

Improving Patient Care in Menstrual Migraine

A Continuing Education Program for Physicians,
Nurse Practitioners, and Physician Assistants

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This CME/CE monograph is in the form of a PDF, which can be printed directly from your computer. There are separate evaluation forms for physicians/physician assistants, and nurse practitioners.



LEARNING OBJECTIVES

After completing this program (reading the monograph and answering the post-test questions), participants will be able to:

- Explain the etiology of menstrual migraine, exploring the role of hormonal fluctuation in women with migraine.
- Describe the diagnostic criteria and patient evaluation for menstrual migraine.
- Discuss different treatment options, including behavioral modification and pharmacologic and nonpharmacologic therapies.
- Discuss the importance of patient communication in recognizing and diagnosing menstrual migraine, assessing impairment due to migraine, and designing optimal treatment plans.

ACCREDITATION STATEMENTS

Nurse Practitioners: This program has been approved for 1.0 contact hours of continuing education by the American Academy of Nurse Practitioners. Program ID 0709417 Expiration date: April 30, 2009

Physicians: This activity has been planned and implemented in accordance with the Essential Areas and policies of the Accreditation Council for Continuing Medical Education through the joint sponsorship of Primary Care Network and The National Headache Foundation. Primary Care Network is accredited by the ACCME to provide continuing medical education for physicians.

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ABOUT THE NHF

The National Headache Foundation (NHF) is a non-profit organization established in 1970 to enhance the healthcare of headache sufferers. It is a source of help to sufferers' families, physicians who treat headache sufferers, allied healthcare professionals and to the public. Healthcare professional membership in the NHF provides the following benefits:

- *Standards of Care for the Diagnosis and Treatment of Headache*
- Copies of **NHF Head Lines**
- Patient education information
- Listing in the NHF professional membership directory
- Opportunities to speak at public education seminars in your area
- Details on grants available through the NHF
- Toll-free access to the NHF office and information via our Web site
- Assistance in organizing local support groups, and more

To join as a professional member or learn more about the services we offer, **call 888-NHF-5552** or visit our Web site at **www.headaches.org**.

STATEMENT OF COMMERCIAL SUPPORT

This program is supported through an unrestricted educational grant from Endo Pharmaceuticals.

In November 2007, The National Headache Foundation (NHF) convened experts in the treatment of migraine in Chicago, Illinois, to discuss current clinical perspectives in managing menstrual migraine. The interdisciplinary panel included neurologists, a gynecologist, a primary care physician, a nurse practitioner, and a physician assistant from leading headache centers across the country. This program is based on the panel discussion and includes excerpts of their comments on identifying and diagnosing menstrual migraine and menstrual-related migraine, current treatment options, designing individual treatment plans, and communicating with patients.

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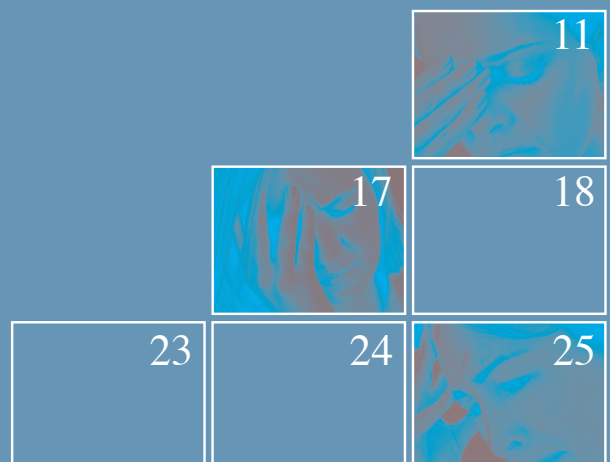
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TO OBTAIN CME/CE CREDIT:

- ▶ Read the monograph and complete the post-test.
- ▶ Select the answer sheet and evaluation form of your specialty. You will find separate files on the CD-ROM.
- ▶ Complete and submit your answer sheet and evaluation form following the detailed instructions.

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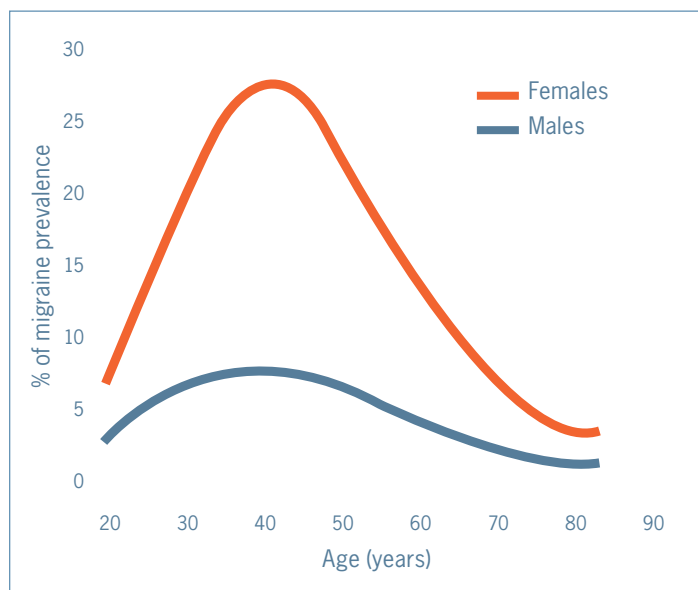
What Is Menstrual Migraine?

