DENTAL CARIES

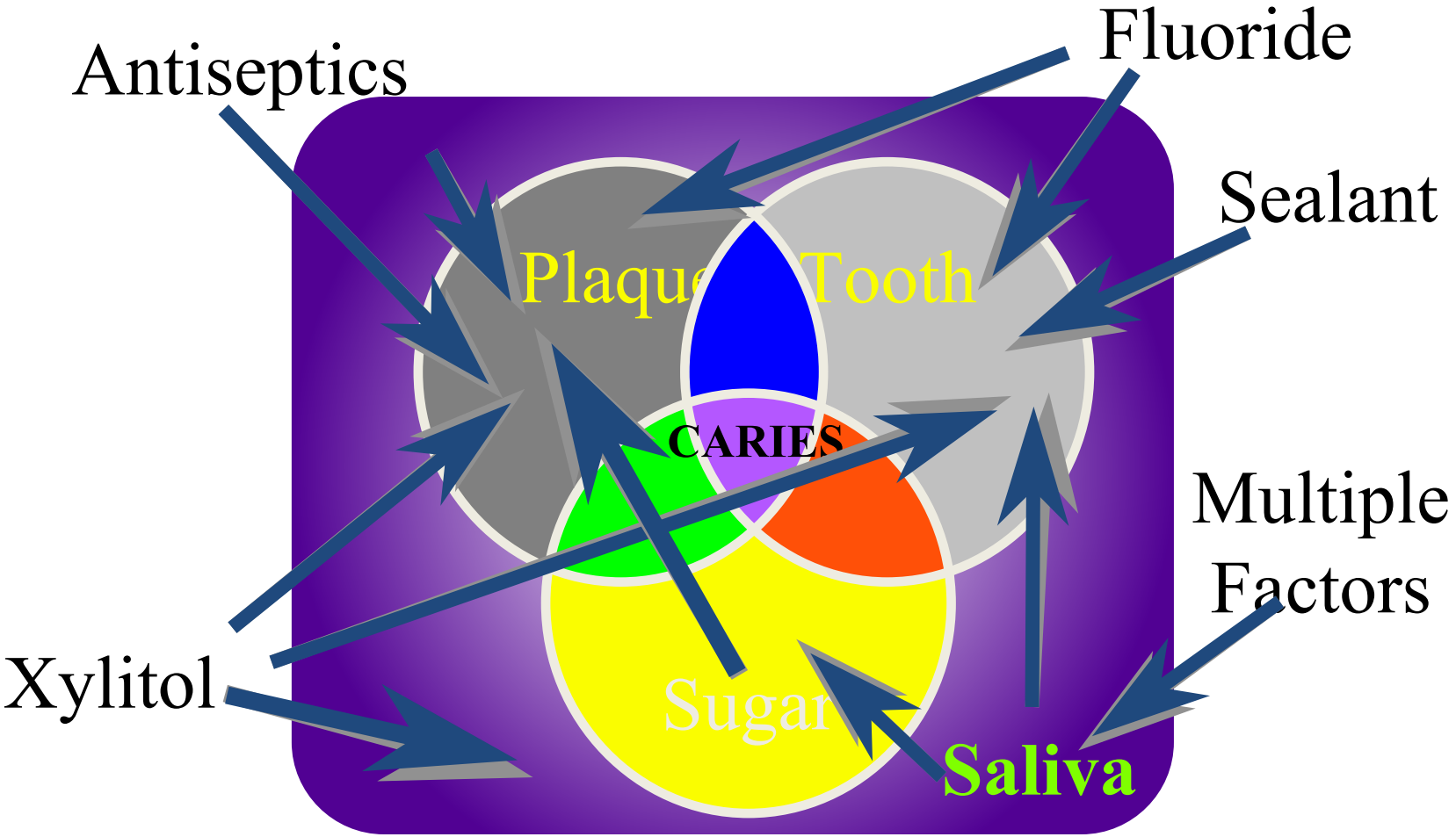
Dept. of Oral Pathology

LEARNING OBJECTIVES

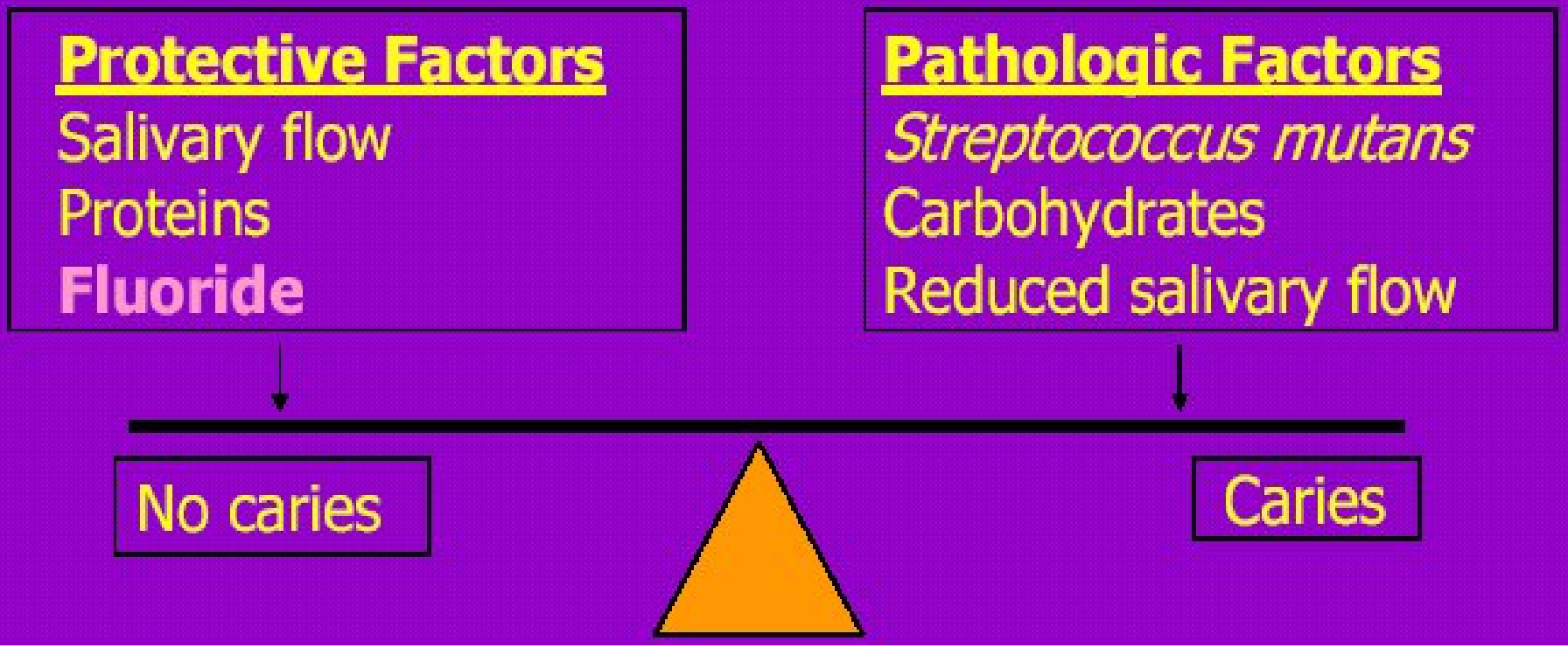
- At the end of the lecture student should

–Describe all the methods of caries prevention

CARIES PREVENTION



Ongoing balance



- Practitioners must identify those patients who have active carious lesions and those at high risks for caries and institute appropriate preventive and treatment measures.

1. General health
2. Fluoride exposure: increases the resistance of tooth structure to demineralization .

ROUTE OF ADMINISTRATION:

Systemic and Topical .

METHOD OF DELIVERY:

1. Public water supply.
1. Self application: Low dose high frequency rinses-0.05%

3. Professional Application:

APFGel (1.23%)

Sodium Fluoride (2%)

Stannous Fluoride (8%)

- **<u>Mechanism of action:</u>**

  Forms insoluble fluorapetite crystals replacing soluble crystals of the tooth structure.

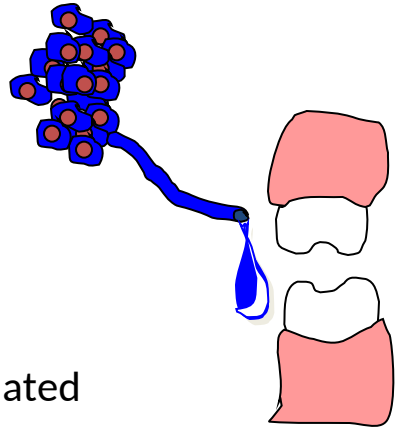
  Incipient carious lesions are remineralized.

