

## OP41 LONG-TERM INFLUENCE OF FIXED LINGUAL RETAINERS ON THE DEVELOPMENT OF MANDIBULAR GINGIVAL RECESSIONS

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**AIMS:** Orthodontic treatment and fixed lingual retainers have been reported to be a potential risk factor for the development of labial gingival recessions. The aim of this study was to investigate the long-term influence of fixed lingual retainers on the development of mandibular gingival recessions and calculus retention.

**SUBJECTS AND METHOD:** From a pool of 298 orthodontically treated patients who underwent routine retention control 5 years after treatment, 48 patients were identified without any retainer in the mandible. Forty-eight patients with a fixed retainer were randomly chosen from the remaining patients. An age matched control group (n = 48) of untreated individuals was chosen from the growth archives at the Department of Orthodontics, University of Oslo. Plaster models and intraoral photographs were used for evaluation of the presence or absence of calculus and labial gingival recessions on all teeth before treatment (T0), after treatment (T1) and 5 years after treatment (T5). Chi squared test, one way ANOVA with Tukey *post hoc* test and related samples Cochran's Q test were used to evaluate group differences.

**RESULTS:** There were no significant differences between the experimental groups in terms of age, gender and Angle classification at T0. The prevalence of mandibular gingival recessions increased significantly within all the groups at T5 compared to both T1 and T0. At T5 the group with fixed retainers had most patients with recessions on the anterior teeth (37.5%), but overall, it did not differ significantly when compared to the group without retainers (33.33%) and the untreated group (20.83%). When evaluated separately, 31 was the only tooth with significantly more recessions in the group with a retainer at T1 and T5. Calculus formation was significantly higher in the group with a retainer (39.58%), than in the group without a retainer (20.83%) at T5. The duration of orthodontic treatment, extractions and gender did not influence gingival recession prevalence on the six anterior teeth together, or on each tooth individually.

**CONCLUSION:** Even though fixed lingual retainers lead to increased calculus formation, gingival recession development was not aggravated.