

**American Academy of Neurology
Headache and Facial Pain Section
Resident Core Curriculum**

10/1/01

Migraine constitutes 40% or more of the average neurologic practice, with pain complaints referable to the head, face and neck adding an additional unknown number of consultations. The importance of headache in practice time may outstrip its importance in terms of mortality. The morbidity associated with chronic or acute recurrent headache seen in neurologic practice may be of greater degree than that seen at a primary care level. As well the Neurologist is being asked to validate prior diagnoses of headache disorders, and to remake misdiagnosis of patient with primary headache and secondary, more dire, head and face pain disorders all ready within the medical system. It is therefore mandatory that trainees experience managing primary and secondary headaches throughout the three years of residency training. The learning paradigm must be hierarchic, as adequate diagnosis of more complex headache patients requires extensive knowledge of primary neurologic disease and the association between neurologic conditions and medical and surgical disease. Since there is variable representation of subspecialty trained faculty institutionally in training programs, clinical exposure should be supplemented by didactic lectures/seminars by faculty, and relevant correlations with other related areas. For purposes of clarification, **primary headache** is defined as headaches with known or presumed mechanisms unrelated to other recognized causes of head pain. These include Migraine and its variants, Tension Type Headache, Cluster Headache and other short duration cephalalgiae associated with autonomic dysfunction and idiopathic non-malignant headaches such as Ice Pick pain, “Ice Cream” headache, coital and benign exertional headache all categorized under Head Pain unassociated with structural abnormalities of the brain. **Secondary headache** therefore is defined as symptomatic headache of causes related to direct or indirect changes affecting the head, face or neck.

Learning Objectives

The first year resident should be able to:

1. To know the anatomy of the Trigeminal Nerve, it's branches and central structures involved in pain processing from the head, face and
2. Know the general principles underlying the International Headache Society Criteria classification schema for primary and secondary headache and their typical clinical presentations
3. Know the steps necessary to rule in secondary causes of headache, especially those with reliable historical, physical examination and/or test-related features (e.g. Temporal arteritis, high and low cerebrospinal fluid pressure, XX), or headache associated with acute morbidity and mortality (e.g. ASAH, Pheochromocytoma, acute glaucoma, CSF pressure abnormalities, acute sinusitis, etc.), including neurologic complaints and complications

4. Direct the evaluation and care of acute headache
5. Distinguish headaches of primary origin from those resulting from secondary cause
6. Diagnose the primary headaches in a non-acute, out patient setting
7. Know the HIS criteria for migraine without aura, migraine with aura, and the subtypes of migraine including basilar, familial hemiplegic and migrainous stroke, and its implications for treatment.
8. Know the neurovascular theories of migraine and their importance for treatment
9. Develop a treatment plan for patients with migraine with and without aura based on clinical presentation and evidence based Guidelines
10. Know the hypothesis of Spreading Depression (SD) and its possible importance in migraine aura
11. Know the importance of the neurovascular theory of Migraine
12. Know the experimental and clinical evidence supporting the prime mediation of migraine via specific serotonin receptors
13. Be able to treat a well diagnosed migraine patient using acute, symptomatic and rescue treatment of migraine including the triptans, NSAID's and other short acting analgesics.
14. Understand the implications of frequent analgesic use and analgesic rebound.
15. Know the major classes of preventives of migraine including beta-adrenergic blockers, Tricyclic antidepressants, calcium channel blockers, anticonvulsants and methysergide.
16. Know the HIS criteria for Episodic and Chronic Tension Type Headache
17. Know the HIS criteria for Episodic and Chronic Cluster Headache.
18. Describe the appropriate historical/clinical features of patients presenting with Episodic Cluster Headache
19. Develop treatment plans for patients with Episodic and Cluster Headache
20. Evaluate the patient with exercise induced or coital headache, and develop appropriate diagnostic and treatment strategies for those conditions

The second year resident should be able to:

1. Know the common conditions associated with dysfunction in the peripheral branches of the trigeminal system including cutaneous nociception, muscular, osseous/and extradural sources (sinuses and teeth), and dural structures including blood vessels
2. Understand the implications of the processing of nociceptive input from the head and neck and the relevant central structures involved, including trigeminal nucleus caudalis (TNC) and the structures of the descending inhibitory pathways including the Periaqueductal Gray (PAG), median and dorsal raphe, and the Red Nucleus.
3. Be aware of the existence of AAN endorsed Headache Consortium guidelines for Headache diagnosis and treatment
4. Know the probable differential diagnosis in a patient presenting with complaint of subacute headache
5. Direct the evaluation and care of subacute non-recurrent headache including interpretation of test findings and results
6. Guide treatment and appropriate follow-up care of patients with secondary headache including considerations for concurrent medical, neurologic or surgical disease

7. Discuss the natural history of post-traumatic headache in patients with mild to moderate head injury
8. Describe the differences among the primary headache types and make appropriate diagnosis based on evidence-based criteria
9. Know the epidemiology of migraine in America
10. Describe the significance of central and peripheral serotonin receptors and the relevance of current acute and preventive treatments for migraine
11. Differentiate Episodic Tension Type Headache from Migraine without Aura
12. Assess the complex patient with frequent headache and recognize the presence or absence of analgesic rebound

The third year resident should be able to:

1. Know the assessment of the patient with subacute, non-recurrent headache and concurrent medical or neurologic complaints
2. Evaluate the secondary headaches associated with neurologic disease including cerebrovascular accidents other than ASAH
3. Direct the assessment and treatment of conditions associated with neuralgic pain of the head (e.g. Trigeminal Neuralgia, Occipital Neuralgia, Glossopharyngeal Neuralgia, etc.;
4. Assess the patient with complaints referable to the temporomandibular joint including Myofascial Pain and Dysfunction.
5. Assess the severity of disease on the basis of headache type, frequency, severity, associated symptoms and comorbid features complicating diagnosis and treatment
6. Know the genetics of Familial Hemiplegic Migraine and its implications for Migraine with and without aura
7. Evaluate the patient with chronic headache and develop appropriate test/treat strategies including behavioral and complimentary therapies
8. Direct the use of inpatient strategies for treating status migrainosis and chronic daily headache including repetitive dose DHE-45, behavioral management and detoxification.
9. Be aware of the growing body of evidence from imaging studies confirming cortical activation before and during migraine headache.
10. Be aware of the growing body of evidence from imaging studies for the existence of activation in other structures including the nucleus of the solitary tract, red nucleus and frontal/temporal areas mediating pain response.
11. Develop a plan of treatment for the patient with Chronic Tension Type Headache and frequent headache
12. Distinguish Cluster Headache from other headaches of short duration (e.g. CPH, “Ice pick pain”, etc.)

Teaching Resources

1. Web site links
 - a. American Headache Society: <http://ahsnet.org>
 - b. US Headache Consortium Guidelines: <http://www.AAN.com>
 - c. National Library of Medicine; <http://www.nlm.nih.gov>

d. International Headache Society: <http://i.h.s.org>

2. Other resources

- a. Lance, JW and Goadsby, PJ, Mechanism and Management of Headache, Butterworth-Heinemann, Woburn, MA, 1998
- b. Silberstein S., Lipton R., Goadsby P., Headache in Clinical Practice, Oxford: Isis

Medical, US, 1998

Journals

- Headache**
- Cephalalgia**
- Neurology**

3. Evaluation methods

Ideally, at the time of the required evaluation of each resident per annum, assessment of knowledge base and clinical judgment should be made in the form of “mock board” format, vignette, or didactic dialogue. Evaluations should then be placed in the trainees file for review.