This document aims to cover the generic issues associated with the application of fluoride varnish by dental nurses in either a clinical setting (treatment service premises) or in a community setting (for example in a children’s centre or nursery).

It sets the minimum standards which any fluoride varnish programme should achieve but local schemes may adopt enhanced requirements.

The document consists of a section which details the relevant general issues related to the use of fluoride varnish as part of a caries preventive programme. This includes the minimum standards for training and assuring competence. The second section focuses on the application of varnish in a clinical setting and the third deals with issues which are specific to application in a community setting. Finally, section 4 lays out the procedure of varnish application, wherever this takes place.

Section 1 – Generic issues

The General Dental Council booklet ‘Scope of Practice’ \(^1\) confirms that dental nurses may apply fluoride varnish. It states that dental nurses need to ensure that they are trained and competent. It is ultimately up to the registrant to ensure that they are trained and competent and are able to justify that if needed.

The scope of practice identifies ‘additional skills dental nurses could develop during their careers’. It outlines seven additional skill areas, the two of most relevance for fluoride varnish application are: ‘further skills in oral health education and oral health promotion’ and ‘applying fluoride varnish as part of a programme which is overseen by a consultant in dental public health or a registered specialist in dental public health’.

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*Scope of Practice. General Dental Council, London, 2009*
A programme could be delivered in a clinical (treatment service premises) or community setting (e.g. children's centre or nursery).

In a fluoride varnish programme a trained and competent dental nurse can apply fluoride varnish to the teeth of children, adolescents or adults according to a protocol approved by a consultant or specialist in dental public health.

The General Dental Council has advised that within the scope of practice a dentist can give a trained and competent dental nurse a prescription to apply fluoride varnish to individual patients in a dental practice.

1.1 Context

The application of fluoride varnish to child and adult patients should occur as part of a wider package of preventive care as outlined by ‘Delivering Better Oral Health – an evidence based toolkit for prevention’. Fluoride varnish is only one part of the caries control agenda and advice about maximising the benefits of toothbrushing, dietary control and other professional interventions should also be incorporated into preventive treatment plans for all patients.

1.2 Evidence of effectiveness

Fluoride varnish is one of the best options for the application of topical fluoride to teeth. High quality evidence of the caries preventive effectiveness of fluoride varnish in both permanent and primary dentitions is available. Fluoride varnish for use as a topical treatment has a number of practical advantages; it is well accepted and considered to be safe, the application of fluoride varnish is simple, and requires relatively little training.

1.3 Choice of varnish

Only a varnish which has been licensed for caries control should be used.

1.4 Indications

Twice yearly applications of fluoride varnish are indicated for all children and young adults aged three years upwards and for adults giving concern with regards to caries.

Applications three or four times a year are indicated for any child or young adult giving concern.

1.5 Contraindications

The use of one fluoride varnish product is contraindicated in patients with:
- ulcerative gingivitis, stomatitis or other localised pathology of the soft tissues
- a history of allergic episodes requiring hospital admission, including asthma, contraindicate the application of fluoride varnish

A known allergy to one of the constituents of the varnish (e.g. colophony) is another very rare contraindication.

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3 Fluoride varnishes for preventing dental caries in children and adolescents. Marinho VCC. Cochrane Database of Systematic Reviews, CD 002279

www.pcc.nhs.uk
1.6 Information required for patients and parents

Prior to the giving of verbal or written consent, all patients or parents should be provided with information about the purpose, benefits, process, side effects and alternatives of fluoride varnish application (see section 4 below).

In either the clinical or community setting the provision of appropriate information and the opportunity for patients and parents to ask questions are essential elements in the gaining of valid consent.

In the clinical setting once the procedure has been discussed it is sufficient for patients or parents to give verbal consent as the application will occur as part of a wider treatment plan which is provided by a clinical team known to the patient and has already gained written consent.

In contrast, in the community setting it is necessary to obtain valid written consent following the provision of clear information.

Information about the actual procedure should be given prior to the first application and advice about post-operative action should be given after each application. It is good practice for the advice to be given in both verbal and written form.

1.7 Personnel

Fluoride varnish can be applied by registered dentists, therapists and hygienists who have received training on the procedure. Dental nurses who have received appropriate training in the requisite additional skills and who are competent to carry out the procedure can apply fluoride varnish as part of a programme which is overseen by a consultant or registered specialist in dental public health and/or on the prescription of a dental surgeon.

1.8 Training and competence

The opening of the dental care professionals (DCP) register on 31 July 2006 was accompanied by the end of the lists of permitted duties for dental hygienists and dental therapists. All DCPs are now, like dentists, governed by an ethical obligation to only undertake tasks in which they are trained and competent.

