



# Microbiological Parameters In Patients With Moderate Dentition Defects After Fixed Prosthetics

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ABSTRACT

Fixed prosthetic restorations, such as crowns and bridges, are widely used to rehabilitate patients with moderate dentition defects. While these restorations restore function and aesthetics, they can significantly impact the oral microbiological environment. This thesis explores the changes in microbiological parameters in patients following fixed prosthetics, focusing on biofilm dynamics, microbial composition, and the potential risks these changes pose to oral health.

**Keywords:**

**Altered Biofilm Formation:**

Fixed prosthetics introduce new surfaces that can promote biofilm accumulation, especially in areas that are difficult to clean, such as the margins of crowns and bridges. This may lead to an increase in plaque retention and bacterial colonization.

**Shift in Microbial Composition:**

After the placement of prosthetic devices, there is often a shift in the microbial balance from predominantly beneficial oral bacteria to more pathogenic species. Gram-negative anaerobes such as *Porphyromonas gingivalis*, *Fusobacterium nucleatum*, and *Prevotella intermedia*—known for their role in periodontal diseases—tend to increase.

**Risk of Gingival and Periodontal Inflammation:**

Poor plaque control around fixed prosthetics can result in an elevated risk of gingivitis and

periodontitis. The altered microbiome may contribute to soft tissue inflammation and bone loss if not adequately managed.

**Impact of Prosthetic Margins:**

The location of prosthetic margins plays a crucial role in microbiological changes. Subgingival margins are more likely to promote pathogenic bacterial growth due to limited access for cleaning, while supragingival margins are easier to maintain hygienically.

**Clinical Implications:**

Regular monitoring of microbiological parameters and thorough oral hygiene are essential for preventing complications associated with biofilm accumulation. Long-term success of fixed prosthetics relies on maintaining a healthy oral microbiome and minimizing the risk of periodontal diseases.

In conclusion, understanding the microbiological shifts that occur after fixed prosthetics in patients with moderate dentition defects is critical for the prevention of oral health complications. Proper prosthetic design, patient education on oral hygiene, and regular professional maintenance are key to mitigating the risks posed by these microbiological changes.

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