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### **Sealant and Topical Fluoride in Fissure Caries Prevention - 3-Year Results**

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**Aim:** To investigate the effectiveness of topical fluorides and resin sealant in fissure caries prevention in permanent molars.

**Material and methods:** A 3-year trial with ethical approval was conducted among healthy schoolchildren aged 8–9 years who regularly used fluoridated toothpaste. They were randomly allocated into:

Group 1 – resin sealant;

Group 2 – silver diamine fluoride (SDF) solution, annual application;

Group 3 – NaF varnish, semi-annual application; and

Group 4 – placebo control.

Development of caries into dentine was evaluated semi-annually over three years by a single blinded examiner.

**Results:** Over 95% of 501 children (50% boys, 1539 molars) were followed for 3 years. Sealant placement significantly decreased the hazard (95% CI of hazard ratio: -1.81, -0.08) of developing fissure caries while SDF (95% CI: -1.16, 0.37) and NaF (-0.69, 0.75) did not.

**Conclusion:** Sealant placement was effective in fissure caries prevention in this child population. No conclusion on topical fluoride applications could be drawn.