

# Caregiver Application of Fluoride Varnish: Guideline

## Site Applicability

VCH Dental Public Health Programs

## Practice Level

Dentists, Dental hygienists: Basic skill

## Need to Know

- The purpose of this guideline is to:
  - To facilitate access to fluoride varnish in extreme circumstances such as pandemics or when there are travel barriers.
  - To educate caregivers in priority populations in the application of fluoride varnish.
  - To reduce risk for early childhood tooth decay.
- **NOTE:** Caregiver at-home application of fluoride varnish should not be normal practice. It is only initiated when there are extreme circumstances restricting access to dental care.
- A 5% colophony-based sodium fluoride varnish is the only recommended topical fluoride application for children under the age of 6.<sup>1</sup>
- 5% sodium fluoride varnish has been shown to reverse incipient tooth decay.<sup>2</sup> It can reduce tooth decay on the primary dentition by 37% when applied 2 to 4 times each year.<sup>2</sup>
- 5% sodium fluoride varnish application is only done after a dental professional has assessed a child's risk for tooth decay to be high via a caries risk assessment ([Appendix A](#)) interview, and the dental professional has undertaken dental counseling to mitigate those risks.
- Fluoride varnish application is not a restricted activity.<sup>3</sup>
- 5% sodium fluoride varnish is considered safe if used in accordance with application and product protocol. (See "Safety Section" of [VCH Dental Public Health Fluoride Varnish Guideline and Procedure](#)).
- Informed consent is required prior to providing the caregiver with 5% sodium fluoride varnish.
- Only one single dose (0.25 to 0.5ml) of 5% sodium fluoride should be given at a time.
- Caregiver at-home application of fluoride varnish does not replace adequate daily oral care and healthy eating practices.

## Equipment and Supplies

- Dental bib or paper towel
- One single-dose application of 5% sodium fluoride varnish, including applicator
- 2 individually packaged 2x2 gauze
- 2 individual antiseptic isopropyl alcohol pads\*
- At-home application instructions for caregivers ([Appendix B](#))
- Post application instructions ([Appendix C](#))

\*Fluoride varnish can be removed or cleaned from skin or any hard surfaces with isopropyl alcohol.

## Guideline

### Inclusion criteria:

- Dental professional has assessed a child to be at high risk of tooth decay, based on caries risk assessment ([Appendix A](#)).
- Dental professional has undertaken dental counselling to mitigate risks for tooth decay.
- Dental professional determines there is no possible way for the child to have a timely 5% sodium fluoride varnish application by a dental professional.

### Exclusion criteria:

- Caregiver does not feel comfortable or does not consent to applying fluoride varnish at home.
- Dental professional does not deem family is a suitable candidate to apply fluoride varnish at home (e.g. unable to demonstrate ability to recall fluoride varnish instructions, requires physical or other assistance, child anxiety requires assistance for application, does not have a safe location to store fluoride, etc.)

### Procedure

- Discuss procedure for caregiver at-home application. ([Appendix B](#))
- Ensure caregiver can keep product out of the reach of children.
- Have caregiver review [instructional video](#), and then answer caregiver questions.
- Use teach-back method to confirm caregiver understanding. Address gaps in knowledge.
- Gain informed consent for product using Verbal Informed Consent Checklist ([Appendix D](#)).  
Include:
  - Date of at-home application
  - Time of day caregiver will apply 5% sodium fluoride varnish would be, such as after evening bath. (Applying after tooth brushing may be difficult if the child does not cooperate with tooth brushing.)
- Arrange post-application follow up communication time (within 1 week of at-home application)

## Expected Client and Family Outcomes

Successful at-home application of 5% sodium fluoride varnish.

### Caregiver Education

- Caregivers will read or listen to dental professional read Application Procedure ([Appendix B](#)), and watch associated videos.
- Caregiver understanding will be confirmed.

### Follow Up

- Staff should phone the parent following the scheduled date of application to ensure that the 5% sodium fluoride varnish was applied successfully.
- If the parent was not successful or comfortable applying 5% sodium fluoride varnish, continue dental counseling or support until the child can be seen by the dental professional.
- Arrange for next steps for dental prevention services.

