

Delivering Better Oral Health

An evidence-based toolkit for prevention





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British Association for the
Study of Community Dentistry



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Foreword

In 2005 the Department of Health published *Choosing Better Oral Health: An Oral Health Plan for England*. In this we pointed out that dental health in England had improved considerably over the last 30 years, which would in turn bring about radical changes in the way in which dentistry is delivered in this country, moving it away from a service focused mainly on treatment to a more preventive model of care.

We recognise, however, that at present there are still inequalities in dental health across the country. Primary care trusts (PCTs) will be helping to resolve this by implementing population-based preventive programmes and also by commissioning appropriate NHS primary dental services to meet local oral health needs. Dentists have a duty to provide preventive advice where they judge it clinically appropriate for patients who attend for dental treatment, but local agreements can be used to specify particular preventive approaches and indicators.

In order to support both PCTs and dental teams in the delivery of a more preventive approach, the Department of Health commissioned the British Association for the Study of Community Dentistry (BASCD) to develop this simplified prevention guide for primary dental care, designed for use by all the dental team within the surgery setting.

A key element of this guidance is the simplicity of the messages. Too often in the past, there has been confusion and a lack of consistency in the preventive information offered to patients. The toolkit provides clear and simple messages that are based firmly on the current available

research evidence endorsed by a wide range of specialist organisations who were consulted during its development.

We have a real opportunity to eradicate dental decay as a public health issue in England within the next 30 years. Effective prevention is key to this and must now be the cornerstone of modern primary dental care. There are, however, still gaps in our current knowledge and the evidence base is constantly being added to. This guidance should therefore be seen as the first version of an evolving series that is designed to support PCTs and dental teams in the delivery of evidence-based preventive dental care to both children and adults.

I should like to thank BASCD, and in particular Sue Gregory and members of the working group which she chaired, for their intensive hard work in producing this document. I should also like to thank all the other individuals and organisations who were consulted and who have contributed to this guidance, which I strongly commend to you.



Barry Cockcroft
Chief Dental Officer (England)

Introduction

Many dental teams have asked for clear guidance about the advice they should give and the actions they should take to be sure they are doing the best for their patients in preventing disease. A number of well respected experts have come together to produce this document, which aims to provide practical, evidence-based guidance to help you to promote oral health and prevent oral disease in your patients. It is intended for use throughout dental care services.

Recent thinking suggests that **all** patients should be given the benefit of advice regarding their general and dental health, not just those thought to be 'at risk'. This guide lists the advice and actions that should be provided for all patients to maintain good oral health.

For those patients about whom there is greater concern (eg those with medical conditions, those with evidence of active disease and those for whom the provision of reparative care is problematic) there is guidance about increasing the intensity of generally applied actions.

There is currently a drive for greater emphasis on prevention of ill-health and reduction of inequalities of health by the giving of advice and application of evidence-informed actions. It is important that the whole dental team, as well as other healthcare workers, give consistent messages and that those messages are up to date and correct.

The information displayed in the following tables is supported by evidence of varying levels of strength. Where the evidence level is weak this does **not** mean that the intervention does not work but simply that the current evidence supporting it is not of the highest quality. Each piece of advice or suggested intervention is presented with an evidence grade. This represents the highest grade of evidence that currently exists for the advice or intervention listed in the model. As new evidence emerges this will be assessed and reflected in amendments to the toolkit and the supporting information accompanying it.

The grades of evidence given are as follows:

Grade	Strength of evidence (EB)
I	Strong evidence from at least one systematic review of multiple, well-designed, randomised control trial/s.
II	Strong evidence from at least one properly designed, randomised control trial of appropriate size.
III	Evidence from well-designed trials without randomisation, single group studied pre and post intervention, cohort, time series of matched, case-control studies.
IV	Evidence from well-designed, non-experimental studies from more than one centre or research group.
V	Opinions of respected authorities, based on clinical evidence, descriptive studies or reports of expert committees.

Section 1

Summary Guidance for Primary Care Dental Teams

Prevention of caries in children aged 0–6 years

	Advice to be given	EB	Professional intervention	EB
Children aged up to 3 years	<ul style="list-style-type: none"> Breast feeding provides the best nutrition for babies From six months of age infants should be introduced to drinking from a cup, and from age one year feeding from a bottle should be discouraged Sugar should not be added to weaning foods Parents should brush or supervise toothbrushing Use only a smear of toothpaste containing no less than 1,000 ppm fluoride As soon as teeth erupt in the mouth brush them twice daily The frequency and amount of sugary food and drinks should be reduced and, when consumed, limited to mealtimes. Sugars should not be consumed more than four times per day Sugar-free medicines should be recommended 	<p>I</p> <p>III</p> <p>V</p> <p>V</p> <p>I</p> <p>IV</p> <p>III</p> <p>III</p>		
All children aged 3–6 years	<ul style="list-style-type: none"> Brush last thing at night and on one other occasion Brushing should be supervised by an adult Use a pea-sized amount of toothpaste containing 1,350–1,500 ppm fluoride Spit out after brushing and do not rinse The frequency and amount of sugary food and drinks should be reduced and, when consumed, limited to mealtimes. Sugars should not be consumed more than four times per day Sugar-free medicines should be recommended 	<p>I</p> <p>V</p> <p>V, I</p> <p>IV</p> <p>III</p> <p>III</p>	<ul style="list-style-type: none"> Apply fluoride varnish to teeth twice yearly (2.2% F⁻) 	I
Children giving concern (eg those likely to develop caries, those with special needs)	<p>All advice as above, plus:</p> <ul style="list-style-type: none"> Use a smear or pea-sized amount of toothpaste containing 1,350–1,500 ppm fluoride Ensure medication is sugar free Give dietary supplements containing sugar and glucose polymers at mealtimes when possible (unless clinically directed otherwise) and not last thing at night. Parents should be made aware of the cariogenicity of supplements and ways of minimising risk 	<p>I</p> <p>V</p> <p>V</p>	<ul style="list-style-type: none"> Apply fluoride varnish to teeth 3–4 times yearly (2.2% F⁻) Prescribe fluoride supplement and advise re maximising benefit Reduce recall interval Investigate diet and assist to adopt good dietary practice Ensure medication is sugar free or given to minimise cariogenic effect 	<p>V</p> <p>II</p> <p>V</p> <p>III</p> <p>III</p>

Prevention of caries in children aged from 7 years and young adults

	Advice	EB	Professional intervention	EB
All children and young adults	<ul style="list-style-type: none"> Brush twice daily Brush last thing at night and on one other occasion Use fluoridated toothpaste (1,350 ppm fluoride or above) Spit out after brushing and do not rinse The frequency and amount of sugary food and drinks should be reduced and, when consumed, limited to mealtimes. Sugars should not be consumed more than four times per day 	<p>I V I IV</p> <p>III</p>	<ul style="list-style-type: none"> Apply fluoride varnish to teeth twice yearly (2.2% F-) 	I
Those giving concern (eg those likely to develop caries, those undergoing orthodontic treatment, those with special needs)	<p>All the above, plus:</p> <ul style="list-style-type: none"> Use a fluoride mouthrinse daily (0.05% NaF) at a different time to brushing Consider recommending an oscillating/rotating power toothbrush 	<p>I I</p>	<ul style="list-style-type: none"> Fissure seal permanent molars with resin sealant Apply fluoride varnish to teeth 3–4 times yearly (2.2% F-) For those 8+ years with active caries prescribe daily fluoride rinse For those 10+ years with active caries prescribe 2,800 ppm toothpaste For those 16+ years with active disease consider prescription of 5,000 ppm toothpaste Investigate diet and assist adoption of good dietary practice 	<p>I I I I I III</p>

