المحاضره الثانيه

مرحله رابعه

Topical Fluorid

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

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.

Delivered via gels, varnishes, mouthrinses, prophy pastes and dentifrices , No need for topical fluoride in patients with low risk and/or residing in optimally fluoridated areas- use of a fluoridated toothpaste should be sufficient.

Fluoridated dentifrices are not recommended in small children (<3 years).

Topical fluorides are divided into two categories;

Professionally applied topical fluorides:

* It was introduced by Bibby in 1942.
* Involve the use of high fluoride concentration products ranging from 5000-19,000ppm, which is equivalent to 5-19 mgF/ml.

Self applied products:

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

Gel and solutions indicate that both are the same order of clinical effectiveness .

A gel is an aqueous suspension of organic or inorganic molecule that are arranged in a weak three dimensional network producing a thickening or gelling of the entire mass

Advantages of gel

1. A dhares to teeth surface
2. Less time consuming
3. Hazards of accidently ingesting a large quantity of F is minimized
4. eliminates the need for continuous wetting of enamel surface required by the operator

FOAM:

Developed to minimise the risk of fluoride over dosage as well as to maintain the efficacy of topical fluoride treatment.

Advantages :

* Its lighter than a conventional gel & therefore only a small amount of agent is needed for topical application
* The surfactant has cleansing action by lowering surface tension, this facilitates the penetration of material into interproximal surfaces.
* It doesn’t require suctioning so it offers advantages for home use

Methods of application of topical F by dental professional

1. Paint on technique
2. Tray technique
3. Spray

F. uptake is not reduced if the teeth are not scaled and polished.

Fluoride rinses

Fluoride mouth rinses for school based health programs or in home are currently popular as a simple way to expose the teeth to fluoride frequently.

The early trial with neutral sodium fluoride, acidulated phosphate fluoride,and stannous fluoride and stannous fluoride rinse proved to reduce caries by 20 to 50 percent.

**Amount of fluoride in self applied fluoride rinses;**

Usually non –prescribed fluoride mouth rinses contain 0.05%(about 225 ppm).

Prescription fluoride rinses generally contain 0.2% NaF (about 900 ppm)

They are designed to be used under supervision, once a week for one minute.

For rinsing use 10 ml for about 1 minute.

**Fluoride mouth rinse prescribed for;**

1. Child with high risk to dental caries
2. Patient with orthodontic appliance , also Patient with partial denture or bridge
3. Adult with root caries or sensitive teeth .
4. Patient with xerostomia

**Not used for;**

1. Children under 6 years of age .
2. Children given other fluoride supplement.

**FLUORIDE VARNISH:**

Increasing the time of contact between enamel surface & Topical fluoride agents favors the deposition of fluorapatite & fluorhydroxyapatite.

**DURAPHAT:**

It s a viscous yellow material, containing 22,600 ppm fluoride as sodium fluoride in a neutral colophonium base.

**Fissure sealant**

A thin plastic coating placed in the pit and fissures of the teeth to act as a physical barrier to decay.

The molar teeth have many fissures and pits, which can be very difficult to keep clean.

These are the sites most susceptible to developing decay.

resin-based sealants :

1. May or may not contain filler particles or fluoride.

2. The setting reaction can be automatic(autopolymerised) or light activated (lightpolymerised). .

3. low viscosity resin-based RM (flowable composite) have also been used as fissure sealant.

4. retention rates 20%–80% better than the GIC sealants .

Glass ionomer sealants;

1. Can adhere directly to tooth substance .
2. Release fluoride over time
3. Less sensitive to moisture contamination than resin –based material .
4. Retention is a major problem with GIC. Sealant,but if this concern can be resolved ,there maybe advandages to the GIC sealants through the release of fluoride .

**Indications**:

1. all permanent molar teeth without cavitation (i.e., free of caries or incipient caries).

2. early (non- cavitated) carious lesions in children, adolescents and young adults to reduce the percentage of lesions that progress (Griffin et al. 2008).

3. teeth that have deep and narrow pit and fissure morphology (the caries risk is increased because of difficulties to clean the tooth).

4. teeth with stained grooves.

**FLUORIDATED PROPHYLACTIC PASTES:**

If prophylaxis pastes containing fluoride are used, the lost fluoride is replenished & there is a significant gain in the concentration of fluoride.

**DENTIFRICES**

Fluoride Dentifrices plays a significant role in caries prevention since it requires active participation by the patient to have any effect. It has been demonstrated that the subject who brush twice a day or more with 1000 ppm or, 1500 ppm or, 2500 ppm fluoride dentifrices, have significantly reduced caries prevalence.

It’s a mixture of abrasive or polishing agents, detergent, Binders, flavoring agent, and substances necessary to facilitate their preparation.

Therapeutic paste/dentifrices contains addition one or more

Compounds intended for reduction of oral dental diseases.

Exact formulation depends on Manufacturer but basic components

remains same.