

American Academy of Orofacial Pain Guidelines for Assessment, Diagnosis, and Management

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Orofacial Pain

Guidelines for Assessment, Diagnosis, and Management

Fourth Edition

American Academy of Orofacial Pain

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Preface

The American Academy of Orofacial Pain (AAOP) was founded in 1975 with the goal to improve the understanding and quality of education in temporomandibular disorders (TMDs) and orofacial pain. The AAOP remains an organization of dedicated health care professionals with a mission of alleviating pain and suffering through the promotion of excellence in education, research, and patient care within the field of orofacial pain and associated disorders. Three publications have preceded this current edition of what commonly is referred to as the *AAOP Guidelines*. Dr Charles McNeill spearheaded the first two editions: *Craniomandibular Disorders: Guidelines for Evaluation, Diagnosis, and Management* (published in 1990) and *Temporomandibular Disorders: Guidelines for Classification, Assessment, and Management* (published in 1993). These publications focused predominantly on TMDs. As health care professionals and researchers became more conscious of the relationship between TMDs and other disorders of the head and neck, there was a need to expand the *Guidelines* to include disorders presenting as or related to TMDs. These disorders comprised not only headaches and neck disorders but several neuropathic pain conditions as well. Hence, a committee was appointed to develop a document to broaden the scope of orofacial pain conditions and related disorders. In 1996, under the editorship of Dr

Jeffrey Okeson, the third version of the *AAOP Guidelines* was published: *Orofacial Pain: Guidelines for Assessment, Diagnosis, and Management*. The third edition used the term *orofacial pain* to echo the changes within the field of orofacial pain as well as to underscore the idea that TMDs and orofacial pain should not be regarded as separate conditions; rather, TMDs should be considered a substantial part of the disorders that fall under the umbrella of orofacial pain.

In this fourth edition of the *AAOP Guidelines*, again entitled *Orofacial Pain: Guidelines for Assessment, Diagnosis, and Management*, the field of orofacial pain has expanded to more completely express the current evidence-based concepts. Though the structure of the current *Guidelines* resembles that of the third edition, every chapter contains important updates, and some chapters have undergone drastic revision. When available, evidence-based literature has been presented to provide the reader with scientifically sound and effective diagnostic procedures and treatment options. Whereas in the previous edition information on cervical disorders was dispersed among several chapters, in this edition an entire chapter has been dedicated to cervical disorders to emphasize the close relationships between some orofacial pain disorders and cervical pain disorders, while calling attention to the differences and similarities associated with these disorders.

It is important for the reader to understand that this work is not intended to be an all-encompassing textbook comprehensively detailing all aspects of orofacial pain. Instead, it is meant to provide insight into and assist the reader with the procedures of evidence-based assessment, diagnosis, and management of orofacial pain conditions, based on the latest scientific knowledge. Because TMDs are considered the major part of orofacial pain and the majority of practitioners will, in all likelihood, focus on its assessment, diagnosis, and treatment, this area is described in the greatest detail. In addition, TMDs are also the major focus of the chapter on classification. Other chapters, such as the ones on neuropathic pain conditions and on odontogenic pain and mucogingival disorders, also contain more detailed information. The chapter on head-

aches describes the primary headaches and will help seasoned as well as less-experienced professionals recognize and distinguish headaches that may or may not be related to TMDs. The chapter on cervical spine disorders predominantly describes the neuro-anatomic connection between the cervical spine and the trigeminal system and highlights some of the more common cervicogenic disorders that can cause or present as orofacial pain. Other related conditions such as intracranial and mental disorders are described with adequate detail to provide insight into such disorders and their relationship with and potential impact on other orofacial pain conditions.

*Reny de Leeuw, DDS, PhD
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Acknowledgments

More than 10 years have passed since the previous edition of the *AAOP Guidelines* was published. It is hard to describe the many hours that AAOP members have dedicated to producing this fourth edition. Numerous members have served on the Guidelines Committee over the years, and I wholeheartedly thank them for their valuable opinions and insights.

