

OROFACIAL PAINS

CLASSIFICATION, DIAGNOSIS, MANAGEMENT

Third Edition

Welden E. Bell, D.D.S.

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Preface to the Third Edition

THE CLINICAL MANAGEMENT of orofacial pain is a primary concern of dentists everywhere. Having been instrumental in the discovery and development of both local and general anesthesia, the dental profession has always been aware of and concerned about patient comfort. The satisfactory management of surgical pain may be considered an accomplished fact. The same, however, cannot be said concerning clinical or pathologic pain.

There are reasons for this. The cause of surgical pain is obvious, and its management consists either of suppressing the passage of nociceptive impulses or of making the patient insensible to them. Therefore, an effective solution lies within the grasp of the doctor. With clinical pain, however, quite different conditions prevail: pain mechanisms are poorly understood; it is not just a matter of identifying and eliminating a cause; and the initiating cause may no longer be present—if, indeed, there was a cause at all. Usually, we do quite well when pain occurs for obvious reasons such as a toothache from pulpitis. But when pain occurs spontaneously or without evidence of structural change, we may become confused and frustrated, and our efforts may prove ineffective.

To cope with clinical pain, we need better understanding of the nature of pain and the mechanisms that generate it. We need that information at the earliest possible period in our professional training.

So we come to the objective of this book. There are numerous sources of available reference material. Many volumes have been written, and worldwide research into pain mechanisms is going on at a feverish pace. For example, a book was published recently in London that lists almost 7,000 titles on back pain alone.* So there is no shortage of information. The challenge is selecting from this mass of data that which has relevance to the orofacial structures and organizing it into a form that can be useful in the clinical management of patients in pain.

This manual is an attempt to do just that: (1) supply sufficient documented information concerning pain behavior that one may better understand what pain is, how it behaves, and what means we have of managing it; (2) develop a more useful classification of orofacial pain syndromes; (3) offer practical diagnostic criteria by which the different pain syndromes can be identified at a clinical level; and (4) suggest

*Wyke B.: *A Back Pain Bibliography*. London, Lloyd-Luke Ltd., 1983.

guidelines for the effective management of patients who suffer pain about the mouth and face.

It is with considerable satisfaction and pride that previous editions of this book have been so widely received and used in recent years. The rapid development of new and better information, however, has rendered them obsolete; updating therefore was mandatory. Knowing full well that this too will not be the "final word" in orofacial pain management, it is sincerely hoped that this new third edition will be found to have practical value as a teaching medium at all levels of dental education and as a clinical manual for health care practitioners of all categories who undertake the diagnosis and treatment of patients who suffer pain about the mouth and face.

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Definitions

TERMS THAT COMPRISE the language of pain should be defined precisely enough to prevent ambiguity and misunderstandings. Many of the definitions listed below are based on terminology proposed by the Subcommittee on Taxonomy of the International Association for the Study of Pain.^{1,2} Some are from a standard medical dictionary.³ A few are specially defined to express precise meaning by the author. The reader is urged to become familiar with these definitions.

ALLODYNIA—Pain that occurs *without noxious stimulation* at the site of pain.

[Note: This term applies broadly to all painful sensations regardless of location that occur in the absence of noxious stimulation at the site of pain. This would apply therefore to spontaneous pain regardless of etiology and to pain evoked by nonnoxious stimulation.]

ANALGESIA—Absence of sensibility to pain.

[Note: Other sensibilities may remain present.]

ANESTHESIA—Absence of all sensation.

ANESTHESIA DOLOROSA—Pain in an area that is anesthetic as the result of deafferentation.

CAUSALGIA—A syndrome of unremitting, burning pain as the result of deafferentation. Reflex sympathetic dystrophy.

CENTRAL PAIN—Pain associated with a lesion of the CNS.

DEAFFERENTATION—The effect of eliminating afferent neural activity due to interrupted neurons.

DENERVATION—Resection of or removal of the nerves to an organ or part.

DYSESTHESIA—An *unpleasant* abnormal sensation.

[Note: Paresthesia is an abnormal sensation whether unpleasant or not. Paresthesia includes dysesthesia, but not vice versa.]

HETEROTOPIC PAIN—A general term to designate pain that is felt in an area other than its true site of origin.

