REVIEW ARTICLE

OROFACIAL PAIN IN GENERAL DENTAL PRACTICE: A QUALITATIVE REVIEW AND PRAGMATIC CLINICAL UPDATE FOR GENERAL DENTAL SURGEONS

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ABSTRACT

Orofacial pain is among the most frequent reasons patients seek dental care, yet it remains one of the most diagnostically unsettling complaints for the general dental practitioner. While most facial pain encountered in practice is odontogenic, a substantial minority is not. The difficulty lies less in recognising rare conditions and more in knowing when pain ceases to behave like dental pain. This qualitative systematic review synthesises contemporary indexed literature on orofacial pain with an explicit clinical bias, aiming to translate classification systems and consensus guidelines into chair side reasoning pathways usable by general practitioners. Following a PROSPERO-style framework, forty six indexed articles were reviewed with attention to diagnostic cues, red flags, and common points of misdirection in routine dental care. The review integrates flowcharts, schematic figures, and pragmatic clinical examples, emphasising restraint, reversibility, and interdisciplinary awareness. Rather than proposing exhaustive algorithms, this paper argues for disciplined uncertainty as a legitimate and often safer clinical position in the management of orofacial pain.

KEY WORDS

Dental Diagnosis, General Dental Practice, Neuropathic Pain, Orofacial Pain, Temporomandibular Disorders, Trigeminal Pain

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INTRODUCTION

Pain in the face has a habit of ignoring boundaries. It crosses teeth, joints, muscles, nerves, and occasionally logic. Most dentists recognise this early in practice. A patient points to a tooth, but radiographs are clean. A root canal settles nothing. The pain persists, shifts, or returns with a different character. At that point, confidence often erodes.

Orofacial pain sits at an uncomfortable intersection of dentistry, neurology, psychology, and medicine[1,2]. Dental training, particularly at undergraduate level, tends to emphasise pattern recognition within odontogenic disease. This works well, until it does not. The problem is not that dentists lack knowledge. It is that pain syndromes refuse to present in tidy educational compartments[3].

This review was written with the general dental surgeon in mind. Not the specialist clinic, not the tertiary referral centre, but the everyday practice where decisions must be made with limited time, imperfect information, and patients who expect answers. The aim is not to replace existing classifications, but to soften them into something clinically navigable.

2. Review Question and Methodology

Review question:

How can current evidence on orofacial pain be organised into a clinically useful diagnostic and management framework for general dental practitioners?

A qualitative systematic review design was chosen. The focus was not numerical synthesis but conceptual coherence and clinical applicability.

2.1 Protocol and search strategy

A PROSPERO-style framework guided the review. Electronic searches were conducted in PubMed, Scopus, Web of Science, and Cochrane Library for English-language articles published between 1995 and 2024. Search terms included "orofacial pain," "non-odontogenic dental pain," "temporomandibular disorders," "trigeminal

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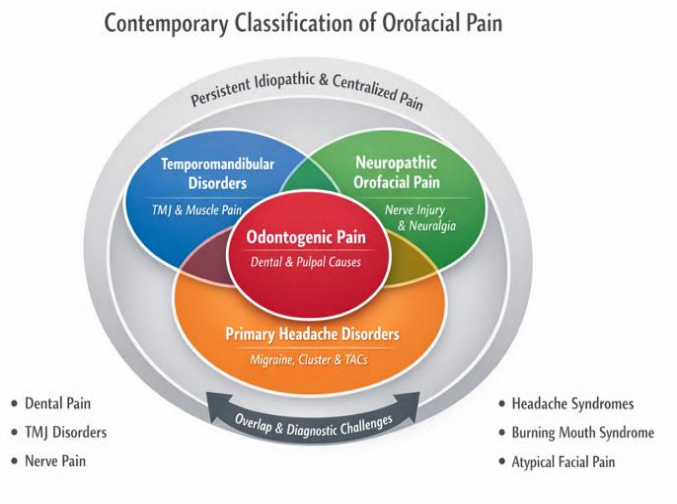

Figure 1: Unified clinical classification (ICOP-adapted)

neuralgia," "facial pain diagnosis," and "burning mouth syndrome."

2.2 Inclusion and exclusion criteria

Included were indexed peer-reviewed articles with direct relevance to clinical diagnosis or management. Preference was given to consensus statements, classification systems, systematic reviews, and well-designed observational studies[4-8].

Excluded were purely experimental studies, narrowly technical subspecialty reports without general practice relevance, and articles lacking diagnostic or translational value.

Forty Six indexed references were synthesised and cited contextually within the text.