Migraine is a chronic disorder of the neurologic system with episodic manifestations, characterized by chronic neuronal hyperexcitability.¹ Migraine affects nearly 30 million people in the United States.^{2,3} Results from the recent American Migraine Prevalence and Prevention (AMPP) study indicate that 12% of people aged ≥ 12 years suffer from migraine. AMPP is the largest population-based study of headache sufferers conducted to date, using a validated, self-administered questionnaire mailed to a representative sample of 120,000 households.²

Several studies demonstrate a hormonal component in women with migraine. Migraine is far more common in women than in men. While girls and boys have an equivalent prevalence of migraine (4%),⁴ lifetime prevalence of migraine soars to 17% in women following puberty, while it rises to only 6% in men.² In fact, nearly 80% of women with migraine report onset between the ages of 10 and 39 years (Figure 1).⁵ In addition, the frequency of migraine attacks declines through pregnancy, with the lowest incidence in the third trimester, when estrogen levels are highest, and resumes postpartum (although incidence remains low during breastfeeding). A lower prevalence of migraine attacks is also reported following menopause when estrogen levels decline but remain steady.⁶

Association of migraine attacks with menses is common among female sufferers, with approximately 50% exhibiting menstrual-related migraine.

FIGURE 1: AGE AND SEX-SPECIFIC INCIDENCE OF MIGRAINE⁵



MENSTRUAL MIGRAINE AND MENSTRUAL-RELATED MIGRAINE

Faculty Comments:

“Menstrual migraine is tied into estrogen withdrawal ... And, from a clinical experience, it seems that the attacks are worse a few days before and at the beginning of the menstrual period. They may last throughout the period, but they are not usually as severe as the first few days.”

— Christine Lanton, PA-C

“In my opinion, many times those headaches are unique, more difficult to treat, longer in duration, more recurrence . . .”

— Roger K. Cady, MD

“What we found is that headaches were more severe in the perimenstrual period, because they were more likely to be migraine. In addition, the headache was more likely to recur. What makes menstrual migraine more challenging is that it keeps coming back and ruins days of somebody’s life.”

— Richard B. Lipton, MD

The incidence of pure menstrual migraine (in which migraine attacks occur only with menses) is much lower, affecting approximately 4% to 12% of women with migraine.⁶ Menstrual migraine (MM) commonly refers to both pure MM and menstrual-related migraine. Because the definition of menstrual migraine varies across studies, the incidence is difficult to determine.

In MM, headache attacks are precipitated by a drop in estrogen levels immediately before menses. The role of estrogen in migraine has been demonstrated by several studies of estrogen withdrawal and headache occurrence. Clinical studies have shown an increase in migraine attacks in women undergoing estrogen withdrawal, either through withdrawal of exogenous estrogen or the use of a gonadotropin-releasing hormone analog.^{7,8} In women with MM, estrogen may have a neuroprotective effect,⁹ and the rapid withdrawal of estrogen leaves women more vulnerable to an attack. A study in rats revealed enhanced sensitization of the trigeminal system, the central pathway of pain during a migraine attack, during and immediately following an abrupt decline in ovarian hormones.¹⁰

Diagnosis of Menstrual Migraine and Menstrual-Related Migraine

Menstrual migraine and menstrual-related migraine are not merely headaches that occur during menses. They are migraine — and they are treatable. Migraine is defined by repeated headache attacks, characterized by moderate-to-severe pain that is aggravated by or causes avoidance of routine physical activity, which last from 4 to 72 hours. Headache attacks are often accompanied by nausea and/or vomiting, photophobia, and/or phonophobia. Table 1 summarizes the International Headache Society (IHS) criteria for migraine with and without aura¹¹; however, individual patients may present with a variety of symptoms. Patients with migraine can generally be identified by the presence of 2 of 3 key characteristics: photophobia or phonophobia, nausea or vomiting, and inability to function. Diagnosis of migraine is confirmed with a full evaluation and headache history.

The IHS defines MM as migraine without aura with attacks that occur during the 2 days prior to or during the first 3

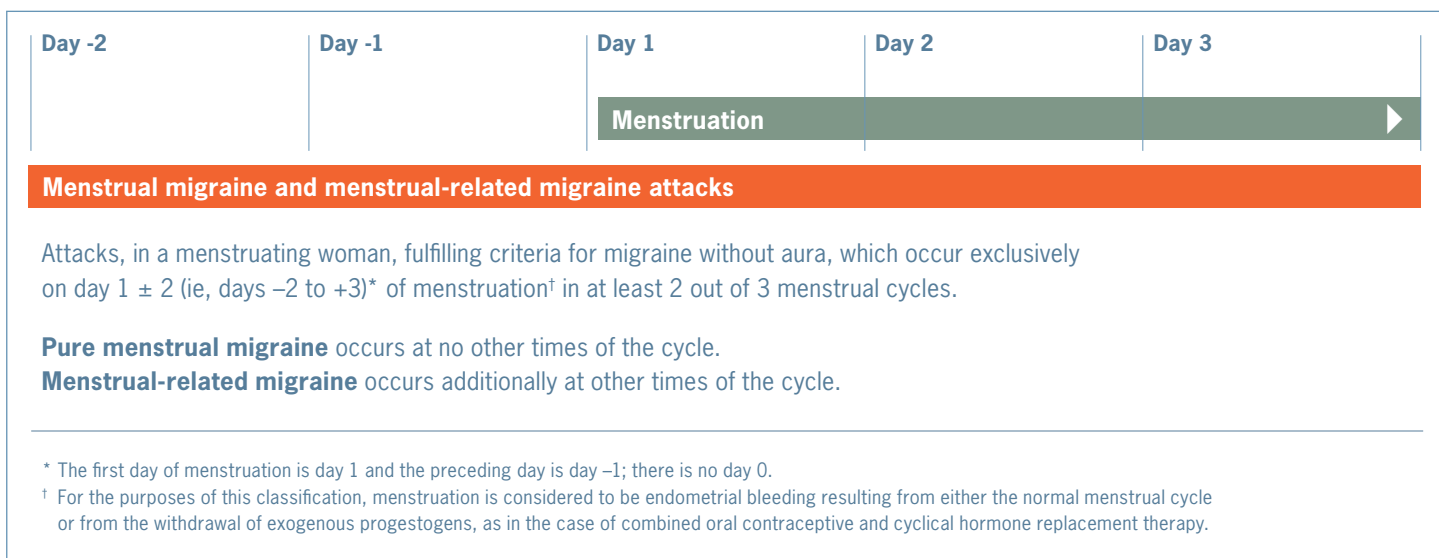
days of menstruation during at least 2 of 3 menstrual cycles (Figure 2). In pure menstrual migraine, attacks do not occur at any other time of the month, while this is not true in menstrual-related migraine.¹¹

