# Fluoritop-SR® On Demineratlization Inhibitory Effect

B Rai, S Kharb

**Citation**

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**Abstract**

## DEAR SIR,

Fluoride in trace amounts increases the resistance of tooth structures to demineralization and therefore a particularly important consideration for caries prevention. This study was conducted to demineralization inhibitory effect of Fluoritop– SR®. Calcium and phosphorus dissolutions were estimated of measure of demineralization inhibitory effects the demineralization inhibitory effects.

Fluoride is available during cycles of tooth demineralization, it is a major factor in reduced caries activity[1]. Various fluoride varnishes, gel are available and are successful in preventing caries. Additional research on fluoride varnishes is needed, the use of a fluoride varnish as a caries preventive agent should be expanded because it has advantages over other topical fluoride vehicles in terms of safety, ease of application and fluoride concentration at the enamel effect[2]. Most of the loss may occur within the first 24 hours, to achieve prolonged fluoride action in the mouth.[3]

Twenty five freshly extracted permanent teeth each without any caries lesions or restorations were selected for study. The teeth were first cleaned with pumice slurry and polishing brush in a slowly rotating hand piece. The teeth were then thoroughly washed under running water.

Each tooth was cut into four sections using a high diamond tipped disc. The sections were again rinsed under running water to clean them of debris and particles. They were than gently air dried. The dentin portions of each section covered with modeling wax. Only the enamel portion were exposed.

Of the four enamel sections one left without any fluoride varnish application and served as a controls. The camel haired brushes were used for applying Fluoritip– SR®. One layer of varnish was applied and allowed to dry and remain in place for 24 hours.

Artificial saliva was prepared in biochemistry department of Pt. B.D. Sharma, Rohtak. Double deionized water was used in the preparation so no fluoride ions were present in composition. Synthetic salivary pH was adjusted by the portable standard digital pH meter using hydrochloric acid and sodium hydroxide. 1000 ml solution each of synthetic saliva at two different pH 5.2 and 6.8 were prepared. After 48 hours application of fluoride varnishes, one tooth section of each group for every tooth used in the study was immersed in 30 ml of the synthetic saliva at the pH 5.2 and the other section was immersed in 30 ml of synthetic saliva at pH 6.8. The 30 ml sample of synthetic saliva at two different pH 5.2 and 6.8 (without any tooth section) were also tested to estimate the calcium and phosphorous contents at the beginning of the study. The phosphorous and calcium ion content of synthetic salivary samples at the two different pH 5.2 and 6.8 were measured. It was found to be nil for both samples. Calcium and phosphorous ions released over the 24 hour period were measured by speatrophotometry. Calcium and phosphorous ions were measured at the atomic level and expressed as parts as million (ppm). The entire data collected was subjected to statistical analysis by using computer software package SPSS/PC version 7.0.

### Figure 1

Table 1 : The calculated mean standard deviations for the calcium and phosphorous dissolutions for all groups respectively.

| Groups | Calcium | | Phosphorous | |
|---|---|---|---|---|
| | Mean | SD (±) | Mean | SD (±) |
| $A_1$ | 1.310 | 0.246 | 0.783 | 0.152 |
| $A_2$ | 0.629 | 0.224 | 0.432 | 0.173 |

**Figure 2**

Table 2 : The intergroup comparison of calcium and phosphorous dissolutions between control and Fluoritop–SR® groups

| | Groups compared | t-test for equality of mean | | |
|---|---|---|---|---|
| | | t-stat | p value | Remarks |
| Calcium | $A_1$ vs $A_2$ | 9.308 | .000 | HS |
| Phosphorous | $A_1$ vs $A_2$ | 8.953 | .000 | HS |

The fluoritop– SR® easily available that cost effective it can be used in caries preventive programmes in both private and public health programmes.

## References

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3. Brudevald F, McCann HG, Nilson R. The chemistry of caries inhibition problem and challenges in topical treatments. J Dent Res 1967; 46: 37-45.

## Author Information

**Balwant Rai**
Intern, Pt. B.D. Sharma, PGIMS

**Simmi Kharb**
Reader, Pt. B.D. Sharma, PGIMS