



Body System: Pain		
Session Topic: Headache: Migraine, Tension, and Cluster		
Educational Format		Faculty Expertise Required
REQUIRED	Interactive Lecture	Expertise in the field of study. Experience teaching in the field of study is desired. Preferred experience with audience response systems (ARS). Utilizing polling questions and engaging the learners in Q&A during the final 15 minutes of the session are required.
OPTIONAL	Problem-Based Learning (PBL)	Expertise teaching highly interactive, small group learning environments. Case-based, with experience developing and teaching case scenarios for simulation labs preferred. Other workshop-oriented designs may be accommodated. A typical PBL room is set for 50-100 participants, with 7-8 each per round table. <u>Please describe your interest and plan for teaching a PBL on your proposal form.</u>
Professional Practice Gap	Learning Objective(s) that will close the gap and meet the need	Outcome Being Measured
<ul style="list-style-type: none"> • Migraine headache is the most common headache disorder; however, it is underdiagnosed and undertreated. • Despite multiple guideline recommendations, neuroimaging is frequently ordered during outpatient headache visits. • Approximately 38% of people who suffer from migraine headache need preventive therapy; however, only 3%-13% currently use it. • Distinguishing dangerous headaches from benign or low-risk headaches is a significant challenge because the symptoms can overlap. • Primary care providers are frequently not aware of current specific clinical recommendations for managing migraine patients. 	<ol style="list-style-type: none"> 1. Utilize evidence-based strategies to diagnose patients presenting with headache. 2. Utilize comprehensive practice guidelines derived with tools to reduce inappropriate neuroimaging and increase knowledge of specific clinical recommendation. 3. Identify associated conditions (e.g. depression), and red flags for potentially life threatening causes of headache. 4. Use evidence-based recommendations to prescribe treatment for patients presenting with chronic and acute or emergent headache pain. 5. Develop collaborate management plans, emphasizing patient education on avoiding triggers that cause headache, and adherence to prescribed treatment strategies. 6. Identify and utilize comprehensive practice guidelines derived with tools like AGREE (Appraisal of Guidelines 	Learners will submit written commitment to change statements on the session evaluation, indicating how they plan to implement presented practice recommendations.



<ul style="list-style-type: none"> • Knowledge and practice gaps with regard to efficacy of complementary therapies; knowledge of current clinical practice guidelines; efficacious use of available pharmaceutical management options; counseling patients about lifestyle modifications; and appropriate use of prophylactics 	<p>for Research and Evaluation) to reduce inappropriate neuroimaging and increase knowledge of specific clinical recommendations.</p>	
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ACGME Core Competencies Addressed (select all that apply)

X	Medical Knowledge		Patient Care
X	Interpersonal and Communication Skills		Practice-Based Learning and Improvement
	Professionalism		Systems-Based Practice

Faculty Instructional Goals

Faculty play a vital role in assisting the AAFP to achieve its mission by providing high-quality, innovative education for physicians, residents and medical students that will encompass the art, science, evidence and socio-economics of family medicine and to support the pursuit of lifelong learning. By achieving the instructional goals provided, faculty will facilitate the application of new knowledge and skills gained by learners to practice, so that they may optimize care provided to their patients.

- Provide up to 3 evidence-based recommended practice changes that can be immediately implemented, at the conclusion of the session; including SORT taxonomy & reference citations
- Facilitate learner engagement during the session
- Address related practice barriers to foster optimal patient management
- Provide recommended journal resources and tools, during the session, from the American Family Physician (AFP), Family Practice Management (FPM), and Familydoctor.org patient resources; those listed in the References section below are a good place to start
 - Visit <http://www.aafp.org/journals> for additional resources
 - Visit <http://familydoctor.org> for patient education and resources
- Provide evidence-based strategies to diagnose patients presenting with headache.
- Provide recommendations for utilizing comprehensive practice guidelines derived with tools to reduce inappropriate neuroimaging and increase knowledge of specific clinical recommendation. (e.g. AGREE (Appraisal of Guidelines for Research and Evaluation) to reduce inappropriate neuroimaging and increase knowledge of specific clinical recommendations)
- Provide strategies for identifying associated conditions (e.g. depression), and red flags for potentially life threatening causes of headache.
- Provide evidence-based recommendations to prescribe treatment for patients presenting with chronic and acute or emergent headache pain.