Any course organiser within the NHS would need to assure that any dental nurses being trained in additional skills to apply fluoride varnish already have the basic competencies set out in the scope of practice.

In particular they should assure that the prospective students are able to:

- Prepare and maintain the clinical environment, including the equipment
- Carry out infection-control procedures to prevent physical, chemical and microbiological contamination in the surgery or laboratory
- Prepare, mix and handle dental materials
- Keep full and accurate patient records
- Give appropriate advice to patients
- Make appropriate referrals to other health professionals
- Support the patient and their colleagues if there is a medical emergency (recent training should be confirmed)

Organisers of training for dental nurses working in the NHS may also consider their need for further skills training in oral health education and promotion. Those being employed to apply fluoride varnish in a community based programme should have these skills as a requisite.
Although the GDC does not accredit courses dental nurses would need to justify, if necessary, that they are trained and competent in the additional skill of applying fluoride varnish. Attending a course with the following minimum standards and elements would achieve this and satisfy the standards and criteria that are likely to be set by NHS commissioners.

Training courses for dental nurses to apply fluoride varnish within the NHS should have the following minimum elements:

1.8.1 Knowledge of the GDC Scope of Practice and the responsibilities of registrants. This to include professionalism, ethics, confidentiality and consent.
1.8.2 Delivery of the correct knowledge, content and application of “Delivering Better Oral Health”, along with an explanation of the use of evidence based statements
1.8.3 The caries process and the role of fluoride in its control
1.8.4 Practical training in the application of fluoride varnish
1.8.5 Pre-application assessment, including knowledge and familiarity with common soft tissue conditions E.g. sepsis
1.8.6 Knowledge of the contraindications to the use of fluoride varnish
1.8.7 Objective, structured assessment of clinical competence in the additional skill of fluoride varnish application
1.8.8 Training in communication skills
1.8.9 Validation of course content and objective competency assessment by a Consultant or Specialist in Dental Public Health to satisfy the requirements of the Scope of Practice.

1.9 Indemnity

All General Dental Council registrants have a professional requirement to ensure they are indemnified for the work that they do so that patients can claim any compensation to which they may be entitled. The only appropriate arrangements recognised by the GDC are:

• Dental defence organisation membership
• Professional indemnity insurance held by the registrant or an employer
• NHS indemnity (those directly employed by any NHS organisation)

The legal position with regard to vicarious liability in dental practice is that the employer remains liable for the acts and omissions of everyone he or she employs while in the course of their employment.

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4 Standards for dental professionals. General Dental Council, London, 2005
1.10 Child protection

All members of the clinical team, including dental nurses involved in dental care have an obligation to inform the appropriate authorities if they suspect a child may have been the subject of a non accidental injury.

The implications of child protection are serious and must be dealt with carefully and sensitively. They should document and report their concerns in accordance with local policies and procedures.

Section 2

Using fluoride varnish in clinical settings

Within most PCT populations a majority of children (60-70%) and almost half of adults (48%) are in touch with clinical services at least once in a typical two year period. This means that they should be receiving all the correct preventive advice and treatment from the clinical team.

There is very clear evidence that shows the effectiveness of twice yearly fluoride varnish application for caries control. If this is combined with all other messages and advice listed in ‘Delivering Better Oral Health – an evidence based toolkit for prevention’ clinicians can be assured that they are giving their patients the best chance of reducing their risk of caries.

If dental nurses are to be employed in the application of fluoride varnish as part of a wider preventive package then it is a requirement that they receive training from an appropriate programme.

2.2 Scope of practice

The General Dental Council advises that within the scope of practice a dentist can give a trained and competent dental nurse a prescription to apply fluoride to individual patients in a dental practice. Both the dentists and the dental nurse should satisfy them selves that the dental nurse training and competency assessment adheres to the minimum standards set out in 1.8

2.3 Information

The prescribing clinician should tell patients or their parents why fluoride varnish is being suggested to them, the benefits and risks, the procedure and any alternatives available. Verbal agreement to proceed should be recorded in the patient’s notes.

It is good practice for patients or parents to be given information leaflets that re-iterate the information given to them about fluoride varnish and what they can expect.

