

Procedure 33-1**Professionally Applied Topical Fluoride Using the Tray Technique for In-Office Fluoride Treatment (Gel or Foam)****EQUIPMENT**

Mouth mirror
Cotton forceps
Fluoride tray(s)
Cotton rolls
1.23% acidulated phosphate fluoride (APF) or 2.0% sodium fluoride gel
Air syringe

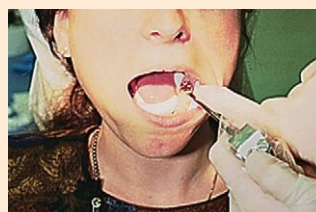
Timer
Saliva ejector
2 × 2 gauze
Tissues
2-oz cup
Personal protective barriers and equipment barriers

STEPS

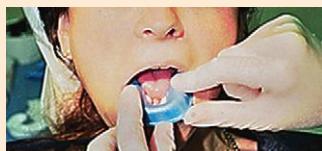
1. Assemble equipment (Figure 33-8).
2. Seat client in upright position. Reiterate benefits and obtain informed consent (Figure 33-9).
3. Try tray of appropriate size. Complete dentition must be covered, including areas of recession (Figure 33-10).

**Figure 33-8.****Figure 33-9.****Figure 33-10.**

4. Load fluoride gel into trays: 2 mL maximum per tray for small children; 4 mL maximum per tray for large children (>44 lb), 2.5 mL maximum per tray for adults (Figure 33-11).
5. Isolate teeth with cotton rolls. Dry with air syringe (Figure 33-12).

**Figure 33-11.****Figure 33-12.**

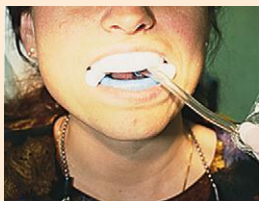
6. Insert both trays or a dual arch tray in mouth (Figures 33-7, 33-13, and 33-14).
7. Press tray against teeth and ask client to close mouth and bite gently on trays or cotton rolls (Figure 33-15).

**Figure 33-13.****Figure 33-14.****Figure 33-15.**

Continued

Procedure 33-1**Professionally Applied Topical Fluoride Using the Tray Technique for In-Office Fluoride Treatment (Gel or Foam)—cont'd**

8. Place saliva ejector over mandibular tray. Set timer for 4 minutes. Never leave client unattended during procedure (Figure 33-16).
9. Tilt chin down to remove trays (Figure 33-17).
10. Ask client to expectorate; suction excess fluoride from the mouth with saliva ejector (Figure 33-18).

**Figure 33-16.****Figure 33-17.****Figure 33-18.**

11. Instruct client not to eat, drink, or rinse for 30 minutes.
12. Record service in client's chart under "services rendered"; for example, "Applied topical APF fluoride gel to existing teeth for 4 minutes. Used stock trays to apply approx. 2 to 2.5 mL of 1.23% APF (insert brand name). Client consented to procedure; no complications or adverse reactions during treatment. Client instructed not to eat or drink for 30 minutes."

Procedure 33-2**Professionally Applied Sodium Fluoride Varnish Using the Paint-on Technique****EQUIPMENT**

Mouth mirror
 5% sodium fluoride varnish (unit dosage)
 Cotton-tip applicators or syringe applicator
 Personal protective barriers and equipment barriers

STEPS

1. Select unit-dose fluoride varnish product; gather equipment and supplies for application.
2. Provide client with information about procedure; reiterate benefits. Obtain informed consent.
3. Unless an oral prophylaxis has been performed at the same appointment, have client cleanse teeth with toothbrush.
4. Recline client for ergonomic access to oral cavity.
5. Wipe application area with gauze or cotton rolls and insert a saliva ejector. Can be applied in the presence of saliva and without a saliva ejector.
6. Using a cotton-tip, brush, or syringe-style applicator, apply 0.3 to 0.5 mL of varnish (unit dose) to clinical crown of teeth: application

time is 1 to 3 minutes. Figure 33-19 shows a colored varnish for tracking coverage; white varnishes also are available.

7. Dental floss may be used to draw the varnish interproximally.
8. Allow client to rinse on completion of procedure.
9. Remind client to avoid eating hard foods, drinking hot or alcoholic beverages, brushing, and flossing until the next day or at least for 4 to 6 hours after application.
10. Record service in client's record under "Services Rendered," e.g., "Applied 0.3 mL of 5% (22,600 ppm) sodium fluoride varnish (insert brand name) per tooth. Client consented to this procedure; no complications or adverse reactions during treatment. Client instructed to keep varnish on the teeth for at least 4 to 6 hours or preferably until the next day. Client told to drink through a straw and avoid hard foods, alcoholic and hot beverages, brushing, and flossing until preferably the next day to prolong the varnish treatment. Varnish can be removed the next day with toothbrushing and interdental cleaning."

Foam-based fluoride was developed to address the ingestion risk associated with using high-potency fluoride products. With foam products, 75% less fluoride is used, dramatically reducing the risk of acute fluoride toxicity and cost. APF foam products release the same fluoride concentration as APF gels, but limited research has demonstrated less retention with foam and few clinical trials have evaluated caries prevention with foam products.⁷ Regardless, professionally applied APF and neutral NaF are available as foam-based products and thixotropic gels.

Four high-potency, low-frequency, professionally applied topical fluoride systems have been approved by the FDA for in-office use. These products are manufactured as gels and

foams (acidulated and neutral) or varnishes and have a caries reduction rate of approximately 30%:

- 1.23%, 12,300 ppm APF (used for most patients; gluten-free now available)
- 2.0%, 9050 ppm neutral NaF (used for composite, porcelain, titanium, sealants, sensitivity)
- 8.0% SnF₂ (rarely used, see later)
- 5% NaF/2.26% or 22,600 ppm varnish (lacquer in a rosin base) (FDA-approved for root sensitivity control and cavity liners only⁷)

The 1.23% APF gel system is used widely and is a choice for clients without tooth-colored restorations or sealants. APF is a lower pH product as a result of added phosphoric acid