Prevention of caries in adults

	Advice	EB	Professional intervention	EB
All adult patients	<ul style="list-style-type: none"> • Brush twice daily with fluoridated toothpaste • Use fluoridated toothpaste with at least 1,350 ppm fluoride • Brush last thing at night and on one other occasion • Spit out after brushing and do not rinse • The frequency and amount of sugary food and drinks should be reduced and, when consumed, limited to mealtimes. Sugars should not be consumed more than four times per day 	<p>I</p> <p>I</p> <p>V</p> <p>IV</p> <p>III</p>		
Those giving concern to their dentist (eg with obvious current active caries, dry mouth, other predisposing factors, those with special needs)	<p>All the above, plus:</p> <ul style="list-style-type: none"> • Use a fluoride mouthrinse daily (0.05% NaF) at a different time to brushing • Consider recommending an oscillating/rotating power toothbrush 	<p>I</p> <p>I</p> <p>I</p>	<ul style="list-style-type: none"> • Apply fluoride varnish to teeth twice yearly (2.2% F-) • For those with obvious active coronal or root caries prescribe daily fluoride rinse • For those with obvious active coronal or root caries prescribe 2,800 or 5,000 ppm fluoride toothpaste • Investigate diet and assist adoption of good dietary practice 	<p>I</p> <p>I</p> <p>II</p> <p>III</p>

Prevention of periodontal disease – to be used in addition to caries prevention

Risk level	Advice	EB	Professional intervention	EB
All adolescents and adults	<ul style="list-style-type: none"> • Brush teeth systematically twice daily with either: <ul style="list-style-type: none"> – a manual brush with a small head and round end filaments, a compact, angled arrangement of long and short filaments and a comfortable handle OR – a powered toothbrush with an oscillating/rotating head • Do not smoke • Consider using toothpastes containing: <ul style="list-style-type: none"> – triclosan with copolymer, or – triclosan with zinc citrate to improve levels of plaque control • Toothpastes with stannous fluoride may reduce gingivitis • Clean interdentally using interdental brushes or floss • Maintain good dietary practices in line with <i>The Balance of Good Health</i> 	<p>V</p> <p>V</p> <p>I</p> <p>III</p> <p>I</p> <p>I</p> <p>II</p> <p>V</p> <p>V</p>	<ul style="list-style-type: none"> • Demonstrate methods of improving plaque control • Investigate possible improved control of predisposing systemic conditions • Take a history of tobacco use, give brief advice to users and signpost to local Stop Smoking Service • Investigate diet and assist adoption of good dietary practice based on <i>The Balance of Good Health</i> 	<p>V</p> <p>V</p> <p>V</p> <p>V</p>

Prevention of oral cancer

Risk level	Advice	EB	Professional intervention	EB
All adolescents and adults	• Do not smoke	III	<ul style="list-style-type: none"> • Take a history of tobacco use, give brief advice to users and signpost to local Stop Smoking Service • Signpost to local alcohol misuse support services 	
	• Do not use smokeless tobacco (eg paan, chewing tobacco, gutkha)	III		V
	• Reduce alcohol consumption to moderate (recommended) levels	IV, III		V
	• Maintain good dietary practices in line with <i>The Balance of Good Health</i>	V		
	• Increase fruit and vegetable intake to at least five portions per day	III		

Erosion

Currently the evidence is based upon laboratory studies or observational studies. There are a number of epidemiological studies showing that soft drinks are associated with erosion and the World Health Organization recommends limitation of these products. However, no evidence could be found that measured the effectiveness of providing preventive advice in a clinical setting. Until such evidence emerges guidance will be provided in Section 8.

With acknowledgement for the material in the above tables to Mrs JT Duxbury, Miss MA Catleugh, Professor RM Davies and Dr GM Davies.

Section 2

Principles of toothbrushing for oral health

2

Principles of toothbrushing for oral health

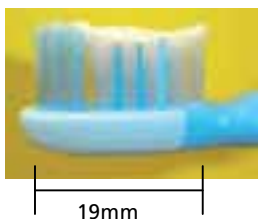
Major dental conditions of caries and periodontal disease can both be reduced by regular toothbrushing with fluoride toothpaste.

The fluoride in toothpaste serves to prevent, control and arrest caries.

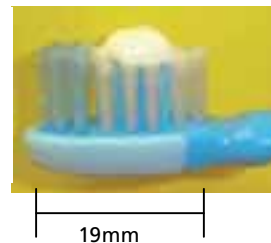
The physical removal of plaque reduces the inflammatory response of the gingivae and its sequelae. Some toothpastes contain ingredients which also reduce the initiation and progression of periodontal breakdown.

There is evidence to suggest that the preventive action of toothbrushing can be maximised if the following principles are followed:

- Brushing should start as soon as the first deciduous tooth erupts.
- Brushing should occur twice daily – clean teeth last thing at night before bed and at least one other time each day.
- Children under 3 years should use a toothpaste containing no less than 1,000 ppm fluoride.
- Children under 3 years should use no more than a smear of toothpaste (a thin film of paste covering less than three-quarters of the brush) and must not be permitted to eat or lick toothpaste from the tube.



- Family fluoride toothpaste (1,350–1,500 ppm fluoride) is indicated for maximum caries control for all children except those who cannot be prevented from eating toothpaste. Advice must be given about adult supervision and the small amounts to be used.
- Children between 3 and 6 years should use no more than a pea-sized amount of toothpaste.



- Children need to be helped or supervised by an adult when brushing until at least 7 years of age and must not be permitted to eat or lick toothpaste from the tube.
- Rinsing with lots of water after brushing should be discouraged – spitting out excess toothpaste is preferable.
- The patient's existing method of brushing may need to be modified, emphasising the need to systematically clean all tooth surfaces. No particular technique has been shown to be better than another (**V**).
- Disclosing tablets can help to indicate areas that are being missed.

- Brushing is more effective with a small-headed toothbrush with soft (ISO 8627:1987 standard 1–3), round-ended filaments, a compact, angled arrangement of long and short filaments and a handle which is comfortable **(V)**.
- Powered brushes with an oscillating/rotating action remove plaque more effectively and studies show they reduce gingivitis when used for over 3 months. No other powered designs were as consistently superior to manual brushes **(I)**.

Section 3

Increasing fluoride availability

- Toothpaste – list of present products by fluoride concentration level
- Fluoride varnish
- Prescribing high concentration fluoride toothpaste
- Use of fluoride supplements – prescribing information
- Fluoride rinses

3

Increasing fluoride availability

Currently approximately 10% of England's population, or about 6 million people, benefit from a water supply where the fluoride content either naturally or artificially is at the optimum level for dental health. In terms of population coverage, the West Midlands is the most extensively fluoridated area, followed by parts of the North East of England. In 2003 the law was changed enabling strategic health authorities to require water companies to fluoridate water supplies providing there is support from the local population following consultation.

The risk of dental fluorosis is higher from the use of topical fluorides in fluoridated areas. This is why in the earlier section, particular emphasis is put on the need to help and supervise toothbrushing for children up to at least age 7 and use a very small volume of toothpaste for children under 3 years.

Many people in non-fluoridated areas incorrectly think that their water supply is fluoridated and it is important that they are aware of the true fluoride status of their supplies. If in doubt, information can be obtained from their water supplier by quoting the residential postcode.

There follows information on how fluoride availability can be increased to improve oral health.

Toothpaste – list of present products by fluoride concentration level

This table is provided for information only and should not be seen as an endorsement of any particular brand by the Department of Health.

It is fairly comprehensive but may not represent a complete list of all brands of toothpaste available in the UK and was correct at the time of going to press.