Prior to the application patients and patients should be advised:

- To eat and drink normally prior to the appointment
- That the process is quick and simple
- The varnish leaves a yellow tint on the teeth which wears off
- The varnish has a taste

The dental nurse with additional skills in fluoride varnish application should check that the referring clinician has given the above information to the patient.
2.4 Procedure of application by trained dental nurse

Dental nurses with additional skills in fluoride varnish application who have received appropriate training can apply fluoride varnish in a clinical area with or without a dental surgeon being present in the practice. It is good practice for the application of varnish by the dental nurses with additional skills in fluoride varnish application to take place within visual contact of another team member. (See also section 4.)

2.5 Recording

The dental nurses who have received appropriate training in additional skills in fluoride varnish application should record in the patient notes that fluoride varnish was applied and that post-operative instructions were given. Any relevant aberrations from the normal procedure should be recorded. The entry should be dated and signed.

Section 3

Using fluoride varnish in community programmes outside clinical settings

While a majority of children and almost half of adults in most PCTs are in touch with clinical services at least once in a typical two year period, this leaves a significant proportion who cannot benefit from preventive advice and treatment. For this population group it may be necessary to provide preventive programmes which aim to reach those who do not come into contact with clinical services, but who are known to be at high risk of caries or the consequences of the condition.

Such programmes should be carefully planned with a clear aim, evidence-based interventions and a feasible methodology. It is GDC requirement that such programmes should have a clear protocol and are overseen by a consultant or registered specialist in dental public health.

If dental nurses are to be employed in such community or outreach programmes for the application of fluoride varnish then they should have further skills in oral health education and oral health promotion.

3.1 This section outlines the areas that should be covered by a programme protocol.

3.1.1 Who will initiate a programme

3.1.2 Who will design it/take responsibility/seek finance/communicate re programme

3.1.3 How groups with need will be identified – targeting and tailoring to meet local needs selection of target population

3.1.4 Resources available and scope of project – numbers to be accessed, frequency of application, duration of programme

3.1.5 Identification of suitable personnel and verification that they have received appropriate training

3.1.6 Method of ensuring that all personnel directly involved with clinical care are competent and up to date with regard to cross-infection control, medical emergencies and manual handling

3.1.7 Description of all elements of whole programme (varnish alone would be insufficient to deliver sustained benefits – no change in behaviour, diet, other exposure to fluoride)

3.1.8 Selection of partners to support the programme – roles and responsibilities of each group
3.1.9 Equipment:
- seating for clinician and patient
- lighting
- drying
- dispensing
- storage
- application
- disposal of contaminated items and sterilisable items.
- Who will purchase, manage and sterilise and replenish this.

3.1.10 Transport to and from sites where application will occur

3.1.11 Location within a building
- suitability of space
- privacy, cleanliness, security

3.1.12 Methods of approaching and contacting potential recipients and parents or guardians

3.1.13 Provision of pre- and post-application information

3.1.14 Methods of gaining valid, written consent and the recording of this. These should ensure that parents or sufficiently competent patients are provided with appropriate information about the purpose, benefits, process, alternatives and side effects of the procedure, in a timely fashion and in a format which is suitable for the target audience

3.1.15 Assessment of relevant medical history/allergies

3.1.16 Method of recording of application and other advice or intervention, adverse incidents

3.2 Procedure for application

See section 4 below

3.2.1 Organising groups of children -

The order in which children will be seen should be determined and a system established for waiting, provision of information, clinical assessment, application of varnish, recording of process and ‘discharge’.

If toothbrushing is to be a part of the programme this should occur before the application of varnish and not immediately after.

It can be helpful to choose the most co-operative looking children to have the varnish applied first.

If a child gets upset or protests during any part of the procedure, then the procedure should be abandoned.

Parents or guardians should receive written aftercare instructions.

If parents or guardians have attended their child’s clinical session, they should be asked if they have any questions, and once these have been answered, they should leave the clinical area.

The dental team should make referrals for those children who need future care, as appropriate.
3.2.2 The protocol should include clear plans for the recording of varnish application for each child and the dates on which this was done, in a robust format of similar level to a clinical record.

Section 4

Practical application of fluoride varnish in any setting

Fluoride varnish can be applied to the teeth of children, adolescents or adults by a trained and competent dental nurse within a programme overseen by a consultant or registered specialist in dental public health and/or on the prescription of a dentist.

4.1 Contraindications

The following conditions are contra-indications to the provision of fluoride varnish:

- Previous hospitalisation because of hypersensitivity reactions including asthma
- A previously recognised allergy to colophony (extremely rare)
- The presence of ulcerative gingivitis or stomatitis
- Any new abnormality of the lips, face or soft tissues of the mouth
- Obvious signs of systemic illness eg colds, flu, chicken pox etc

4.2 Gaining consent

In the clinical treatment setting it is sufficient to gain informed, valid verbal consent of the competent patient or parent, which is recorded in the notes. See section 2 above.

