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Department :Pedodontics & Preventive Dentistry Topic : Topical Fluorides Staff name : Dr.M.ARUL PARI









Topic :

TOPICAL FLUORIDE



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TOPICAL FLUORIDE

Definition: The term "topically applied fluorides" is used to describe those delivery systems which provide fluoride for a local chemical reaction to the exposed surfaces of erupted dentition.



INDICATIONS

• 1.Caries active individuals

Subject :

- 2.Children shortly after periods of tooth eruption, especially those who aren't caries free.
- 3.Those who take medication that reduce salivary flow or radiation therapy.
- 4.Post periodontal surgery when roots are exposed.
- 5. Patients with fixed or removable prosthesis and after placement or replacement of restorations.
- 6. Patients with eating disorder or who are undergoing a change in life style which may affect eating or oral hygiene habits conducive to oral health.

Topic :

7.Mentally & physically challenged individuals.



TOPICAL FLUORIDE PRODUCTS ARE DIVIDED INTO 2 CATEGORIES

- (A) Professionally applied
- ➢ Introduced by Bibby in 1942
- Dispensed by dental professionals in the dental office and usually involve the use of high fluoride concentration products ranging from 5000-19000 ppm which is equivalent to 5-9 mg F/ml

(B) Self applied

- ➢ Include fluoride dentifrices, mouth rinses & gels
- Are low fluoride concentration products ranging from 200-1000ppm or 0.2-1 mgF/ml.



Subject :

- TOPICAL FLUORIDES
- These are placed directly on the teeth

Some preparations provide high or low concentrations of fluoride over a short period of time

- SYSTEMIC FLUORIDES
- These circulate through the blood stream and are incorporated into developing teeth
- They provide a low concentration of fluoride over a long period of time



Subject :

Topic :

RATIONALE FOR USING TOPICAL FLUORIDE AGENTS

- To speed up the rate and increase the concentration of fluoride acquisition above the level which occurs naturally
- The initial caries lesion characterized by a white spot is porous and accumulates fluoride at a much higher concentration than adjacent sound enamel



Subj	ect	:

TOPICAL F- ENAMEL REACTION

- Topical fluoride agent react with enamel forms complex salts or other compounds .
- Reaction between enamel and fluoride at high conc.(1000ppm) and low pH results in the formation of large quantities of CaF.

Ca10(PO4)6 (OH)2 + 20F 10CaF2+6(PO4)3+2(OH-)

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" Choking off phenomenon"

• Low pH of topical fluoride solutions- resultant formation of dicalcium phosphate as well as calcium fluoride.

Ca10(PO4)6(OH)2 6CaHPo4 + 4Ca2+2H2O.

These reaction products tend to dissolve in oral fluids and release **Fluoride, calcium** and **phosphate** ions. Some of the liberated ions may interact to form a more permanently bound fluorapatite while others leach away from the outer region layer of enamel(Brudevold,1971) Subject : Speaker :



METHODS TO ENHANCE F



- Increase in Frequency of Application and Time of Exposure:
- Lengthening the time interval between the applications of a solution increases fluoride uptake (Richardson, 1976).
- The exposure time may be increased by the use of sealer after a topical application of fluoride which enhances fluoride uptake.
- Office environment- the application of topical solutions is usually limited for reasons to one application every 6 mo. Home fluoride regimens such as fluoride rinses or topical agents may be applied more frequently.
- Pretreatment of Enamel Surface:

• By Phosphoric acid-0.05M.

Uptake of fluoride is greater in demineralised (white spot, carious lesion) than in intact, normal enamel led to the pretreatment of enamel by an etching agent.

Pre treating enamel with 0.05 M phosphoric acid, in order to increase enamel surface area, greatly enhances the uptake and retention of fluoride.