### Documentation

Document date of telephone counseling, date caregiver received supplies, and date and results of telephone follow-up as per PARIS Documentation standards.

### Related Documents

- Provincial Dental Public Health Fluoride Varnish Protocol 2020
- [Prevention of Tooth Decay in Children 0 to 5 Years: Oral Health Advice for Caregivers: Guideline](#)

### References

1. ADA Center for Evidence Based Dentistry: Topical Fluoride for Caries Prevention 2013. <http://ebd.ada.org/en/evidence/guidelines/topical-fluoride>
2. Marinho VCC, Worthington HV, Walsh T, Clarkson JE. Fluoride varnishes for preventing dental caries in children and adolescents. Cochrane Database of Systematic Reviews 2013, Issue 7.
3. Bylaws of the College of Dental Surgeons of BC (CDSBC); 2020. Available at: <https://www.cdsbc.org/CDSBCPublicLibrary/CDSBC-Bylaws.pdf>

### Appendices

- [Appendix A: Caries Risk Assessment](#)
- [Appendix B: Fluoride Varnish At-Home Application Instructions for Caregivers](#)
- [Appendix C: Caregiver Fluoride Varnish Post-Application Instructions](#)
- [Appendix D: Verbal Informed Consent for Caregiver Application of Fluoride Varnish Documentation Checklist](#)

## Appendix A: Caries Risk Assessment

## VCH Dental Health Parent Questionnaire for Children 12 months to 5 years old

Oral health is important for your growing child. Your responses to the questions below will help Public Health staff provide support and resources that will reduce your child's risk for tooth decay. Thank you for taking the time to complete the form.

<b>1. Having special health care needs could make dental care for children more challenging.</b>			
Does your child have any health concerns? _____	<input type="checkbox"/> Yes	<input type="checkbox"/> No	<input type="checkbox"/> I would like to know how my child's health concerns may affect their teeth.
<b>2. What we eat and drink, and how often we eat and drink affects the health of the teeth.</b>			
a. On a typical day, does your child eat more than 3 meals and 3 snacks?	<input type="checkbox"/> Yes	<input type="checkbox"/> No	<input type="checkbox"/> I would like info on how frequent eating affects teeth.
b. On a typical day, does your child drink anything other than water between meals and snacks?	<input type="checkbox"/> Yes	<input type="checkbox"/> No, only water	<input type="checkbox"/> I would like to know how frequent sipping of anything but water affects teeth.
c. Does your child fall asleep while drinking anything other than water?  What do you give? _____ How often? _____	<input type="checkbox"/> Yes	<input type="checkbox"/> No, only water	<input type="checkbox"/> I would like to know how falling asleep while drinking liquids other than water affects teeth?
d. Does your child get anything other than water if they wake in the night?  What do you give? _____ How often? _____	<input type="checkbox"/> Yes	<input type="checkbox"/> No, only water	<input type="checkbox"/> I would like to know how to stop a night bottle.
<b>3. Bacteria that cause tooth decay can spread from person to person.</b>			
a. Is tooth decay common in your family?	<input type="checkbox"/> Yes <input type="checkbox"/> Not sure	<input type="checkbox"/> No	<input type="checkbox"/> I would like more info on this topic.
b. Has your child had tooth decay in the past?	<input type="checkbox"/> Yes <input type="checkbox"/> Not Sure	<input type="checkbox"/> No	