In the community setting informed, valid, written consent is required from the competent patient or parent/carer. See section 3 above.

If there are no contra-indications and informed consent is provided the process can proceed.

4.3 Instructions

These can be given verbally and in written form. Good practice would be to use both forms of communication and record the giving of these in the notes.

4.3.1 Before application:

Information about the procedure should include:

- questions about relevant allergies
- the purpose of the procedure – to reduce decay or risk of decay
- side effects – taste of varnish, some yellow discolouration for a day or so,
- the need to avoid eating, drinking or bushing teeth for 30 minutes after the procedure.
• The need to avoid hard foods for 4 hours after application

Patients should be advised that they should eat normally prior to the appointment.

4.3.2 Post application instructions should include –

• not to brush the teeth or chew hard food for at least 30 minutes after varnish application; only soft foods and liquids should be consumed for the first four hours.

4.4 Procedure

4.4.1 Pre-application assessment

The aim of the assessment is to ensure that any child with any abnormality of the lips, face or soft tissues of the mouth is excluded. Children who are showing signs of systemic illness (e.g. colds, flu, chicken pox etc should also be excluded.)

Children with a contraindicating soft or hard tissue oral condition should be seen by the referring dentist for further assessment or care.

Assessment of soft tissues

Check the outer and inner cheeks, the lips and tongue for inflammation or abnormality using a mirror. If they appear normal the varnish may be applied.

If any abnormalities are identified the patient or parent should be informed and the procedure halted or the opinion of a dental surgeon sought. The reason for stopping the procedure should be recorded in the notes and a future appointment made if appropriate.

4.4.2 Position

Fluoride varnish can be applied with the recipient upright, semi-supine or supine. The clinician should be guided by the level of co-operation displayed by the patient and proceed with caution. The application of fluoride varnish can be used as an acclimatisation process as well as giving the opportunity for clinicians to reinforce dental health messages.

4.4.3 Acclimatisation

For anxious children and those for whom this is a new procedure it is sensible to proceed gradually but confidently. The child should be told what is going to happen and shown on their hand, with a dry microbrush if necessary. In some instances it may be necessary for the process to be approached gradually with each step of progress praised and the next step rehearsed. If a child gets upset or protests during any part of the procedure, then the procedure should be abandoned.
4.4.4 Equipment:
- Mouth mirror
- Cotton wool rolls
- Fluoride varnish containing 22,600 ppm F with product licence for caries control
- Microbrush
- Dispensing pad
- Protective items for patient: safety glasses, bib
- Protective items for clinician: safety glasses and gloves

4.4.5 The application procedure
- Dispense no more than 0.25 ml of varnish (a blob of 5 - 7mm diameter) – check that it has not separated into a clear layer above with a dull layer below. If separation has occurred replace the varnish.
- Make sure that the cap of the tube is screwed back on fully to avoid deterioration of the varnish
- Gently retract the left cheek with your finger and dry the lower left canine and molars with a cotton roll
- Place the cotton wool roll in the lower left buccal sulcus
- Holding the roll in place, apply a small amount of fluoride varnish to the contact points or approximal surfaces between the canine and molars. Apply a small amount of varnish to the pits and fissures of the molars
- Gently remove the cotton roll
- Repeat for the lower right quadrant with a fresh cotton wool roll
- Gently retract the left cheek with your finger and dry the upper left canine and molars with a cotton roll
- Place the cotton wool roll in the upper left buccal sulcus
- Holding the roll in place apply a small amount of fluoride varnish to the contact points or approximal surfaces between the canine and molars. Apply a small amount of varnish to the pits and fissures of the molars
- Gently remove the cotton roll
- Repeat the above for the upper right quadrant

For caries active children:
- Retract the upper lip with a finger. Dry the incisor teeth with a fresh cotton wool roll
- Paint a small amount of varnish on the approximal surfaces of the canines and incisors
- Check that you have removed all equipment from the mouth. Count 5 cotton wool rolls, 1 brush, 1 pair of tweezers and 1 mirror
- Remove your own gloves and cleanse your hands
- Do not allow the patient to rinse after the application
- Give written and verbal instructions to patient or parent about aftercare (see 4.3 for minimum requirements for instructions)
- Record the application of fluoride varnish and the other dental and general health advice given to the patient or parent during the session
Fig 1 Dispensing a small amount of fluoride varnish

Fig 2 Varnish being applied sparingly on contact points, pits and fissures.

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