

Preventive Dentistry
Purpose: The aim of this study is to provide the clinical results of dentinal desensitisation treatment, in non-carious defects. **Methodology:** Were treated 146 patients, 49 males and 97 females, who were diagnosed with generalized and local hyperesthesia of the second and third level. The patients were treated with Tiefenfluorid during two sessions carried out in intervals of every 8 days. During the treatment the two solutions were alternated [1st solution: $MgSiF_6 \times 6 H_2O$, $CuSiF_6 \times 6 H_2O$, NaF , distilled water & 2nd solution: calciumhydroxide-highdispers, methylcellulose, distilled water]. Level of hyperesthesia and correctness of the diagnosis was assessed not only based on patients complaints but also by using the test-meter apparatus for making evaluations in mA , before and after the treatment. The opposite side of teeth of the same patient, treated with conventional fluoride gel was used as a controlgroup. The patients were followed up for 2 years. **Results:** The cases treated with Tiefenfuorid which included treatment for general dental hyperesthesia, hyperesthesia localized in the teeth necks, and cuneiform defects resulted more successfull than those treated with the traditional fluoride gel. The immediate response as well as the long term reaction was a better one. It was necessary to perform 10 sessions of traditional fluoride gel treatment and only two to three treatments with Tiefenfluorid. **Conclusion:** Results of treatment of the dentinal hypersensitivity with Tiefenfluorid of the "Humanchemia-GmbH" company, are safe in the treatment of non-carious injuries and cuneiform defects, compared to other fluoride preparations. **Keywords:** cuneiform defects, fluoride gel, hyperesthesia, Tiefenfluorid

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Deposition of CaF_2 -Like Material on and Fluoride Uptake into Demineralized Enamel after pH Cycling

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The *in vitro* fluoride uptake in demineralized enamel of an acidic fluoride varnish 43,000 ppm F^- combined with a $Ca(OH)_2$ suspension (group 1, Humanchemie, Alfeld, Germany) was compared with a standard neutral fluoride varnish (group 2, 23,500 ppm F^- , Duraphat, Colgate, Hamburg, Germany). Demineralized bovine enamel specimens (2,500 vol.-% μm) were randomly assigned to 4 groups ($n = 50$). Specimens of groups 1 and 2 were treated with a defined amount of the respective study product. After storing all specimens in pooled human saliva for 3 h the specimens were brushed until no more remnants of the applied product were found. Specimens of all groups were pH-cycled for 10 days.

In the morning and in the evening specimens of groups 1, 2 and 3 (fluoride control) were stored in toothpaste slurry for 3 min. Group 4 served as negative control. CaF_2 -like deposit on the enamel surface and structurally bound fluoride (three layers of 40 μm each) were determined using an ion-selective electrode and statistically analyzed using ANOVA and Tukey-B test. The highest amount of CaF_2 -like material was found in group 1 ($9.79 \mu g/cm^2$) followed by group 2 ($4.64 \mu g/cm^2$), and 3 ($3.39 \mu g/cm^2$), being significantly different from each other. In all three layers (outer/middle/inner) the highest fluoride concentration was found in group 1 ($4,089.45 \mu g/cm^3$; $3,903.50 \mu g/cm^3$; $2,904.19 \mu g/cm^3$). Significantly less fluoride content was found in group 2 ($1,771.84 \mu g/cm^3$; $1,534.49 \mu g/cm^3$; $936.27 \mu g/cm^3$) and group 3 ($1,670.55 \mu g/cm^3$; $1,469.48 \mu g/cm^3$; $774.05 \mu g/cm^3$) being not significantly different from each other. The fluoride content of the specimens in group 4 was below the detection level. The combination of an acidic fluoride varnish and a $Ca(OH)_2$ suspension leads to a higher fluoride uptake after a pH challenge.

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