  Antibacterial activity.

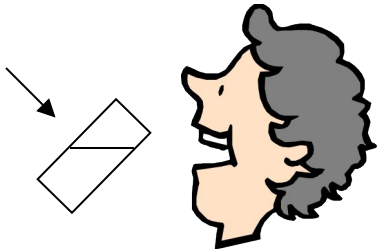
  High frequency low dose rinses-0.2%

SOURCES OF BIOAVAILABLE FLUORIDE

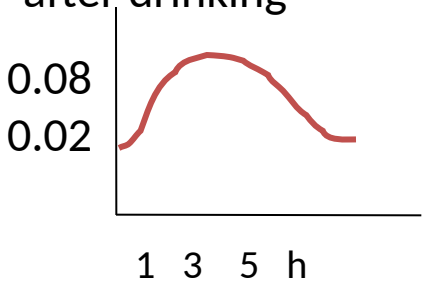
1. saliva



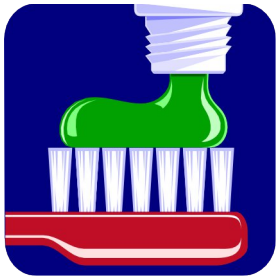
2. Fluoridated water



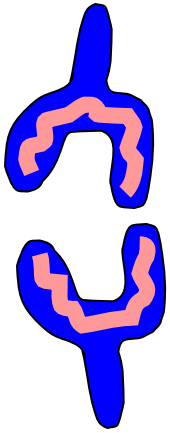
ppm F in saliva after drinking



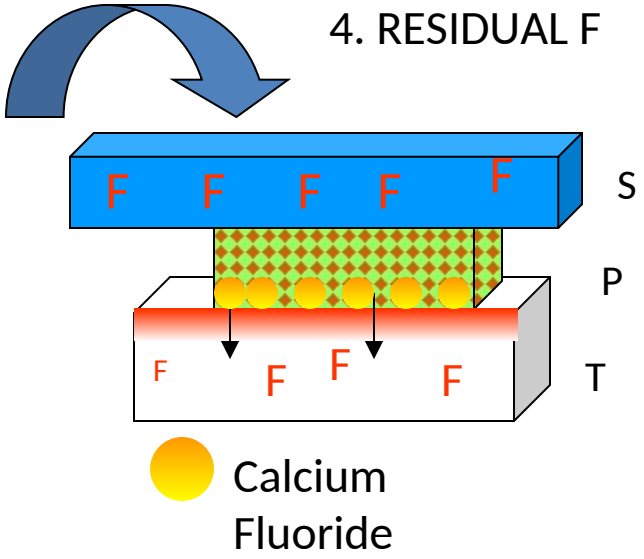
3. Home care products



Topical F



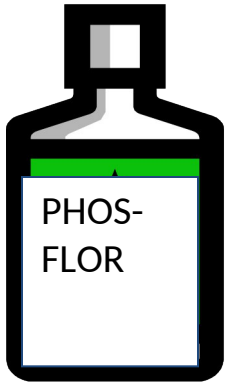
4. RESIDUAL F



HOME F RINSES

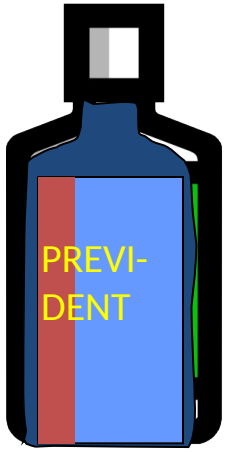
Daily Rinse:

0.05% NaF, 0.023% free F,
230 ppm F, 2.3 mg F / dose



0.02% APF, 0.02% free F,
200 ppm F, 2 mg F / dose.

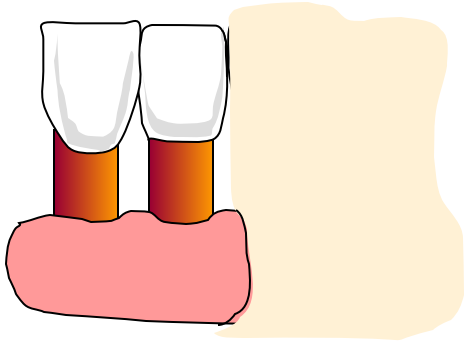
Weekly Rinse



0.2% NaF, 0.091% free F, 910 ppm F, 9.1 mg F / dose.