The severity of headache pain and other migraine symptoms may be increased at menses. A prospective analysis of women with migraine attacks on days 1 through 7 of their cycles demonstrated increased attack severity compared with attacks occurring at other times of the month.¹² A separate prospective study assessing migraine severity with patient diaries showed the greatest effect during the first 3 days of the cycle, with a relative risk of severe attack of 3.4 during days 1 through 3 of menstruation compared with other times of the month.¹³

TABLE 1: IHS DIAGNOSTIC CRITERIA FOR MIGRAINE WITH OR WITHOUT AURA¹¹

Migraine Without Aura	Migraine With Aura
<p>A. At least 5 attacks fulfilling criteria B-D</p> <p>B. Headache attacks lasting 4-72 hours (untreated or successfully treated)</p> <p>C. Headache has at least 2 of the following:</p> <ol style="list-style-type: none"> 1. Unilateral location 2. Pulsating quality 3. Moderate or severe pain intensity 4. Aggravation by or causing avoidance of routine physical activity (eg, walking or climbing stairs) <p>D. During headache at least 1 of the following:</p> <ol style="list-style-type: none"> 1. Nausea and/or vomiting 2. Photophobia and phonophobia <p>E. Not attributed to another disorder</p>	<p>A. At least 2 attacks fulfilling criteria B-D</p> <p>B. Aura consisting of at least 1 of the following, but no motor weakness:</p> <ol style="list-style-type: none"> 1. Fully reversible visual symptoms including positive features (eg, flickering lights, spots or lines) and/or negative features (ie, vision loss) 2. Fully reversible sensory symptoms including positive features (ie, pins and needles) and/or negative symptoms (ie, numbness) 3. Fully reversible dysphasic speech disturbances <p>C. At least 2 of the following:</p> <ol style="list-style-type: none"> 1. Homonymous visual symptoms and/or unilateral sensory symptoms 2. At least 1 aura symptom develops gradually over ≥ 2 minutes 3. Each symptoms lasts ≥ 2 and ≤ 60 minutes <p>D. Headache fulfilling criteria B-D for migraine without aura begins during the aura or follows aura within 60 minutes</p> <p>E. Not attributed to another disorder</p>

FIGURE 2: IHS DIAGNOSTIC CRITERIA FOR MENSTRUAL MIGRAINE¹¹



A study measuring hormone metabolites using daily urine samples in 21 women with migraine demonstrated the hormonal component to migraine in some women.

In this study, headache attacks were more severe, disabling, and frequent during menses compared with other times of the month.¹⁴ A similar study showed both increased incidence of migraine attack with decreases in estrogen levels, as well as a decrease in attacks with rising estrogen levels.¹⁵ By contrast, a separate study showed an increased incidence in migraine attack during the 2 days before menses, but revealed only a small increase in pain intensity in the attacks that occurred at this time.¹⁶

Nonetheless, migraine attacks at menses may prove more persistent and difficult to treat, as pain may return even after effective acute therapy. In addition, these attacks are more often accompanied by nausea and vomiting. Women who experience MM may also experience more frequent attacks.

The challenge in identifying MM centers around finding an association between migraine and menses. Many women who experience migraine at menses do not recognize it as migraine, but believe that they simply get a headache every time (or nearly every time) they menstruate. These women may not seek treatment for their migraine. In addition, women with menstrual-related migraine, who experience attacks throughout the month, and particularly those with

frequent attacks, may not associate headache attacks with their menses. Thus, they may not recognize menstruation as a risk factor for headache attacks.

One of the most important clinical tools in diagnosing migraine is a headache diary. This tool is essential in identifying MM.

Women suspected of having MM keep a headache diary for at least 2 to 3 months, recording on a daily basis

- Headache attacks (including severity and duration);
- Treatment (both over-the-counter and prescription medication);
- Effect of treatment and resolution of symptoms;
- Menses (and the last day of hormonal contraceptives, if applicable); and
- Exposure to previously identified triggers.

A printable **Headache Diary** for clinical use is provided on page 13.



Treatment Strategies

The first element of managing migraine remains lifestyle modification. Patients must be instructed in identifying and avoiding possible triggers, stress reduction, and adopting a healthy lifestyle (Table 4). In MM, the predictability of menses as a risk factor for headache attack can be used as a positive treatment element. Many women with MM may view the onset of menses negatively, fearing an attack. Preparing for the possibility of the attack by rushing to get more done, however, may increase their stress level and paradoxically increase the risk of having an attack. Instead, women with MM can use the predictability of menses to increase their self-care: eating regular meals, exercising, using relaxation techniques, avoiding triggers, keeping a regular sleep schedule, and avoiding stress.

Treatment options for MM include both nonpharmacologic and pharmacologic therapy. Nonpharmacologic treatment options include relaxation training, hypnotherapy, biofeedback training, cognitive/behavioral management, acupuncture, nutritional supplements, and physical therapy and/or massage.

ACUTE STRATEGIES

As with other types of migraine, FDA-approved pharmacologic treatment options include acute medications and preventive medications. Acute medications include over-the-counter analgesics with and without caffeine, which for some individuals may be sufficient. Other acute medications include the triptans, ergotamine derivatives, and prescription-strength analgesics (Table 2). Preventive medications include certain anticonvulsants and beta-blockers (Table 3).

