Silver Diamine Fluoride Toolkit

For Pediatric Primary Care

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Silver Diamine Fluoride

Introduction

Silver Diamine Fluoride (SDF) is a topical medicament cleared by the FDA as a Class II medical device to treat tooth hypersensitivity. Commonly, SDF (38% solution) has been used off-label to stabilize dental caries in children and adults. SDF is a brush-on liquid that prevents dental decay from progressing and spreading to other teeth. Unlike traditional treatments such as drilling and filling a cavity, SDF is quick, painless, and does not require local anesthesia or sedation.

The American Medical Association (AMA) approved a new category III CPT code for the application of SDF by medical teams to arrest dental decay without a dental filling. The addition of this code is a milestone in improving access to dental care and, ultimately, helping more people achieve better oral health.

Previously only dental care providers could apply SDF, however, now primary care team members will be able to apply SDF to treat cavities and be reimbursed for it.

Indications and usage:
The following scenarios may be well-suited for the use SDF:
- High caries-risk patients with anterior or posterior active cavitated lesions.
- Cavitated caries lesions in individuals presenting with behavioral or medical management challenges.
- Patients with multiple cavitated caries lesions that may not all be treated in one visit.
- Difficult to treat cavitated dental caries lesions.
- Patients without access to or with difficulty accessing dental care.
- Active cavitated caries lesions with no clinical signs of pulp involvement.

Time 0 — Active Decay and Pain | I Day — SDF Working | I Week — No Decay No Pain

Health System Integration Checklist

This checklist provides a list of tasks that may be needed to facilitate SDF integration in your practice/health system. There may be additional tasks that are not listed here. It's important to engage with leadership and ask questions throughout the integration process.

1. Leadership Approval		
Key Task	**Description**	**Completed**
Identify clinical champion(s)	Clinical champion is typically a physician. It's helpful to have multiple physicians and clinical support staff championing this service integration effort. • Name of clinical champion:	☐
Gain additional physician buy-in and prioritization	Within a health system, it's recommended to present concept of SDF to any physician lead groups to foster service buy-in. This will aid in leadership prioritization. • Name of physician group within health system:	☐
Leadership approval to onboard SDF	Within your practice who are the key leaders who need to approve the use of SDF treatment. Are there any medical/ IT/ billing committees that need to be notified? • List of key leaders: *(This could be a Practice Manager, Operations Manager/Director/VP, CMO or CNO. – physician champion will need to determine the right leadership for your organization)*	☐

2. Service Approval		
Key Task	**Description**	**Completed**
New service onboarding procedure	Work with a practice manager to determine if there is any paperwork that needs to be completed when onboarding a new service within a practice or health system. New service paperwork typically includes: • providing evidence-based information on the new service • providing billing codes and diagnosis codes • patient population who will be receiving the service • cost of new service • who can apply SDF (In Maine a qualified provider can apply SDF. This is interpreted as an advanced practitioner who has been trained to apply SDF.)	☐
Pharmacy	Contact pharmacy department to determine procedures for onboarding SDF as a topical medicament. • Pharmacy contact:	☐

3. Electronic Health Record Integration		
Key Task	**Description**	**Completed**
Integrate SDF procedure into electronic health record system	What is the IT request process to make chances to the electronic health record? It's helpful to have a billing person aware of the EMR build so they can input billing codes appropriately. • Name of IT contact:	☐

4. Billing Integration		
Key Task	**Description**	**Completed**
SDF billing codes into billing system	Identify contact within billing department and onboard billing codes for MaineCare and commercial insurance. • Name of billing contact:	☐

5. Development of Consent Form and Patient Education Material		
Key Task	**Description**	**Completed**
Consent form	Determine if there is a standard consent form for your practice/health system. • Contact/department who can approve consent form: (	☐
Patient Education Materials	Determine if there is a standard patient education material process for your practice/health system	☐

