March 30, 2025

SDF Application in the Primary Care Setting

Lessons from Early Adopters





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Disclosure Statement

None of the planners or speakers for this event have any financial relationships to disclose.

Learning Objectives



Discuss the use of silver diamine fluoride (SDF) as a tool in primary care

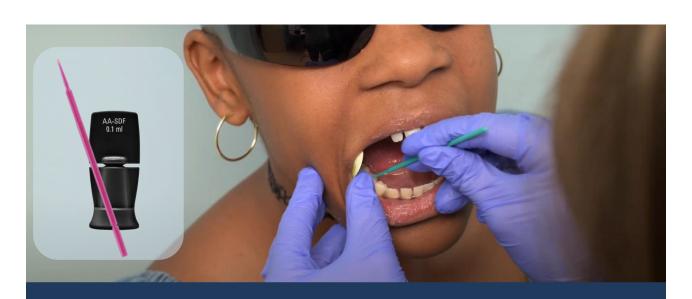


Provide an overview of SDF usage in Maine



Provide lessons learned from Maine providers on SDF application in a clinical setting

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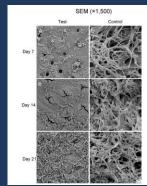
Silver diamine fluoride (SDF) is the next major tool medical providers can add to their oral health toolbox





Silver Diamine Fluoride

- SDF is part of the minimally invasive dental treatment movement and avoids need for drill and fill
- SDF is a topical medicament used to treat dental sensitivity, prevent dental caries and arrest tooth decay
- Used in Japan in the 1970s during a surge in childhood caries and a shortage of dentists. Used safely in many other countries including Japan, China, Australia, Brazil and the United States
- Composition:
 - 25% Silver antimicrobial that denatures proteins, breaks cell walls and inhibits DNA replication
 - 5% Fluoride promotes remineralization and hardens teeth
 - 8% Ammonia- Stabilizing solution
- SDF turns the area of decay permanently black



<u>Dentin blocks treated with SDF</u> (test) vs. control and incubated in an artificial mouth

- SDF inhibited bacterial growth at day 7,14, and 21 (n < 0.01)
- Dentinal tubule orifices significantly smaller in test group

Antibacterial effects of silver diamine fluoride on multi-species cariogenic biofilm on caries. Mei et al. Annals of Clinical Microbiology and Antimicrobials 2013. 12:4

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Silver Diamine Fluoride

Indications for Use:

- Extreme caries risk (Xerostomia or Severe Early Childhood Caries)
- Treatment challenged by behavioral or medical management
- Patients with carious lesions that may not all be treated in one visit
- Patients without access to dental care

Contraindications:

- Signs of infection in young children
- Visible pulpal exposure
- Gingival ulceration
- Silver allergy





Impact and Outcomes

- Reduced emergency visits
 - SDF reduced emergencies by 80% in young Floridian children waiting for treatment under general anesthesia
- Decrease in need for treatment under general anesthesia
 - 75% reduction in deep sedation cases upon implementation of SDF (2016-2022) Montshire Pediatric Dentistry



Source: Dr. Colin Boswell, Board Certified Pediatric Dentist, Pediatric Oral Health ECHO: Emerging Role of Silver Diamine Fluoride for Early Childhood Caries in Primary Care. Session 2, Emerging Opportunities.

Thomas, M. L., et al. (2020). Silver Diamine Fluoride Helps Prevent Emergency Visits in Children with Early Childhood Caries. Pediatr Dent. 2020 May 15;42(3): 217-220.

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SDF Application in Maine

Pilot Sites

- MaineHealth Primary Care Damariscotta
- MaineHealth Primary Care Pediatrics Portland
 - Applied to 48 patients between 6/15/2024 and 1/1/2025

Onboarding SDF

- Northern Light Family Medicine and Residency- Bangor
- Dr. Harry E Davis Pediatrics Center
- Maine Dartmouth Family Medicine Residency





Dr. Melissa Keeport
Dr. Laura Blaisdell
Dr. Brian Youth