3. Why Orofacial Pain Remains a Diagnostic Trap

An uncomfortable observation appears repeatedly in the literature. A significant proportion of patients with non-odontogenic facial pain undergo irreversible dental treatment before a correct diagnosis is reached[9,10]. Root canal therapy on vital teeth, extractions of structurally sound molars, and repeated occlusal adjustments are well-documented precursors to neurological referral.

This is not primarily a failure of competence. It is a failure of probability management. In routine practice, most pain is dental. The danger arises when likelihood hardens into assumption [11].

4. Contemporary Classification of Orofacial Pain

The International Classification of Orofacial Pain (ICOP) represents a meaningful step forward for clinical dentistry[12]. Unlike earlier schemes, it explicitly acknowledges overlap and uncertainty.

Major categories include:

1. Odontogenic pain
2. Temporomandibular disorders (TMDs)
3. Neuropathic orofacial pain
4. Primary headache disorders presenting in the face
5. Idiopathic and persistent pain conditions

A schematic classification chart (Figure 1) illustrates how these groups intersect rather than sit in isolation.

5. Odontogenic Pain: The Baseline, Not the Assumption

Odontogenic pain remains the commonest cause of facial pain in dental practice[13,14]. Localisation, stimulus dependence, and radiographic correlation remain reliable anchors.

However, atypical pulpitis and referred odontogenic pain complicate matters. Mandibular molars, for example, may refer pain across quadrants or to the ear and temporal region[15,16].

A simple clinical rule often helps. Pain that wakes a patient from sleep, is stimulus dependent, and localises progressively deserves serious odontogenic consideration. Pain that is continuous, poorly localised, and unaffected by dental tests deserves caution[17].

6. Temporomandibular Disorders : The Common Impostor

Temporomandibular disorders are among the most frequent non-odontogenic causes of facial pain seen by dentists[18,19]. Patients often describe dull, aching discomfort, worse with stress, chewing, or prolonged speaking.

Muscle palpation that reproduces the patient's

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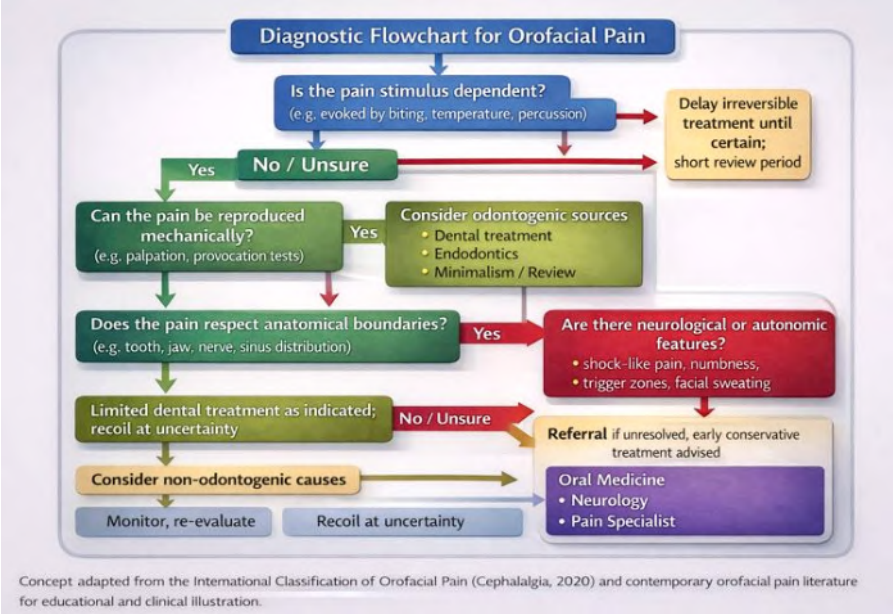

Figure 2: Chairside diagnostic workflow (decision flowchart)

familiar pain remains one of the most useful diagnostic manoeuvres. Imaging, while valuable in selected cases, often adds little in early management[20].

One recurring mistake is over-treating joint sounds. Clicking without pain is not disease, and treating noise rather than symptoms frequently creates problems rather than solving them[21].

7. Neuropathic Orofacial Pain

Neuropathic pain is where dentistry most often overreaches. Trigeminal neuralgia, painful post-traumatic trigeminal neuropathy, and post-herpetic neuralgia have characteristic features that should halt irreversible dental procedures [22-25].

These include electric shock-like pain, trigger zones, paroxysmal attacks, and pain grossly disproportionate to clinical findings. Dental intervention rarely helps and may exacerbate symptoms[26].

A diagnostic flowchart for neuropathic suspicion is presented in Figure 2, emphasising early referral and conservative dental management.