- By Acidified, Saturated Solution of Dicalcium Phosphate Dihydrate:
- Chow et al.,1981. invivo study have shown high levels of apatitic fluoride in teeth that were pretreated with an acidic solution saturated with CaH PO4.2H2O (DCPD) prior o a fluoride treatment with an acidulated phosphate (APF gel).
- Mechanism- increased permanently bound fluorapatite is through a recrystallisation process in which some enamel is first dissolved and converted to CaHPO4.2H2O by the acid calcium phosphate solution. Sub. DCPD reacts with fluoride to form fluorapatite.
- Combine DPCD + APF treatment resulted in the presence of bound fluoride of 1,011+/- 134 and 2,042 +/-221 ppm in the outer 3.5micrometer of enamel as measured for 1 and 3 mo respectively, after topical treatment.



Subject :

• Use of complexing agents:

- Fluoride complexes with large number of cations such as iron, tin, titanium & beryllium.
- McCann (1969) noted that aluminium ion + fluoridesuggesting the existence of fluoride- aluminium complexes. Also, it was observed that elevated fluoride levels in enamel were associated with high aluminium concentrations.
- Mechanism by which fluoride deposition is enhancedprobably related to the formation of fluoride- Al-PO4 complex and not the formation of fluorapatite

Subsequently it has been suggested that fluoridealuminiu- phosphate- ineffective in caries inhibition.



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- McCann ,1969 suggested that the use of NH4F at a low pH of 4.4 results in massive deposition of fluoride in enamel as calcium fluoride particularly if the enamel is pretreated with phosphoric acid .
- Level of fluoride as high as 30,000-70,000ppm were detected, as spherical deposits of calcium fluoride.
- The effects of NH4F not detectable at higher ph of about 8.



PROFESSIONALLY APPLIED TOPICAL FLUORIDES



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Topic :

TOPICAL FLUORIDE USED IN PREVENTIVE DENTISTRY

1.SODIUM FLUORIDE2.STANNOUS FLUORIDE3.ACIDULATED PHOSPHATE FLUORIDE4.AMINE FLUORIDE



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NEUTRAL SODIUM FLUORIDE

- Neutral sodium fluoride :- NaF 2%
- 20 g of NaF dissolved in 1000 ml of distilled water.
 20 gms of NaF + WATER 1 L=2% NaF SOLUTION
- Stored in plastic containers, F reacts with glass t form SiF which reduce the availability of free active F.



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METHOD OF APPLICATION KNUTSONS TECHNIQUE:

- 1. Treatments are given in a series of four appointments.
- 2. Initial appointment, prophylaxis by aqueous pumice and isolation with cotton roll, then dry with air.
- 3. Cotton applicator is used t paint the dried teeth till all surfaces are visibly wet, and then the solution is allowed to dry for 3 to 4 mins.
- 4. At 2nd, 3rd and 4th visits the procedure isn't preceded by prophylaxis and is scheduled with intervals of one week.
- 5. The four visits technique is recommended for ages 3, 7, 11 and 13 years old.



MECHANISM OF ACTION



ADVANTAGE AND DISADVANTAGE

- It is relatively stable when kept in a plastic container;
- The taste is well accepted by patients;
- The solution is non-irritating to the gingiva;
- It does not cause discoloration of tooth structure;
- The series of treatments must be repeated only 4 times in the general age range of 3 to 13, rather than at annual or semiannual intervals
- The major disadvantage of the use of sodium fluoride is that the patient must make
 4 visits to the dentist within a relatively short period of time.



Subject :

Topic :

STANNOUS FLUORIDE(SnF2)



METHOD OF PREPARATION OF STANNOUS FLUORIDE

- Solutions of stannous fluoride are not stable. Soon after mixing they become cloudy due to the formation of tin hydroxide.
- A fresh solution of stannous fluoride be prepared for each patient.
- To prepare 8% stannous fluoride solution, the content of one capsule which is 0.8 grams ('0' No. of gelation capsule) is dissolved in 10 ml of distilled water in a plastic container.