[Note: Peripheral heterotopic pain may be felt as projected pain, referred pain, or secondary hyperalgesia.]

HYPALGESIA—Diminished sensitivity to stimulation-evoked pain.

HYPERALGESIA—Increased sensitivity to stimulation-evoked pain.

[Note: *Primary* hyperalgesia is stimulation-evoked primary pain due to lowered local pain threshold. *Secondary* hyperalgesia is stimulation-evoked heterotopic pain that occurs without appreciable change in local pain threshold.]

HYPERESTHESIA—Increased sensitivity to stimulation.

[Note: When sensation is painful, the terms *allodynia* and *hyperalgesia* are appropriate.]

HYPOESTHESIA—Diminished sensitivity to stimulation.

[Note: When sensation is painful, the terms *hypalgesia* and *analgesia* are appropriate.]

INFLAMMATORY PAIN—Pain that emanates from tissue that is inflamed.

MUSCULOSKELETAL PAIN—Deep somatic pain that originates in skeletal muscles, fascial sheaths, and tendons (myogenous pain); in bones and periosteum (osseous pain); in joints, joint capsules, and ligaments (arthralgic pain); and in soft connective tissues (soft connective tissue pain).

MYALGIA—Pain that is *felt* in muscle tissue.

[Note: If such site of pain represents the source, the myalgia would be myogenous; otherwise, it would be heterotopic.]

MYOFASCIAL TRIGGER POINT—A hyperirritable spot, usually within a taut band of skeletal muscle or in the muscle fascia, that is painful on compression and that can give rise to characteristic referred pain, tenderness (secondary hyperalgesia), and autonomic phenomena.⁴

MYOGENOUS PAIN—Deep somatic musculoskeletal pain that originates in skeletal muscles, fascial sheaths, or tendons.

[Note: Several types of myogenous pain are identifiable clinically: (1) protective muscle splinting pain, (2) myofascial trigger point pain, (3) muscle spasm pain, and (4) muscle inflammation pain.]

NEURALGIA—Neurogenous pain felt along the peripheral distribution of a nerve trunk.

[Note: Paroxysmal neuralgia consists of sudden bursts of burning pain. Neuritic neuralgia is persistent, unremitting burning pain.]

NEUROGENOUS PAIN—Pain that is generated within the nervous system due to some abnormality of neural structures.

NEUROPATHY—A general term used to designate an abnormality or pathologic change in a peripheral nerve.

NOCICEPTIVE PATHWAY—An afferent neural pathway that mediates pain impulses.

NOCICEPTOR—A sensory receptor preferentially sensitive to noxious or potentially noxious stimuli.

NOXIOUS STIMULUS—A tissue-damaging stimulus.

ODONTALGIA—Pain that is *felt* in a tooth.

[Note: If the tooth is the source of the pain, the odontalgia would be odontogenous; if not, it would be heterotopic.]

ODONTOGENOUS PAIN—Deep somatic pain that originates in dental pulps, periodontal ligaments, or both.

PAIN—An unpleasant sensory and emotional experience associated with actual or potential tissue damage, or described in terms of such damage.

[Note: Pain is always subjective. If the subject reports his experience as pain, it should be accepted as pain.]

PAIN THRESHOLD—The least stimulus intensity at which a subject perceives pain.

PAIN TOLERANCE LEVEL—The greatest stimulus intensity that a subject is prepared to tolerate.

PARESTHESIA—An abnormal sensation, whether spontaneous or evoked.
[Note: If an abnormal sensation is unpleasant, the term *dysesthesia* is appropriate.]

PERIODONTAL PAIN—Odontogenous pain that emanates from the periodontal ligaments.

PRIMARY PAIN—Pain that identifies the true source of nociceptive input.

PROJECTED PAIN—Heterotopic pain that is felt in the anatomical peripheral distribution of the same nerve that mediates the primary pain.

PULPAL PAIN—Odontogenous pain that emanates from the dental pulps.

REFERRED PAIN—Heterotopic pain that is felt in an area that is innervated by a nerve different from the one that mediates the primary pain.

[Note: The term *referred pain* implies that it occurs without provocation at the site of pain.]

REFLEX SYMPATHETIC DYSTROPHY—A syndrome of unremitting, burning pain as the result of deafferentation. Causalgia.

