

Effect of Silver Diammine Fluoride on Primary Teeth Proximal Lesions

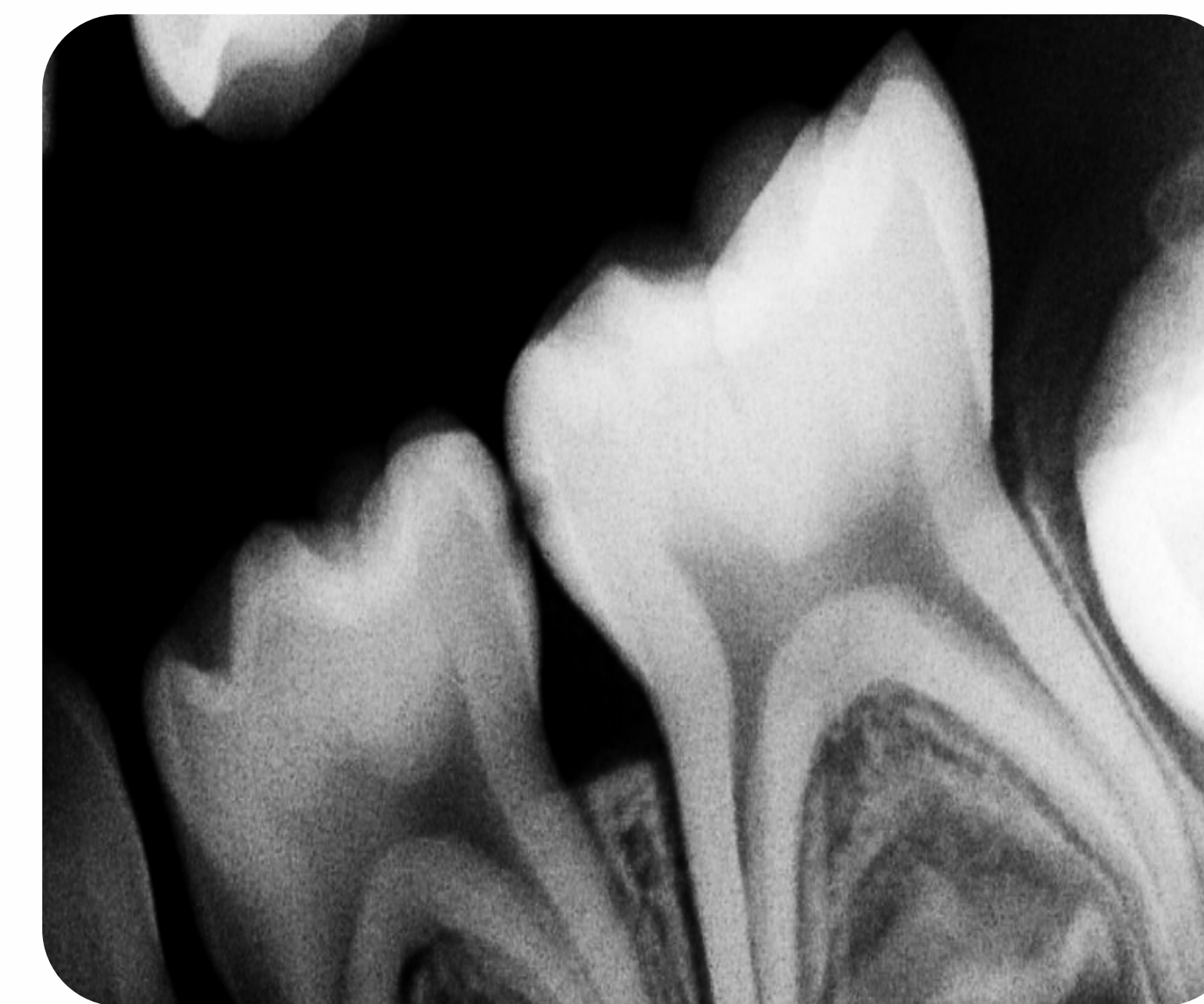
