A Secondary Analysis of Post Application Instructions for Fluoride Varnishes



Jasmine Ghanem, DMD; Daniel Kane, DMD; Amir Yavari, DDS PGY-2 Resident, Program Director, Associate Director NYU Langone Hospitals-Advanced Education in Pediatric Dentistry, Providence, RI Department of Pediatric Dentistry

NYU Langone Dental Postdoctoral Residency Programs

INTRODUCTION

Periodic professional topical application of Fluoride has been demonstrated to result in significant reduction in Dental caries in both children and adults[1]. Therefore, it is recommended for children and adults with high caries risk[1].

Fluoride varnishes are more effective than foams or gels [1]. NaF varnish is particularly recommended in children for ease of use and equal efficacy to APF systems.[1]

Fluoride works through 3 mechanisms of action: Topical, antibacterial and systemic[2].

Fluoride varnishes work topically and commonly come in formulations of 5% NaF with similar recommendations across different brands which include applying a small amount (usually the constituents of the given package which is used once per person/child), providing the patient with post application instructions and informing the patient that there is a film of fluoride

PURPOSE

varnish on the teeth. [2]

The purpose of this research is to ensure that the instructions given to the patient or parent post fluoride varnish application are cohesive and consistent across commonly used brands to be able to reach the desired result of the applied treatment.

METHOD

An analysis of the manufacturers' directions provided for the post operative instructions of Fluoride Varnish. The pamphlets of 5 different common brands were used as a reference to follow when comparing the results. The brands included in this study were MI fluoride GC America, Vanish Varnish 3M, Voco Proflouride, 3m Fast release and Enamelast.

FIGURES Varnish Single Dose FIGURE 1 FIGURE 2 FIGURE 3 MI Varnish® Qty 50 pc Pack Fresh Strawberry FIGURE 4 Recaldent ,'GC.' FIGURE 5

RESULTS

All 5 Fluoride Varnish manufacturers had similar instructions: 1.Tooth surfaces should be cleaned and dried before application of Varnish. A prophylaxis is not required. 2.Peel off the foil lid of the unit dose container of Varnish. 3.Apply a thin, uniform layer of Varnish on teeth / surfaces using a disposable brush. Note: If separation is observed, stir with the disposable brush before application. 4. Varnish sets when in contact with water or saliva. 5. Varnish should remain undisturbed on the teeth for four hours. Instruct patients to avoid hard, hot or sticky foods, tooth brushing and flossing, products containing alcohol (oral rinses, beverages, etc.) during this time period. (Above Instruction 4) The exceptions were:

- 1. Voco Profluoride (Figure 1) not discussing the avoidance of Hot foods or drinks postoperatively
- 2. In laboratory studies, Vanish White Varnish (Figure 5) continues to release fluoride, calcium and phosphate for 24 hours. Patients should refrain from brushing or flossing their teeth for 24 hours to achieve the maximum benefit.
- 3. Enamelast (Figure 3) recommendation to refrain from oral fluoride supplements for 4 days after treatment, MI Fluoride GC America (Figure 4) and Voco Profluoride (Figure 1) stating several days after treatment, and all other brands recommending 2-3 days.

CONCLUSIONS

Fluoride varnish is commonly applied by dental professionals and dental healthcare providers should properly read Fluoride Varnish manufacturer's instructions if using different brands for patients / parents to receive the maximum benefits from the applied treatments

REFERENCES

- 1. Dean, J.A. et al. (2022) Dean, J.A. et al. (2022) McDonald and Avery's dentistry for The child and adolescent. St. Louis, MO: Elsevier. McDonald and Avery's pg 168-169dentistry for The child and adolescent. St. Louis, MO: Elsevier.
- 2. Casamassimo, P.S. and Nowak, A.J. (2018) *The Handbook of Pediatric Dentistry*. 4th edn. Chicago, IL: American Academy of Pediatric Dentistry pg 66,67.
- 3. Enamelast en de Fr NL it enamelast fluoridlack Vernis Fluoré enamelast . Available at:
- https://assets.ctfassets.net/wfptrcrbtkd0/2eec95f1-65b5-46dc-b3e4-12e776073711/1106a5acdc4f5b5e1fdf060db0b25288/Enamelast.pdf.
- 4. The instructions FORUSE. en fr mi varnish GC America. Available at:
- https://www.gcamerica.com/products/preventive/MI_Varnish/MI_VarnishIFU_4L.pdf.
 5. 3M™ vanish™ 5% sodium fluoride white varnish technical data sheet. Available at:
- https://multimedia.3m.com/mws/media/1394053O/3m-vanish-5-sodium-fluoride-white-varnish-technical-data-sheet.pdf.
- 6. Voco profluorid Varnish Voco profluorid varnish voco.dental Available at:
- https://www.voco.dental/us/Portaldata/1/Resources/products/instructions-for-use/us/voco-profluorid-varnish_ifu_us.pdf.
 7. 3M™ Fast Release Varnish 5% Sodium Fluoride Varnish Fast Release Formula. 3M in the United States. Available at:
 https://www.3m.com/3M/en_US/p/d/b40064257