The main contributors to this edition of the *AAOP Guidelines* are listed across from the title page; however, they are not the only people who have put in significant efforts over the course of the past 10 years. Many individuals worked on an earlier version of what ultimately has become this edition of the *AAOP Guidelines*. Unfortunately, because of a subsequent significant reorganization, the work of several authors could not be included in this version. Nevertheless, these people put in considerable effort and time and therefore deserve credit. Robert Rosenbaum deserves special recognition in this regard. Prior to the reorganization, he spearheaded a much broader version of this edition. Sincere thanks are extended to him for

all of his dedication, diligence, and hard work. Other people who were involved in the making of the earlier draft are Romulo Albuquerque, Francisco Alençar, Ronald Attanasio, Dennis Bailey, Elizangela Bertoli, Hong Chen, Glenn Clark, Harold Cohen, Jeffrey Crandall, Karen Decker, Jim Friction, Henry Gremillion, Sheldon Gross, Steve Harkins, Lisa Heaton, Maureen Lang, Matthew Lark, Pei Feng Lim, John Look, James Luderitz, Bruce Lundgren, Jeannette McNeill, Robert Merrill, Somsak Mitritatanakul, Mariona Mulet, Cibele Nasri, Hieu Nguyen, Elaine Nicholson, Richard Niedermann, Donald Nixdorf, Diane Novy, John O'Brien, Kathy Robbins, Mariano Rocabado, Eric Schiffman, Anthony Schwartz, Donald Tanenbaum, Ed Truelove, and Eduardo Vazquez Delgado.

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Differential Diagnosis of Orofacial Pain

The ability to understand and investigate pathophysiologic processes underlying a disorder depends on a valid, reliable classification system and common terminology to facilitate communication among clinicians, researchers, academicians, and patients. Without a universal system of organization in place, discussion, investigation, and, ultimately, understanding of a disorder is difficult to achieve.

Classification begins by grouping disorders according to common signs and symptoms and dividing further by common pathophysiology and treatment approaches. It is not important to further divide categories when all of the disorders within a given group are managed by the same therapy. After the classification criteria have been developed, the validity and reliability of the criteria must be analyzed. Once the criteria have proven valid and reliable, research efforts can be directed toward gaining better insight into the prevalence, etiology, and natural course of a given disorder, eventually leading to more effective treatment.

Knowledge can only be advanced when agreement is met on specific disorders so that research efforts can be compared between patients and various research groups. At this time it is uncertain whether diagnostic criteria for research purposes are compatible with diagnostic criteria for determining therapy. For example, it is quite reasonable to separate muscle disorders from intracapsular joint disorders for the purpose of studying the natural course of these disorders. However, merely identifying that a patient has one of these types of disorders may not be adequate to effectively manage the condition. The most useful classification schema would provide advantages to both research and clinical diagnosis.

In this chapter, past and present terminology and diagnostic classification systems for temporomandibular disorders (TMDs) and orofacial pain disorders are discussed, and a classification system for orofacial pain disorders based on American Academy of Orofacial Pain (AAOP) guidelines is presented.

Box 5-1 Condensed list of primary headaches according to the IHS¹

| IHS code | Diagnosis |
|-----------------|--|
| 1. | Migraine |
| 1.1 | Migraine without aura |
| 1.2 | Migraine with aura |
| 1.5 | Complications of migraine |
| 1.5.1 | Chronic migraine |
| 1.5.2 | Status migrainosus |
| 1.6 | Probable migraine |
| 2. | Tension-type headache (TTH) |
| 2.1 | Infrequent episodic TTH |
| 2.2 | Frequent episodic TTH |
| 2.3 | Chronic TTH |
| 2.4 | Probable TTH |
| 3. | Cluster headache and other trigeminal autonomic cephalalgias |
| 3.1 | Cluster headache |
| 3.1.1 | Episodic cluster headache |
| 3.1.2 | Chronic cluster headache |
| 3.2 | Paroxysmal hemicrania |
| 3.2.1 | Episodic paroxysmal hemicrania |
| 3.2.2 | Chronic paroxysmal hemicrania (CPH) |
| 3.3 | Short-lasting unilateral neuralgiform headache attacks with conjunctival injection and tearing (SUNCT) |
| 3.4 | Probable trigeminal autonomic cephalalgia |
| 4. | Other primary headaches |
| 4.1 | Primary stabbing headache |
| 4.2 | Primary cough headache |
| 4.3 | Primary exertional headache |
| 4.4 | Primary headache associated with sexual activity |
| 4.4.1 | Preorgasmic headache |
| 4.4.2 | Orgasmic headache |
| 4.5 | Hypnic headache |
| 4.6 | Primary thunderclap headache |
| 4.7 | Hemicrania continua |
| 4.8 | New daily persistent headache (NDPH) |