Higher concentration fluoride gives better protection against decay		Low concentration or no fluoride gives limited or no protection against decay	
1,350–1,500 ppm	1,000–1,300 ppm	550 ppm or less	No fluoride
ALDI – Dentitex, whitening, freshmint total care	Aquafresh – Multi-action + Whitening, Little teeth	Aquafresh Milk Teeth	Blanx Biorepair
Aquafresh – Extreme Clean & Intense Rush, Complete Care, Fresh & Minty, Mild & Minty, Big Teeth, Multi-active	Arm & Hammer – Enamel care, Sensitive, Natural and extra whitening, Original	ASDA – Mild & minty, Berry sparkle	Boots fluoride free
ASDA – Total care, Sensitive, whitening	ASDA – Kids Milk teeth berry sparkle, Total Stripe	Boots – Babytooth gel, Smile	Eucryl powder
Boots – Sensitive	Beverley Hills Formula – Breath confidence, Natural white	Colgate – Smiles 0–2, 2–6	Euthymol
Colgate – Sensitive Fresh stripe, Sensitive Whitening, Sensitive Multi Protection Total**, Total Advanced Fresh**, Total Plus Whitening**, Total Professional Weekly CleanGreat Regular, Bicarb paste, Triple cool, Fresh stripe, Ultra cavity protection, Time control, Sensation Deep clean, whitening, Sensitive multi-protection	Boots – Totalcare, Whitening deep clean, basics, smoker's	Crest for Kids, milk teeth	Kingfisher – Aloe vera, Tea Tree
Crest – Freshmint, mildmint, tartar control, 5Complete	Clinomyn – smoker's, clean and polish	Sainsbury's Blue Parrot Berrylicious	Sensodyne Original
Janina Opale Whitening Paste	Colgate – Oxygen, Ultrabrite, Smiles 6+		
LIDL – Salvamed, whitening, sensitive and mature; Dentalux, herb and freshmint	Co-Op – Freshmint		
Macleans; Total Health, Total Health Whitening, Freshmint, Coolmint	Kingfisher – Fennel with fluoride		
Marks & Spencer – Protect	Macleans – Whitening, Ice Whitening Gel, White and Shine, Sensitive		
Mentadent SR	Marks & Spencer – Perfect Mentadent P **		
Morrisons – Total care, Whitening, sensitive	Morrisons – Kids Strawberry and milk teeth		
Sainsbury's – Total care, Sensitive, Whitening	Oral B – Stages		
Sensodyne – Total Care Gentle Whitening, Total Care Gel, Total Care F, Total Care Extra Fresh, Pronamel	OralDent – OralClens, mint		
Signal	Pearl Drops – Daily Shine, Smoker's		
Tesco – Total care: Freshmint, Coolmint stripe	Sainsbury's – tooth gel, Basics, Freshmint		
	Sensodyne Mint		
	Tesco – Daily care range: Freshmint, minty stripe, whitening, Value		
	Waitrose – Total care		

**Toothpastes containing triclosan with copolymer or zinc citrate.

Fluoride varnish

Fluoride varnish is one of the best options for the application of topical fluoride to teeth in the absence of water fluoridation. High quality evidence of the caries-preventive effectiveness of fluoride varnish in both permanent and primary dentitions is available. A number of systematic reviews conclude that twice-yearly applications produce a mean caries increment reduction of 33% in the primary dentition and 46% in the permanent. The evidence also supports the view that varnish application can arrest existing lesions on the smooth surfaces of primary teeth and roots of permanent teeth. Much of the evidence of effectiveness is derived from studies which have used sodium fluoride 22,600 ppm varnish for application.

Fluoride varnish for use as a topical treatment has a number of practical advantages. It is well accepted and considered to be safe. Further, the application of fluoride varnish is simple and requires minimal training. While a thorough prophylaxis is not essential prior to application, removal of gross plaque is advised.

Care should be used to ensure that a small quantity of varnish is applied using a microbrush to teeth that have been dried with cotton rolls or a triple syringe. The varnish should be applied to pits, fissures and approximal surfaces of primary and permanent teeth. The patient should be advised to avoid eating, drinking or toothbrushing for 30 minutes after application.

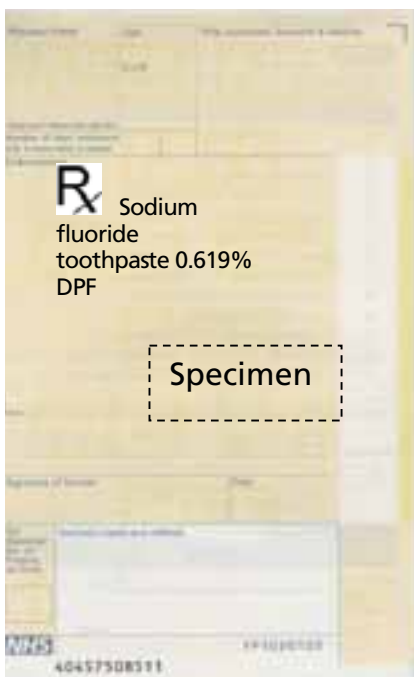
The use of Duraphat is contraindicated in patients with ulcerative gingivitis and stomatitis. There is a very small risk of allergy to one component of Duraphat (colophony), so for children who have a history of allergic episodes requiring hospital admission, including asthma, varnish application is contraindicated.

Types of fluoride varnish	Concentration of fluoride	
Fluor protector	8,000 ppm	0.8% F ⁻
Lawefluor	22,600 ppm	2.2% F ⁻
Duraphat	22,600 ppm	2.2% F ⁻
Bifluorid	56,300 ppm	5.6% F ⁻

Prescribing high concentration fluoride toothpaste

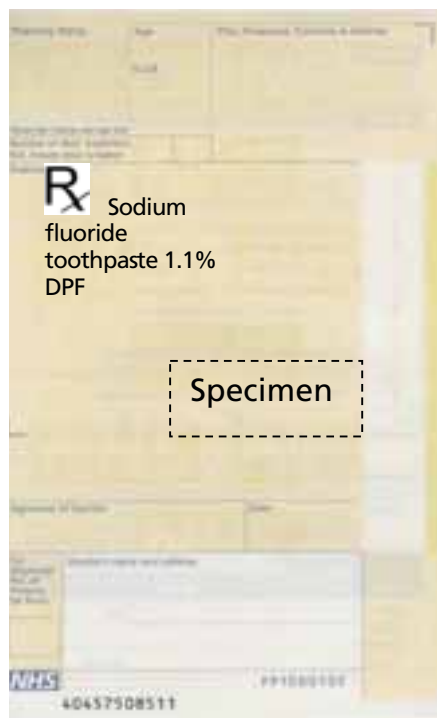
Sodium fluoride 2,800 ppm toothpaste

Indications: high caries risk patients aged 10 years and over.



Sodium fluoride 5,000 ppm toothpaste

Indications: patients aged 16 years and over with high caries risk, present or potential for root caries, dry mouth, orthodontic appliances, overdentures, those with highly cariogenic diet or medication.