6. Workflow Optimization		
Key Task	**Description**	**Completed**
SDF workflow at the practice level	Determine best workflow for the practice. Examples of workflow include: • SDF application during the well-child visit • SDF application at an appointment scheduled after a patient is identified • Creation of clinic time dedicated to SDF application	☐

7. Training		
Key Task	**Description**	**Completed**
SDF Training	Determine SDF training plan. Example training plan includes: • Completion of the Smiles for Life Curriculum • Contact FTFT for hands on SDF application training (mhfirsttooth@mainehealth.org)	☐

*For additional information on integration see the American Academy of Pediatrics SDF Application in the Pediatric Medical Setting guidance

Supplies Checklist

Review SDF workflow at team meeting

- Date of team meeting:_____
-

Review plan for patient educational material and consent form

Assigning supply preparation roles

- Who will order supplies?_____
- Where will the supplies be stored?_____
- Who will get the supplies ready for the patient visit?_____

Materials to Order	Name of Vendor
Gloves	
Disposable patient napkin (bib)	
Patient safety glasses (kids sun glasses- optional)	
Cotton rolls or gauze	
Vaseline	
Silver diamine fluoride-unit-dose*	Elevate Oral Health Care
Fluoride varnish	
Dental mirror (if needed)	
Tray to hold supplies	

*SDF can be ordered from Elevate Oral Care. Unit-dose is recommended for easy of use in primary care however, any SDF product can be purchased by primary care office. The sales representative is: Hayley Buckner, RDH, BS, FADHA, Professional Relations Manager Office: 877-866-9113, Ext. 406 Cell: 775-342-8703 Website: www.elevateoralcare.com

Pricing may vary from what is listed here!

Product	Item #	Flavor/ Color	Price Level Discounts					Qty.
Advantage Arrest® Silver Diamine Fluoride 38%			1 Unit	2 Units	3 Units	12 Units		
Box of 30 Unit-Dose Ampules (0.1 mL per ampule) - Includes 30 Small & 30 Large Applicators	635UD3000	N/A	$155.00	$150.00	$145.00			
8 mL Bottle	635000100	N/A	$210.00	$199.00	$190.00	$175.00		
Three Bottle Kit (3 mL per bottle)	635003030	N/A	$260.00	$245.00	$230.00	$215.00		
Medical Convenience Kit	635AACNKT	N/A	$14.00					
Large Applicators (Green) - 100 Pack	635APPLGR	N/A	$12.50					
Small Applicators (Pink) - 100 Pack	635APPLPI	N/A	$12.50					
Advantage Arrest® Silver Diamine Fluoride 38% Gel *NEW!*			1 Kit	2 Kits	3+ Kits			
Box of 30 Unit-Dose Ampules (0.1 mL per ampule)	635GE3000	N/A	$160.00	$155.00	$150.00			

Picture of SDF Application Set up

Set Up for SDF Clinical Application

SDF application materials:
- SDF unit-dose ampule
- Gloves
- Gauze/ cotton rolls
- Disposable patient napkin
- Vaseline
- Fluoride varnish
- Safety glasses for patient (optional)
- Dental mirror (if needed)

Patient SDF consent form

Patient SDF educational material

Oral Health Services Billing Guide for Primary Care Practices

MaineCare

Topical Fluoride Varnish	
Procedure Code	CPT 99188- Application topical fluoride varnish by phs/qhp
ICD-10 Code	Z29.3- Encounter for prophylactic fluoride administration
Covered Age Range	Patients 6-months up to 21 years

Reimbursement by Provider Type Chart:

Provider type	Claim form	Reimbursement rate for fluoride varnish
Federally Qualified Health Center (FQHC)	UB 04	Included in encounter rate
Rural Health Center (RHC)	UB 04	Included in encounter rate
Ambulatory Care Clinic (School Health Center)	CMS 1500	Included in encounter rate
Indian Health Service (IHS)	CMS 1500	Included in encounter rate
Hospital Services (Provider-Based Practice)	CMS 1500/UB04 Split Bill	$26.58/application
Physician Practice	CMS 1500	$26.58/application

- **DO NOT BILL USING D1206.** Check your billing codes to make sure fluoride varnish has been switched to CPT 99188.