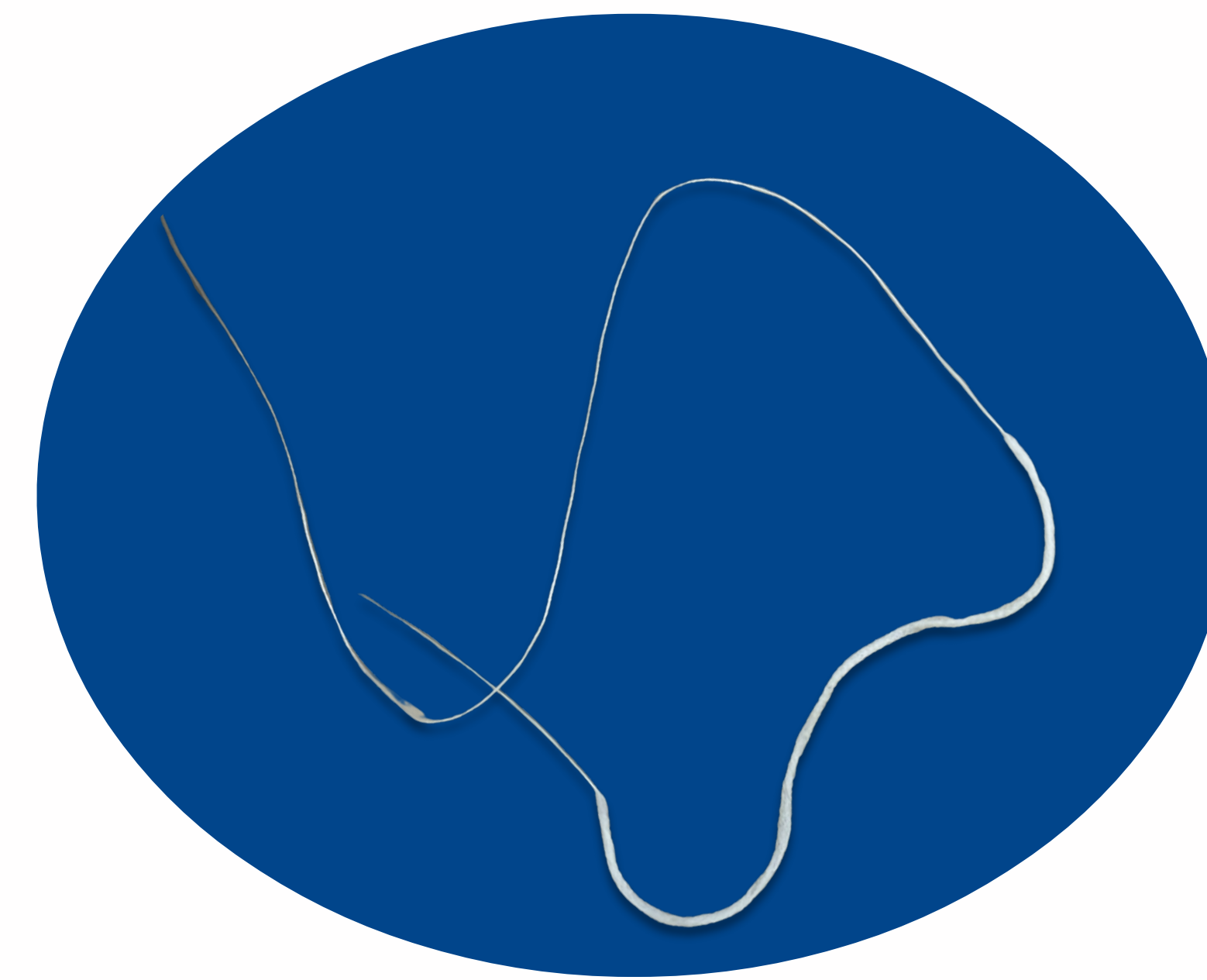
Kaiko Perkins, DMD; Maria Dávila M, DDS, MPH, DrPH; Marcio Guelmann DDS; Kelly Magher, DMD