Use of fluoride supplements – prescribing information

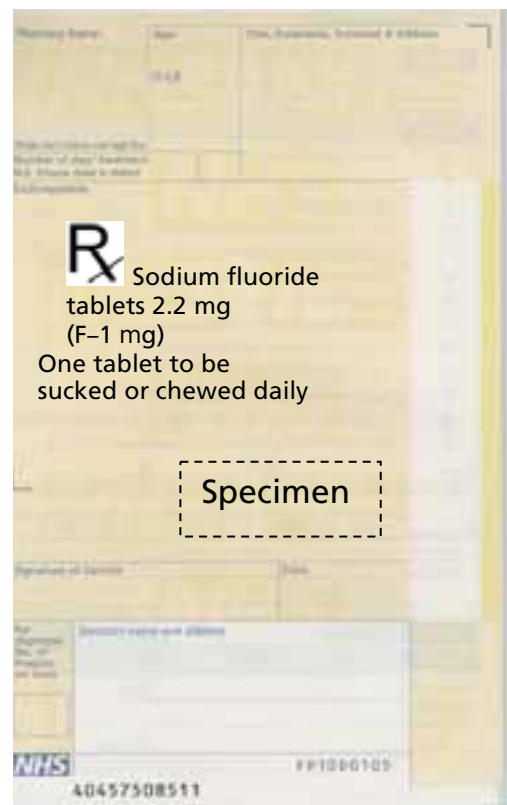
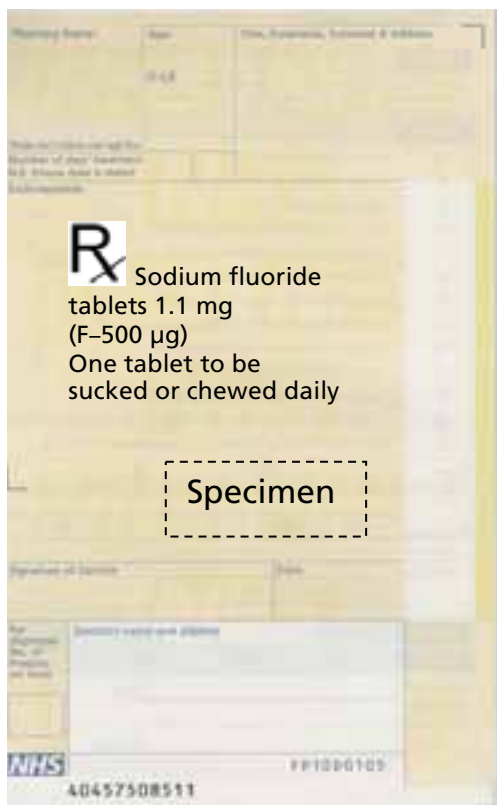
It is recognised that the use of fluoride tablets requires compliance by families and this may include under and over-use. There is a risk of fluorosis if children aged under 6 years take over the advised dose. With this in mind, other sources of fluoride may be preferable and therefore be considered first.

Advised prescribing regime for fluoride tablets

Age of child	Water content level		
	≤ 0.3 ppm	0.3–0.7 ppm	> 0.7 ppm
6 months – 3rd birthday	250 µg daily (need to halve 500 µg tablet)	Not advised	Not advised
3–6th birthday	500 µg daily	250 µg daily (need to halve 500 µg tablet)	
6 and over	1 mg daily	500 µg daily	

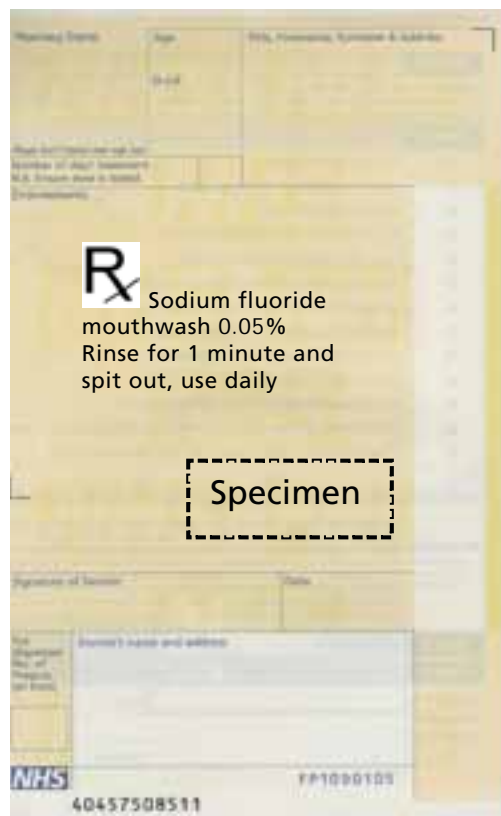
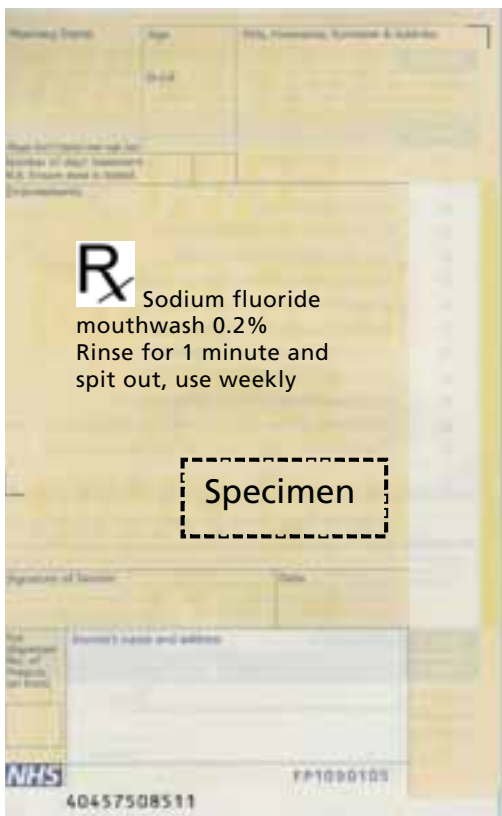
Tablets are available in 500 µg and 1 mg fluoride levels.

Tablets should be given at a different time to tooth brushing and allowed to dissolve slowly in the mouth to maximise their topical effect.



Fluoride rinses

These can be prescribed for patients aged 8 years and above, for daily or weekly use, in addition to twice daily brushing with toothpaste containing at least 1,350 ppm fluoride. Rinses require patient compliance and should be used at a different time to toothbrushing to maximise the topical effect, which relates to frequency of availability.



Section 4

Healthy eating advice

- Dietary advice to prevent dental caries
- General good dietary practice guidelines
- Diet diary

4

Healthy eating advice

Healthy eating advice should routinely be given to patients to promote good oral and general health. Key dietary messages to prevent dental caries are summarised below and the main message is to reduce both the amount and frequency of consuming foods that have added sugar.

Dietary advice to prevent dental caries

Consensus recommendations advocate the following to prevent dental caries:

- The frequency and amount of sugars should be reduced. Consumption of sugary foods should be restricted to mealtimes.
- Limit consumption of foods and drinks with added sugars to a maximum of four times a day.
- Sugars (excluding those naturally present in whole fruit) should provide less than 10% of total energy in the diet or less than 60 g per person per day. Note that for young children this will be around 33 g per day.

Most sugars in the diet are contained in processed and manufactured foods and drinks.

Potentially cariogenic foods and drinks include:

- sugar and chocolate confectionery
- cakes and biscuits
- buns, pastries, fruit pies
- sponge puddings and other puddings
- table sugar
- sugared breakfast cereals
- jams, preserves, honey
- ice cream
- fruit in syrup

- fresh fruit juices
- sugared soft drinks
- sugared, milk-based beverages
- sugar-containing alcoholic drinks
- dried fruits
- syrups and sweet sauces.

It is important to recognise that honey, fresh fruit juice and dried fruit all contain cariogenic sugars.

General good dietary practice guidelines

Key facts for eating well

Below are some of the main healthy eating messages aimed at helping people make healthier dietary choices.

The two most important elements of a healthy diet are:

- eating the right amount of food relative to how active a person is;
- eating a range of foods in line with *The Balance of Good Health* (Food Standards Agency, 2001), which in turn is based on the Government's guidelines for a healthy diet.

A healthy balanced diet contains foods from all the major food groups including lots of fruit and vegetables; starchy staple foods such as wholemeal bread and wholegrain cereals; some protein-rich foods such as lean meat, fish, eggs and lentils; and some dairy foods, preferably of the lower fat variety.

Key message 1 – Base meals on starchy foods

Starchy foods such as bread, cereals, rice, pasta and potatoes are an important part of a healthy diet. Wholegrain varieties of starchy food are best as they contain more nutrients and help us to feel fuller for longer. Starchy foods should make up about a third of the food we eat. They are a good source of energy and the main source of a range of nutrients and fibre in our diet.

Key message 2 – Eat lots of fruit and vegetables

At least five portions of a variety of fruit and vegetables should be eaten every day; different fruit and vegetables contain different combinations of fibre, vitamins and other nutrients. Eating more fruit and vegetables could help to reduce the risk of the two main killers in this country – heart disease and cancer. Most people know they should be doing this but still don't. Eating five can be easy. One portion of fruit and vegetables is 80 g, which roughly equals a handful.