- Provide strategies and resources for developing collaborate management plans, emphasizing patient education on avoiding triggers that cause headache, and adherence to prescribed treatment strategies.
- Provide recommendations regarding guidelines for Medicare reimbursement.
- Provide recommendations to maximize office efficiency and guideline adherence to the diagnosis and management of headache.
- Provide an overview of newly available treatments, including efficacy, safety, contraindications, and cost/benefit relative to existing treatments.

Needs Assessment

Headaches are a remarkably common medical complaint from patients of all ages. They are, according to the National Institute of Neurological Disorders and Stroke (NINDS), society's most common form of pain and a frequently cited reason for days missed at school or work.¹ The prevalence of migraine is high (14.9% on average), affecting roughly 1 out of every 7 Americans annually.² It also accounts for a significant number of visits to health care providers—more than 16% of adults over the age of 18 reported having “severe headache or migraine during the past three months in 2009, according to the *National Health Interview Survey*, and women were more than twice as likely as men to report them.³ Additionally, Tension-type headache is the most common type of primary headache and causes more worldwide disability than migraine. Between 30% and 78% of the general population have experienced tension-type headache. Episodic tension-type headaches are defined as more than one but fewer than 15 days per month with a headache. This can evolve into chronic tension-type headaches in some patients, defined as 15 or more days per month with a headache.⁴

Family physicians treated patients with headache during 8.3 million visits, and treated patients for migraines during 2 million visits in 2009.⁵ According to the NINDS, “a headache sufferer usually seeks help from a family practitioner. If the problem is not relieved by standard treatments, the patient may then be referred to a specialist.”¹ Family physicians can help patients to identify the source(s) of their headaches and rule out any underlying or contributing cause.

Data from a recent American Academy of Family Physicians (AAFP) CME Needs Assessment survey indicate that physicians have statistically significant and meaningful gaps in the medical knowledge necessary to optimally manage headaches (e.g. tension, cluster, migraine) in the ambulatory setting.⁶ More specifically, CME outcomes data from 2013 and 2016 AAFP FMX (formerly Assembly): *Headache: Migraine and Tension* sessions suggest that physicians have knowledge and practice gaps with regard to efficacy of complementary therapies; knowledge of current clinical practice guidelines; efficacious use of available pharmaceutical management options; counseling patients about lifestyle modifications; and appropriate use of prophylactics.^{7,8}

A review of the literature validates the identified knowledge and practice gaps:

- Migraine headache is the most common headache disorder; however, it is underdiagnosed and undertreated.⁹
- Despite multiple guideline recommendations, neuroimaging is frequently ordered during outpatient headache visits.¹⁰



- Unnecessary, aggressive diagnostic testing is often ordered in office-based practices, because physicians are concerned about malpractice risk.¹¹
- Approximately 38% of people who suffer from migraine headache need preventive therapy; however, only 3%-13% currently use it.¹²
- Distinguishing dangerous headaches from benign or low-risk headaches is a significant challenge because the symptoms can overlap.¹³
- Primary care providers are frequently not aware of current specific clinical recommendations for managing migraine patients.¹⁴

Physicians should be familiar with *Choosing Wisely*® recommendations regarding the use of imaging tests for headaches, summarized as:^{15,16}

- Don't perform CT imaging for headache when MRI is available, except in emergency settings.
- When neuroimaging for headache is indicated, MRI is preferred over CT, except in emergency settings when hemorrhage, acute stroke, or head trauma are suspected. MRI is more sensitive than CT for the detection of neoplasm, vascular disease, posterior fossa and cervicomedullary lesions, and high and low intracranial pressure disorders. CT of the head is associated with substantial radiation exposure, which may elevate the risk of later cancers, while there are no known biologic risks from MRI.
- Do not do imaging for uncomplicated headache.
- Do not perform electroencephalography for headaches.

Physicians may improve their care of patients with headache by engaging in continuing medical education that provides practical integration of current evidence-based guidelines and recommendations into their standards of care, including, but not limited to the following:^{4,13,15,17-19}

- Triptans are effective and safe for treatment of acute migraine.
- Abortive therapy should be used as early as possible in the course of a migraine.
- Combination analgesics containing aspirin, caffeine, and acetaminophen are an effective first-line abortive treatment for migraine.
- Ibuprofen at standard doses is effective for acute migraine treatment.
- Intravenous metoclopramide (Reglan) is effective for acute migraine treatment.
- Parenteral dexamethasone is useful as an adjunctive treatment in the emergency department to help prevent short-term headache recurrence.
- Opiates and barbiturate-containing compounds should not be routinely used for abortive treatment of migraine.
- A diagnosis of migraine is highly likely with presence of headache with nausea, or if the patient reports experiencing two of three features from either of these symptom triads: nausea, photophobia, or pulsating pain; or nausea, photophobia, or a headache that worsens with exertion.
- Head computed tomography should be performed before lumbar puncture in all patients with suspected subarachnoid hemorrhage, regardless of findings on neurologic examination.