TECHNIQUE OF APPLICATION (MUHLER'S TECHNIQUE)

- 1. Each tooth surface is cleaned with pumice or other dental cleaning agent for 5 to 10 seconds;
- 2. Unwaxed dental floss is passed between the interproximal areas;
- 3. Teeth are isolated and dried with air;
- 4. Stannous fluoride is applied using the paint-on technique and the solution is kept for 4 minutes. Repeat applications are made every 6 months or more frequently if the patient is susceptible to caries.



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MECHANISM OF ACTION



ADVANTAGE AND DISADVANTAGE

- Using an 8% stannous fluoride solution at 6 to 12 months intervals conforms to the practicing dentist's usual patient – recall system;
- Administrative difficulties are avoided.

- In aqueous solution the material is not stable;
- 8% solution is quite astringent and disagreeable in taste, its application is unpleasant;
- The solution occasionally causes a reversible tissue irritation manifested by gingival blanching;
- Causes pigmentation of teeth which has a characteristic light brown colour

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ACIDULATED PHOSPHATE FLUORIDE(APF)



METHOD OF PREPARATION OF ACIDULATED PHOSPHATE FLUORIDE

• APF Solution:

An aqueous solution is acidulated phosphate fluoride is prepared by dissolving 20 grams of sodium fluoride in 1 liter of 0.1 M phosphoric acid and to this is added 50% hydrofluoric acid to adjust the pH at 3.0 and fluoride ion concentration at 1.23%. It is also called as **Brudevold's solution**

• APF Gel:

For the preparation of acidulated phosphate fluoride gel, a gelling agent methylcellulose or hydroxyethyl cellulose(THIXOTROPIC GEL) is added to the solution.(wei and connors 1983)



Subject :

Technique of application :

Acidulated phosphate fluoride is recommended for application at 6 or 12 months intervals.

- > Oral prophylaxis is done;
- > The teeth to be treated are completely isolated and thoroughly dried with air;
- Clinical application of APF gels should be done using trays that fit the patient's upper and lower dental arches. A disposable foam-lined tray is preferred;
- To reduce ingestion of fluoride, a minimum amount of fluoride gel that will permit complete coverage of the tooth surfaces should be dispensed;
- After the trays have been properly positioned saliva ejector is used to evacuate the stimulated saliva and excess fluoride;
- It is reapplied every 15-30 seconds so as to keep the teeth moist with the fluoride solution throughout the 4 minute period;
- The patient is instructed NOT to eat, drink or rinse his mouth for atleast 30 minutes.
- > No.of applications:

solutions:	٦	Semi annual per yr
Gels:	ſ	



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MECHANISM OF ACTION

- Dehydration and shrinkage of the hydroxyapatite crystals ^{hydrolysis} DCPD "highly reactive with F"
- Fluoride penetrates into the crystals more deeply.





• Advantages:

> APF Solution:

• Fluoride uptake following the application of APF solution – greatly accelerated.



• It is stable with a long shelf-life, when stored in an opaque plastic bottle.

> APF Gel:

- Acceptable by the child due to flavored taste.
- Easy to apply as with gel fluoride comes in contact with teeth, so re-application is not required.
- Can be self-applied.
- Thixotropic property.



 \circ Caries reduction more than when compared to APF soln



Subject :

Topic :

• DISADVANTAGES:

• APF SOLUTIONS:

- **a.** Teeth must be kept wet with the solution for 4 minutes.
- **b.** APF solution is acidic, sour and bitter in taste, so necessitates the use of suction
- APF GEL:
- a. Can cause irritation to inflammed gingival tissue and to the open carious lesion; thus, it should be applied only after restoration of all carious teeth



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Comparison

Characterstics	Sodium Flouride (NaF)	Stannous Fluoride (SnF2)	APF
Percentage	2%	8%	1.23%
Fluoride concn.(ppm)	9,200	19,500	12,300
рН	Neutral	2.4 - 2.8	3.0
Frequency of Application	4 at weelky intervals 3,7,11,13 yrs	Biannually	Biannually
Adverse effect		Tooth pigmentation Gingival irritation	
Caries reduction	30%	32%	28%



TOPICAL SOLUTIONS VS GELS

• Use of viscous gels instead of solutions as a vehicle for topical fluoride reagents – has several advantages:

a. Gel adheres to teeth for a considerable time & eliminates the continuous wetting of enamel surfaces .

b. Trays are used- it is possible to treat two or four quadrants simultaneously – results in saving of time.