In clinical trials, triptans demonstrated robust and consistent evidence of efficacy, and these agents represent an important treatment option in the acute management of attacks in women with MM.^{6,17} Nonetheless, acute treatment of migraine attacks occurring at menses may provide sustained relief in only 20% to 30% of patients,^{6,18} due to the persistent nature of these attacks. Although not fully supported by clinical trial data, clinical experience with longer acting triptans has shown they may have an advantage over other treatments in the acute management of migraine associated with menses.

TABLE 2: FDA-APPROVED ACUTE MIGRAINE MEDICATIONS

Type of Medication	Trade Name (generic name)
Triptans	Amerge (naratriptan HCl)
	Axert (almotriptan)
	Frova (frovatriptan)
	Imitrex (sumatriptan succinate)
	Maxalt (rizatriptan benzoate)
	Relpax (eletriptan)
	Zomig (zolmitriptan)
Ergotamine derivatives	DHE 45 (dihydroergotamine mesylate)
	Ergotamine/caffeine*
Analgesics — over-the-counter	Acetaminophen*
	Combination products (acetaminophen/aspirin/caffeine)
	Ibuprofen*
	Naproxen sodium*
Analgesics — prescription (Used infrequently)	Butalbital/caffeine with aspirin*
	Stadol NS (butorphanol)
Other prescription medications	Combination isometheptene mucate/ dichloralphenazone/ acetaminophen*

TABLE 3: FDA-APPROVED PREVENTIVE MIGRAINE MEDICATIONS

Type of Medication	Trade Name (generic name)
Beta-blockers	Blocadren (timolol maleate)
	Inderal-LA (propranolol)
Anticonvulsants	Depakote (divalproex sodium)
	Topamax (topiramate)

FDA = Food and Drug Administration.

TABLE 4: LIFESTYLE MODIFICATION IN MIGRAINE

Identify and Avoid Common Triggers
Diet: alcohol, some foods (aged cheese, processed meat, chocolate, red wine), caffeine, some medications (including the overuse of over-the-counter analgesics and triptans)
Environment: variations in weather and barometric pressure, smoke, perfume, odors, high altitude, bright lights, loud sounds
Internal factors: anxiety, anger, fear, depression, stress, and let down from stress
Adopt a Healthy Lifestyle
<ul style="list-style-type: none"> ■ Eat regular, healthful meals and keep well hydrated ■ Keep a regular sleep schedule ■ Exercise regularly ■ Rest during a migraine attack ■ Reduce stress

FDA = Food and Drug Administration. *Marketed under one or more brand names.

TREATMENT OPTIONS

Faculty Comments:

“Menstrual migraine is a potentially treatable headache, if treated appropriately.”

— Lynda J. Krasenbaum, MSN, APRN, BC

“We’ve been able to identify successfully a particular trigger, and potentially reduce that either by dealing with the trigger — in this case, decreasing or eliminating menses — or by providing drugs that impact the pathophysiology: the triptans. We see reductions when we reduce or eliminate menses, but we don’t see patients getting totally better. I think we really need to get everybody feeling comfortable with the two-pronged approach to this problem”

— Lee P. Shulman, MD, FACOG, FACMG

“I already have certain fixed treatments that I’m thinking of if a patient has presented to me and has told me that their migraine is related to their menses. Based on their headache diaries, I decide whether to put them on some mini-prophylaxis [short-term prevention], with anti-inflammatories or a long-acting triptan, around their period or just treat them acutely.”

— Christine Lantin, PA-C

“If that doesn’t work, I might also try oral contraceptives. Because migraine attacks at menses are moderate to severe and are accompanied by impairment, triptans should be the first-line acute treatment.”

— Lisa K. Mannix, MD

“I consider the goals of therapy in each patient . . . If they are having frequent migraine attacks or if they have comorbidities, I’m probably going to encourage things that support their nervous system. So, I start with behavioral modification and I might consider continuous preventive therapy. If that is not an option or doesn’t make sense due to a lower frequency, then I consider mini-prophylaxis.”

— Roger K. Cady, MD

“It makes sense to me to use a long half-life triptan with proven efficacy for mini-prophylaxis which is trying to provide a person with coverage over a period of several days.”

— Richard B. Lipton, MD

PREVENTION STRATEGIES

In addition, MM may be treated with short-term prevention, also known as mini-prophylaxis. Short-term prevention is treatment given monthly, beginning as early as day 15 of the cycle or at least 2 days before the anticipated headache and continued through menses. This is when MM is most likely to occur. The goal is to reduce the incidence and intensity of migraine attacks with menses, disability due to attacks, and use of rescue medication. Treatment options include over-the-counter analgesics (such as naproxen), triptans, magnesium, and estrogen.^{6,17}

HORMONAL STRATEGIES

Finally, patients may be considered for hormonal therapy taken daily to regulate estrogen. A continuous prevention strategy with hormonal contraceptives may be particularly useful in women with frequent headaches (2-3 per week) outside the perimenstrual period and in those whose menstrual-related migraine attacks are severe or refractory to acute treatment but who do not have regular menses or predictable migraine attacks. In addition, it is important to ensure that patients considered for hormonal therapy do not have risk factors such as migraine with aura, that may increase the risk of stroke.¹⁷

Since the goal is to decrease headache attacks associated with estrogen withdrawal, hormonal contraceptives that offer infrequent menses (4 times per year or yearly) may be preferable.^{19,20} Indeed, Sulak and colleagues^{21,22} have shown that more headaches occur during the hormone-free interval among oral contraceptive users compared with days in which women are taking their active pills. In addition, Coffee and colleagues²³ showed that women using an extended-dose regimen reported fewer headaches than those using a conventional 21/7 oral contraceptive regimen. While reducing or eliminating the hormone-free interval may decrease the frequency of attacks, it does not cure menstrual-related migraine. In some cases, women with MM may even experience an increase in attacks.¹⁹

TREATMENT STRATEGIES SUMMARY

Treatment decisions are individualized based on patient symptoms, severity and frequency of headache attack, and patient preference. When designing an individual treatment plan for women with menstrual migraine or menstrual-related migraine, consider whether attacks occur with every menses, at other times of the month, or with high frequency. See *Menstrual Migraine and Menstrual-Related Migraine: Considerations in Designing Treatment Plans* (page 15) for some considerations in designing treatment plans for menstrual migraine and menstrual-related migraine.

