of its protagonist; left alone with his lover's corpse after her death by labor, Lieutenant Henry tells us: "But it wasn't any good. It was like saying goodbye to statue. After a while I went out...and walked back to the hotel in the rain.". I read the book over and over.

But what of Hemingway and Key West? Anxious to leave Paris and based largely on the recommendation of his friend, John Dos Passos, he and his new wife, Pauline Pfeiffer, chose Key West as their new home. The dilapidated village that greeted them in 1928 bore only a passing resemblance to the crowded island city of today. Its population, a mélange of Cubans, Afro-Americans and white American "conchs", had diminished from 26,000 to 10,000 over the years following World War I. Its once-thriving cigar industry was
moribund, and most of its workers made their living from the sea. The Cuban influence was strong; fully half the natives referred to their home as Cayo Hueso.

In To Have and Have Not, Hemingway's only American-based novel, the author described the village’s “...unpaved alleys, with their double rows of houses; the open-doored, lighted Cuban bolito houses, shacks whose only romance was their names, ...the brightly lit main street with the three drug stores, the music store, the five Jew stores, three pool rooms, two barbershops, five beer joints, three ice cream parlors, the five poor and one good restaurant...the street that led to jungle town, the big unpainted front house with lights and girls in the doorway...”. He established a circle of friends amongst the locals, learned how to fish the Gulf Stream and drank in his favorite bars. In 1930 he made Key West his permanent address, and in 1931 Pauline’s uncle purchased for them a white stone house on Whitehead Street.

This period of relative domestication was to be short-lived. Five years later in Sloppy Joe's, the Key West bar Hemingway made famous, he met and immediately began to woo a young writer, Martha Gellhorn. In 1940 she would become his next and penultimate wife.

We flew into Miami, rented a car and began the drive south. For the first 60 miles or so the older boys clearly were excited and peppered me with questions (“Which key is this?” “What’s the next key?” “When do we get to the long bridge?”), but as darkness fell their enthusiasm waned, and my soliloquies extolling the Keys’ natural beauty provoked only a single question, much repeated: How much longer? Finally we arrived.

I’d heard of Casa Marina and vaguely recalled its location and appearance. First opening to the public on New Year’s Eve 1920, the Casa Marina was built by a railroad tycoon, Henry Flagler, as a luxury hotel intended to suction up wealthy tourists disgorged at the terminus of his key-hopping southern line. The hotel subsequently had served as a military hospital and then a federal office building before returning to its original purpose. Downtrodden by decades of tropical storms, hurricanes and the more mundane exigencies of the passing seasons, it was renovated in 2000. From the outside the gleaming white edifice continued to resemble an exceptionally well-kept governmental office building.

Our suite was on the ground floor facing the ocean and blessedly featured a bedroom that locked from the inside and was thus securely separate from the communal living area, where all the boys (theoretically) would sleep on a fold-out sofa. Our balcony looked out on the hotel’s small beach, a luxury on an island where over the years coastal development has served to divert many of the currents which for centuries before man’s arrival had faithfully provided replenishing sand. The pool and adjacent bar were quite fine, and the restaurant served breakfast al fresco in the morning sunshine, an arrangement greatly appreciated by the parents of three young boys biologically incapable of remaining seated at mealtime.

So what does one do with young children on a family vacation in Key West, long renowned as a raunchy off-shore paradise and favored destination for gays eager to savor its sun-soaked pleasures in a libertine atmosphere free of disapproving stares? First, as with previous family campaigns involving Montana, Manhattan, San Diego and various less ambitious destinations (eg, the De Soto Caverns of Childersburg, Alabama), I first had to disabuse myself of the notion that the reality of our experience would bear anything more than a passing resemblance to the itinerary my wife and I would have pursued had the vacation been kid-free.

See what happens next! Visit: migraineurmagazine.com/migraineur/spring-lagniappe and read the conclusion of this story.
IN 1991, WILDLANDS NETWORK EMBARKED ON A BOLD MISSION:
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agencies, elected officials, private landowners, outdoor recreationists,
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