and a simultaneous reduction in regional cerebral blood flow. Aura may also occur in the absence of a typical migraine headache (IHS 1.2.3). Patients may experience premonitory symptoms hours to a day or two before a migraine attack (with aura or with-

out aura). These include various combinations of fatigue, difficulty concentrating, neck stiffness, sensitivity to light or sound, nausea, blurred vision, yawning, and pallor.

If migraine occurs on more than 15 days per month for at least 3 months in the ab-

sence of medication overuse, the migraine is called *chronic* (IHS 1.5.1), and if it lasts for more than 3 days, it is called *status migrainosus* (IHS 1.5.2). Serious complications of migraines are rare and include migrainous stroke (IHS 1.5.4), aura- or migraine-triggered seizures (IHS 1.5.5), and persistent aura (IHS 1.5.3).²

Epidemiology

Estimates of migraine prevalence vary, ranging from 4% to about 20%.³⁻⁸ Before puberty onset, migraine is slightly more common in boys, with the highest incidence between 6 and 10 years of age. In females, the incidence is highest between 14 and 19 years of age. In general, females are more commonly affected than males. The prevalence of migraine in the United States is 17% to 18% for women and 6% for men.⁶⁻⁸

The American Migraine Study found that the 1-year prevalence of migraine increased with age among women and men, reaching the maximum at ages 35 to 45 years and declining thereafter.⁹ Migraine prevalence is inversely proportional to income, with the low income group having the highest prevalence. Race and geographic region are also influential factors; the prevalence is highest in North America and Western Europe and among those of European descent.⁷ Because the condition usually affects people during their most productive years, migraine is a burden to the patient and society. Not only does migraine affect the patient's quality of life by impairing his or her ability to participate in family, social, and recreational activities, it affects society in terms of direct costs (eg, medical care) and indirect costs (eg, absenteeism and reduced effectiveness at work). The American Migraine Study estimates that 23 million US residents have

severe migraines. Twenty-five percent of women experience four or more severe attacks per month; 35% experience one to three severe attacks per month; and 40% experience one or less than one severe attack per month.

Pathogenesis

Many mechanisms and theories explaining the causes of migraine have been proposed, although the full picture is still elusive. A strong familial association and the early onset of the disorder suggest a genetic component, which has led some to question whether it is a channelopathy. The trigeminal vascular model by Moskowitz¹⁰ explains that trigeminal activation resulting in the release of neuropeptides produces neurogenic inflammation, increased vascular permeability, and dilation of blood vessels. Other pathophysiologic mechanisms behind migraine have been proposed, such as serotonin, calcitonin gene-related peptide, nitric oxide, dopamine, norepinephrine, glutamate, and other substances,^{11,12} as well as mitochondrial dysfunction.¹³ It has recently been recognized that central sensitization producing allodynia and hyperalgesia is an important clinical manifestation of migraine.¹⁴

Treatment

Pharmacologic treatment of migraine may be abortive/symptomatic or prophylactic. Patients who experience frequent severe migraines often require both approaches. The choice of treatment should be guided by the frequency of the attacks. Infrequent attacks (two or fewer per week) may be treated with abortive medications,¹⁵ and more frequent attacks should be treated with prophylactic medications. If there is a concurrent illness,