FOR THOSE WHO CHOOSE TO LIVE WELL DESPITE MIGRAINE

When Migraine Turns Chronic

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A NOTE FROM THE THE EDITOR

For over 12 years I served as editor-in-chief of Headache, the journal of the American Headache Society. While there was much to enjoy in the experience, it always nagged at me that the journal - intended primarily for physicians subspecializing in headache – reached an audience of only a few thousand. I wanted to produce a different kind of journal, a “direct to consumer” publication intended specifically for the millions of individuals who must cope with migraine. A journal

intended to educate, entertain and – most of all – empower.

Thus Migraineur, a unique resource for those who seek “to live well despite migraine”. Written by medical professionals with extensive backgrounds in clinical work, research and education involving migraine, our informational content goes well beyond what typically is offered via headache websites and other health magazines. In doing so, however, we make a particular effort to ensure our articles offer plenty of practical advice relevant to the reader’s needs.

Complementing the quarterly issues of this magazine is the Migraineur website: www.migraineurmagazine.com. The website offers free electronic access to all of our issues, links to patient resources as varied as a simple headache diary, migraine questionnaire and the Female Sexual Function Index, and additional information for those who wish to “dig deeper”, beyond what is presented in the magazine itself. Please visit our website at your leisure, and feel free to contact the editorial office with your comments and suggestions.

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ON THE COVER
The Cape of Good Hope, The Republic of South Africa

Cynthia Andress, mother, author and migraineur, enjoys the view at the Cape.
THE
Sexual Side
OF MIGRAINE

Does migraine correlate with a higher libido, and can sex be used as a migraine treatment?

Migraine and sex? Like oil and water, these two would seem a poor mix. Place them together, and immediately comes to mind the time-worn image of the disinterested female using “migraine” as a handy excuse to deflate the amorous male. That old cliché aside, it’s easy enough to accept that acute migraine invariably should serve as an anti-aphrodisiac, a brew of unpleasant symptoms destined to quench even the barest flicker of sexual desire.

Yes…and no. As with virtually every clinical aspect of the disorder, nothing is ever “always” with migraine. Migraine does not always worsen with use of an oral contraceptive. Or always improve with menopause. Or always activate following a glass of red wine. So it is with migraine’s relationship to libido generally and to sexual activity in particular. 

...frequency, severity and duration of headache attacks did not appear to influence sexual function.

Does migraine reduce libido? Specifically, does being migraine-prone reduce sexual desire and enjoyment? Not necessarily. In fact, there is evidence from clinical research trials that just the opposite may be true. Published in *Headache*, the Journal of the American Headache Society, results from a relatively small study involving both males and females with either migraine or tension type headache indicated that those individuals suffering from migraine reported a level of sexual desire 20% higher than those with tension type headache.

The Female Sexual Function Index (FSFI) is a 19 item questionnaire that assesses female sexual function in 6 domains ranging from desire and arousal to satisfaction. A recent study utilizing the FSFI and published in *Headache* found that obesity-but not migraine-correlated with sexual dysfunction. In the migraine patients surveyed, the frequency, severity and duration of headache attacks did not appear to influence sexual function.

Can sex serve as a “treatment” for acute migraine? In a study published in *Cephalalgia*, the journal of the International Headache Society, investigators found that over half of those migraineurs who made love during a headache attack experienced more than a 50% reduction in their head pain. This “response rate” rivals that of many of the most widely used medications intended to treat acute migraine. About a third of those surveyed reported specifically using sex to treat acute migraine.

Can both be true? Does migraine correlate with a higher libido, and can sex be used as a migraine treatment? Using a detailed written questionnaire and taking pains to guarantee patient anonymity, clinical investigators at one university-based headache clinic in Nevada assessed sexual behavior in a consecutive series of 200 female migraineurs and compared their responses
to those from an identical number of migraine-free females matched for age, race/ethnicity, body mass index (BMI) and educational, socioeconomic and marital status. Compared to the migraine-free control subjects, patients with episodic migraine reported a higher mean libido, higher monthly frequency of intercourse and a higher likelihood of intercourse resulting in orgasm, and their mean score on the Female Sexual Function Index was significantly higher than that of controls. Similar to the results from the Cephalalgia study described above, about 25% of the migraine patients reported successfully using intercourse - and orgasm specifically - as a means to terminate a migraine attack.

At the biologic level, why should migraineurs have a higher libido than non-migraineurs?

At the biologic level, why should migraineurs have a higher libido than non-migraineurs? And why should intercourse be effective in treating acute migraine headache? Although a proven explanation remains elusive, the answers to these questions may reside at the molecular level. High levels of serotonin are associated with low sexual desire, and serotonin, a protein neurotransmitter important in cell-to-cell communication within the central nervous system, may be deficient in migraine. Put simply, migraineurs do not have high serotonin levels that potentially could decrease sex drive. Scientists hypothesized precisely what the data from clinical trials have suggested: migraineurs may experience higher levels of sexual desire than others. As for the therapeutic effect sexual activity appears to exert upon acute migraine, researchers have proposed that the release of pain-killing endorphins may play a key role.

