Classification and Differential Diagnosis of Oral and Maxillofacial Pain

Steven J. Scrivani and Egilius L.H. Spierings

Pain in the orofacial region is a common presenting symptom. The majority of symptoms are related to dental disease, and the cause can readily be established, the problem dealt with, and the pain eliminated. However, pain may persist and defy attempts at treatment. Intractable oral or facial pain can be diagnostically challenging. To make a definitive diagnosis and initiate proper treatment, a rigorous protocol for evaluation includes a thorough history and an appropriate comprehensive clinical examination and diagnostic testing, including chief complaint, history of present illness, medical history, physical examination, diagnostic studies, including imaging, and psychosocial evaluation.

Chronic Orofacial Pain and Behavioral Medicine

Robert L. Merrill and Donald Goodman

Patients with chronic orofacial pain disorders have significant psychological distress that plays an important role in modulating and maintaining their pain. For many patients, doing procedures or giving them medications does not relieve their pain. This article discusses the role of cognitive behavioral therapy and other related types of therapy, including mindfulness practices in modulating their pain disorders and helping patients to understand and participate in exercises and practices that will down-regulate their pain and add to their toolbox of things they can do to gain relief.

A Model for Opioid Risk Stratification: Assessing the Psychosocial Components of Orofacial Pain

Ronald J. Kulich, Jordan Backstrom, Jennifer Brownstein, Matthew Finkelman, Shuchi Dhadwal, and David DiBenedetto

This article describes a model of opiate risk stratification with a special focus on dentistry and oral surgery. A brief overview covers the scope of the US opioid abuse and misuse epidemic and the role of the dentist in mitigating the problems of diversion and misuse of controlled substances. The expanding role of dentistry is summarized. An assessment outlines gathering critical risk information, screening questionnaires, access to state prescription monitoring programs, and communication with cotreating providers. Special populations are discussed. Barriers and possible solutions for effective implementation of these strategies are summarized.

Intraoral Pain Disorders

Mary Hil Edens, Yasser Khaled, and Joel J. Napeñas

Those experiencing intraoral pain associated with dental and oral diseases are likely to pursue treatment from medical and dental providers. The causes for intraoral pain include odontogenic, periodontal, oral mucosal, or contiguous hard and soft tissue structures to the oral cavity. Providers should be vigilant when diagnosing these, as
they should be among the first in their differential diagnoses to be ruled out. This re-
view provides brief overviews of frequently encountered oral/dental diseases that
cause intraoral pain, originating from the teeth, the surrounding mucosa and
gingivae, tongue, bone, and salivary glands and their causes, features, diagnosis,
and management strategies.

Myofascial Pain: Mechanisms to Management 289
James Fricton

More than 100 million adults in the United States have chronic pain conditions,
costing more than $500 billion annually in medical care and lost productivity. They
are the most common reason for seeking health care, for disability and addiction,
and the highest driver of health care costs. Myofascial pain is the most common
condition causing chronic pain and can be diagnosed through identifying clinical
characteristics and muscle palpation. Management is focused on integrating patient
training in changing lifestyle risk factors with evidence-based treatment. Under-
standing the cause, diagnosis, and management of myopain conditions will help
prevent the impact of chronic pain.

Internal Derangement of the Temporomandibular Joint: New Perspectives on an
Old Problem 313
Howard A. Israel

Internal derangement is caused by loss of the structure and function of the intra-
articular tissues, leading to a failure in the biomechanics of the temporomandibular
joint. This tissue failure is usually caused by joint overload, leading to an inflamma-
tory/degenerative arthropathy of the temporomandibular joint. The intra-articular
changes associated with internal derangement of the temporomandibular joint
can also be caused by a systemic arthropathy or a localized atypical arthropathy
involving the temporomandibular joint. Clinicians must be diligent in establishing
the correct diagnosis and cause of the internal derangement, which ultimately leads
to the appropriate management of patients with these disorders.