Oral Health Evaluation	
Procedure Code	D0145- Oral evaluation, patient under 3 years old D0191- Assessment of a patient (for patients over age 3)
ICD-10 Code	Z00.121- Encounter for routine child health examination with abnormal findings (Use additional code to identify abnormal findings, such as dental caries (K02.9 Dental caries, unspecified) Z00.129.- Encounter for routine child health examination without abnormal findings
Covered Age Range	D0145: patients under 3 years; D0191: patients ages 3 years up to 21 years

Reimbursement by Provider Type Chart:

Provider type	Claim form	Reimbursement rate for fluoride varnish
Federally Qualified Health Center (FQHC)	UB 04	Included in encounter rate
Rural Health Center (RHC)	UB 04	Included in encounter rate
Ambulatory Care Clinic (School Health Center)	CMS 1500	Included in encounter rate
Indian Health Service (IHS)	CMS 1500	Included in encounter rate
Hospital Services (Provider-Based Practice)	CMS 1500	D0145: $50.21/D0191: $14.55
Physician Practice	CMS 1500	D0145: $50.21/D0191: $14.55

Silver Diamine Fluoride (SDF)	
Procedure Code	D1354- Application of caries arresting medicament-per tooth
ICD-10 Code	Z00.121- Encounter for routine child health examination with abnormal findings (Use additional code to identify abnormal findings, such as dental caries (K02.9 Dental caries, unspecified)
Covered Age Range	Patients 6-months up to 21 years

Reimbursement by Provider Type Chart:

Provider type	Claim form	Reimbursement rate for fluoride varnish
Federally Qualified Health Center (FQHC)	UB 04	Included in encounter rate
Rural Health Center (RHC)	UB 04	Included in encounter rate
Ambulatory Care Clinic (School Health Center)	CMS 1500	Included in encounter rate
Indian Health Service (IHS)	CMS 1500	Included in encounter rate
Hospital Services (Provider-Based Practice)	CMS 1500	$27.82/tooth
Physician Practice	CMS 1500	$27.82/tooth

Practices Participating in Primary Care Plus (PCPlus)

- Primary Care Plus (PCPlus) is MaineCare's value-based approach to support primary care. PCPlus offers primary care practices greater flexibility and incentives to meet MaineCare members' health care needs. PCPlus transitions away from a volume-based (fee-for-service) payment system toward an approach that provides population-based payments tied to cost- and quality-related outcomes.
- Offering an oral health screening and topical fluoride varnish application up to age 21 is a PCPlus Practice Service Expectation.

Sample Consent Form
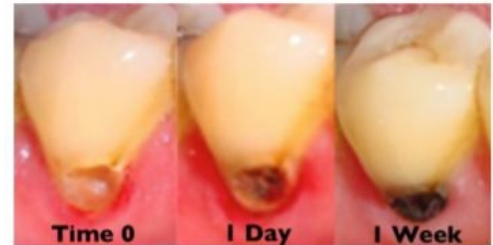
Patient Name:_____

Date of Birth:_____

Informed Consent for Silver Diamine Fluoride (SDF)

THE BENEFITS OF SDF
- SDF is a liquid antibiotic that can help stop tooth decay and relieve tooth sensitivity.
- SDF can help prevent the need for fillings or other more invasive treatment on a tooth
- SDF is easy to use and does not hurt. There is no need to numb or drill teeth.

THE PROCEDURE
- The affected area of the tooth is dried.
- A small amount of SDF is placed on the affected area and allowed to dry for 1 minute.
- There may be a metallic taste that will go away quickly.
- After application of SDF, no eating or drinking for one hour.

DO NOT USE SDF IF
- **THERE IS AN ALLERGY TO SILVER**
- There are painful sores or raw areas on the gums or in the mouth.