Please be sure to refer to the manufacturer’s full prescribing information regarding side effects, risk information, and complications of use for any medications mentioned in the program monograph.

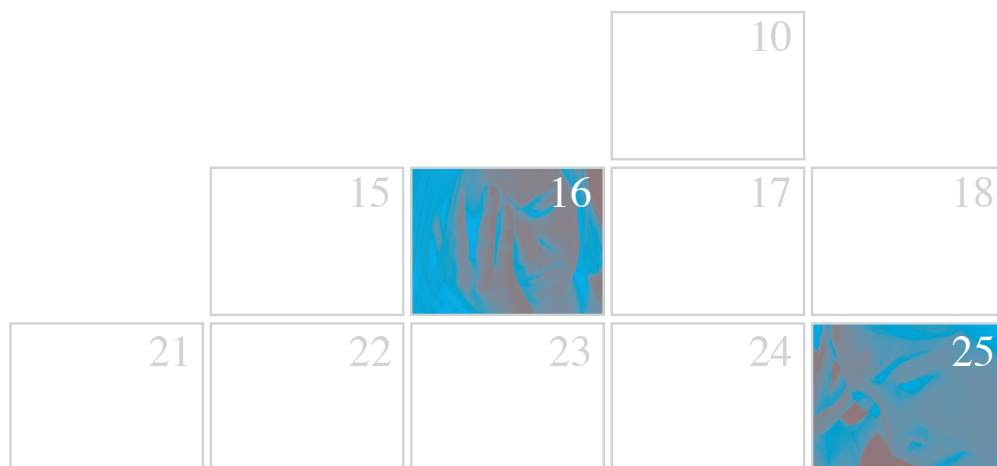
Communicating With Patients

As with all types of migraine, effective diagnosis and management of MM relies on successful patient communication and education. A recent study, the American Migraine Communication Study (AMCS), demonstrated the benefit of increased patient communication in assessing impairment due to migraine. The first phase of this study identified a deficit in patient communication: migraine-related impairment was discussed in only 10% of encounters and healthcare providers and patients were misaligned in 51% of encounters. In the second phase of AMCS, however, healthcare providers were able to substantially improve communication using an ask-tell-ask technique incorporating open-ended questions (Table 5). The use of this technique gave patients the opportunity to tell their story, revealing more information about their impairment due to migraine, without substantially increasing the time spent in the discussion.²⁴

When educating patients with MM, it is important to emphasize that these are treatable and to encourage patients to build and maintain a successful treatment program. For these patients, migraine attacks during menses are recurrent, occurring 2 out of 3 months, and may be prolonged, resulting in substantial impairment every month or nearly every month. Likewise, it is important to transform the negative of monthly recurrence into a positive message of predictability that can be used to improve management of the condition. Appropriate lifestyle modification and an increase in self-care, particularly immediately prior to and during menses, may help patients manage their migraine. Finally, patients with MM need focused education about the hormonal component of their condition, estrogen withdrawal as a risk factor for headache attacks, and the need to minimize exposure to other triggers, particularly prior to and during menses.

TABLE 5: MIGRAINE COMMUNICATION
Ask-tell-ask technique in assessing migraine

Use of Open-Ended Questions ²⁴	Ask-Tell-Ask Technique in Menstrual Migraine and Menstrual-Related Migraine
<p>How do your migraine attacks affect your daily life?</p> <p>How does migraine make you feel — even when you are not having an attack?</p> <p>Describe the impact migraine has on your work, family, and social life.</p>	<p>Ask “How often do you get an attack right before or during your period?”</p> <p>Rephrase what you have heard and ask for confirmation from the patient. Educate the patient on the hormonal component of migraine.</p> <p>Ask the patient to confirm what she has learned: “How do you think your migraine relates to your period?”</p>



PATIENT EDUCATION AND COMMUNICATION

Faculty Comments:

“When you know that you have a very good probability a headache is going to occur, you can self-nurture. You can do things that protect your nervous system, rather than getting all worked up and say, ‘Oh, I’ve got to get the house cleaned, the dishes done, the kids taken care of, and prepare — hunker down for my menstrual migraine.’ That anxiety is just adding to the whole stress of the event. It’s a good time to go to the gym — to make sure you’re on a regular sleep schedule, eating regular meals, and doing some type of stress reduction.”

— Roger K. Cady

“It’s a predictable headache, and because short-term preventive strategies with nonsteroidals or triptans and because behavioral interventions and trigger avoidance are possible, I think it’s actually useful to have a thing we call ‘menstrual-related migraine’ so health-care providers and headache sufferers can recognize it and do something about it.”

— Richard B. Lipton, MD

“I tell patients that it is a combination of triggers that can set a migraine attack up and that menses is a huge trigger for a number of our patients — that they are just more vulnerable at that time. And I tell them to control those triggers that they can control.”

— Lynda J. Krasenbaum, MSN, APRN, Bc

“I explain to patients that this is a treatable condition, and they should strive for a better quality of life.”

— Christine Lantin, PA-C

“It’s important to first establish that the headaches are associated with menses. Once that is established, I tell patients that this is a common occurrence, that the majority of women with migraines have a relationship between their attacks and their periods, and that this is treatable. There are several options available to restore their quality of life.”