Temporomandibular Disorders and Headache 335
Steven B. Graff-Radford and Jeremy J. Abbott

Temporomandibular disorders (TMD) and primary headaches can be perpetual and
debilitating musculoskeletal and neurological disorders. The presence of both can
affect up to one-sixth of the population at any one time. Initially, TMDs were thought
to be predominantly musculoskeletal disorders, and migraine was thought to be
solely a cerebrovascular disorder. The further understanding of their pathophys-
iology has helped to clarify their clinical presentation. This article focuses on the
role of the trigeminal system in associating TMD and migraine. By discussing recent
descriptions of prevalence, diagnosis, and treatment of headache and TMD, we will
further elucidate this relationship.

Cranial Neuralgias 351
Zahid H. Bajwa, Sarah S. Smith, Shehryar N. Khawaja, and Steven J. Scrivani

Advances in diagnostic modalities have improved the understanding of the patho-
physiology of neuropathic pain involving head and face. Recent updates in nomen-
clature of cranial neuralgias and facial pain have rationalized accurate diagnosis.
Clear diagnosis and localization of pain generators are paramount, leading to better use of medical and targeted surgical treatments.

**Painful Traumatic Trigeminal Neuropathy**

Rafael Benoliel, Sorin Teich, and Eli Eliav

This article discusses neuropathic pain of traumatic origin affecting the trigeminal nerve. This syndrome has been termed painful traumatic trigeminal neuropathy by the International Headache Society and replaces atypical odontalgia, deafferentation pain, traumatic neuropathy, and phantom toothache. The discussion emphasizes the diagnosis and the early and late management of injuries to the trigeminal nerve and subsequent painful conditions.

**Burning Mouth Syndrome**

Gary D. Klasser, Miriam Grushka, and Nan Su

Burning mouth syndrome (BMS) is an enigmatic, misunderstood, and under-recognized painful condition. Symptoms associated with BMS can be varied, thereby providing a challenge for practitioners and having a negative impact on oral health–related quality of life for patients. Management also remains a challenge for practitioners because it is currently only targeted for symptom relief without a definitive cure. There is an urgent need for further investigations to determine the efficacy of different therapies because this is the only way viable therapeutic options can be established for patients with this chronic and painful syndrome.

**Orofacial Movement Disorders**

Glenn T. Clark and Saravanan Ram

Orofacial movement disorders (OMDs) include dystonia, dyskinesia, drug-induced extrapyramidal reactions, and bruxism. The definition, epidemiology, pathophysiology, clinical features, and management are detailed. OMDs are often disabling and affect patients' overall quality of life with pain, difficulty chewing food, speech difficulty, drooling, and social embarrassment. Management involves medications, botulinum toxin injections, and peripheral or central surgery. Botulinum toxin injections are the most effective management, often used in conjunction with medications. Surgery is the last resort for patients who fail to respond to medications or develop resistance to botulinum toxin type A.

**Medication Treatment Efficacy and Chronic Orofacial Pain**

Glenn T. Clark, Mariela Padilla, and Raymond Dionne

Chronic pain in the orofacial region has always been a vexing problem for dentists to diagnose and treat effectively. For trigeminal neuropathic pain, there are three medications (gabapentinoids, tricyclic antidepressants, and serotonin-norepinephrine reuptake inhibitors) to use, plus topical anesthetics that have therapeutic efficacy. For chronic daily headaches (often migraine in origin), three prophylactic medications have reasonable therapeutic efficacy (β-blockers, tricyclic antidepressants, and anti-epileptic drugs). The three Food and Drug Administration–approved drugs for fibromyalgia (pregabalin, duloxetine, and milnacipran) are not robust, with poor efficacy. For osteoarthritis, nonsteroidal anti-inflammatory drugs have therapeutic efficacy, and when gastritis contraindicates them, corticosteroid injections are helpful.
Peripheral nerve blocks are an increasingly viable treatment option for selected groups of headache patients, particularly those with intractable headache or facial pain. Greater occipital nerve block, the most widely used local anesthetic procedure in headache conditions, is particularly effective, safe, and easy to perform in the office. Adverse effects are few and infrequent. These procedures can result in rapid relief of pain and allodynia, and effects last for several weeks or months. Use of nerve block procedures and potentially onabotulinum toxin therapy should be expanded for patients with intractable headache disorders who may benefit, although more studies are needed for efficacy and clinical safety.