- Fluoride gels (1.23% fluoride) are commercially available.
- No source is available; It can be prepared according to the following formula:

Sodium fluoride- 26.5gSodium phosphate- 10.00gPhosphoric acid(50%)- pH3.2- 11.0ml





Subject :

Topic :

Sodium carboxymethyl cellulose	- 28.00g
Saccharin Sodium	- 500.00g
Orange essence	- 10.00ml.
Distilled water	- 1 liter

- Most gel preparations contain methylcellulose tend to lose viscosity upon storage- period of about 6 mo
- The loss of viscosity is greater at ph 3.0(original ph),
- Many commercial preparations have adjusted the ph up to the range of 4.3-5.5- led to the introduction of thixotropic gels.
- Thixotropic solutions are not true gels, but are viscous sols.
- High viscosity under storage conditions, but become fluids under condition of high stress or shearing force.
- Thixotropic gels are more stable at lower ph and do not run off





Subject :

VARIOUS TRAYS-F

- HINGED TRAYS polystyerene material
- TOPFORM –polyvinyl interior foam lining
- Air cushion fluoridator filter paper lining
- Custom made trays
- Mouth gaurds


PROPHYLACTIC PASTE

- Major consideration in selection of a paste- should be its **flavour.**
- Prophylactic pastes containing sodium fluoride:
- Bibby et al 1% NaF paste \longrightarrow 25-43% reduction in caries.
- Pastes containing stannous fluoride:
- Stannous fluoride with silex- silicone abrasive ystem didnot produce any additive effect.
- Stannous fluoride with lava pumice paste said to be superior as a cleansing agent and more compatible chemically with stannous fluoride than previously tried abrasive systems.
- Zirconium silicate abrasive system shown to have superor cleaning properties to pumice . Superior reliability is due to particle size reduction during the period of application.



• Pastes containing APF:

Studies showed minimal caries inhibition, which was not statistically significant by Peterson et al _____ potassium fluoride dihydrate.

• Pastes containing hexafluorozirconate:

Muhlex, Birler, Stookey (1968)- semi annual topical application of stannous hexafluorozirconate- showed reduction in dental caries.

Horowitz and Heifetz (1970)- reported toxic reaction after use of stannous hexafluorozircobate as a prophylactic paste, bur self administration of stannous hexafluorozirconate had disturbed systemic reactions such as nausea, vomiting and headaches.



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Table 1. Evidence-Based Applied Topical Fluoride	Clinical Recommendation for Professionally-
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	Ag	Age Category for Recare Patients			
Caries Risk	< 6 years	6 years to 18 years	18+ years		
Low	May not receive additional benefit from professional topical fluoride application*	May not receive additional benefit from professional topical fluoride application*	May not receive additional benefit from professional topical fluoride application*		
Moderate	Varnish application at 6-month intervals	Varnish application at 6-month intervals OR Fluoride gel application at 6-month intervals	Varnish application at 6-month intervals OR Fluoride gel application at 6-month intervals		
High	Varnish application at 6-month intervals OR Varnish application at 3-month intervals	Varnish application at 6-month intervals OR Varnish application at 3-month intervals OR Fluoride gel application at 6-month intervals OR Fluoride gel application at 3-month intervals	Varnish application at 6-month intervals OR Varnish application at 3-month intervals OR Fluoride gel application at 6-month intervals OR Fluoride gel application at 3-month intervals		

* Fluoridated water and fluoride toothpastes may provide adequate caries prevention in this risk category. The decision to apply topical fluoride in such cases should balance this consideration with the practitioner's professional judgment and patient preferences.



