



## Sleep Bruxism and Tongue Biting

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**DOI:** 10.31080/ASDS.2024.08.1924

**Received:** August 30, 2024

**Published:** October 08, 2024

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Sleep bruxism, a prevalent parasomnia affecting approximately 8-31% of the adult population, is characterized by involuntary grinding or clenching of teeth during sleep. Frequently co-occurring with tongue biting, it leads to oral mucosal injuries and various systemic complications. Prompt diagnosis and treatment are essential to prevent oral and systemic complications.

### Etiology

Sleep bruxism and tongue biting are multifactorial disorders, attributed to.

#### Neurological factors

- Central nervous system disorders (Parkinson's, epilepsy)
- Stress and anxiety (psychological, social)
- Dopamine dysregulation (neurotransmitter imbalance)
- Sleep stage transitions

#### Dental factors

- Malocclusion (misaligned teeth)
- Teeth alignment (orthodontic issues)
- Oral habits (nail biting, chewing)

Sleep Bruxism is sleep related movement disorder involving involuntary jaw muscle contraction during sleep. Increasing jaw muscle tension leading to teeth wear and occlusal trauma which further contribute to Malocclusion and temporomandibular joint disorders.

#### Sleep disorders

- Sleep apnea (obstructive, central)
- Insomnia (chronic, acute)
- Restless leg syndrome
- Periodic limb movement disorder

#### Genetic predisposition

- Family history
- Genetic susceptibility

### Clinical manifestations

Sleep bruxism and tongue biting present with various clinical manifestations.

#### Tooth wear and tear

Sleep bruxism and tongue biting can lead to excessive tooth wear and tear, manifesting as.

#### Attrition

- **Definition:** Attrition refers to the loss of tooth structure due to tooth-to-tooth contact.
- **Causes:** Grinding and clenching during sleep bruxism.
- **Symptoms:** Flattened teeth, reduced tooth height, and altered bite.
- **Consequences:** Increased risk of tooth sensitivity, fractures, and dental restorations.

#### Abrasion

- **Definition:** Abrasion is the loss of tooth structure due to external forces.
- **Causes:** Tongue biting, habits like nail biting or chewing on hard objects.
- **Symptoms:** V-shaped notches or grooves on teeth.
- **Consequences:** Weakened teeth, increased risk of decay and sensitivity.

#### Erosion

- **Definition:** Erosion is the loss of tooth enamel due to acid exposure.
- **Causes:** Gastroesophageal reflux disease (GERD), frequent vomiting, or excessive consumption of acidic foods/drinks.
- **Symptoms:** Smooth, shiny teeth surfaces, cupping or hollowing of teeth.
- **Consequences:** Increased risk of sensitivity, decay, and tooth fracture.

## Jaw pain and tenderness

- Temporomandibular joint disorders
- Masticatory muscle fatigue

## Tongue lesions and ulcers

- Traumatic injuries
- Oral mucosal damage

## Sleep disruptions

- Frequent awakenings
- Insomnia
- Daytime fatigue

## Morning headaches

- Cephalgia
- Facial pain

**Diagnosis**

A comprehensive diagnostic approach involves.

## Clinical examination

- Oral inspection
- Dental history
- Medical evaluation

## Sleep diary

- Patient-reported sleep patterns
- Symptoms

## Polysomnography

- Overnight sleep study
- Sleep architecture assessment
- Bruxism episode evaluation

## Electromyography

- Muscle activity assessment
- Jaw muscle contraction evaluation

**Treatment plan**

A multidisciplinary approach is essential.

## Occlusal adjustment

- Dental correction
- Malocclusion alleviation

Occlusal adjustment is a dental procedure used to treat sleep bruxism by adjusting the biting surface of teeth to improve occlusal harmony.

## Goals of Occlusal Adjustment-

1. Relax jaw muscles
2. Reduce teeth grinding and clenching

3. Improve teeth alignment

4. Enhance occlusal stability

## Techniques

1. Selective grinding: Removing small amounts of tooth enamel to adjust occlusal contacts.
2. Occlusal equilibration: Reshaping teeth to distribute forces evenly.
3. Bite adjustment: Adjusting the relationship between upper and lower teeth.

## Night guard

- Custom-made appliance
- Tooth grinding prevention
- Tongue biting prevention

## Relaxation techniques

- Stress management
- Cognitive behavioral therapy
- Meditation
- Yoga

## Sleep therapy

- Cognitive behavioral therapy
- Insomnia management
- Sleep disorder treatment

## Pharmacological interventions

- Muscle relaxants
- Anxiety medications
- Dopamine regulators

**Case management**

Effective case management involves.

## Interdisciplinary collaboration

- Dentists
- Physicians
- Psychologists

## Patient education

- Oral hygiene
- Relaxation techniques
- Sleep habits

## Follow-up

- Regular check-ups
- Treatment adjustment

**Conclusion**

Sleep bruxism and tongue biting require comprehensive management. Early diagnosis and treatment alleviate symptoms, prevent complications. Interdisciplinary collaboration ensures optimal patient care.