8. Primary Headache Disorders with Facial Presentation

Migraine, cluster headache, and trigeminal autonomic cephalalgias frequently present to dental clinics with facial or maxillary pain[27-30]. Toothache-like pain, sinus pressure sensations, and unilateral autonomic signs commonly mislead both patient and clinician.

Figure 3: Persistent/centrally mediated pain syndromes infographic

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Figure 4. Stepwise management and referral pathway for non-odontogenic &persistent orofacial pain

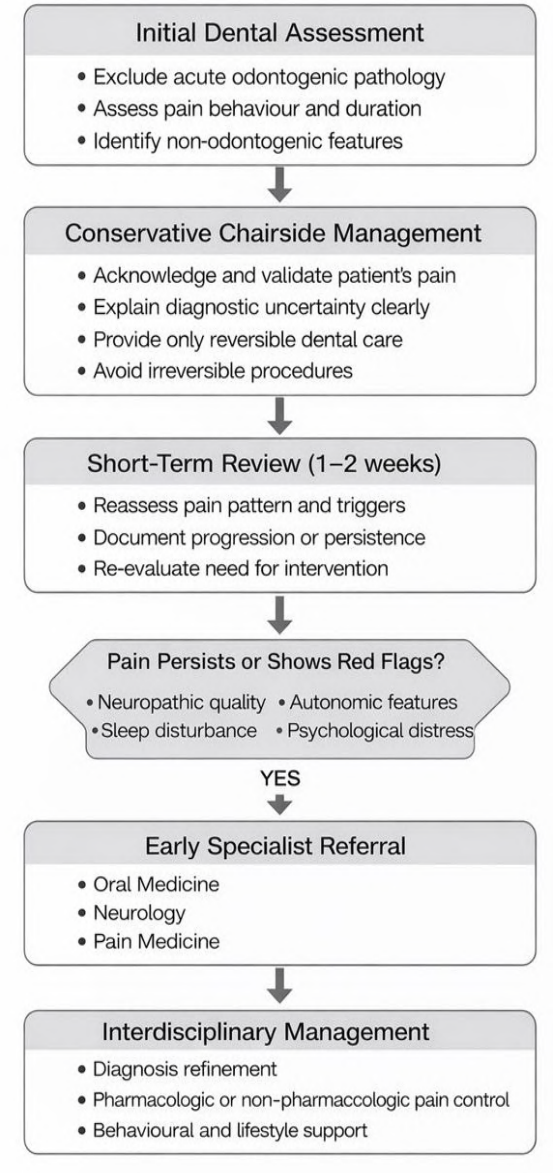

Figure 4: Stepwise management and referral pathway finfographic

Repeated sinus treatments and dental procedures before neurological diagnosis are well documented[31]. Recognising periodicity, associated photophobia, and autonomic features is often more valuable than further dental testing.

9. Persistent Idiopathic Facial Pain and Burning Mouth Syndrome

Few conditions test the patience of clinicians like persistent idiopathic facial pain and burning mouth syndrome[32-35]. Pain does not respect anatomy. Investigations are unrevealing. Patients often feel disbelieved.

Burning mouth syndrome deserves particular mention. Normal mucosa does not equate to absence of pathology. Neuropathic and central mechanisms are increasingly recognised[36].

A schematic infographic (Figure 3) outlines key features that distinguish these entities from odontogenic disease.

10. Chairside Diagnostic Reasoning: A Practical Flow

A simplified diagnostic flowchart for general practice is presented in Figure 4. It rests on four questions:

1. Is the pain stimulus dependent?
2. Can it be reproduced mechanically?
3. Does it respect anatomical boundaries?
4. Are there neurological features?

When answers conflict, restraint is advised. Delay irreversible treatment. Re-evaluate. Document uncertainty[37,38].

11. Management Principles That Remain Reliable

Certain principles age well, regardless of evolving classifications:

- Reversibility before irreversibility
- Honest documentation of uncertainty
- Early interdisciplinary referral
- Clear communication with patients

Patients tolerate uncertainty better than failed certainty[39-41].

12. Limitations of Current Evidence

Much of the orofacial pain literature remains observational. Diagnostic randomised trials are scarce[42]. Cultural and psychosocial factors, particularly relevant in Indian settings, are under-represented[43].

13. Future Directions

Integration of ICOP into undergraduate curricula, structured pain documentation templates, and collaborative dental-neurology pathways may reduce overtreatment and patient frustration[44-46].

14. CONCLUSION

Orofacial pain is less about rare diagnoses and

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more about disciplined thinking. The general dentist does not need to become a neurologist. What matters is recognising the moment when pain stops behaving like dental pain. That pause, often uncomfortable, is where good dentistry shows restraint.

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