Can sex trigger a migraine attack? Thankfully, that particular stimulus/response relationship is uncommon. While as many as a third of migraineurs may report worsening of their acute migraine as a consequence of sex, rarely does engaging in sexual activity cause an acute migraine attack. What can occur in both migraineurs and individuals with no history of migraine is "primary headache associated with sexual activity", a true buzz-kill of head pain that tends to erupt suddenly during the time of peak sexual excitement (hence its informal name: "orgasmic headache"). This rather mysterious, alarming but ultimately benign headache disorder is experienced by about 1% of the general population, afflicts males more frequently than females and often ceases spontaneously after a period of a few weeks to months.

Is sex always "good" for migraine? Unfortunately, no. While sexual activity may be therapeutically helpful for some migraineurs some of the time, it should be noted that only a minority of the patients evaluated in the Cephalalgia study referred to above chose to engage in sex during a migraine attack. The combination of severe migrainous headache, nausea and an unpleasant sensitivity to being touched (so-called cutaneous alldynia) obviously can serve to quench one's sexual desire. While at times sex may be worth trying as an acute migraine treatment, there are also those times when quiet solitude and appropriate medication will be the more attractive, reasonable and effective option.

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To privately assess your own level of sexual function, go to www.mdapp.com and select the Female Sexual Function Index calculator.
For most people the term “migraine” conveys the image of severe attacks of debilitating head pain separated by periods during which the migraineur is headache-free. This is indeed the most common clinical subtype of migraine, accounting for about 80% of all cases, and over 30 million Americans are actively afflicted by episodic migraine. Episodic migraine may be further divided into low frequency episodic migraine, mid frequency episodic migraine and high frequency episodic migraine.

Many individuals with chronic migraine have a headache every day, and many of them have constant headache.

Chronic migraine is not rare. Worldwide, 2% of the general population has chronic migraine. Do the math, and you can calculate that this translates to over 6 million chronic migraine suffers in the US alone. Surveys conducted by the Migraine Research Foundation and investigators from the Global Burden of Disease project have indicated that migraine is the third most common chronic medical disorder worldwide and responsible for a whopping 65% of all disability attributed to neurologic disorders. In the US, the cost of migraine (diagnostic testing, medications, ER visits, lost work-related productivity, etc.) is high: $36 million annually. Not surprising to those who live with the disorder or to those who treat it, chronic migraine accounts for a disproportionately high share of the disability, suffering and financial cost associated with migraine generally.

Each year 3% of migraineurs with episodic migraine undergo “transformation” of their periodic headache disorder into the quicksand-filled swamp of chronic migraine.

**Definition, Prevalence and Burden**

**Definition of Chronic Migraine:**
- Established history of migraine
- Each month: consistently experiencing at least 15 days of headache lasting >4 hours
- Each month: at least 8 days of headache possessing features typical of migraine or responsive to treatment with a triptan or ergotamine
migraine. Why? Epidemiologic studies have found that the leading risk factor for such “transformation” is a progressive increase in headache frequency. In other words, more leads to more; headache breeds more headache.

So what, you say. Seems pretty obvious. It does indeed, but this clinical association offers some insight into the underlying biologic process that drives the transformation from episodic to chronic migraine.

The brains of migraineurs are genetically “hypersensitive”. If the hypersensitive brain is subjected to frequent attacks of migraine on a chronic basis, that brain may become even more sensitive. This “chronic sensitization” prevents the migraine circuitry from switching to the “off” mode. The migraine circuit is always “on” and running; the chronic migraine sufferer usually – or always – is experiencing migraine symptoms.

Effective therapeutic suppression of chronic migraine will require stabilization of the hypersensitive brain, but effective treatment of chronic migraine cannot begin without a diagnosis. It’s somewhat unsettling to learn that in one study involving chronic migraine patients who presented to specialists for evaluation of their headaches, barely more than one third received an accurate diagnosis. Not surprisingly, misdiagnosis delays initiation of appropriate treatment, and the longer chronic migraine patients remain untreated or inappropriately treated, the more difficult it becomes to extricate them from the swamp of pervasive headache. Studies using advanced imaging techniques have demonstrated findings that suggest patients who suffer chronic migraine for an extended time develop structural changes within their brains which may be irreversible.

**Specifics of Treatment**

Some individuals with chronic migraine improve spontaneously, experiencing a remission to episodic migraine in the absence of any specific medical intervention. Unfortunately, many others who suffer from chronic migraine are not so lucky. Left untreated, they will continue to struggle with frequent, daily or even constant headache. This is the population that needs - deserves – aggressive medical management.

Treating chronic migraine typically requires more than simply injecting Botox® or taking a daily medication intended for headache prevention. Such treatment is definitely important, but it’s only one component of a more complex management strategy.