Indications:

1. High caries risk
2. Exposed roots
3. Prevention programs



DENTIFRICE (TOOTHPASTE)

Pastes

Key ingredients in TP:

1. F salt
2. Abrasive

Gels:

1. Better interdental penetration
2. More acceptable to children

Clinical Plaque Control:

- Mutant streptococci are important in the carious process because they are efficient producers of acids and thrive in acidic conditions.

- Chlorhexidine decreased bacterial count of mutants streptococci, and its use is justified in high risk patient in whom mechanical plaque control, dietary control and fluoride use have failed to control disease progression.

- A Chlorhexidine gel should be applied to the teeth in closely fitting, flexible vacuum molded trays made on impressions, of the patients mouth.

- The gel should be used for 5 minute per day for 14 days and this should be repeated every 3months because recolonization gradually occurs.

- An alternative way to use Chlorhexidine is in the form of varnish applied to specific areas after a prophylaxis

4. Salivary functioning: Salivary stimulants

Gums , paraffin waxes ,Saliva substitutes.

5. Antimicrobial agents :

Used in high risk patients

Systemic side effects must be considered.

ANTIBIOTICS: Vancomycin, Kanamycin, Actinobolin.

BISGUANIDES: Alexidine , Chlorhexidine.

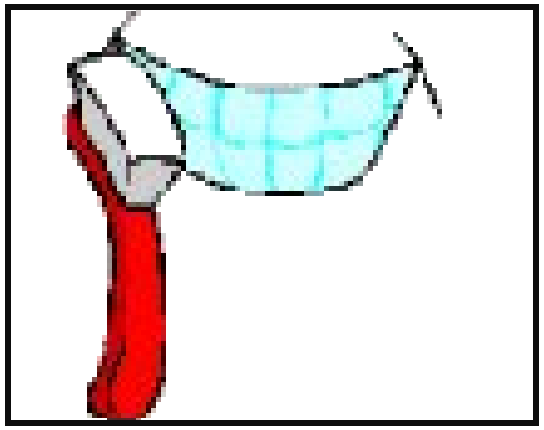
HALOGENS : Iodine and fluoride

6. Diet:

The quality and frequency has a very detrimental effect on plaque.

Sucrose containing products provides stronger potential for colonization of SM .

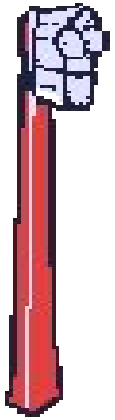
Increase in frequency of ingestion results in prolonged PH drop.



VII ORAL HYGEINE MEASURES:

"Plaque free tooth surfaces do not decay"

Flossing , Tooth brushing , and Rinsing.



8. Xylitol gums: is a natural 5-c sugar obtained from birch trees. It keeps sucrose molecule from binding with MS. Also, chewing stimulates salivary flow which improves the buffering of the PH drop that occurs after eating.

9. Pit and fissure sealants:

The junction of enamel surfaces during tooth development forms pits and fissures. If these surfaces do not coalesce, they may leave small channels of varying depth ranging from shallow pits to deep fissures extending upto the DEJ.

10. Tooth mousse

- Topical crème with bio – available calcium and phosphate.
- A water based, sugar free crème containing CPP – ACP (Casein phosphopeptide – Amorphous calcium phosphate)
- This binds tooth surfaces of bio films, plaque, bacteria's, hydroxyapatite and surrounding soft tissue localizing bio-available calcium and phosphate.

- Saliva enhances the effectiveness of CPP-ACP and the flavors helps stimulate saliva.

- Provides extra protection for teeth.

- Neutralizes acid challenges from acidogenic bacteria in plaque and other internal and external acid sources.

Tooth Mousse

SUMMARY

– various methods of caries prevention

BIBLIOGRAPHY

- Text book of oral pathology Shafer's, 5 & 6th edition
- Color Atlas of Oral Diseases Cawson, R. 2nd edition
- Oral and Maxillofacial Pathology Neville, Brad W. 2nd
- Lucas's Pathology Of Tumor's of the Oral Tissues Cawson, R. A., Bennie, W. H 5th edition

THANK YOU