RISKS RELATED TO SDF INCLUDE, BUT ARE NOT LIMITED TO:
- The affected area will stain gray to black permanently as shown in the photo. Healthy tooth structure will not stain, only the unhealthy area. This means the SDF is working.
- Tooth-colored fillings and crowns may discolor if SDF is applied to them. Normally this color change is temporary and can be polished off.
- If applied to the skin or gums, a brown stain may appear that causes no harm but will not immediately wash off. The stain will gradually disappear (within 1-3 weeks).
- SDF might not stop tooth decay and the decay process may progress. In that case the tooth will require further treatment such as repeat SDF, a filling, crown, root canal treatment, or extraction.

ALTERNATIVES TO SDF INCLUDE, BUT ARE NOT LIMITED TO:
- No treatment. May lead to worsening decay with continued deterioration of tooth structure, cosmetic appearance, and/or worsening symptoms.
- Depending on the location and extent of decay, other treatment may include placement of fluoride varnish, a filling, crown, extraction, or referral for advanced treatment.

I CERTIFY THAT I HAVE READ AND FULLY UNDERSTAND THIS DOCUMENT AND I HAVE HAD THE CHANCE TO HAVE ANY QUESTIONS ANSWERED.

I consent and authorize XXX to use Silver Diamine Fluoride to help stop tooth decay.

_____   _____   _____
Patient/parent/legal guardian   Patient/parent/legal guardian's Signature   Date

_____   _____   _____
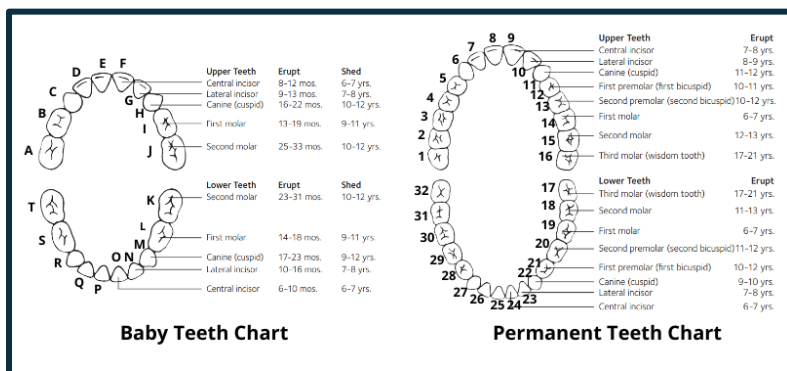Witness   Witness signature   Date

SDF Electronic Health Record Documentation

It's recommended that the electronic health record (EHR) capture the following information:

- Silver Diamine Fluoride application to treat active tooth decay?
    - Clinical staff to apply Silver Diamine Fluoride today
    - Clinical staff to schedule a separate appointment for application
    - Patient refused Silver Diamine Fluoride
    - Not discussed with patient
- SDF consent form reviewed with patient or legal guardian:
    - Patient or legal guardian accepted SDF treatment
    - Patient or legal guardian refused SDF treatment
- Is the pulp of the tooth exposed:
    - Yes - If yes, do not apply SDF
    - No
- Does the patient have a silver allergy:
    - Yes- If yes, do not apply SDF
    - No
- Has it been six months since prior application?
    - Yes
    - No
        - First application date: month/date/year
        - Second application date: month/date/year
- **SDF Procedure:** A protective drape was used. Teeth were wiped with cotton rolls to remove food or debris. The tooth/teeth being treated was dried thoroughly. Silver diamine fluoride was carefully applied to the lesion(s) with a microsponge applicator until saturated and allowed to absorb for up to 30 seconds. Excess SDF was dabbed away with gauze.
- Fluoride varnish was applied post SDF treatment
    - Yes – *Charge Capture using CPT 99188- This would also satisfy need for fluoride varnish prompted by oral health risk assessment.*
    - No
- Number of teeth that received SDF treatment -*Charge Capture using D1354 for patients with MaineCare insurance and CPT 0792T for patients with commercial insurance. If silver diamine fluoride is applied during the WCC, silver diamine fluoride should be coded as part of the visit. If a separate visit is scheduled the visit would be for SDF application only, unless the patient had other acute issues that were addressed.*
    - Documentation of teeth that received SDF treatment –

- Reminder to schedule an appointment in 6-months for reapplication and provide dental referral information

Silver Diamine Fluoride

Silver Diamine Fluoride **(SDF)** is a liquid made up of fluoride and silver particles to help stop cavities from getting worse. SDF stops cavities by killing the bacteria in the tooth that causes decay and helps keep the tooth healthy. SDF can be used by a dentist or medical provider.