**Education** - We already have stressed the importance of accurate diagnosis. Once your headache disorder has been identified as chronic migraine, make the effort to learn the implications of that diagnosis and how the disorder can best be managed. The Internet is teeming with headache sites, and far too many are little more than a blatantly commercial pitch for an improbable migraine “cure”. Fortunately, there are a number of excellent resources available to supplement what is presented here in Migraineur, and two of the most reputable are the National Headache Foundation and the American Migraine Foundation. The Allergan-sponsored site at mychronicmigraine.com offers both detailed information on the topic of chronic migraine and instruments you can use to assess how much chronic migraine is affecting your quality of life.

**Exercise** - Stress reduction does not necessarily require sessions with a psychotherapist. Research has demonstrated that regular aerobic conditioning is independently correlated with remission of chronic migraine. This does not mean you should plan to run a marathon next weekend, especially if your lifestyle has been sedentary.
Start with a realistic conditioning program that you are likely to stick with, and use your heart rate to guide you. If you have a pre-existing medical condition that might influence your ability to pursue aerobic conditioning, check in with your medical provider before starting your program.

It’s recommended that you exercise within 50 to 85 percent of your maximum heart rate (MHR) for at least 20 to 30 minutes to get the best results from aerobic exercise. The MHR (roughly calculated as 220 minus your age) is the upper limit of what your cardiovascular system can handle during physical activity. The table at right shows estimates of target heart rates for different ages. To engage in moderate activity, strive for a target heart rate between 50-70% of your MHR; with strenuous activity your target heart rate should fall between 70-85% of your MHR.

To check your heart rate during exercise, place two fingers over your carotid artery on your neck next to your windpipe and count the number of beats you feel for 10 seconds. Multiply this number by 6 to calculate your heart rate.

<table>
<thead>
<tr>
<th>Age</th>
<th>Average MHR</th>
<th>Target HR moderate aerobic exercise 50-70%</th>
<th>Target HR strenuous aerobic exercise 70-85%</th>
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<td>70</td>
<td>150 bpm</td>
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There is an old adage pertaining to the treatment of acute migraine: three aspirin and a cup of coffee taken early are often more effective than intravenous morphine administered late.

Medication overuse headache - In what seems a contradiction to the “treat aggressively” mandate, it may be important to avoid overusing medications intended to treat acute migraine headache. While the whole concept of medication overuse headache (popularly known as “rebound” headache) recently has been challenged, most headache subspecialists agree that chronic overuse of virtually any of the prescription or over-the-counter medications commonly administered to treat acute migraine headache can reinforce and worsen chronic migraine.

“Treat but don’t overtreat” admittedly can be a tough balance to strike, and it’s a particular problem for chronic migraine patients during the first weeks of implementing a management strategy. Any prevention therapy prescribed typically has not yet had sufficient time to begin reducing headache frequency, and the patient simultaneously is being told to treat acute headaches aggressively but to avoid overusing the very medications needed to treat those headaches. In what is probably the best compromise available, providers often advise patients to treat aggressively but to avoid overuse of any given class of acute medication. For example, use the triptans when appropriate, but restrict their use to less than 10 days total per month; on trip- tan “off days”, use something from another class of medications (for example, a non-steroidal anti-inflammatory drug such as naproxen sodium). When it comes to the opiates/opioids (egs, hydrocodone, oxycodone) or butalbital-containing compounds, overuse may not only promote yet more headache but also reduce the effectiveness of certain therapies commonly prescribed to prevent headache. Use of these particular drugs is best avoided or, at most, kept to a bare minimum.

Headache Diary - To help establish your baseline headache burden and subsequently follow your response to the management strategy you and your provider have chosen, keep a simple headache diary. Courtesy of the Internet, there are a number of websites and apps which offer the option of charting your migraine electronically. However you choose to keep your diary, record the frequency of your “headache days”, the maximum intensity of the headache suffered on those days (1= mild, 2= moderate but not incapacitating, 3= incapacitating), what medication (if any) you took to treat the headache and your response to that medication. If you tend to experience menstrual aggravation of your migraine, highlight those days when menses occurred.

Acute therapy - As mentioned earlier in this section, having a headache tends to yield yet more headaches, and this is especially true if the headache is severe and prolonged.

...having a headache tends to yield yet more headaches, and this is especially true if the headache is severe and prolonged.
Co-morbid disorders - "Co-morbid" implies that two different medical disorders occur in an individual more often than they would by a chance alone. Chronic migraine is co-morbid with a wide variety of conditions that range from obesity and hypothyroidism to depression, generalized anxiety disorder and panic disorder. Many individuals with chronic migraine have chronically disrupted sleep. While neither a mood disorder nor a sleep disorder is the primary cause of your chronic migraine, these disorders can worsen migraine and, in any event, deserve treatment in their own right.

Prevention therapy - What therapies are available for headache prevention in cases of chronic migraine? The answer: many. Which of these therapies possess a solid scientific evidence base to support their use in chronic migraine? The answer: very few. The mismatch is obvious; millions of individuals with a chronic disorder that imposes a significant burden on the public health, yet limited weapons available in the therapeutic arsenal.