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<b>4. Dental services are not covered by the provincial medical plan.</b>			
Does the cost of dental care limit you and your family from going to a dentist? Do you have dental benefits (insurance)? YES <input type="checkbox"/> NO <input type="checkbox"/>	<input type="checkbox"/> Yes	<input type="checkbox"/> No	<input type="checkbox"/> I would like to know about low cost clinics <input type="checkbox"/> I would like to know about government dental benefits for children.
<b>5. Dental professionals can help prevent tooth decay.</b>			
Does your child have access to a dental office where they can have teeth checked regularly?	<input type="checkbox"/> Yes	<input type="checkbox"/> No <input type="checkbox"/> Not sure	<input type="checkbox"/> I would like to know which dental offices see children my child's age. <input type="checkbox"/> I would like to know about free and low cost dental services for my child.
<b>6. Children need help brushing with a small soft toothbrush every day until they are about 8 years old.</b>			
a. Can an adult brush your child's teeth?	<input type="checkbox"/> Yes	<input type="checkbox"/> No <input type="checkbox"/> Sometimes	<input type="checkbox"/> I would like tips about brushing my child's teeth.
b. Are you able to access a small soft toothbrush for your child?	<input type="checkbox"/> Yes	<input type="checkbox"/> No	<input type="checkbox"/> I would like more info about children's toothbrushes.
c. Sometimes children do not like to get their teeth brushed. Does your child like it when you brush their teeth?	<input type="checkbox"/> Yes	<input type="checkbox"/> No <input type="checkbox"/> Sometimes	<input type="checkbox"/> I would like tips to help make brushing my child's teeth easier.
<b>7. Fluoride toothpaste can be used as soon as the first tooth erupts to prevent tooth decay.</b>			
Is fluoride toothpaste used when your child's teeth are brushed?	<input type="checkbox"/> Yes	<input type="checkbox"/> No <input type="checkbox"/> Not sure	<input type="checkbox"/> I would like to know more about fluoride toothpaste and how much to use.

If you would like more information, how should we contact you? Text, email, phone, mail out or \_\_\_\_\_ (circle all that apply)

Child Name:	Child's Birth Date:
Parent or Guardian:	Today's Date:
Mailing Address:	City:
Postal Code:	Email:
Phone Number:	PID (office use only)

*The personal information collected relates directly to and is necessary for the program operation and will be kept confidential in compliance with the Freedom of Information and Protection of Privacy Act.*

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## Appendix B: Fluoride Varnish At-Home Application Instructions for Caregivers

### Benefits of fluoride varnish:

Fluoride varnish helps prevent cavities by making the enamel (outer surface of teeth stronger).

If your child has the beginning stage of tooth decay (white lines at the gumline) fluoride varnish can stop those weak spots from turning into cavities that need filling.

### Safety of fluoride varnish:

- Fluoride varnish contains a higher amount of fluoride than fluoride toothpaste.
- It is safe because very little fluoride varnish is used and it quickly sticks to the teeth. The amount of fluoride swallowed is very low.
- Some people may be allergic to colophony or rosins which make the product stick to the teeth. This is a rare allergy. If your child is allergic to colophony or rosin, this product should not be used.
  - Colophony or rosin is the sticky substance that comes from pine and spruce trees. It is used in many products that come into contact with the skin such as:
    - bandages
    - sunscreen
    - skin creams
- Fluoride varnish is sticky. It can be removed from external skin, hard surfaces and clothing with the alcohol wipes provided in the supplied equipment.

### Procedure:

#### Two Person Technique:

1. [Review written and video procedures.](#)
2. Review [post-application instructions.](#)
3. Set up chairs in the knee-to-knee position (see [figure 1](#)).
4. Wash hands.
5. Place the paper towel or dental bib on a clean table or countertop.
6. Place the fluoride varnish and opened gauze packet on the paper towel or dental bib.
7. Gently peel back the foil from the brush end of the varnish container so that the brush and varnish are exposed.
8. Stir the varnish thoroughly for at least 30 seconds.
9. Adults sit on the chairs knee-to-knee. Place child on the adults' lap as shown in [Figure 1](#).
10. One adult will secure the child's legs with their arms and hold their hands.
11. The other adult will apply the varnish:
  - Look into the mouth for sores or bleeding. Do not apply if sores or bleeding is visible.
  - Wipe child's teeth with the 2x2 gauze
  - Apply a thin layer of fluoride varnish across the outside surfaces of all teeth.

