

## **SEALING MANIFEST OCCLUSAL CARIES IN YOUNG PERMANENT TEETH – 5-YEAR SURVIVAL OF DIFFERENT SEALANT MATERIALS**

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**Background:** This study is part of the SEAL-project investigating the possibilities of treating manifest occlusal caries lesions with non-invasive sealings instead of restorations.

**Aim:** To compare the 5-year survival of sealings performed with different resin sealants.

**Design:** 368 sealed lesions in 368 patients aged 6-17 years were performed by 69 dentists using the materials, Clin-Pro<sup>®</sup> (n=18), Delton-FS<sup>®</sup> (n=5), Delton-LC<sup>®</sup> (n=194), Grand-Seal<sup>®</sup> (n=16), Helioseal-C<sup>®</sup> (n=36), Helioseal-F<sup>®</sup> (n=54) and Ultraseal-Xt<sup>®</sup> (n=45). The majority of dentists were free to choose sealant material, but in one municipality randomization between Delton-LC<sup>®</sup> and Helioseal-F<sup>®</sup> was performed. Clinical and radiographic controls were performed annually. Kaplan-Meier survival analyses with Wilcoxon statistics were used for comparison of sealants.

**Results:** With an average follow-up period of 5 years, the dropout rate was 7% and 15% of the patients were referred to private practice. Further 45% of the sealings had been repaired/renewed/replaced by restorations and 34% were well-functioning. The overall 5-year survival rate was 53%, varying from 44% (Helioseal-F<sup>®</sup>) to 84% (Ultraseal-Xt<sup>®</sup>) ( $p < 0.01$ ). Most of the paired differences between the sealants were insignificant ( $p > 0.05$ ), and no significant difference was found for the two brands used at random. The survival rates were furthermore influenced by factors related to the lesion, tooth and patient and these associations will be further analyzed.

**Conclusions:** The present study has shown a significant difference in the 5-year survival rates of resin sealings in different brands, but part of the variation could be attributed to other factors than the material.