— Lisa K. Mannix, MD

“Attacks occur once a month, for 2 or 3 days — it’s 10% of your life!”

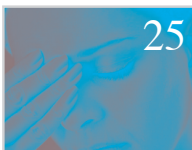
— Richard B. Lipton, MD

“It’s a great opportunity to use the ask-tell-ask technique to explain to patients what goals can be accomplished with specific management strategies.”

— Lisa K. Mannix, MD

Summary

Menstrual migraine and menstrual-related migraine are not merely headaches that occur with menses. They are migraine, and as such are treatable. A hormonal component is common in women with migraine, and nearly half of all women with migraine have menstrual-related migraine.⁶ Treatment strategies for MM include lifestyle modification, nonpharmacologic therapies, acute and preventive medications (short-term prevention), and hormonal therapy, in select women. The predicatability of MM affords an opportunity to improve management by reducing the risk of a headache attack with increased self-care immediately before and during menses and avoidance of known triggers, as well as the use of short-term prevention. Patient communication using ask-tell-ask techniques and open-ended questions improves assessment of impairment due to migraine.²⁴

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References

1. Loder E, Biondi D. General principles of migraine management: the changing role of prevention. *Headache*. 2005;45 (suppl 1):S33-S47.
2. Lipton RB, Bigal ME, Diamond M, et al, for the AMPP Advisory Group. Migraine prevalence, disease burden, and the need for preventive therapy. *Neurology*. 2007;68:343-349.
3. Population Division, US Census Bureau. NC-EST2005-01. May 10, 2006. Available online at: <http://www.census.gov/popest/national/asrh/NC-EST2005-sa.html>. Accessed January 25, 2008.
4. Bille B. A 40-year follow-up of school children with migraine. *Cephalalgia*. 1997;17:488-491.
5. Silberstein SD, Lipton RB, Goadsby RJ. Migraine diagnosis and treatment. In: *Headache in Clinical Practice*. Martin Duntz Ltd; 2002.
6. Brandes JL. The influence of estrogen on migraine. A systematic review. *JAMA*. 2006;295:1824-1830.
7. Amir B-Y, Yaacov B, Guy B, Gad P, Itzhak W, Gal I. Headaches in women undergoing in vitro fertilization and embryo-transfer treatment. *Headache*. 2005;45:215-219.
8. Lichten EM, Lichten JB, Whitty A, Pieper D. The confirmation of a biochemical marker for women's hormonal migraine: the depo-estradiol challenge test. *Headache*. 1996;36:367-371.
9. Kudrow L. Migraine in women: recognizing hormonal influences. *Female Patient Total Health Care Women*. 1993;18:33-38.
10. Martin VT, Lee J, Behbehani MM. Sensitization of the trigeminal sensory system during different stages of the rat estrous cycle: implications for menstrual migraine. *Headache*. 2007;47:552-563.
11. Headache Classification Subcommittee of the International Headache Society. The international classification of headache disorders, 2nd edition. *Cephalalgia*. 2004;24(suppl 1):7-151.
12. Granella F, Sances G, Allais G, et al. Characteristics of menstrual and nonmenstrual attacks in women with menstrually related migraine referred to headache centres. *Cephalalgia*. 2004;24:707-716.
13. MacGregor EA, Hackshaw. Prevalence of migraine on each day of the natural menstrual cycle. *Neurology*. 2004;63:351-353.
14. Martin VT, Wernke S, Mandell K, et al. Defining the relationship between ovarian hormones and migraine headache. *Headache*. 2005;45:1190-1201.
15. MacGregor EA, Frith A, Ellis J, Aspinall L, Hackshaw A. Incidence of migraine relative to menstrual cycle phases of rising and falling estrogen. *Neurology*. 2006;67:2154-2158.
16. Stewart WF, Lipton RB, Chee E, Sawyer J, Silberstein SD. Menstrual cycle and headache in a population sample of migraineurs. *Neurology*. 2000;55:1517-1523.
17. Tepper SJ. Tailoring management strategies for the patient with menstrual migraine: focus on prevention and treatment. *Headache*. 2006;46(suppl 2):S61-S68.
18. Ferrari MD, Goadsby P, Roon KI, Lipton RB. Triptans (serotonin, 5-HT^{1B/1D} agonists) in migraine: detailed results and methods of a meta-analysis of 53 trials. *Cephalalgia*. 2002;22:633-658.
19. Lay CL, Payne R. Recognition and treatment of menstrual migraine. *Neurologist*. 2007;13:197-204.
20. Loder E, Rizzoli P, Golub J. Hormonal management of migraine associated with menses and the menopause: a clinical review. *Headache*. 2007;47:329-340.
21. Sulak PJ, Scow RD, Preece C, Riggs MW, Kuehl TJ. Hormone withdrawal symptoms in oral contraceptive users. *Obstet Gynecol*. 2000;95:261-266.
22. Sulak PJ, Willis S, Kuehl T, Coffee A, Clark J. Headaches and oral contraceptives: impact of eliminating the standard 7-day placebo interval. *Headache*. 2007;47:27-37.
23. Coffee AL, Sulak PJ, Kuehl TJ. Long-term assessment of symptomatology and satisfaction of an extended oral contraceptive regimen. *Contraception*. 2007;75:444-449.
24. Hahn SR, Nelson M, Lipton RB. The Language of Migraine (LOM) study: frequency, impairment, and prevention in migraine communication. Poster presented at: The Diamond Headache Clinic's 19th Annual Practicing Physician's Approach to the Difficult Headache Patient; February 14-18, 2006; Rancho Mirage, CA.

Appendices

13 Headache Diary (to copy for patient use)

15 Menstrual Migraine and Menstrual-Related Migraine:
Considerations in Designing Treatment Plans

16-17 Post-Test for CME/CE Credit and instructions for answer
sheet and evaluation form(s), for obtaining CME/CE Credit.