Dimensions of Dental Hygiene June 2012



FLUORIDE VARNISH



FLUORIDE VARNISH

- INTRODUCTION:
- A dental varnish is a coating liquid for teeth, which is applied in thin layers and converted to a consistent, solid film by a chemical or physical process.
- In dentistry, only water- or solvent –based liquid systems are used, as they enable simple, quick and reliable applications on the surfaces to be treated.



• Basic requirements :

- a. It should be a homogenous quality.
- b. Release of active substances.
- c. Patient comfort.
- d. Easy, safe application.
- e. Biocompatibility.
- f. Good storage stability.





• Main task of the dental varnishes are :

1. <u>Protection of the teeth from caries:</u>

To protect the teeth from caries through the release of active substances- fluoride or antimicrobial substances are used.

Fluoride reduces the demineralisation of dental enamel and antimicrobial substances combat cariogenic bacteria.





2. <u>Enhancing the esthetics of the tooth shade :</u>

Varnishes that contain bleaching agents are applied to remove discolorations or to whiten the teeth.

3. Desensitization of sensitive tooth necks:

Desensitizing sensitive tooth necks can be achieved via the creation of a mechanical block, i.e., a physical layer covering exposed dentin tubule.

This prevents or minimizes any conduction of pain stimuli into the tubule via effectively sealing them.

A sustainable seal below the tooth surface is therefore ideal.





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Topic :

• TYPES:

- a. Fluoride varnishes.
- b. Antimicrobial varnishes.
- c. Desensitizing varnishes.
- d. Tooth whitening varnishes









- Based on curing:
- 1. Physically cured varnishes.
- 2. Chemically cured varnishes.





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- Indications:
- For moderate- high caries risk patients.
- As a primary preventive measure.
- As a treatment for hypersensitive teeth.
- To reduce postoperative sensitivity.
- Used as a cavity liner.







• Contraindications:

- Children with low risk of caries who consume optimally fluoridated water or children who receive routine fluoride treatments through a dental office.
- Presence of ulcerative gingivitis or stomatitis.
- Patients with bronchial asthma.
- A known allergy to colophony / Rosin.



• <u>TYPES:</u>

- 1. <u>DURAPHAT</u>:
- First fluoride varnish developed in Germany.
- Yellow viscous material containing 22,600ppm fluoride as sodium fluoride in a neutral colophonium base (NaF contains 2.2% fluoride).
- Duraphat has shown caries reduction of between 30-40% in permanent dentition and 7-44% in primary dentition.



• MECHANISM OF ACTION:

Duraphat- applied topically under clinically controlled conditions, reservoir of fluoride ions gets built up around the enamel of teeth.

Fluoride keeps on slowly releasing and continuously reacting with the hydroxy apatite crystals of enamel over a long period of time leading to deeper penetration of fluoride and more formation of fluorapatite.

Part of Caf2 formed in low concentration – reacts with crystals of hydroxyapatite and forms fluorapatite.



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2. <u>Carex:</u>

Contains lower fluoride concentration than Duraphat (1.8%fluoride) and has efficacy equivalent to that of duraphat as a caries preventive agent.





Subject :

3. Fluorprotector:

Clear polyurethane based product containing 7000ppm fluoride (Silane fluoride with 0.7%F in polyurethane base)

It has a range of efficacy between 1% and 17% but its clinical effectiveness is questionable

• Mechanism of action:

Silane fluoride of fluor protector reacts with water – produce considerable amount of hydrofluoric acid (HF) which penetrates into enamel more readily than fluoride.

Fluorosilanes also enhances retention & penetration of fluoride in enamel by utilizing enamel network as a conduit.

R-SiF2 OH+ H2O \longrightarrow R-Si(OH)3 + 2HF





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4. Duraflour :

5% NaF in alcoholic suspensions of natural resins.

RECENT ADVANCE:

'DURAPHAT HALO"

ADVANTAGES:

• No discolouration post-operatively

(esthetically pleasing).

- No bad taste , as it come in two flavours-(mint & berry)
- Most acceptable by the children, thus fit with any age.
- No cross- contamination.





