# IMPACT OF SMOKING STATUS ON THE OUTCOMES OF REGENERATIVE PERIODONTAL TREATMENT WITH THE SINGLE FLAP APPROACH

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**Introduction:**

In 2007, a simplified surgical technique (Single Flap Approach, SFA) was introduced for the regenerative treatment of periodontal intraosseous defects.
The combination of enamel matrix derivative (EMD) with deprotenized bovine bone mineral (DBBM) in periodontal regenerative surgery, in general, and SFA, in particular, was shown to ensure a substantial attachment gain while limiting the post-surgery recession. Smoking has been recognized as a factor affecting the outcomes of periodontal treatment.

**Aims:**

The present study was performed to evaluate the impact of smoking status on 6-month clinical outcomes of the buccal SFA with EMD and DBBM.

**Methods:**

The present study is a retrospective analysis of a patient cohort. De-identified data were retrospectively derived from periodontal patients seeking care at the Research Centre for the Study of Periodontal and Peri-Implant Diseases, University of Ferrara, Italy, and one private dental office in Ferrara, Italy.
Twenty-two defects were selected in smoker (n= 11) and non-smoker (n= 11) patients. Each defect had been treated with buccal SFA. A sandwich technique had been applied to stratify EMD and DBBM.
Immediately before surgery and 6 months after surgery, the following measurements had been collected: probing depth (PD); clinical attachment level (CAL); interdental REC (iREC). At suture removal, performed 2 weeks after surgery, the Early Healing Index (EHI) had been evaluated.

**Results:**

Twenty-two patients (14 males; mean age: 50.2 ± 11.4 years; 11 smokers, 11 non-smokers) were included for the analysis. The procedure resulted in significant change in CAL from 10.0 ± 1.9 mm to 5.5 ± 1.9 mm in smokers (p= 0.003) and from 10.1 ± 2.5 mm to 6.5 ± 2.0 mm in non-smokers (p= 0.003), the 6-month CAL gain being not significantly different between groups. Also, PD was significantly reduced from 8.4 ± 1.6 mm to 3.1 ± 0.5 mm in smokers (p= 0.003) and from 7.7 ± 1.2 mm to 3.6 ± 0.9 mm in non-smokers (p= 0.003), with a significant difference between groups (p=0.028). At 6 month, PD was similar (p= 0.151) in smokers and non-smokers.
At 2 weeks, the number of sites showing optimal wound healing (i.e., EHI= 1) was 5 (45.5%) in non-smokers while was 0 for smokers.

**Conclusions:**

Treatment of intraosseous defects with buccal SFA in association with EMD and DBBM may similarly lead to substantial CAL gain and limited residual PD in smokers and non-smokers.