

## **Worn Dentition No Prep Treatment with PICN restorations: 4-yr results**

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**OBJECTIVES:** To prospectively evaluate the 4-yr results of the One-step No-prep treatment of full mouth-worn dentition, a minimally invasive and multidisciplinary approach using PICN CAD-CAM composite restorations without provisional phase.

**METHODS:** Seven patients (n=192 restorations) with severe tooth wear were included (BEWE score >13). Patient data were recorded, and an occlusal analysis and a tissue-guided wax-up were realized. After replacement of old fillings, no prep Vita Enamic restorations (posterior restorations and palatal veneers) were bonded within 24-h. Direct composites were performed to mask the buccal joint on anterior teeth. Maxillo-facial physiotherapy was performed. Restorations were evaluated following FDI criteria. Treatment influence on Oral-Health-Impact-Profile-49 (OHIP-49) score was assessed.

**RESULTS:** Tooth wear etiology was related to soft drinks consumption and bruxism. The mean VDO increase was 5.09±0.85mm on the incisal pin. The mean restoration thickness on molars was 0.55±0.21mm, and the lowest was 0.11mm. The 4-year survival rate of restorations was 99.5% and the success rate was 91.66%, with 14 minor chippings, one debonding and one restoration loss. A significant improvement of the global OHIP-49 score and a positive effect on pain (teeth, head, neck and back) were observed after treatment. The 4-year evaluation confirmed high satisfaction rates of esthetic and functional results.

**CONCLUSIONS:** In this clinical study on high-risk patients, PICN restorations, applied in a minimally invasive way, showed high survival and success rates after 4 years, while minor chipping of very thin occlusal borders constituted the most frequent complication. The use of PICNs allows the development of no-prep and simple treatment protocols of worn dentition. Those materials exhibit several advantages compared to ceramics for this indication, such as the ability to be milled to a very low thickness, the ease of in-mouth adjustments, and their damping behavior, which is particularly interesting in cases of bruxism.

**Keywords:** Tooth wear, Dental materials, Computer-Aided Design, Manufactured materials, Prosthodontics, Composite resins.

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