...effective therapies exist, and more are arriving shortly.

But limited does not mean none. Only a little more than a decade ago what we now routinely accept as “chronic migraine” did not even formally exist as a headache diagnosis. Despite this, effective therapies exist, and more are arriving shortly.

As mentioned earlier, onabotulinumtoxinA is FDA-approved specifically for prevention of headache in patients with chronic migraine. Although serial onabotulinumtoxinA injection therapy is by no means effective for all patients with chronic migraine (no therapy for migraine can claim that distinction), such treatment can substantially reduce headache burden in about half of those who receive it. For more regarding onabotulinumtoxinA, go to www.migraineurmagazine.com and link to the Winter 2017 issue: see Migraine Treatment of the Month.

Topiramate is a daily oral medication FDA-approved for migraine prophylaxis generally. In studies comparing topiramate with onabotulinumtoxinA for headache prevention in chronic migraine, topiramate has proven to be at least as effective as the injectable therapy for those patients able to tolerate the drug. A number of other oral medications known to be effective for headache prevention in patients with episodic migraine are often used to treat chronic migraine as well, but none have been studied as rigorously as onabotulinumtoxinA and topiramate.

Expected to arrive on the scene soon are the calcitonin gene related peptide (CGRP) antagonists, a new class of migraine treatment options which in the research setting have been shown to be safe, well-tolerated and effective in treating chronic migraine.

A Final Word

Chronic migraine is a prevalent, costly, underdiagnosed and undertreated headache disorder. If you appear to have chronic migraine, seek confirmation of the diagnosis and appropriate treatment from a knowledgeable medical provider. Don’t let this common variant of migraine continue to suck the quality out of your life.

Management Plan for Chronic Migraine

- Know thine enemy! Get educated.*
- Avoid acute migraine “triggers”/minimize chronic migraine aggravators
- Start/stick with a “customized” aerobic conditioning program
- Treat “break-through” headaches aggressively-minimize their severity and duration
- Beware of symptomatic medication overuse
- Keep a headache diary
- Seek treatment for any co-existing sleep or mood disorder
- Maintain ongoing follow-up with a headache provider.
- Start an appropriate medical therapy for migraine prevention...and use it appropriately

* National Headache Foundation, American Migraine Foundation, mychronicmigraine.com
**i.e., appropriate to your baseline level of cardiovascular fitness
Migraine-associated aura remains for many a mystifying and often frightening neurologic symptom. Witness the following description provided by Diane, a veteran migraineur:

It was just my usual run. 6 miles along city streets during the peak heat of a Gulf Coast summer day. I was 23 years old at the time, a bit of a running addict and also a creature of habit who preferred running the same route at the same time every afternoon. As my feet pounded the pavement in rhythm with my favorite tunes blasting through my headphones, the days stress fell away. At the end, I was usually refreshed and relaxed. Except on this day. Something very different happened. Something unprecedented and a little terrifying.

I rounded a corner to run the last mile. Home stretch. Beside me was a long, tall wrought iron fence with vertical bars spaced about a foot apart. The sun was beginning to set, and, strobe-like, it rhythmically flickered brightly between the bars as I ran by. I sprinted for my imaginary finish line just beyond the fence. Red-faced and drenched in sweat, I caught my breath and started to walk home. Suddenly I stopped. There was something odd about my vision. A blob had appeared to the left of center, like a bright white light refracted through a prism. When I closed my eyes, I saw the blob in the very same place. Over the next 15 minutes the blob grew larger, to the point that I could not see well enough to find my way home. Then the blob transformed into crescent-shaped lines of purple angles that marched across my vision like waves. Gradually they faded away. My vision seemed fine, but I began to develop a terrible headache. The headache was not so unusual; just like my father, I'd struggled from time to time with bad headaches... but never accompanied by this visual weirdness. The next morning I awoke with no headache and my vision entirely normal.

My primary care provider referred me to a local neurologist. As I waited to be seen, I quietly obsessed about the strange visual episode. What had caused it? Was there a tumor growing inside my brain? Did I have an aneurysm? Were alien bacteria colonizing my eye?
Whatever it was, I was convinced it must be serious. To make matters worse, the same symptoms occurred a few days later, at precisely the same time during my usual run and just beyond the iron fence with its flickering sunlight.

My visit to the neurologist provided little comfort. He was a mild mannered doctor who performed his exam in near silence. I imagined he must be deciding how best to break the bad news. At the end of the appointment, however, he simply told me I needed some tests. He ordered a brain MRI scan (yikes!) and an EEG (gulp!), presumably to confirm the horrible fate awaiting me.

...Was there a tumor growing inside my brain? Did I have an aneurysm?

But at my follow-up appointment a week later he pronounced my diagnosis: “migraine with visual aura”. No life-threatening tumor. No exploding aneurysm. No nasty bacteria. Migraine is genetic, he explained. And apparently the sunlight flashing through the fence had caused my aura and the migraine headache that followed.

