

nih u 3 skupine zapečaćeno je materijalom Concise White Sealant (3M Dental Products) nakon sljedećeg postupka pripreme površine cakline: Skupina 1: okluzalna površina jetkana je 37% fosfornom kiselinom 30 s, ispirana 15 s i sušena 15 s, nakon sušenja nanesen je materijal za pečaćenje i osvijetljen 20 s; skupina 2: Okluzalna površina tretirana je samojetkajućim adhezivnim sustavom Prompt-L-Pop (Espe Dental AG) 20 s i osvijetljen 10 s (Optilux, Demetron Research Company), materijal za pečaćenje zatim je nanesen i osvijetljen 20 s; skupina 3: Okluzalna površina tretirana je samojetkajućim adhezivnim sustavom Prompt-L-Pop 20 s i odmah nakon tretmana nanesen je materijal za pečaćenje, oba materijala istodobno su osvijetljena 20 s. Svi su zubi termociklirani 1.800 ciklusa na temperaturi 5 - 55°C s 10 s imerzije u svakoj kupki. Rubna propustljivost ispitana je postupkom bojenja otopinom AgNO<sub>3</sub>. Zubi su uloženi u akrilnu smolu, prerezani (3-5 rezova po uzorku) i fotografirani pod 10 x povećanjem stereo mikroskopa. Rubna propustljivost mjerena je postupkom po Överböu i Raadalu. Statistička je rašamba učinjena neparametrijskim testovima Kruskal-Wallis i Mann-Whitney.

Penetracija materijala u dubinu fisura bila je između 87,8 - 92,1% bez statistički znatne razlike između skupina. Ustanovljena je statistički znatna razlika između klasičnoga postupka jetkanja i uporabe samojetkajućeg adhezivnog sustava ( $p = 0,003$ ). Nije ustanovljena statistički znatna razlika u skupinama tretiranim samojetkajućim adhezivnim sustavom s polimerizacijom ili bez nje ( $p = 0,1234$ ). Muguće je zaključiti da "all in one" samojetkajući adhezivni sustav Prompt-L-Pop nije tako djelotvoran kao kombinacija jetkanja fosfornom kiselinom i materijala za pečaćenje za dobivanje dobrog rubnog zatvaranja.

## Mikroleakage of Sealants Placed After Enamel Treatment With Self Etching Adhesive

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Self-etching adhesives with enamel treatment at the same time as adhesive infiltration offers simplification

of the classic technique of placing sealants. Main advantages in clinical work are: non need for applying acid, and no rinsing. Aim of the study was to evaluate both the penetration and sealing ability of a sealant applied after enamel treatment with a self-etching adhesive. The study was performed on forty-five teeth divided into three groups of fifteen teeth sealed with Concise White Sealant (3M Dental Products) after enamel surface was treated as follows: Group 1: occlusal surface etched with 37% phosphoric acid for 30 s, rinsed for 15 s and air-dried for 15 s. After drying the sealant was applied and polymerized for 20 s. Group 2: The occlusal surface treated with self-etching adhesive Prompt-L-Pop (Espe Dental AG) for 20 s and lightened for 10 s (Optilux, Demetron Research Company). The sealant was then applied and lightened for 20 s. Group 3: The occlusal surface was treated with the self-etching adhesive Prompt-L-Pop for 20 s and directly followed by sealant application, the two materials were then simultaneously lightened 20 s. All teeth were thermocycled between 5 and 55°C for 1800 cycles with dwelling time of 10 s. AgNO<sub>3</sub> dye solution was used for microleakage testing. After dyeing the teeth were embedded in acrylic resin, sectioned (3-5 sections per sample) and photographed under a stereo-microscope (10 X). Microleakage scores were recorded using the method of Överbö and Raadal. Non-parametric Kruskal-Wallis and Mann-Whitney tests were used for statistical analysis.

The sealant penetration rate was between 87.8 - 92.1% whatever the batch with no statistical significant difference between groups. Significant statistical difference was established between the classic H<sub>3</sub>PO<sub>4</sub> pre-etch technique and the self-etching conditioning ( $p = 0.003$ ). No significant difference was found between self-etching batches with or without polymerisation ( $p = 0.1234$ ). Obtained data lead to the conclusion that the "all in one" self-etching adhesive Prompt-L-Pop is not as efficient as the classic H<sub>3</sub>PO<sub>4</sub> etching + sealant in achieving a good enamel marginal sealing.