				9	10	11
				16	17	18
19	20	21	22	23	24	25
26	27	28	29	30		

Headache Diary

How to use this Headache Diary

EXAMPLE

4	✓
S	7 (3hrs) AM
T	1, 3, 5
D	3
M	med 1 (5mg) Z
	med 2 (5mg) O

✓ **Fill in each day for the month**

Match the first date to the first day of the month.

✓ **Mark all days of your menstrual period** and last day of hormonal contraception, if applicable.

S **Severity:** rate your headache: 0 (none) – 10 (severe), Give duration in hours () and time of day (AM or PM)

T **Triggers:** List your most common triggers on numbered lines provided below. Each day, use numbers to record your exposure.

1. _____
2. _____
3. _____
4. _____
5. _____

Common Triggers:

Diet

Alcohol (especially beer and red wine)

Foods (aged cheese, processed meat, chocolate, caffeine)

Environment

Variations in weather/barometric pressure

Smoke, perfume, or odors

High altitude

Bright lights or loud sounds

Internal factors

Emotions (anxiety, anger, fear, crisis, depressions, stress—home, job)

Hormones (menses, ovulation, HRT, oral contraceptives)

Other: _____

D **Disability:** rate your disability (0-3) due to headache from list below:

0. None

1. Able to carry out daily activities fairly well

2. Difficulty with usual activities; cancelled less important ones

3. Misses work/school at least half the day or stayed in bed for part of day

M **Medications:** list acute and preventative medications taken including dose () and your response: 0=none, 1=slight relief, 2=moderate, 3=complete relief.

My Treatment Plan:

Acute Medication:

Medication _____ Dose ()

Medication _____ Dose ()

Medication _____ Dose ()

Instructions: If you take acute medications, including over-the-counter medicines more than twice weekly, speak to your healthcare provider about medication overuse and possible preventative strategies.

Preventive Medications:

Medication _____ Dose ()

Medication _____ Dose ()

Medication _____ Dose ()

Instructions: Take daily as prescribed to decrease the frequency and severity of headache attacks.

Headache Diary

Month: _____

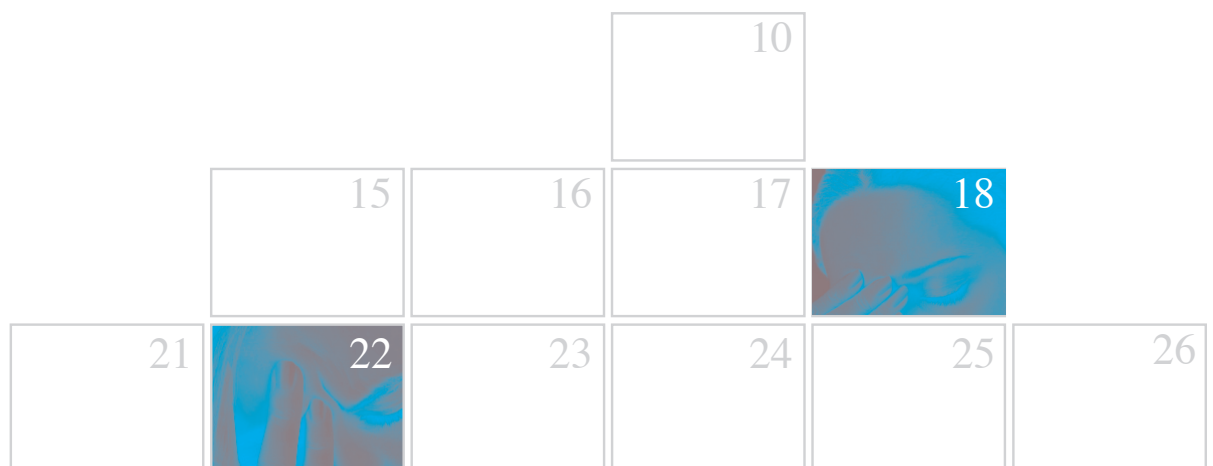
Name: _____

Sunday	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday
<p>S () T D M</p>	<p>S () T D M</p>	<p>S () T D M</p>	<p>S () T D M</p>	<p>S () T D M</p>	<p>S () T D M</p>	<p>S () T D M</p>
<p>() _____ _____ _____</p>	<p>() _____ _____ _____</p>	<p>() _____ _____ _____</p>	<p>() _____ _____ _____</p>	<p>() _____ _____ _____</p>	<p>() _____ _____ _____</p>	<p>() _____ _____ _____</p>
<p>S () T D M</p>	<p>S () T D M</p>	<p>S () T D M</p>	<p>S () T D M</p>	<p>S () T D M</p>	<p>S () T D M</p>	<p>S () T D M</p>
<p>() _____ _____ _____</p>	<p>() _____ _____ _____</p>	<p>() _____ _____ _____</p>	<p>() _____ _____ _____</p>	<p>() _____ _____ _____</p>	<p>() _____ _____ _____</p>	<p>() _____ _____ _____</p>
<p>S () T D M</p>	<p>S () T D M</p>	<p>S () T D M</p>	<p>S () T D M</p>	<p>S () T D M</p>	<p>S () T D M</p>	<p>S () T D M</p>
<p>() _____ _____ _____</p>	<p>() _____ _____ _____</p>	<p>() _____ _____ _____</p>	<p>() _____ _____ _____</p>	<p>() _____ _____ _____</p>	<p>() _____ _____ _____</p>	<p>() _____ _____ _____</p>
<p>S () T D M</p>	<p>S () T D M</p>	<p>S () T D M</p>	<p>S () T D M</p>	<p>S () T D M</p>	<p>S () T D M</p>	<p>S () T D M</p>
<p>() _____ _____ _____</p>	<p>() _____ _____ _____</p>	<p>() _____ _____ _____</p>	<p>() _____ _____ _____</p>	<p>() _____ _____ _____</p>	<p>() _____ _____ _____</p>	<p>() _____ _____ _____</p>
<p>S () T D M</p>	<p>S () T D M</p>	<p>S () T D M</p>	<p>S () T D M</p>	<p>S () T D M</p>	<p>S () T D M</p>	<p>S () T D M</p>
<p>() _____ _____ _____</p>	<p>() _____ _____ _____</p>	<p>() _____ _____ _____</p>	<p>() _____ _____ _____</p>	<p>() _____ _____ _____</p>	<p>() _____ _____ _____</p>	<p>() _____ _____ _____</p>