Flash forward 26 years to the present. I have continued to experience exactly the same aura. But one thing is dramatically different: when the small white prism appears in my left visual field, instead of panicking I go take an aspirin.

Diane’s story is familiar to health care providers who frequently treat migraine. Upwards of 39 million Americans – roughly 1 in 8 – are actively afflicted by migraine, and as many as 9 million will at least occasionally experience aura. Aura is a common reason for migraineurs to seek medical attention, and many of those who do will undergo MRI scans and other testing that typically add little beyond financial expense and patient inconvenience. So if aura is so common and benign, why all the fuss?

As is true of migraine generally, high prevalence does not equate with a clear understanding. Like Diane, many of those with long-established migraine are shocked by their first experience with aura. Conversely, many people (including doctors) believe that what we term “migraine” must involve aura which invariably is followed by a severe headache that is throbbing in character and accompanied by nausea, vomiting, and sensitivity to light and sound. The reality: although many of the 36 million Americans afflicted by migraine do at times suffer migraine attacks that match up perfectly with what is described, in only a very few does their migraine always involve this stereotyped array of symptoms.

A migraine attack may consist of only aura and no headache whatsoever (see Tip of the Month section in this issue), or it may be expressed as incapacitating head pain... or as any degree of pain on the spectrum between these 2 extremes. Be it mild or severe, most headaches suffered by a migraineur are “migraines” that result from the same underlying biologic process.

While only 20-25% of migraineurs ever experience aura, the majority of migraineurs at times experience a prodrome prior to their headache attacks. The symptoms of a migraine prodrome typically are vague or nonspecific (commonly occurring examples are euphoria or depression of mood, hyperactivity, food cravings (eg, sweets or salt) and repetitive yawning). Vague or not, the experienced migraineur often learns to identify those symptoms as a reliable indicator that headache is soon to follow.

Again, no more than a quarter of migraine patients will ever experience aura, and in only a very few is aura a component of each and every attack. The symptoms of aura are much more specific and strictly “neurologic” than those of the migraine prodrome. As Diane experienced, aura symptoms typically possess both “negative” features (for example, vision loss) and features which are “positive” (as examples, geometric patterns, flashing or shimmering lights, “heat waves rising”) perceived with one or both eyes.

Aura symptoms tend to be dynamic, building in their intensity before receding and vanishing. The symptoms usually develop gradually over 5-20 minutes and last for less than 60 minutes. In a substantial number of migraineurs, however, aura symptoms may come and go for a much more extended period, and in a small minority of migraine sufferers aura may persist for weeks or months.

Headache usually follows the aura, but in some cases the headache may begin before the aura or before the aura has stopped, and, as mentioned previously, aura symptoms can occur without any temporally associated head pain at all. While prodromal symptoms tend to occur many hours before the headache phase of a migraine episode, headache typically follows right on the heels of an aura.
stroke or, less often, as a partial seizure. Patients may experience both visual and sensory aura within the same attack, with the symptoms occurring together or one after the other.

Aura symptoms are believed to arise as a result of electrochemical changes occurring in that portion of the brain which is relevant to the symptoms. For example, visual aura results from electrochemical event arising within the occipital lobes, the brain area which is primarily responsible for processing vision. If that genetically primed visual area is acutely exposed to a sufficiently compelling stimulus (eg, the “flickering sunlight” experienced by Diane), the neurons in that area react in a manner that produces aura. Whether that same electrochemical event is the origin of migraine head pain remains a source of controversy within the scientific community.

...episodes of aura without headache occurring in the older population frequently are mistaken to be indicators of impending stroke.

Many migraineurs report that with aging, aura symptoms become more prominent while the headache portion of their migraine attacks lessens or vanishes entirely. Again, these episodes of aura without headache occurring in the older population frequently are mistaken to be indicators of impending stroke.

Although migraine with aura is much, much more common than migraine causing stroke, the risk of stroke in migraineurs with aura is increased relative to that of the general population and relative to migraineurs who experience no aura. That risk may be further increased by the use of an estrogen-based oral contraceptive. While female migraineurs with aura consequently may wish to consider an alternative method of contraception, it should be emphasized that although their relative risk of stroke is increased by use of the OCP, the absolute risk associated with their OCP use remains extremely low.

If you are one of the minority of migraineurs who typically experience aura prior to headache onset, you may wish use this association to increase the effectiveness of the medication you administer for acute migraine treatment. Early treatment of migraine is critical to achieving a total elimination of symptoms and to lowering the chance of early headache recurrence. Think of your aura as a thundercloud that warns of the storm to come.
Your First Visit to the Doctor: Maximizing the Benefit

"I need help!" you say. You’ve been putting up with migraine for years. The frequency and severity of your headaches has been steadily increasing despite your best efforts to maintain a healthy lifestyle, and the over-the-counter medications you take by the handful seem to have no more therapeutic effect than a pack of M&Ms. You’ve finally decided to take the big step: tomorrow you have an appointment with a doctor to be evaluated for your headaches.