Department of Pediatric Dentistry, University of Florida, Naples, Florida

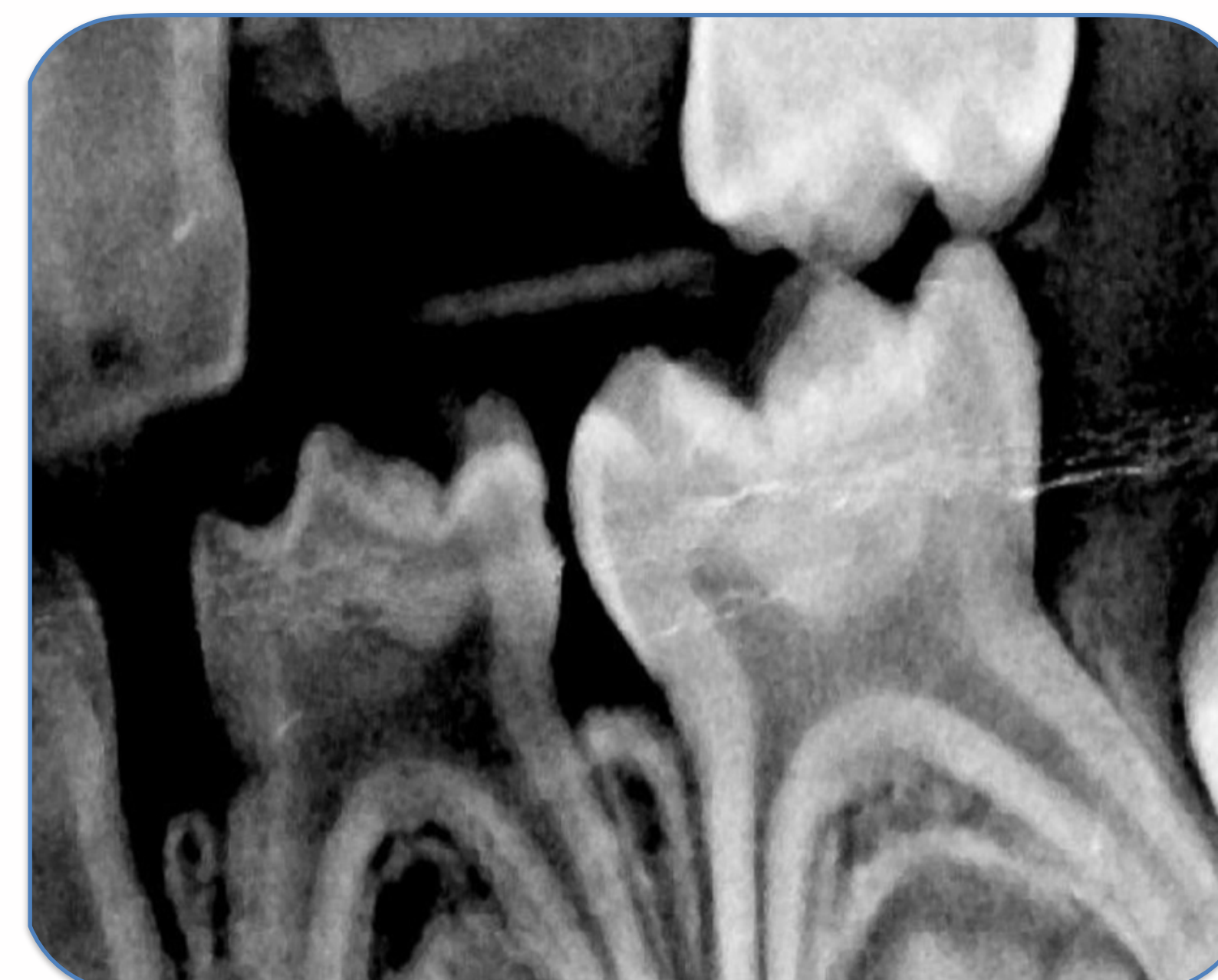


BACKGROUND

Early childhood caries remains a prevalent disease in young children. Silver diammine fluoride (SDF) is a minimally invasive therapy used to arrest caries. This study evaluated whether SDF applied with impregnated floss can arrest enamel-only inter-proximal lesions and prevent progression into dentin in primary molars.



Pre-SDF BWX and 6-month Post-SDF BWX with arrested interproximal caries



Pre-SDF BWX and 6-month Post-SDF BWX with unarrested interproximal caries

METHODS

- Retrospective chart review of pediatric patients treated from January 1, 2022 – April 1, 2024
- Study conducted at Naples Children’s Foundation Pediatric Dental Center
- Inclusion criteria:
 - Primary molars with interproximal enamel-only carious lesions
 - Lesions in contact with an adjacent tooth
- Radiographic evaluation:
 - Preoperative and follow-up bitewing radiographs collected
 - Minimum 6-month recall interval
- Assessment:
 - Two calibrated investigators independently evaluated lesion status
 - Disagreements resolved by consensus discussion
- Outcome measure:
 - Lesion arrest, defined as no progression into dentin
- **42 patients met inclusion criteria**
- **75 interproximal lesions analyzed**

RESULTS

6-Month Follow-Up

Outcomes	Lesions	Percentage
Arrested	62	83%
Unarrested	13	17%
Total	75	100%

P < .00001

CONCLUSIONS

- **SDF applied via impregnated floss effectively arrests interproximal enamel lesions in primary molars (83%) at 6-month follow-up**
- This technique provides a minimally invasive and practical approach for managing early childhood caries
- The method is cost-effective and efficient for both clinical and community settings
- Further research with larger sample sizes and longer follow-up is needed to confirm long-term outcomes

REFERENCES

Hammersmith KJ et al. (2020). Silver diamine fluoride and fluoride varnish may halt interproximal caries progression in the primary dentition. J Clin Pediatr Dent

Ruff, RR, Barry-Godín, T, Niederman R. (2023). Effect of silver diamine fluoride on caries arrest and prevention: The Caried Away trial. JAMA Network Open / Pediatrics.