- A patient with sudden onset of severe headache (e.g., patient reporting the worst headache of his or her life, or maximal from initiation, or thunderclap headache) should be evaluated with computed tomography of the head without contrast media.
- Immunocompromised patients with severe headache should be evaluated with magnetic resonance imaging of the head with and without contrast media.
- Biofeedback and relaxation techniques can decrease the frequency and severity of chronic daily headaches, and reduce medication use.
- Cognitive behavior therapy in group or individualized settings has been shown to reduce headache frequency and severity, and to improve overall quality of life.
- Amitriptyline may reduce headache duration and severity compared with placebo for chronic tension-type headache.
- Selective serotonin reuptake inhibitors have no proven benefit for headache prophylaxis over placebo or tricyclic antidepressants in patients with chronic daily headache.
- Tizanidine (Zanaflex) has some benefit in reducing the frequency, severity, and duration of chronic migraine and chronic tension-type headache.
- Gabapentin (Neurontin) increases the number of headache-free days in patients with chronic daily headache when compared with placebo.
- Valproate (Depacon) and topiramate (Topamax) reduce the rate of migraine attacks by at least 50%.
- Propranolol reduces the frequency of migraine headache, although its effectiveness for chronic migraine is unclear.
- All patients with chronic daily headache should be counseled about medication overuse, which can complicate the course of the headache.
- A questionnaire consisting of the combination of typical headaches lasting less than 180 minutes plus conjunctival injection or lacrimation may be used to screen for cluster headache.
- First-line treatments for acute cluster headache include sumatriptan (Imitrex) and zolmitriptan (Zomig), alone or in combination, and supplemental oxygen.
- Verapamil at a minimum dosage of 240 mg per day is recommended to reduce headache severity and decrease the frequency of episodes during a cluster period.
- Verapamil and lithium are the mainstays of treatment for chronic cluster headache.
- OnabotulinumtoxinA is an injectable neurotoxin that has been shown to reduce headache frequency in those with chronic migraines, although evidence is lacking for chronic tension-type headache.
- Acupuncture for frequent tension-type headache may provide greater benefit than harm

These recommendations are provided only as assistance for physicians making clinical decisions regarding the care of their patients. As such, they cannot substitute for the individual judgment brought to each clinical situation by the patient's family physician. As with all clinical reference resources, they reflect the best understanding of the science of medicine at the time of publication, but they should be used with the clear understanding that continued research may result in new knowledge and recommendations. These recommendations are only one element in the complex process of improving the health of America. To be effective, the recommendations must be implemented. As such, physicians require continuing medical education to assist them with making decisions about specific clinical considerations.



Resources: Evidence-Based Practice Recommendations/Guidelines/Performance Measures

- AAN/AHS Evidence-based guideline update: pharmacologic treatment for episodic migraine prevention in adults¹²
- Approach to acute headache in adults¹³
- Chronic daily headache: diagnosis and management¹⁵
- Choosing Wisely: Imaging Tests for Headaches¹⁶
- Treatment of acute migraine headache¹⁷
- Cluster headache¹⁸
- Adding health education specialists to your practice²⁰
- Envisioning new roles for medical assistants: strategies from patient-centered medical homes²¹
- The benefits of using care coordinators in primary care: a case study²²
- Engaging Patients in Collaborative Care Plans²³
- The Use of Symptom Diaries in Outpatient Care²⁴
- Health Coaching: Teaching Patients to Fish²⁵
- Medication adherence: we didn't ask and they didn't tell²⁶
- Encouraging patients to change unhealthy behaviors with motivational interviewing²⁷
- Integrating a behavioral health specialist into your practice²⁸
- Simple tools to increase patient satisfaction with the referral process²⁹
- FamilyDoctor.org. Headaches | Overview (patient education)³⁰
- FamilyDoctory.org Migraines | Overview (patient education)³¹

References

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