TECHNIQUES OF VARNISH APPLICATION

After prophylaxis, teeth are dried

Do not isolate with cotton rolls as varnish being sticky has tendency to stick to cotton.

A total of 0.3-0.5mL (6.9-1.5mg F) of varnish is required to cover the full dentition



Subject :

Topic :

Speaker :

The application is done first on lower arch (as saliva collects more rapidly around it) and then on upper arch with the help of single tufted small brush staring with the proximal surface.

After application the patient is made to sit with mouth open for 4 mins before spitting.

The patients should be clearly instructed not to rinse or drink anything solid but take liquids & semisolids only till next morning.



Subject :

Topic :

Speaker :





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- High concentration of fluoride in varnishes requires that only a small amount should be applied:
- $\blacktriangleright \qquad \text{Primary dentition} \text{up to } 0.25\text{ml.}$
- $\blacktriangleright \qquad \text{Mixed dentition up to 0.4ml.}$
- $\blacktriangleright \qquad \text{Permanent dentition} \text{up to } 0.75 \text{ ml.}$
- 1-2 pea sized drops of varnish for children with 1-8 teeth is sufficient.



• Advantages:

- Available in different flavours.
- No bitter taste like APF gels. However, in some patients the taste of the varnish can cause nausea especially when consuming food within the 24 hrs post treatment.
- They are quick & easy to apply.
- Dries immediately on contact with saliva.
- Doesnot require the use of suction, air-drying of teeth and use of trays that may trigger gag reflex.
- Minimal equipment setting.
- Teeth donot need to be professionally cleaned prior to varnish application.
- Can be applied by profession compliment to dentistry like dental therapists, dental hygientist .



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- It has sticky consistency, which helps it to adhere to the tooth's surface thereby allowing the fluoride to stay in contact with the tooth for several hours.
- Fluoride varnish shown to reduce the number of the cariogenic bacteria.
- They are safe to use due to their fast setting & slow fluoride releasing properties.



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• <u>DISADVANTAGES:</u>

- May cause a temporary change in the surface colour of teeth as well as some filling materials.
- Varnish costs more than gels



SELF-APPLIED TOPICAL FLURODIES

It includes:

- Dentifrices
- Mouth rinses
- Gels



DENTIFRICES

• **DEFINITION:**

A dentifrices is a substance used with the tooth brush for the purpose of cleaning the accessible surface of the teeth.







TYPES

- It is of two types:
 - a. Cosmetic dentifrice.
 - b. Therapeutic dentifrice







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• Cosmetic dentifrice:

They effective in removing of extrinsic staining that occur on tooth surface often the end product of bacterial metabolism, range from green to yellow to black.





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### • Therapeutic dentifrice:

They must reduce some disease process such as,

Caries incidence,

Plaque and calculus.

Gingivitis,

**Tooth sensitivity** 







# **APPLICATION OF DENTIFRICES**

- Amount of toothpaste or gel needed for effective cleaning is per sized dab on the top half of the toothbrush
- Dentifrice should preferably dispersed in between bristles rather than on the tips
- Children under 6 years of age should only be given half the amount of dentifrice as compared to that of an adult.