What you obviously want from that appointment is help. What you don’t want is to leave the doctor’s office frustrated, with no clear plan for managing your headache disorder. Is such a disappointing outcome truly possible? Unfortunately, yes. Above all else, confirming the diagnosis of migraine and creating an appropriate strategy for its effective management requires a conversation. Migraine is primarily a subjective neurologic disorder. Migraine’s subjective nature means that objective diagnostic studies like blood tests or brain CT and MRI scans may help exclude other disorders, but their results alone cannot serve to establish that your headaches are due to migraine. Nor does your response to a treatment necessarily assist in diagnosis. Medications advertised for treating sinus disease can be quite effective in reducing acute migraine headache, and conversely, headaches resulting from causes other than migraine may respond quite well to a "migraine treatment."
...your ability to communicate a concise, informative headache history is the key to accurate diagnosis and a successful therapeutic outcome.

Far more than any physical examination, brain scan or blood test, your ability to communicate a concise, informative headache history is the key to accurate diagnosis and a successful therapeutic outcome. Without this history it will be more difficult for the doctor to help you achieve the results you desire. You’ve taken the time and made the effort to put yourself in the exam room. Do everything you can to make the visit worthwhile.

VISIT PREPARATION

Optimal treatment of any chronic medical disorder requires that the patient be an active participant in his/her own healthcare. Migraine is typically a chronic medical disorder, and all the pills, capsules, sprays, shots and Botox in the world may fail to give you the relief you seek if you are not actively engaged in the treatment process. Healthy diet, restful sleep, aerobic conditioning, stress reduction: all are integral to minimizing migraine’s muddy footprint on your life. And this active participation includes preparing for your first clinic visit.

What follows is a list of information that will make the diagnosis and treatment of headache easier for your physician.

Key Questions Regarding Your Headache History (prepare your answer in advance)

- At what age did you first begin to experience a significant problem with recurrent headache?
  This “anchor in time” can be helpful in establishing a diagnosis of migraine.

- What is your current headache burden?
  Assessment of headache burden seems like it should be simple, but this is precisely the point where many headache evaluations fall apart. When asked by the provider at the initial visit, “How are your headaches?”, almost every patient will answer, “They’re bad”. Of course the headaches are bad - why else would patients bother to make and keep their appointments? - , but “bad” does virtually nothing to assist in calculating your headache burden.

Headache burden is a complex blend of headache frequency, headache severity and headache-related functional disability, and without knowing your true burden your provider may not be able to work with you to develop a treatment strategy appropriate to your particular needs. Does “bad” mean you have two days of severe, functionally incapacitating menstrual headache per month and are otherwise headache-free? or does “bad” mean you have a constant mild to moderate intensity headache with superimposed attacks of disabling migraine 10 days per month? The management for these two types of “bad” headache is very, very different.

Ask yourself this: on how many days out of the last 30 did I have a headache that lasted for at least 4 hrs or a headache of any duration that was severe enough to make me take or want to take medication to relieve it?

When prompted, patients who initially report no past history of migraine will recall those severe menstrual headaches during their teenage years, the decades of “sick headaches” following a glass of wine, or that miserable season of headache during the first trimester of a long-ago pregnancy. While migraine can make its first appearance at any age, in females especially migraine onset tends to occur at or in the decade following menarche, the onset of the first menstrual cycle.

- Has there been any recent change in the character or frequency of your headaches?
  If yes, how have they changed? more frequent? more severe? both? Can you think of any factors that may have caused the change? (for example, did you start or stop an oral contraceptive?)

- What is your current headache burden?
  Assessment of headache burden seems like it should be simple, but this is precisely the point where many headache evaluations fall apart. When asked by the provider at the initial visit, “How are your headaches?”, almost every patient will answer, “They’re bad”. Of course the headaches are bad - why else would patients bother to make and keep their appointments? - , but “bad” does virtually nothing to assist in calculating your headache burden.

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Ask yourself this: on how many days out of the last 30 did I have a headache that lasted for at least 4 hrs or a headache of any duration that was severe enough to make me take or want to take medication to relieve it?
And this: on how many of those “headache days” did the headache prevent me from carrying out my routine activities for an hour or more?

**WHAT TO BRING**

While copious notes meticulously describing each and every one of your headaches or a detailed headache diary that spans decades rarely will accomplish much beyond causing your provider’s heart to sink, there are certain materials well-worth bringing with you.

- List of your current medications and their doses
- List of the medications and other therapies you’ve tried for treatment of acute migraine and for migraine prevention (see sidebar for illustrative example, and go to www.migraineurmagazine.com and link to Previous Migraine Medications for the complete form)
- Completed “headache questionnaire” (go to www.migraineurmagazine.com and link to Headache Questionnaire)
- Copies of formal reports detailing the results of any brain CT or MRI scans you’ve had in the past (CDs of the actual images can be helpful as well, but more important are the reports)

For more tips on getting the most out of your first visit to the doctor, go to www.migraineurmagazine.com and link to Debs Downloads.

