

# Interdisciplinary Approaches to Periodontal Considerations in Orthodontic Treatment

Asher Geel\*

Department of Odontology, Moscow State Pedagogical University, Moscow, Russia

## DESCRIPTION

Orthodontic treatment aims to correct malocclusions and enhance dental aesthetics, often involving the movement of teeth through orthodontic appliances. However, these treatments can impact the periodontal health of patients, potentially leading to adverse outcomes such as gingival recession, bone loss, and compromised periodontal support. Therefore, a comprehensive understanding of periodontal considerations in orthodontic treatment is essential for orthodontists and periodontists to collaborate effectively and achieve optimal outcomes for patients.

## Understanding periodontal considerations

Periodontal health encompasses the gingiva, periodontal ligament, cementum, and alveolar bone. Orthodontic forces can influence these structures, impacting periodontal health. The primary concerns include gingival inflammation, recession, bone loss, and root resorption. Therefore, orthodontic treatment must be tailored to minimize these adverse effects and promote periodontal health.

## Periodontal changes during orthodontic treatment

Orthodontic forces exerted on teeth can lead to various periodontal changes. These forces induce remodeling of the periodontal ligament and alveolar bone, facilitating tooth movement. However, excessive or inappropriate force application may result in adverse periodontal effects. Gingival recession, root resorption, and bone dehiscence are common complications associated with orthodontic treatment.

## Interdisciplinary collaboration

Interdisciplinary collaboration between orthodontists and periodontists is crucial to address periodontal considerations in orthodontic treatment effectively. Early collaboration allows for comprehensive treatment planning, assessment of periodontal health, and identification of potential risk factors. Periodontal evaluation before orthodontic treatment helps identify pre-

existing conditions such as gingival recession, attachment loss, or bone defects, enabling tailored treatment approaches.

## Risk assessment and treatment planning

A thorough risk assessment is essential to anticipate potential periodontal complications during orthodontic treatment. Factors such as periodontal health status, tooth morphology, and biomechanical principles must be considered. Digital technologies such as Cone-Beam Computed Tomography (CBCT) and intraoral scanners aid in detailed assessment and treatment planning. Treatment plans should incorporate strategies to minimize periodontal risks, such as the selection of appropriate orthodontic appliances, distribution of forces, and modification of treatment duration.

## Orthodontic mechanics and periodontal health

Orthodontic mechanics play a critical role in minimizing periodontal complications. Low-force, continuous force systems, such as clear aligner therapy, are preferred over high-force systems to reduce the risk of root resorption and gingival recession. Additionally, biomechanical principles such as differential tooth movement and anchorage reinforcement help minimize periodontal stress and optimize treatment outcomes. Periodontal health maintenance protocols, including oral hygiene instructions and regular periodontal assessments, are integral components of orthodontic treatment.

## Periodontal considerations in adult orthodontics

Adult orthodontic patients often present with pre-existing periodontal conditions such as gingival recession, bone loss, or periodontal attachment loss. Therefore, orthodontic treatment in adults requires careful consideration of periodontal health and stability. Periodontal therapy may be necessary before initiating orthodontic treatment to address underlying periodontal issues and establish a stable periodontal foundation. Close collaboration between orthodontists and periodontists is essential to develop a comprehensive treatment plan that addresses both orthodontic and periodontal concerns.

**Correspondence to:** Asher Geel, Department of Odontology, Moscow State Pedagogical University, Moscow, Russia, E-mail: ashergeel72@mspu.edu.ru

**Received:** 29-Dec-2023, Manuscript No. JOY-24-29634; **Editor assigned:** 01-Jan-2024, PreQC No. JOY-24-29634 (PQ); **Reviewed:** 15-Jan-2024, QC No. JOY-24-29634; **Revised:** 22-Jan-2024, Manuscript No. JOY-24-29634 (R); **Published:** 29-Jan-2024, DOI: 10.35248/JOY.24.8.696

**Citation:** Geel A (2024) Interdisciplinary Approaches to Periodontal Considerations in Orthodontic Treatment. J Odontol. 8:696.

**Copyright:** © 2024 Geel A. This is an open-access article distributed under the terms of the Creative Commons Attribution License, which permits unrestricted use, distribution, and reproduction in any medium, provided the original author and source are credited.

### Long-term periodontal stability

Achieving long-term periodontal stability is a shared goal of orthodontic and periodontal treatment. Post-orthodontic retention protocols, including the use of retainers and periodic follow-up appointments, are essential to maintain tooth alignment and periodontal health. Periodontal maintenance therapy, including professional cleanings and periodontal assessments, is crucial to prevent disease recurrence and preserve periodontal support. Patient education regarding oral hygiene practices and lifestyle factors that impact periodontal health is

essential for long-term success. Interdisciplinary collaboration between orthodontists and periodontists is essential to address periodontal considerations in orthodontic treatment effectively. Through comprehensive assessment, risk stratification, and tailored treatment planning, orthodontic and periodontal specialists can minimize the risk of periodontal complications and achieve optimal outcomes for patients. By integrating periodontal principles into orthodontic practice, clinicians can promote long-term periodontal health and stability in orthodontic patients.