Key message 3 – Eat more fish

Two portions of fish, including a portion of oily fish, eg salmon, sardines, mackerel and tuna, should be eaten each week. The choice can be from fresh, frozen or canned – but canned and smoked fish can be high in salt. Fish is an excellent source of protein and contains many vitamins and minerals.

Key message 4 – Cut down on saturated fat and sugar

To stay healthy we need some fat in our diets. There are two main types of fat:

- Saturated fat – having too much can increase the amount of cholesterol in the blood, which increases the chance of developing heart disease. Foods containing this include: fatty meat, pâté, meat pies, sausages, hard cheese, butter, lard, full fat milk, and biscuits, cakes and pastry.
- Unsaturated fat – having unsaturated fat instead of saturated fat lowers blood cholesterol. Good sources include: vegetable oils (such as sunflower, rapeseed and olive oil), oily fish, avocados, nuts and seeds.

Reducing the amount and frequency of sugary food intake can reduce dental caries and could help control weight.

Key message 5 – Eat less salt – no more than 6 g a day

Three-quarters (75%) of the salt we eat comes from processed food, such as some breakfast cereals, soups, sauces, bread, biscuits and ready meals. Eating too much salt can raise blood pressure. People with high blood pressure are three times more likely to develop heart disease or have a stroke than people with normal blood pressure.

Key message 6 – Drink plenty of water

We should be drinking about six to eight glasses (1.2 litres) of water, or other fluids, every day to stop us getting dehydrated.

There are specific dietary recommendations for infants and young children – see www.eatwell.gov.uk/agesandstages

Source of Key messages: Food Standards Agency – www.eatwell.gov.uk

Instructions on completing a diet diary

Please write down everything you/your child eats or drinks and the time during the day when consumed – this will help us to advise you on how best to improve your diet. Choose one weekend day and two others.

Please bring the diet diary with you to the next appointment.

Diet diary

The diet modification approach should be used in conjunction with actions to increase fluoride availability. When considering the desired outcome of controlling or preventing caries, currently the evidence suggesting the effectiveness of efforts to change diet is not as strong as the evidence supporting increasing fluoride use. However, this should not prevent attempts at diet modification.

When giving dietary advice to reduce consumption of sugars it is essential to assess the overall pattern of eating to establish the following information:

- the number of intakes of food and drinks per day;
- the number of intakes that contain sugars (**excluding** those found in whole fruit) and how many were consumed between normal mealtimes;
- whether any intakes containing sugars were taken within one hour of bedtime.

Example of a diet diary

TIME	DAY 1	DAY 2	DAY 3

Section 5

Identifying sugar-free medicines

- Sugar (sucrose)-free oral liquid medicines – listed in therapeutic groups

5

Identifying sugar-free medicines

The following information has been adapted from the National Pharmacy Association leaflet – *Sugar in Medicines*.

The table contains information about the sugar (fructose/glucose/sucrose) content of branded oral liquid medicines, both over-the-counter and prescription-only medicines.

Products that do not contain fructose, glucose or sucrose are listed as being sugar

free. Preparations containing hydrogenated glucose syrup, Lycasin, maltitol, sorbitol or xylitol are also listed as sugar free, since there is evidence that they are non-cariogenic. Artificial sweeteners are also listed.

The list is provided to assist clinical teams to identify where sugar-free alternatives exist; it is recognised that dental surgeons cannot prescribe all of the medications listed.

Sugar (sucrose)-free oral liquid medicines – listed in therapeutic groups

Analgesics and anti-inflammatory medicines Medinol Over Six suspension* Medinol Paediatric suspension* Medinol Under Six suspension* Medised for children* MST Continus suspension Nurofen for Children* Relifex suspension	Antacids Altacite Plus suspension Asilone Antacid liquid Asilone suspension Entrocalm suspension Gastrocote liquid Gaviscon range Gaviscon Advance liquid Gaviscon Infant sachets Kolanticon gel Maalox suspension Maalox Plus suspension Mucogel suspension Phillips Milk of Magnesia liquid
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* Contains Lycasin and/or maltitol – considered to be non-cariogenic.

<p>Antibiotics and antivirals</p> <p>Amoxil syrup Amoxil Paediatric suspension Augmentin suspension Augmentin Duo suspension Baxan suspension Ciproxin suspension Colomycin syrup Distaclor suspension Epivir oral solution Flagyl S suspension Floxapen syrup Fucidin suspension Keflex suspension Magnapen syrup Orelox Paediatric suspension Retrovir syrup Rifadin syrup Septrin Adult suspension Septrin Paediatric suspension Velosef syrup Zerit oral suspension Zinnat suspension Zithromax suspension Zovirax suspension Zovirax Double Strength suspension</p>	<p>Antidiarrhoeals</p> <p>Dioralyte sachets Dioralyte Relief sachets Imodium syrup Junior KAO-C suspension</p> <p>Antiemetics and antispasmodics</p> <p>Fybogel Mebeverine sachets Infacol drops Maxolon syrup Maxolon Paediatric liquid</p> <p>Antifungals</p> <p>Diflucan oral suspension Fungilin oral suspension Noxafil suspension Nystan oral suspension Sporanox liquid</p> <p>Antihistamines</p> <p>Clarityn allergy syrup Neoclarityn syrup Phenergan elixir* Piriteze Allergy syrup once a day Piriton syrup Vallergan syrups Zirtek Allergy solution</p>
<p>Cardiovascular drugs</p> <p>Tenormin syrup Zolvera oral solution</p>	<p>Central nervous system and anticonvulsants</p> <p>Emeside syrup Epanutin suspension Epilim liquid Haldol liquid Heminevrin syrup Molipaxin liquid Priadel liquid Prozac liquid Risperdal liquid Sanomigran elixir* Seroxat liquid Somnite suspension Stemetil syrup Stelazine syrup Symmetrel syrup Temazepam elixir Zarontin</p>

* Contains Lycasin and/or maltitol – considered to be non-cariogenic.

Cough and cold remedies

Actifed multi-action chesty coughs
 Actifed multi-action dry coughs
 Beechams All in One syrup
 Benylin chesty coughs original
 Benylin chesty coughs non drowsy
 Benylin children's dry coughs
 Benylin children's tickly coughs
 Benylin children's chesty coughs
 Benylin children's coughs and colds
 Benylin children's night coughs
 Benylin cough and congestion
 Benylin dry coughs original
 Benylin dry coughs non drowsy
 Benylin tickly coughs non drowsy
 Cough nurse night time liquid
 Covonia Bronchial Balsam
 Covonia cold and flu formula
 Covonia Night Time*
 Day Nurse liquid
 Galcodine linctus
 Galcodine Paediatric linctus
 Galsud linctus
 Hills Balsam Adult chesty cough
 Hills Balsam Adult Dry cough
 Hills Balsam Children Chesty

Cough and cold remedies *continued*

Lemsip cough chesty
 Lemsip cough dry
 Meltus Baby cough linctus
 Meltus decongestant
 Meltus Family chesty coughs honey and lemon
 Meltus Junior chesty cough and catarrh
 Meltus Junior dry cough with congestion
 Night Nurse liquid
 Pavacol D liquid
 Potters catarrh mixture
 Potters lightening cough mixture
 Potters vegetable cough remover
 Pulmo Baily cough expectorant
 Robitussin Chesty cough*
 Robitussin Chesty cough with congestion*
 Robitussin Dry cough*
 Sudafed non drowsy linctus
 Sudafed non drowsy decongestant elixir
 Sudafed non drowsy expectorant
 Tixylix Baby syrup*
 Tixylix Chesty Cough linctus
 Tixylix Cough and Cold linctus
 Tixylix Daytime*
 Tixylix Night Time (sugar free)*
 Venos range

Laxatives

Codanthramer suspension
 Codanthramer Forte suspension
 Docusol adult solution
 Docusol paediatric solution
 Duphalac solution
 Fybogel sachets
 Movicol sachets
 Movicol paediatric plain
 Regulose solution
 Senokot syrup

Respiratory products

Bricanyl syrup
 Mucodyne

Ulcer-healing drugs

Tagamet
 Zantac syrup

* Contains Lycasin and/or maltitol – considered to be non-cariogenic.

