

## **ORTHODONTIC TREATMENT AND RISK OF GINGIVAL RECESSION. A SYSTEMATIC REVIEW ON CLINICAL AND ANIMAL STUDIES**

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### **Introduction:**

Gingival recession refers to the exposure of the tooth's surface which might lead to poor esthetics, tooth hypersensitivity and periodontal inflammation. Several Authors report that orthodontic movement might be related to gingival recession when the roots are pushed close to or through the alveolar cortical plates

### **Aims:**

The aim of the present systematic review (SR) is to evaluate the body of evidence describing possible risks of gingival recession after orthodontic treatments, with reference to the class of malocclusion, the type of orthodontic appliance as well as to the general movement performed

### **Methods:**

A literature research on PubMed, Cochrane libraries, EMBASE, and hand-searched journals until November 2017 was performed. Out of a total of 6583 articles, 22 clinical articles and 7 animal studies met the research criteria and were enclosed in the SR. STROBE (Strengthening the reporting of observational studies in epidemiology) and ARRIVE (Animal Research: Reporting of In Vivo Experiments) guidelines were used for quality assessment. The SR article was realized according to PRISMA Checklist (Preferred Reporting Items for Systematic Reviews and Meta-Analyses)

### **Results:**

10 clinical studies reported an increased risk of gingival recession after buccal movement while 12 studies did not. Similarly, a total of 6 animal studies showed an increased recession risk and buccal tooth displacement. A great heterogeneity among studies including sample size, treatment modalities and type of measurements impaired the possibility to perform a meta-analysis. The overall body of evidence seems to suggest that age at the beginning of the orthodontic treatment, thin periodontal biotype, buccal movement at lower incisor and poor plaque control may be considered possible predictors of the risk of recession during/following orthodontic treatments

### **Conclusions:**

A limited and controversial evidence suggests that buccal movement may be associated with gingival recession development.