# **COMPOSITION**

	• AGENTS 1.Polishing/Abrasives agent		MATERIAL USED		FUNC	TIONS			
			Calcium car	bonate	These agents have	mild abrasive			
			DCPD, Alu	mina, Silica	action, which aid	s in eliminating			
					plaque & removing	g stains from teeth			
	2Binding/Thickening agents		Water soluble agents a. Alginates		Agents which controls stability & consistency of				
	b. Sodium carboxymethyl celluose toothpaste								
			Water insolu	uble					
a. Magnesium aluminium silicate									
b.Colloidal silica									
c.Sodium magnesium silicate									
	3. Deter	rgent/Surfactans	Sodium lauryl surface		Produce the	foam which aids			
					in the removal of foo	d debris & also			
			Ċ	despersion of product within the mouth.					
	4. Humectants			Glycerol A		Aids n reducing loss of moisture from			
			Sorbitol to		toothpaste				
Dr. M.G.R.			Polyethylene	glycol					
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5. Flavoring agent	Peppermint oil, Spe Oil of wintergree	n They render the properties of the properties o	oduct leaves a after use.		
6. Sweeteners & Coloring agents	Saccharin	Sweetner.			
7. Antibacterial agent	Ticlosan Delmopinol Metallic ions Zinc citrase tribyd	rate			
8. Anticalculus agent	Pyrophosphate Zinc citrate Zinc chloride. Gantrez acid	Anticalculus agents are mostly to inhibit the mineralisation of pl Are also known as crystal growtl	y designed aque.They n inhibitors		
9. Anticaries agent	Sodium monofluorophosphate. Sodium fluoride. Stannous fluoride				
10. Desentising agent	Sodium fluoride Potassium nitrate. Strontium chloride				
(Dermand to be University) Subject :		Topic :	Speaker :		

## • ADVERSE EFFECTS:

- A single brushing with a full ribbon of paste on a brush head provides about one gram (equivalent 10ml) of toothpaste and will expose an individual to approximately 1mg.F. It is only when substantial, quantities of paste are eaten by children, who may experience the phenomenon of pica that the acute toxicity of flouride dentifrices must be considered.
- Detergents and flavouring oils in dentifrices, however irritate the stomach when ingested in large amounts and cause vomiting. Also abrasives may interfere with complete intestinal absorption of flouride from toothpaste. Thus a child is unlikely to receive a highly toxic amount of flouride from eating a family sized tube of dentifrice. The Food and Drug Administation advisory review panel on over the counter(OTC) anticaries drugs has recommended that flouride content of dentifrice containers be limited to 260mg of flouride.



Subject :

# ADULT TOOTHPASTE-1000 TO 1500ppm




## CHILD-250-500ppm



#### • ADVISE FOR PARENTS:

- Parents should make sure a pea sized portion of flouride paste is on the child's toothbrush and remind the child to rinse and spit .
- Menopause Dentifrices with minimal abrasive particles should be used.
- In case gingival recession -Dentifrices with minimal abrasive particles should be used



# FLUORIDE MOUTHRINSE

Mouth rinsing is a practical and effective means for self-application of fluoride. Persons excluded from the practice are :

- 1. Children under 6 years of age;
- 2. Those of any age who cannot rinse because of oral-facial musculature problems or other handicap.





Topic :

## **MOUTH WASH COMPONENTS**

Dr. M.G.

INGREDIENT		FUNCTION	
Alcohol		Adds bite & freshness. Enhances flavor impact .Helps solubilise some flavour components. Contributes to cleaning action and antibacterial activity.	
Flavour		Makes mouthwash pleasant to refreshing cool quality to oral immediately and for sometime breath temporarily pleasant b pleasant note over breath aron exert significant antibacterial	o use. Adds a l cavity le after use. Makes y imposing a ma. Some flavours effect.
Humectant		Adds "body" to product, inhat around closure.	ibits crystallisation
Surfactant		Used for solubilisation of flavour. Provides foaming action. Assists removal of oral debris by lowering surface tension. Can be antibacterial	
Water		Major vehicle to carry other i	ngredients
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Special ingredients: Antibacterial agent	To enhance antibacterial efficacy
Astringent salts	Can interact with proteins of saliva & oral mucosa
Chlorophyllins	For topical deodorization.
Fluoride	Anticaries agent



Subject : Topic : Speaker :

### **Sodium fluoride mouthrinses**

- Sodium fluoride mouthrinses are usually formulated at concentrations of either 0.2% (900ppm F) for weekly use or 0.05% (225ppm F) for daily use.
- Tested in both neutral and acidified forms in a water vehicle.
- Rinses are intended to be used by forcefully swishing 10ml of the liquid around the mouth for 60secs before expectorating it.





Speaker :