<p>Vitamin and mineral supplements</p> <p>Calcium Sandoz syrup Cytacon liquid Effico tonic Haliborange Multivitamin liquid Halycitrol vitamin emulsion Ketovite liquid Minadex syrups Niferex elixir Orovite 7 sachets Osteocare liquid</p>	<p>Vitamin and mineral supplements <i>continued</i></p> <p>Sanatogen Baby vitamin syrup Seven Seas Cod Liver Oil liquid with Lemon Seven Seas Cod Liver Oil and Orange syrup Seven Seas Extra High Strength Cod Liver Oil liquid Seven Seas High Strength Cod Liver Oil liquid Seven Seas Traditional Cod Liver Oil liquid Seven Seas Vitamin and Mineral tonic Sytron elixir</p>
<p>Miscellaneous products</p> <p>Biorphen liquid Broflex syrup Bumetanide liquid Cam mixture Carnitor Paediatric solution Cellcept oral suspension Corsodyl Mint mouthwash Cymalon sachets Cystopurin granules Daktarin oral gel Difflam Oral rinse Ditropan elixir Dyspamet suspension Eldepryl syrup Frusol Oral solution*</p>	<p>Miscellaneous products <i>continued</i></p> <p>J Collis Browne's mixture Labiton tonic Lioresal liquid Lyflex oral solution Neoral suspension Nivaquine syrup Potters Echinacea elixir Pripsen sachets Rapamune oral solution Reminyl oral solution Salazopyrin suspension Vermox suspension Wellvone suspension Zofran syrup</p>

* Contains Lycasin and/or maltitol – considered to be non-cariogenic.

Section 6

Improving periodontal health

- Mechanical plaque control
- Toothpaste types/brands
- Mouthrinses
- Conditions that predispose to periodontal disease

6

Improving periodontal health

The following advice and support should be given to patients presenting with or at risk of periodontal disease.

Mechanical plaque control

Teeth should be brushed twice daily **(V)**.

Modify the patient's existing method of brushing, emphasising the need to systematically clean all tooth surfaces **(V)**.

Disclosing tablets can help to indicate areas that are being missed.

Help the patient to select a small headed toothbrush with soft, round ended filaments, a compact, angled arrangement of long and short filaments and a handle that is comfortable for them **(V)**.

Powered brushes with an oscillating/rotating action may be advised **(I)**.

For interdental cleaning, the choice of aid (floss, tape, sticks, single tufted brush) should be based on the size of the interproximal or interradicular spaces and the ability and motivation of the individual **(V)**.

Toothpaste types/brands

Evidence suggests that toothpastes containing triclosan in combination with a copolymer or with zinc citrate are more effective than a fluoride toothpaste in improving plaque control and gingival health **(I)**.

Mouthrinses

Chlorhexidine mouthrinses, either 10 ml of 0.2% or 15 ml of 0.12%, are very effective in improving plaque control and gingival health when used as an adjunct to tooth brushing **(II)**. They are useful for short periods when an individual is unable to clean due to acute problems or incapacity.

Other mouthrinses containing essential oils or cetylpyridinium chloride are less effective than chlorhexidine.

Conditions that predispose to periodontal disease

The following conditions predispose patients to periodontal disease:

- diabetes
- genetic disorders
- Down's syndrome
- blood dyscrasias/haematological disorders
- pregnancy
- long-term smoking
- medication – Epanutin, cyclosporin, nifedipine.

Section 7

Stop smoking guidance

7

Stop smoking guidance

Stop smoking guidelines recommend that all health professionals, including dental team members, should check the smoking status of their patients at least once a year, and should advise all smokers to stop smoking (Fiore et al, 2000; West et al, 2000; NICE, 2006). Motivated smokers who want help to quit should be referred to the local NHS Stop Smoking Service. The guide *Smokefree and Smiling: helping dental patients to quit tobacco* was sent to every dental practice in England as part of the Smokefree programme and is the key reference document for dental practices.

In the vast majority of cases, dental teams will only be involved in delivering brief advice to smokers. The key elements in brief advice include the following:

- All patients should have their smoking status (current, ex-, never smoked) established and checked at regular intervals. This information should be recorded in the patient's clinical notes **(V)**.
- All smokers and those chewing tobacco should be advised of the value of stopping and the risks to their health of continuing. The advice should be clear, firm and personalised. It is essential that the message to all smokers is complete cessation **(V)**.
- All smokers should be advised on the value of attending their local NHS Stop Smoking Services for specialised help in stopping. Smokers who are interested and motivated to stop should be referred to these services **(V)**.
- In a small minority of cases, dental patients who are smokers and want to quit, but who do not wish to attend the NHS Stop Smoking Services, should be offered appropriate assistance to stop by the dental team. Only dental team members who have received accredited training in tobacco cessation should offer this assistance **(V)**.

Section 8

Accessing alcohol misuse support

- The extent of the problem?
- The impact on health?
- The recommended limits of alcohol drinking?
- What is a unit of alcohol?
- What is the Government's programme?
- What's being tried?
- Where is support available?

8

Accessing alcohol misuse support

The extent of the problem?

The *Alcohol Needs Assessment Research Project* (ANARP), published in November 2005, found a high level of need for specialist alcohol treatment services across different categories of drinkers:

- Some 38% of men and 16% of women (age 16–64) are drinking above low-risk levels, indicating they have an alcohol use disorder (26% overall), which is equivalent to approximately 8.2 million people in England.
- Within this, 32% of men and 15% of women are hazardous or harmful alcohol users (23% overall), which is equivalent to 7.1 million people in England.

Indications of Public Health in the English Regions – No. 8 Alcohol, commissioned by the Chief Medical Officer and published in August 2007, identifies that 1.55 million people in England are drinking at harmful levels (50+ units men, 35+ units women per week) and a further 6.3 million are drinking at hazardous levels (22–50 units men, 15–35 units women per week). The document traces variations in morbidity and mortality due to alcohol between richer and poorer communities in the English regions. One of the key findings is that the most deprived fifth of the population suffer two to three times greater loss of life attributable to alcohol than more affluent areas.

The impact on health?

- In 2000, between 15,000 and 22,000 deaths in England and Wales were related to alcohol misuse. Alcohol-related liver disease accounts

for over 4,500 of these – a 90% increase over the past decade.

- Alcohol-related deaths in England and Wales rose throughout the 1980s and 1990s. Office for National Statistics (ONS) data show there were 6,580 alcohol-related deaths in England and Wales in 2003 compared with 5,970 in 2001, continuing this rise.

The recommended limits of alcohol drinking?

- Men should drink no more than 21 units of alcohol per week (and no more than four units in any one day).
- Women should drink no more than 14 units of alcohol per week (and no more than three units in any one day).

What is a unit of alcohol?

One unit of alcohol is 10 ml (1 cl) by volume, or 8 g by weight, of pure alcohol. For example:

- One unit of alcohol is about equal to:
 - half a pint of ordinary strength beer, lager, or cider (3–4% alcohol by volume); or
 - a small pub measure (25 ml) of spirits (40% alcohol by volume); or
 - a standard pub measure (50 ml) of fortified wine such as sherry or port (20% alcohol by volume).
- There are one and a half units of alcohol in:
 - a small glass (125 ml) of ordinary strength wine (12% alcohol by volume); or
 - a standard pub measure (35 ml) of spirits (40% alcohol by volume).