SECONDARY HYPERALGESIA—Heterotopic pain that is evoked by stimulation at the site of pain.

SECONDARY PAIN—Heterotopic referred pain and/or secondary hyperalgesia induced by deep somatic pain as a central excitatory effect.

SITE OF PAIN—The anatomical site where pain is *felt*.

VASCULAR PAIN—A type of deep somatic pain of visceral origin that emanates from the afferent nerves that innervate blood vessels.

[Note: Inflammatory vascular pain should be designated as vasculitis (arteritis, phlebitis).]

VISCERAL PAIN—Deep somatic pain that originates in visceral structures such as mucosal linings, walls of hollow viscera, parenchyma of organs, glands, dental pulps, and vascular structures.

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Pain as a Clinical Symptom

PAIN IS AN EXPERIENCE that cannot be shared; it is wholly personal, belonging to the sufferer alone. Different individuals sensing identical noxious stimulation feel pain in different ways and react at different levels of suffering. It is impossible for one person to sense exactly what another feels. Therefore, the examiner, knowing only how his own pain feels and what such suffering means to him, is faced with the task of securing from the patient enough information to help him imagine how the pain feels to that person and what meaning it has for him. The ability to diagnose and treat a person afflicted with pain rests largely on a knowledge of the mechanisms and behavioral characteristics of pain in its various manifestations.

Upon the dentist rests a great burden of responsibility for the proper management of pains in and about the mouth, face, and neck. He must therefore be competent to differentiate between pains that stem from dental, oral, and masticatory sources and those that emanate elsewhere. He must become expert in pain diagnosis so as to choose the complaints that are manageable by dental methods and techniques and should be approached on a dental level. He must be able to positively identify complaints that may relate to oral and masticatory functioning but which in fact stem from causes that cannot reasonably be resolved by dental procedures. Such complaints require treatment on a medical level.

The dentist's responsibility in managing pain problems of the mouth and face is twofold. His initial responsibility is diagnostic. He should identify those complaints that are correctable by dental therapy. To do this, he must have accurate knowledge of pain problems arising from other than oral and masticatory sources. If he cannot make a proper diagnosis, it becomes his responsibility to refer the patient to someone he thinks competent in that field of practice.

The second responsibility of the dentist relates to therapy. Once the pain complaint is correctly identified as a condition amenable to dental

therapy, treatment by the dentist is in order. Whether consultation with another practitioner is needed should be considered in the treatment planning. If therapy at any point does not prove effective as planned, it becomes the dentist's responsibility to seek the cause of failure, using, if needed, the aid of colleagues. If the condition presented is clearly one that would not be amenable to dental therapy, the patient should be referred to the appropriate medical practitioner.

Many pain problems are such that interdisciplinary management is needed. Such problems require a good working relationship between the doctors represented. It is important that the dentist understand what his responsibilities are in the case so that he can conduct his portion of the therapy effectively. He should exercise care not to attempt more than his fraction of responsibility calls for; nor should he relinquish what should legitimately be his. A positive, confident competence tempered by a reasonable and cooperative attitude should properly equip him to work effectively in any multidisciplinary environment, whether it be wholly dental or dental and medical combined.

HISTORICAL NOTE

Merskey¹ has reviewed some of the historical background of modern pain concepts. In ancient times, Homer thought that pain was due to arrows shot by the gods. The feeling that pain is inflicted from without seems to be a primitive instinct that has persisted to some degree down through the ages. Aristotle, who probably was the first to distinguish the five physical senses, considered pain to be a "passion of the soul" that somehow resulted from the intensification of other sensory experience. Plato contended that pain and pleasure arose from within the body, an idea that perhaps gave birth to the concept that pain is an emotional experience more than a localized body disturbance.

The Bible makes reference to pain not only in relationship to injury and illness but also as anguish of the soul. Hebrew words used to express grief, sorrow, and pain are used rather interchangeably in the old scriptures.² This implies that the early Hebrews considered pain to be a manifestation of concerns that lead also to grief and sorrow. As knowledge of anatomy and physiology increased, however, it became possible to distinguish between pains due to physical and emotional causes.

During the 19th century the developing knowledge of neurology fostered the concept that pain was mediated by specific pain pathways and not simply due to excessive stimulation of the special senses.