Overall impact for this month (0=no problem . . . 10=almost unbearable): _____

Menstrual Migraine and Menstrual-Related Migraine: Considerations in Designing Treatment Plans

CONSIDERATION	TREATMENT
Does the patient have frequent headaches throughout the month (requiring acute treatment ≥ 2 times/week)?	Consider daily preventive medicine to decrease attack frequency
Does the patient suffer from chronic daily headache?	Address possible medication overuse and other factors to decrease overall frequency and then manage menstrual-related migraine
Is the identification of menstrual migraine or menstrual-related new?	Consider acute use of NSAIDs or triptans
Does the patient experience an attack at every or nearly every menses?	<p>Consider short-term prevention prior to each menstrual period</p> <p>Consider oral contraceptive therapy with fewer menses (4 times per year, or yearly)</p>



Post-Test

Seven correct answers are required for credit.

1. **The hormonal component of migraine in women is supported by**
 - A. Nearly 3-fold greater lifetime prevalence in women than in men (17% vs 6%).
 - B. High frequency (80%) of onset in women between ages 10 and 39.
 - C. Change in frequency of attacks during pregnancy and a lower prevalence after menopause.
 - D. Clinical results showing increased frequency of attacks during estrogen withdrawal.
 - E. All of the above.

2. **Which one of the following statements is true?**
 - A. Diagnosis of menstrual migraine and menstrual-related migraine requires that patients experience a headache attack with every menses.
 - B. Patients with menstrual migraine or menstrual-related migraine may have migraine with aura.
 - C. Menstrual migraine and menstrual-related migraine are migraine without aura in which migraine attacks occur up to 2 days prior to or during the first 3 days of menses in 2 of 3 menstrual cycles.
 - D. In pure menstrual migraine, patients may experience headache attacks at other times of the month, in addition to headache attacks during menses.

3. **The key elements of a headache diary for patients suspected of having menstrual migraine or menstrual-related migraine include all of the following except:**
 - A. Headache attack, including severity and duration
 - B. Treatment taken, including over-the-counter and prescription medication
 - C. Effect of treatment and resolution of symptoms
 - D. Age at menses onset
 - E. Menses, including last day of hormonal contraceptives, if applicable
 - F. Exposure to previously identified triggers

4. **Complete this statement: Acute treatment of migraine attacks occurring at menses may provide sustained relief in only 20% to 30% of patients, due to the persistent nature of these attacks; thus,**
 - A. Longer-acting triptans may have an advantage over other treatments.
 - B. Patients should not hesitate to take extra doses of acute medications.
 - C. Treatment with triptans is not recommended.
 - D. Patients are advised to combine multiple medications to increase efficacy.

5. **Treatment options for short-term prevention for menstrual migraine and menstrual-related migraine include which of the following medications, generally administered during the time menstrual migraine usually occurs?**
 - A. Over-the-counter analgesics (such as naproxen)
 - B. Triptans
 - C. Magnesium
 - D. Estrogen
 - E. All of the above

6. **Patients with menstrual migraine or menstrual-related migraine who are candidates for hormonal therapy (including oral contraceptives) are those**
 - A. Who have a definitive diagnosis of menstrual migraine or menstrual-related migraine (ie, they do not have migraine with aura)
 - B. Have frequent headaches outside the perimenstrual period
 - C. Have menstrual-related migraine attacks that are severe or refractory to acute treatment.
 - D. A and C.
 - E. All of the above.

Continued on following page ►

7. Key elements of successful communication with patients with menstrual migraine or menstrual-related migraine include all of the following, except

- A. Use of open-ended questions
- B. Understanding that headaches are just a part of menstruation for some women
- C. Use of ask-tell-ask technique
- D. Focused education on the hormonal component of their migraine and estrogen withdrawal as a risk factor for headache attacks
- E. Instruction on the need to avoid triggers and implement lifestyle modification, particularly during the perimenstrual period

8-10 (Use the following question for 8, 9 & 10)

When designing treatment plans for patients with menstrual migraine and menstrual-related migraine, what is the first option to consider in the following patients?

8. Patients with frequent headaches throughout the month (requiring acute treatment ≥ 2 times/week)

- A. Address possible medication overuse
- B. Consider use of NSAIDs or triptans
- C. Consider short-term prevention or oral contraceptive therapy with fewer menses
- D. Consider preventive medication
- E. Consider alternative diagnoses

9. Patients with headache attacks at every or nearly every menses

- A. Address possible medication overuse
- B. Consider use of NSAIDs or triptans
- C. Consider short-term or oral contraceptive therapy with fewer menses
- D. Consider preventive medication
- E. Consider the use of opiates

10. Patients with newly identified menstrual migraine or menstrual-related migraine

- A. Address possible medication overuse
- B. Consider acute use of NSAIDs or triptans
- C. Consider short-term prevention or oral contraceptive therapy with fewer menses
- D. Consider preventive medication
- E. Consider alternative diagnoses

To obtain CME/CE credit:

- ▶ Read the monograph and complete the post-test.
- ▶ Select the answer sheet and evaluation form of your specialty. You will find separate files on the CD-ROM.
- ▶ Complete and submit your answer sheet and evaluation form following the detailed instructions.



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