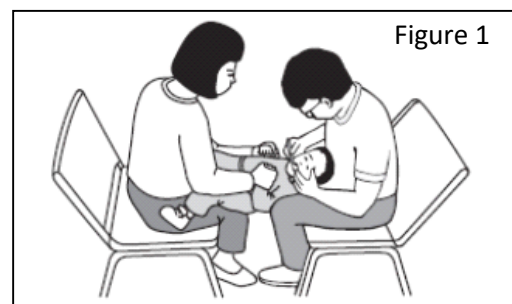


Figure 1

12. Sit the child up.
13. Follow Caregiver Fluoride Varnish [Post-Application Instructions](#)

### One Person Technique:

1. [Review written and video procedures.](#)
2. Review post-application instructions.
3. Wash hands.
4. Place the paper towel or dental bib on a clean surface.
5. Place the fluoride varnish and opened gauze packet on the paper towel or dental bib.
6. Gently peel back the foil from the brush end of the varnish container so that the brush and varnish are exposed.
7. Stir the varnish thoroughly for at least 30 seconds.
8. Lie child down on floor between caregiver's legs (See [Figure 2](#)). Secure child's arms under caregiver's legs if necessary. Secure their body with caregiver legs.
  - Look into the mouth for sores or bleeding. Do not apply if sores or bleeding is visible.
  - Wipe child's teeth with the 2x2 gauze
  - Apply a thin layer of fluoride varnish across the outside surfaces of all teeth.
9. Sit the child up.
10. Follow Caregiver Fluoride Varnish Post-Application Instructions.



Figure 2

## Appendix C: Caregiver Fluoride Varnish Post-Application Instructions



Dental Program info

Fluoride varnish can be removed or cleaned from skin of hands, clothing or any hard surfaces with isopropyl alcohol that is included in your package. Do not use isopropyl alcohol on skin of face.

### For the next 6 hours:

- Be alert for signs of allergic reaction\*.
- Offer only soft foods.
- Avoid crunchy foods such as raw carrots, apples, popcorn and chips.
- Avoid hot drinks.
- Do not brush your child's teeth.

You or your child may notice a coating on the teeth. This is normal after a fluoride varnish application. This feeling will go away over time.

If you have any questions or concerns about the fluoride varnish application, please call the Vancouver Coastal Health Dental Hygienist at the number listed above.

Fluoride varnish may be applied again in 3 to 4 months by your child's dentist or public health dental hygienist.

*\* Possible allergy to colophony in the fluoride varnish product was ruled out when this product was given to you. However, if your child should have an adverse reaction such as burning, itchiness, redness and/or swelling in and /or around the mouth, brush the fluoride varnish off the teeth immediately. Tell your health care providers.*



## Appendix D: Verbal Informed Consent for Caregiver Application of Fluoride Varnish Documentation Checklist

- ☐ Staff have confirmed Parent or Caregiver is capable of giving and understanding consent.
- ☐ Staff have discussed the following with Parent or Caregiver:
  - Condition for which the use of fluoride varnish is proposed, and appropriateness given child's medical history;
  - Benefits of fluoride varnish
  - Potential risks or contraindications of fluoride varnish (including allergic reaction)
  - Safety of fluoride varnish
  - Alternatives to fluoride varnish, and their associated risks and benefits
- ☐ Parent has confirmed to Staff that they have watched associated videos
- ☐ Parent questions about product and procedure answered
- ☐ Parent has given verbal informed consent
- ☐ Informed consent documented in PARIS

Planned date of application: \_\_\_\_\_

Planned date of follow-up: \_\_\_\_\_

Name of Child: \_\_\_\_\_ DOB: \_\_\_\_\_

PARIS ID: \_\_\_\_\_

Name of Parent or Caregiver: \_\_\_\_\_ DOB: \_\_\_\_\_

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<b>Owners:</b> (optional)	VCH
	<b>Developer Lead(s):</b> Regional Dental Practice Council (RDPC) <ul style="list-style-type: none"> <li>Community Dental Hygienist-North Shore</li> <li>Supervising Dentist, Robert and Lily Lee Community Centre-Vancouver</li> <li>Community Dental Hygienist-Richmond, RDPC Chair</li> </ul> <b>Development Team members:</b> <ul style="list-style-type: none"> <li>Community Dental Hygienist-Powell River</li> <li>Community Dental Hygienist-Sunshine Coast</li> </ul>

## Review / Revised Date

- Dec 20, 2021 – Updated Appendix A