

OP35 INDIRECT VERSUS DIRECT BONDING OF MANDIBULAR RETAINERS. A RANDOMIZED CONTROLLED TRIAL COMPARING FAILURE AND POST-TREATMENT STABILITY: TWO-YEAR FOLLOW-UP

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AIM: To compare the number of failures of mandibular fixed retainers bonded using the indirect and direct bonding methods, and to investigate the post-treatment changes 2 years after placement.

SUBJECTS AND METHOD: Sixty-four consecutive patients were randomly allocated to either an indirect or a traditional direct bonding procedure of a canine-to-canine mandibular lingual retainer after the end of treatment (T0). The patients were recalled 12 (T1) and 24 (T2) months later: failures of retainers (i.e. at least one composite pad debonded) and unexpected post-treatment changes of the lower incisors and canines were recorded. Impressions and lateral cephalograms were taken at T0 and T2: changes in lower intercanine and interpremolar widths, as well as lower incisor inclination were assessed. The chi-squared test was used to compare the survival rate of the retainers bonded with the direct and indirect methods. Paired *t*-tests were used to assess differences in intercanine and interpremolar widths as well as lower incisor inclination at T0 and T2. Significance was set as $P < 0.05$.

RESULTS: One patient dropped out at baseline and three did not attend the T2 recall. In 24 out of 60 (40%) patients, the fixed retainer failed within two years: 13 out of 30 (43%) in the indirect bonding group and 11 out of 30 (37%) in the direct bonding group ($P = 0.64$). Bond failures occurred mainly during the first year. No clinically significant differences in lower intercanine and interpremolar widths or incisor inclination were found between T0 and T2. In five patients, all in the direct bonding group, unexpected post-treatment changes systematically consisting of a lingual inclination of the lower left canine were observed. In one case (3%) the change was considered clinically severe.

CONCLUSIONS: There is no difference in risk of failure between mandibular retainers bonded with the direct and indirect methods. Bond failures occur mainly during the first year. Bonded retainers are effective in maintaining intercanine and interpremolar widths. There seem to be less unexpected post-treatment changes with retainers bonded with the indirect compared to the direct method.