A more accurate way of calculating units is as follows. The percentage alcohol by volume

(% abv) of any drink equals the number of units in one litre of that drink. For example:

- Strong beer at 6% abv has six units in one litre. If you drink half a litre (500 ml) – just under a pint – then you have had three units.
- Wine at 12% abv has 12 units in one litre. If you drink a quarter of a litre (250 ml) – two small glasses – then you have had three units.

What is the Government's programme?

The *Alcohol Harm Reduction Strategy for England*, published on 15 March 2004, includes a series of measures aimed at achieving a long-term change in attitudes to irresponsible drinking and behaviour. These include:

- making the sensible drinking message easier to understand and apply;
- providing better information for consumers, both on products and at the point of sale;
- providing alcohol education in schools that can change attitudes and behaviour.

In June 2007 the Government published *Safe. Sensible. Social. The next steps in the National Alcohol Strategy*, which include:

- sharpened criminal justice for drunken behaviour;
- a review of NHS resources spent on alcohol-related illness;
- more help for people who want to drink less;
- toughened enforcement of underage drinking;
- guidance for parents and young people;
- public information campaigns;
- public consultation on alcohol pricing;
- local alcohol strategies.

What's being tried?

The Department of Health has invested £3.2 million to facilitate the development of the 'Trailblazers' project. The focus will be on finding the most effective and appropriate screening tools and brief intervention techniques for different healthcare settings; their value for money; and the support needed to promote mainstreaming. To support the roll-out and take-up of targeted identification and brief advice, the results of Trailblazer programmes will be disseminated to local partnerships. There are going to be nine sites officially involved in the trials; four in the North East and five in London and the South East.

Where is support available?

ANARP identified 696 services for people with alcohol-related problems. Over 50% of these services are in the voluntary sector – many supported by primary care trust funding, but there are a number within the NHS itself, mainly within mental health trusts. A service location tool prepared from the project may be accessed at: www.nwph.net/alcohol/anarp.aspx

Alcohol Concern also has a service locator function on their website: www.alcoholconcern.org.uk/servlets/wrapper/services_directory.jsp?directorytype=default

National helpline: Drinkline – 0800 917 8282

Other useful websites are:

- www.drinkaware.co.uk
- www.knowyourlimits.gov.uk/stay_safe/index.html
- www.downyourdrink.org.uk
- www.al-anonuk.org.uk
- www.adfam.org.uk
- www.alcoholconcern.org.uk

Section 9

Prevention of erosion

- Advice that may be given to prevent erosion progressing
- Professional action that may be taken
- Food and drink associated with erosion
- Extrinsic sources of acid

9

Prevention of erosion

A number of epidemiological studies show that soft drinks are associated with erosion and the World Health Organization recommends that the amount and frequency of intake of soft drinks and juices should be limited. Worldwide, there is a need for more systematic population-based studies on the prevalence of dental erosion, using a standard index of measurement.

Advice that may be given to prevent erosion progressing

- Use toothpaste containing 1,450 ppm fluoride twice daily.
- Avoid frequent intake of acidic foods or drinks – keep them to mealtimes.
- Do not brush immediately after eating or drinking acidic food or drinks.
- Do not brush immediately after vomiting.

Professional action that may be taken

- Sensitive investigation of diet to identify source of acid, which may be from:
 - vomiting or gastric reflux;
 - frequent intake of acidic food or drinks.
- Investigation of habits which exacerbate effects of erosion:
 - brushing after acid intake;
 - brushing after vomiting;
 - acid intakes last thing at night;
 - retaining acid drinks in mouth before swallowing.
- Give tailored, specific advice for each individual patient.

Food and drink associated with erosion

There is likely to be individual variation in response to erosive effects of acids. The variation may be due to quantity and quality of saliva, features of the pellicle, individual habits with regard to frequency of eating and drinking, timing, oral swishing, frothing and retention and toothbrushing after acid intake.

Extrinsic sources of acid

Laboratory studies have shown that the following types of drinks, foods and medication have erosive potential:

- drinks containing citric acid – eg orange, grapefruit, lemon, blackcurrant;
- carbonated drinks;
- alcopops and designer drinks;
- cider;
- white wine;
- fruit teas (but not camomile);
- some sports drinks which contain acid;
- acidic fresh fruit – lemons, oranges, grapefruit – that are consumed with high frequency;
- pickles;
- chewable vitamin C tablets, aspirin, some iron preparations.

Section 10

Supporting references

Table of key references to support statements

Caries in children 0–6 years	
Breast feeding is best for babies	Allen J, Hector D. 2005. Benefits of breast feeding. <i>N S W Public Health Bull.</i> 16(3–4): 42–46. www.health.nsw.gov.au/public-health/phb/HTML2005/marchapril05html/article3p42.htm
	Kramer MS, Kakuma R. 2007. Optimal duration of exclusive breastfeeding. <i>Cochrane Database of Systematic Reviews.</i> Issue 2. Art. no: CD003517. DOI: 10.1002/14651858.CD003517.
	Valaitis R, Hesch R, Passarelli C et al. 2000. A systematic review of the relationship between breastfeeding and early childhood caries. <i>Can J Public Health.</i> 91(6):411–417.
From 6 months of age infants should be introduced to drinking from a cup and from 1 year feeding from a bottle should be discouraged	Department of Health. 1994. <i>Weaning and the weaning diet.</i> Report on health and social subjects, 45. HMSO, London.
Babies should be weaned onto sugar-free food	Department of Health. 1994. <i>Weaning and the weaning diet.</i> Report on health and social subjects, 45. HMSO, London.
Parents should help with toothbrushing	Hinds K, Gregory JR. 1995. <i>National Diet and Nutrition Survey; children aged 1.5 to 4.5 years.</i> The Stationery Office, London.
As soon as teeth erupt in the mouth brush them twice daily	Hinds K, Gregory JR. 1995. <i>National Diet and Nutrition Survey; children aged 1.5 to 4.5 years.</i> The Stationery Office, London.

Use only a smear of toothpaste	DenBesten P, Ko HS. 1996. Fluoride levels in whole saliva of preschool children after brushing with 0.25 g (pea-sized) as compared to 1.0g (full-brush) of a fluoride dentifrice. <i>Pediatr Dent.</i> 18(4): 277–280.
Brush twice daily – last thing at night and on one other occasion	Marinho VC, Higgins JP, Sheiham A, Logan S. 2003. Fluoride toothpastes for preventing dental caries in children and adolescents. <i>Cochrane Database of Systematic Reviews.</i> Issue 2. Art. no: CD002278 DOI: 10.1002/14651858. CD002278.
	Duckworth RM, Moore SS. 2001. Salivary fluoride concentrations after overnight use of toothpastes. <i>Caries Res.</i> 35: 285.
Brushing should be supervised by an adult	Hinds K, Gregory R. 1995. <i>National Diet and Nutrition Survey; children aged 1.5 to 4.5 years.</i> The Stationery Office, London.
Use a pea-sized amount or smear of fluoridated toothpaste – 1,450 ppm (unless the child cannot be prevented from eating toothpaste)	Marinho VC, Higgins JP, Sheiham A, Logan S. 2003. Fluoride toothpastes for preventing dental caries in children and adolescents. <i>Cochrane Database of Systematic Reviews.</i> Issue 2. Art. no: CD002278 DOI: 10.1002/14651858. CD002278.
	Twetman S, Petersson L, Axelsson S et al. 2004. Caries-preventive effect of sodium fluoride mouthrinses: a systematic review of controlled clinical trials. <i>Acta Odont Scand.</i> 62(4): 223–230.
Spit out after brushing and do not rinse	Chestnutt IG, Schafer F, Jacobson AP, Stephen KW. 1998. The influence of toothbrushing frequency and post-brushing rinsing on caries experience in a caries clinical trial. <i>Community Dent Oral Epidemiol.</i> 26(6): 406–411.
	O’Mullane DM, Kavanagh D, Ellwood RP et al. 1997. A three-year clinical trial of a combination of trimetaphosphate and sodium fluoride in silica toothpastes. <i>J Dent Res.</i> 76(11): 1776–1781.
	Sjögren K, Birkhed D, Rangmar B. 1995. Effect of a modified toothpaste technique on approximal caries in preschool children. <i>Caries Res.</i> 29(6): 435–441.