Most of all, bring hope to your visit. Leave behind the “I’ve seen everyone…tried everything…nothing’s going to work” mantra. Work with your provider to create a productive therapeutic alliance. Much has changed in the last 30 years. Migraine is a treatable disorder, our understanding of migraine has increased dramatically, and that increased knowledge is fueling the development of new therapies unrivaled in their specificity. There is every reason to be optimistic.

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**Computer-assisted Help for Headache Patients – Tech to the Rescue!**

Over ten years ago, two headache specialists, Drs. Robert Cowan and Alan Rapoport, began discussing how to use a computer to provide an expert opinion directly to individual headache sufferers.

Five years later, the **Bon Triage Headache Deep Dive** was born. **Deep Dive** is a free, web-based computer program that poses all the questions a highly trained headache specialist would ask; applies a rule-based engine to match the answers to internationally recognized diagnostic criteria; and then creates a written report a patient can bring to his/her doctor. This report summarizes your history and even provides a clinical impression. A headache diagnosis.

The primary intent of **Bon Triage** is to save you and doctor the time required to record an accurate history and formulate an appropriate diagnosis. This frees both of you to use the office visit itself to discuss your headache management, and it allows time for the doctor to answer your questions.

Results to date have suggested patients appreciate and use the program, and in many cases the computer identifies diagnoses missed by an expert physician. After years of testing, results show that THE COMBINATION of a computer program and a good doctor is better than either one alone.

Working with colleagues skilled in machine learning and artificial intelligence, Cowan and Rapoport next developed a new app: the **Bon Triage Headache Compass**. This innovative app is designed to help headache sufferers better track, treat and reduce their headache burden.

How does it work? It’s simple. For example, the **Headache Compass** can indicate that headache frequency is increasing and that a preventive medication should be started or a regular exercise program begun. It can indicate that an acute medication taken to stop a headache is not working quickly or effectively enough or whether a suspected trigger really does bring on your headaches.

When you first download the app, you are asked to answer questions related to your headache disorder, and over time you add more data. The **Compass** uses powerful computer analytics to make sense of the personalized data it collects, and the results of the analysis enable users to identify and avoid factors that predispose to headache, identify factors that improve headache, and provide feedback to assess whether management strategies are working. The more consistently data are entered, the better the app becomes at assisting in management.

To find the **Bon Triage Deep Headache Dive**, go to www.bontriage.com and click on “start the assessment”. To find the i-phone app, search for **BonTriage Headache Compass** in the app store, or go to www.bontriage.com on your i-phone and click “download the app”. If you have questions, suggestions or comments, e-mail info@bontriage.com. All data recorded in both instruments are HIPAA-protected and de-identified to protect your privacy.
Wendy, a 39-year-old businesswoman and married mother of 3 in Calistoga, California writes:

“I have a question about red wine and headaches. Why is it that sometimes I can drink as much red wine as I want without any problem, but other times even half a glass will start up a migraine? I’ve had migraine most of my life, but my headaches are currently under pretty good control. Over the years I’ve learned that if I get enough sleep, eat a healthy diet and exercise regularly, my headaches are infrequent and rarely severe… except when I drink red wine. Not always, but just often enough to make me wary. I’m not a big drinker, but I do enjoy having a glass of wine with my husband before dinner. This is an important daily ritual for us, a time for us to relax and catch up. I’d like to continue doing this without the stress of wondering whether, with every sip, I may be inching closer to a horrible headache. One last thing—could this have anything to do with my menstrual cycle? It may be my imagination, but for the last few months it seems like drinking wine only triggers a migraine if I’m having my period.”

Over the years a surprising amount has been written about red wine as a trigger for acute migraine. For example, why red wine in particular? Some investigators have incriminated tannins, naturally occurring polyphenol compounds from the relevant grape. Tannins contribute to a wine’s complexity and dryness. And they are more common in red wines than in whites. Others have refuted this, claiming that tannins have not clearly been demonstrated to trigger migraine and that, if anything, the sweeter white wines are more likely to cause acute migraine due to their potent combination of alcohol and sugar. Whatever the truth about tannins, Wendy is still left with her red wine headaches.

Once again, no single trigger - however potent - is a trigger for every migraineur, and in the individual migraineur an established trigger rarely causes a migraine attack each and every time the affected individual is exposed to the stimulus. Furthermore, when attacks are triggered, they may involve a spectrum of migraine symptoms that extends from no headache whatsoever (aura only) to the deepest pit of physical and emotional misery. To restate this at a more pragmatic level, drinking red wine at times may cause you to suffer migraine symptoms, but if you have a passionate devotion to red wine, you may choose to play your cards and take your chances.