How is SDF applied?

Your provider will take a small amount of the liquid SDF and put it on any areas of your teeth that have a cavity. Your provider will put a separate fluoride varnish over all of your teeth after they put on SDF. This helps prevent cavities in other parts of your mouth and masks any bad taste from the treatment.

Typically, 2 treatments of SDF are needed. The second treatment is 6 months after the first application.

What are the benefits of SDF?

- SDF treatment is quick and painless.
  - Because you won't have a long wait time, SDF is a good option for young children, or children with intellectual or developmental disabilities that have problems with normal dental treatment or normally require sedation at the dentist.
- SDF can stop cavities from getting worse.
- SDF delays or prevents the need for more invasive dental treatments.
- SDF is an accessible option for children who have limited access to a dentist.

What are the risks of SDF?

- SDF will permanently stain the cavity in your teeth black. The black color means that treatment is working. If SDF accidentally gets on your gum or lips, it will temporarily turn the area brown for up to 3 weeks. Healthy parts of your teeth will **NOT** be stained.
- SDF contains silver and should **NOT** be used if you have a silver allergy.

Picture of permanent black staining

| Time 0 | 1 Day | 1 Week |
| Active Decay and Pain | SDF Working | No Decay No Pain |

What else is important for me to know?

- There are other treatment options that a dental provider can offer to fix a cavity. A dental provider can treat cavities with a filling, crown, or by removing the tooth.

- If your cavity is large and is sensitive to hot or cold items, this could mean the nerve of your tooth is exposed. SDF will NOT be used if the nerve of your tooth is exposed.

Does insurance pay for this?

- MaineCare insurance will cover SDF treatment. Many private insurance companies do not cover the cost of this procedure. Please call your insurance provider to discuss coverage of this treatment if you have questions about what you may owe.

Questions?

- Please contact your provider for more information and to see if this treatment is right for you.

Silver Diamine Fluoride

Background

Silver Diamine Fluoride (SDF) is a topical medicament cleared by the FDA as a Class II medical device to treat tooth hypersensitivity. Commonly, SDF (38% solution) has been used off-label to stabilize dental caries in children and adults. SDF is a brush-on liquid that prevents dental decay from progressing and spreading to other teeth. Unlike traditional treatments such as drilling and filling a cavity, SDF is quick, painless, and does not require local anesthesia or sedation.

Clinical Guidance

Indications and usage:

The following scenarios may be well-suited for the use SDF:

- High caries-risk patients with anterior or posterior active cavitated lesions.
- Cavitated caries lesions in individuals presenting with behavioral or medical management challenges.
- Patients with multiple cavitated caries lesions that may not all be treated in one visit.
- Difficult to treat cavitated dental caries lesions.
- Patients without access to or with difficulty accessing dental care.
- Active cavitated caries lesions with no clinical signs of pulp involvement

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How to Apply Silver Diamine Fluoride

Materials

- SDF unit-dose ampule
- Gloves
- Gauze
- Disposable patient napkin
- Safety glasses for patients
- Vaseline
- Fluoride varnish

Application

- Place protective bib below patient's chin
- Wipe teeth with gauze or toothbrush to remove food or debris
- Dry the tooth/teeth being treated thoroughly
- Apply SDF to area of decay using a micro sponge applicator until area is saturated
- Allow area to absorb SDF liquid for 30-60 seconds
- Dab way excess liquid with gauze
- Apply fluoride varnish to all teeth including SDF treated area