Children should eat a well-balanced diet with controlled amount and frequency of sugar intake	World Health Organization. 2003. <i>Diet, Nutrition and Prevention of Chronic Diseases</i> . Report of a Joint WHO/FAO Expert Consultation. World Health Organization, Geneva.
	Burt BA, Pai S. 2001. Sugar consumption and caries risk: a systematic review. <i>J Dent Educ</i> . 65(10): 1017–1023.
Apply fluoride varnish to teeth twice yearly	Marinho VCC, Higgins JPT, Logan S, Sheiham A. 2007. Fluoride varnishes for preventing dental caries in children and adolescents. <i>Cochrane Database of Systematic Reviews</i> . Issue 2. Art. no: CD002279. DOI: 10.1002/14651858.CD002279.
	American Dental Association. 2006. Professionally applied topical fluoride: evidence-based clinical recommendations. <i>J Am Dent Assoc</i> . 137: 1151–1159.
Ensure medication is sugar free or given to minimise cariogenic effect	Maguire A, Rugg-Gun AJ, Bultler TJ. Dental Health of children taking antimicrobial and non-antimicrobial liquid oral medication long term. <i>Caries Res</i> 1996; 30:16–21.
	Levine RS, Stillman-Lowe CR. 2004. The scientific basis of oral health education. Part 1: Dental caries. In: <i>A Guide to Prevention in Dentistry</i> , including <i>The Scientific Basis of Oral Health Education</i> (Ed. Kay EJ). pp 61–65. BDJ Books, London.
Apply fluoride varnish to teeth 3–4 times yearly (2.2% NaF = 22,600 ppm fluoride)	Marinho VCC, Higgins JPT, Logan S, Sheiham A. 2007. Fluoride varnishes for preventing dental caries in children and adolescents. <i>Cochrane Database of Systematic Reviews</i> . Issue 2. Art. no: CD002279. DOI: 10.1002/14651858.CD002279.
	American Dental Association. 2006. Professionally applied topical fluoride: evidence-based clinical recommendations. <i>J Am Dent Assoc</i> . 137: 1151–1159.
Prescribe fluoride supplement and advise re maximising benefit	Ismail A I. 1994. Fluoride supplements: current effectiveness, side effects, and recommendations. <i>Community Dent Oral Epidemiol</i> . 22(3): 164–172.
Reduce recall interval	National Collaborating Centre for Acute Care. 2004. <i>Dental Recall: Recall interval between routine dental examinations</i> . National Institute for Clinical Excellence, London.

Investigation of diet and assistance to adopt good dietary practice	Moynihan P. 2001. Dietary advice in dental practice. <i>Br Dent J.</i> 193: 563–568.
Prevention of caries in children aged from 7 years and adults	
Brush twice daily	Marinho VC, Higgins JP, Sheiham A, Logan S. 2003. Fluoride toothpastes for preventing dental caries in children and adolescents. <i>Cochrane Database of Systematic Reviews.</i> Issue 2. Art. no: CD002278 DOI: 10.1002/14651858. CD002278.
Brush last thing at night and on one other occasion	Duckworth RM, Moore SS. 2001. Salivary fluoride concentrations after overnight use of toothpastes. <i>Caries Res.</i> 35: 285.
Use fluoridated toothpaste (1,450 ppm fluoride)	Marinho VC, Higgins JP, Sheiham A, Logan S. 2003. Fluoride toothpastes for preventing dental caries in children and adolescents. <i>Cochrane Database of Systematic Reviews.</i> Issue 2. Art. no: CD002278 DOI: 10.1002/14651858. CD002278.
	Twetman S, Petersson L, Axelsson S et al. 2004. Caries-preventive effect of sodium fluoride mouthrinses: a systematic review of controlled clinical trials. <i>Acta Odontol Scand.</i> 62(4): 223–230.
Spit out after brushing and do not rinse	Chestnutt IG, Schafer F, Jacobson AP, Stephen KW. 1998. The influence of toothbrushing frequency and post-brushing rinsing on caries experience in a caries clinical trial. <i>Community Dent Oral Epidemiol.</i> 26(6): 406–411.
	O’Mullane DM, Kavanagh D, Ellwood RP et al. 1997. A three-year clinical trial of a combination of trimetaphosphate and sodium fluoride in silica toothpastes. <i>J Dent Res.</i> 76(11): 1776–1781.
Eat a well-balanced diet with controlled amount and frequency of sugar intake	World Health Organization. 2003. <i>Diet, Nutrition and Prevention of Chronic Diseases.</i> Report of a Joint WHO/FAO Expert Consultation. World Health Organization, Geneva.
Apply fluoride varnish to teeth twice yearly (2.2% NaF = 22,600 ppm fluoride)	Marinho VCC, Higgins JPT, Logan S, Sheiham A. 2007. Fluoride varnishes for preventing dental caries in children and adolescents. <i>Cochrane Database of Systematic Reviews.</i> Issue 2. Art. no: CD002279. DOI: 10.1002/14651858. CD002279.

	American Dental Association. 2006. Professionally applied topical fluoride: evidence-based clinical recommendations. <i>J Am Dent Assoc.</i> 137: 1151–1159.
Fissure seal permanent molars with resin sealant	Ahovuo-Saloranta A, Hiiri A, Nordblad A, Worthington H, Mäkelä M. 2007. Pit and fissure sealants for preventing dental decay in the permanent teeth of children and adolescents. <i>Cochrane Database of Systematic Reviews.</i> Issue 2. Art. no: CD001830. DOI: 10.1002/14651858 CD001830 pub 2
Apply fluoride varnish to teeth 3–4 times yearly (2.2% NaF = 22,600 ppm fluoride)	Marinho VCC, Higgins JPT, Logan S, Sheiham A. 2007. Fluoride varnishes for preventing dental caries in children and adolescents. <i>Cochrane Database of Systematic Reviews.</i> Issue 2. Art. no: CD002279. DOI: 10.1002/14651858 CD002279.
	American Dental Association. 2006. Professionally applied topical fluoride: evidence-based clinical recommendations. <i>J Am Dent Assoc.</i> 137: 1151–1159.
For those 8+ years with active caries prescribe daily fluoride rinse	Marinho VCC, Higgins JPT, Logan S, Sheiham A. 2007. Fluoride mouthrinses for preventing dental caries in children and adolescents. <i>Cochrane Database of Systematic Reviews.</i> Issue 2. Art. no: CD002284. DOI: 10.1002/14651858. CD002284
	Twetman S, Petersson L, Axelsson S et al. 2004. Caries-preventive effect of sodium fluoride mouthrinses: a systematic review of controlled clinical trials. <i>Acta Odontol Scand.</i> 62(4): 223–230.
For those 10+ years with active caries prescribe 2,800 ppm fluoride toothpaste	Stookey GK, Mau MS, Isaacs RL et al. 2004. The relative anticaries effectiveness of three fluoride-containing dentifrices in Puerto Rico. <i>Caries Res.</i> 38(6): 542–550.
	Bartizek RD, Gerlach RW, Faller RV et al. 2001. Reduction in dental caries with four concentrations of sodium fluoride in a dentifrice: a meta-analysis evaluation. <i>J Clin Dent.</i> 12(3): 57–62.
For those 18+ years with active disease consider prescription of 5,000 ppm fluoride toothpaste	Baysan A, Lynch E, Ellwood R et al. 2001. Reversal of primary root caries using dentifrices containing 5,000 and 1,100 ppm fluoride. <i>Caries Res.</i> 35: 41–46.

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Prevention of periodontal disease	
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BASCD Working Group

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Collator:	Gill Davies	Senior Dental Officer, Manchester PCT
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