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Case Report



# Case Report: Occlusal Trauma Mimicking Structural Tooth Pathology — The Importance of Comprehensive Diagnosis

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## Abstract

Chipped teeth are often assumed to require immediate restorative intervention. However, symptoms associated with such presentations may originate from occlusal or musculoskeletal dysfunction rather than structural tooth pathology. This case report describes a patient presenting with multiple chipped molars and discomfort, ultimately diagnosed with occlusal trauma secondary to parafunctional clenching. Conservative management resulted in symptom resolution, highlighting the importance of thorough diagnosis prior to irreversible treatment.

## Introduction

In contemporary dental practice, there is a tendency to equate structural irregularities—such as chipped or fractured teeth—with a need for restorative treatment. While this approach is often appropriate, it may overlook underlying functional or biomechanical etiologies.

Parafunctional habits such as clenching and bruxism can lead to symptoms that mimic odontogenic pain, including tenderness, discomfort on biting, and perceived tooth "damage." Failure to identify these contributing factors may result in unnecessary or even counterproductive dental treatment.

## Case Presentation

A patient presented with discomfort associated with three chipped posterior molars. The patient's primary concern was that the teeth required restorative treatment.

**Clinical Findings**

- No thermal sensitivity reported
- Teeth were non-sensitive to direct percussion
- Tenderness noted upon palpation of the alveolar bone overlying the affected teeth

• Pain reproduced upon biting on cotton rolls

**Additional Examination**

• Temporomandibular joints (TMJs): Tender to palpation and loading

• Masseter muscles: Bilateral tenderness

• Medial and lateral pterygoid muscles: Significant tenderness upon intraoral palpation

The pattern of findings suggested a functional rather than structural etiology.

**Patient History**

Upon further questioning, the patient acknowledged nighttime clenching.

**Diagnosis**

Occlusal trauma secondary to parafunctional clenching, resulting in inflammation of the periodontal ligaments (PDL), rather than primary structural tooth pathology.

**Treatment Plan**

A conservative, reversible approach was initiated:

• Fabrication of an anterior (front-teeth) night guard

• Behavioral support using guided self-hypnosis audio to reduce parafunctional activity

No immediate restorative treatment was performed.

**Outcome and Follow-Up**

The treatment plan focused on reducing occlusal load and allowing the periodontal structures to recover. Resolution of symptoms will guide future decision-making regarding whether restorative intervention is necessary.

## Discussion

This case highlights several important clinical principles:

**1. Symptoms do not always originate from the most obvious source**

Structural irregularities such as chipped teeth may be incidental rather than causative.

**2. Periodontal ligament inflammation can mimic tooth pathology**

Occlusal overload can produce pain on biting and localized tenderness, often mistaken for structural damage.

**3. Muscle and joint evaluation is essential**

Examination of the masticatory system—including TMJs and associated musculature—can reveal underlying functional disorders.

**4. Irreversible treatment should follow, not precede, diagnosis**

Restorative intervention in this case could have failed to resolve symptoms or potentially exacerbated them.

**5. Conservative management can be highly effective**

Addressing the underlying cause allowed for a more biologically respectful and patient-centered approach.

## Conclusion

This case underscores the importance of comprehensive diagnosis in dental care. Not all chipped teeth require immediate restoration. Identifying and managing underlying functional causes—such as clenching—can prevent unnecessary treatment and improve patient outcomes.

## Clinical Takeaway

The most effective dental treatment begins not with intervention, but with careful observation, thoughtful evaluation, and a commitment to identifying the true source of the problem.

## Acknowledgement

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## Conflicts of Interest

No conflicts of interest.