A few words about migraine triggers in general:

<table>
<thead>
<tr>
<th>Trigger Type</th>
<th>Condition</th>
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<tr>
<td>No commonly incriminated migraine trigger (including red wine) serves as a trigger for all migraineurs.</td>
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<tr>
<td>Just as in Wendy’s case, rarely does a trigger always provoke an acute migraine attack.</td>
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<tr>
<td>Simultaneous exposure to 2 or more triggers (eg, menses plus red wine) may be required to provoke an attack.</td>
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<tr>
<td>A migraine attack that results from a trigger may involve a headache that varies from barely there to devastating.</td>
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Because migraine is a disorder whose diagnosis relies so heavily on the history provided by the patient, in describing migraine symptoms it’s important to avoid using jargon that may promote confusion. Ocular migraine. Complex migraine. Complicated migraine. All 3 are examples of jargon used frequently by both migraine patients and their providers, and all 3 are so nonspecific that they usually serve only to hinder effective communication.

“Ocular migraine” is most often used to describe episodes of migraine headache accompanied by visual aura, episodes of visual aura occurring without any temporally associated headache (see Aura: Migraine’s Odd Companion in this issue) or simply just migraine episodes involving eye pain. The correct term for the first type of episode is migraine with visual aura, and for the second it’s migraine aura without headache. Migraine pain is frequently most prominent in or behind the eye, and designating such pain as “ocular migraine” does nothing to assist in diagnosis or treatment.

“Complex migraine” and “complicated migraine” may sound impressive, but neither term does anything to advance the flag of effective migraine management. Both are used to describe migraine episodes involving multiple aura symptoms, particularly vivid aura symptoms, aura that is prolonged beyond 1 hour or aura symptoms accompanied by signs of stroke. More specific terms are, respectively, migraine with aura, migraine with prolonged aura and migraineous infarction.

While in an upcoming issue of Migraineur we will be addressing “complementary and alternative supplements” for migraine treatment, the volume of inquiries we receive involving magnesium prompted us to include this brief summary of what is known (and not known) regarding its use in migraine.

The logic supporting magnesium as a treatment for migraine is admittedly compelling. Migraine is believed to reflect genetically-induced brain hypersensitivity. If this is true, and if the molecular basis for that hypersensitivity includes a deficiency of magnesium in brain cells capable of generating head pain, then bringing cellular magnesium levels up to normal via supplementation should assist in reducing migraine.

Unfortunately, research to date has indicated no definite benefit for migraineurs who take a daily magnesium supplement for migraine prevention. On the brighter side, however, intravenous administration of magnesium may be effective for some patients who present with acute, severe migraine headache that has resisted self-administered therapy. Also intriguing, some female migraineurs who experience menstrual aggravation of migraine find that starting an oral magnesium supplement just prior to the menstrual week and continuing that supplementation throughout the week will suppress their headaches.

Myth: Many migraine patients are allergic to injectable sumatriptan.

Reality: Many migraine patients report they are allergic to injectable sumatriptan, but true allergy to the drug is rare. All of the triptans have the potential to cause side effects which may be interpreted as manifestations of allergy and, in some cases, closely mimic the symptoms of an anaphylactic reaction. Common triptan side effects include chest pressure, palpitations (rapid heart rate), and sensations of flushing, “neck squeezing” and “throat closing”. Because of the rapidity with which the drug reaches the circulatory system and the relatively high blood levels of the drug achieved via its method of administration, injectable sumatriptan is associated with a higher likelihood of these side effects. When they occur, the side effects are more prominent, and they are especially prominent if the sumatriptan is administered late in the course of the migraine attack.

While these symptoms understandably can be terrifying to the inexperienced user, they are benign. They do not indicate impending heart attack or stroke. And they are not “allergic” in origin.
IN 1991, WILDLANDS NETWORK EMBARKED ON A BOLD MISSION: to reconnect, restore, and rewild North America so that life in all its diversity can thrive.

Our work has since catalyzed a dramatic shift in conservation, with parks and other protected areas serving as the building blocks for networks of wildlands across the continent and around the globe.

These wildlands networks give refuge and safe passage to large carnivores and other animals that need “room to roam” to find food, mates and to flourish, so that they can fulfill their ecological roles.

Investments in nature also earn significant returns in the form of healthier communities, healthier economies and healthier people. More and more research is showing that outdoor recreation delivers real health benefits that in many cases are on par with pharmaceutical treatments.

Protecting and connecting wildlands requires the cooperation of wildlife agencies, elected officials, private landowners, outdoor recreationists, conservation groups, and all of us who care about the future of North America’s great natural heritage and the well-being of our communities. In sum, Wildlands Network helps to protect our planet and sustain the diversity of life—including us.

Wildlands Network is pleased to invite Migraineur magazine readers to join our Wildlands Stewards giving society. You’ll receive a complimentary copy of For the Wild, a beautiful and inspirational compilation of essays and photographs that highlight the impassioned union of science and activism and the dedicated community of people working to heal broken landscapes and rewild our hearts.

Visit www.wildlandsnetwork.org/donate or contact Tracey@wildlandsnetwork.org to learn more about Wildlands Stewards or for more information on Wildlands Network’s bold vision of a reconnected, restored and rewilded North America.
Your special moments should never be ruined by a migraine.

We have your back, no matter where the trail leads you.

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