Oral Hygiene

- **Dental hygiene disorders**:

❖Dental Caries

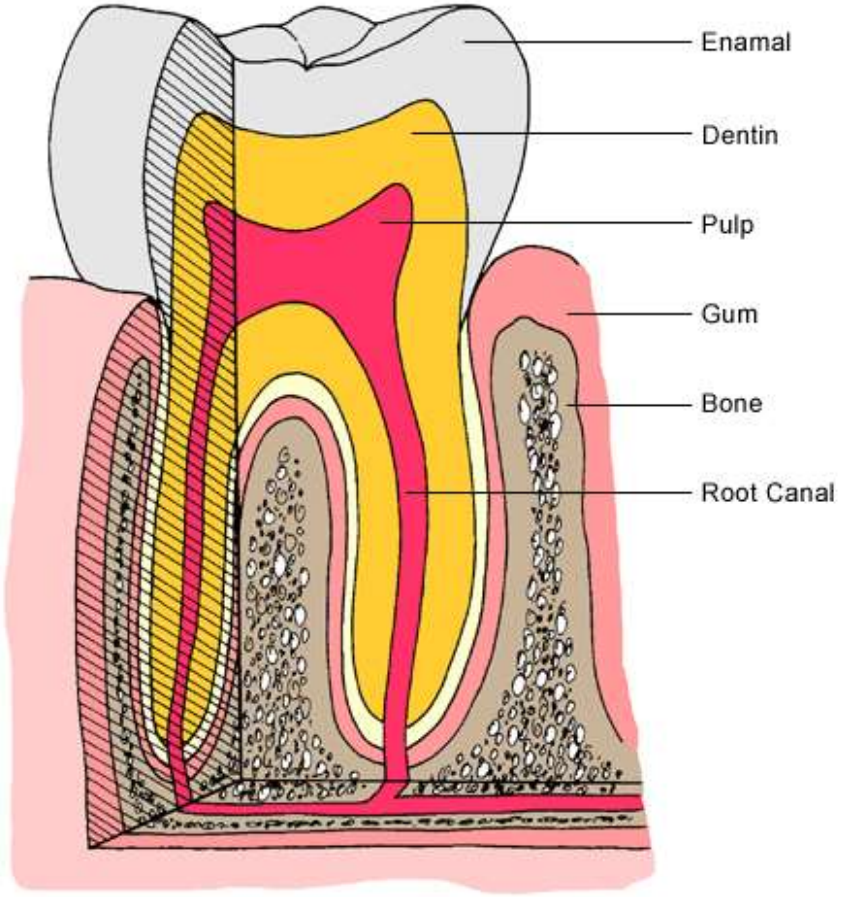
❖Gingivitis

❖Halitosis

❖Teething discomfort

❖Aphthous (mouth) ulcer

Anatomy of the tooth



Dental caries

- **Incidence:**

It decreases especially in children due to the use of flouride (water, tooth paste), but it remains the a public health problem.

- **Pathophysiology:**

Plaque bacteria:

strep. mutans (1°), *lactobacillus,*

actinomyces viscosus. generate acids

from dietary carbohydrates which demineralize

tooth enamel causing perforation which if left untreated will destroy teeth. These Mio. Spread by saliva, sharing spoons, blowing food …etc

Dental Caries (risk factors)

Risk factors:

Orthodontic appliences.

Xerostomia.

Gum tissue recession.

Tobacco products.

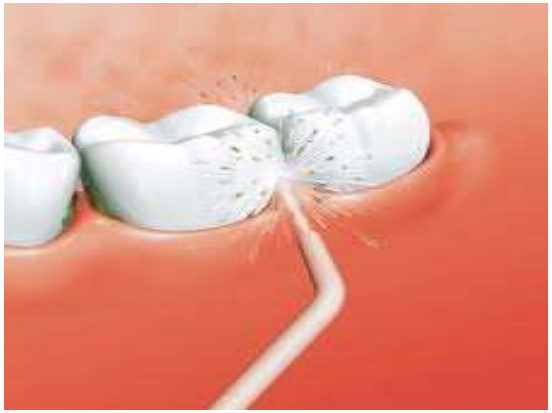
Non Ph. Treatment of Dental Caries

- Plaque removal devices:

❑Tooth brushes

❑Dental floss

❑Oral irrigating devices



Tooth brushes

- Life span 3 months because:

Bacterial accumulation.

Worn, bent bristles do not remove effectively.

Soft??hard??medium

hard bristled toothbrushes can damage tooth enamel and irritate the gums

Dental floss

Removes plaque, polishes the tooth surface, massages interdermal papillae and reduces gingival inflm.

Nylon yarn waxed or un-waxed

Oral irrigating devices:

Directing a high pressure steam of water through a nozzle to tooth surface(removes small amount of plaque)

- Dietary measures.

avoid cariogenic food(CHO)

- High water content

food like fruits will stimulate the flow of saliva)

Ph. Treatment of Dental Caries

- Use of fluoride:

✓ Reduces the solubility of dental enamel by forming **flouridated hydroxy apatide** more resistant to demineralizing acids.

✓ Facilitate the demineralization of early carious lesion.

Dental fluorosis

"Very Mild"

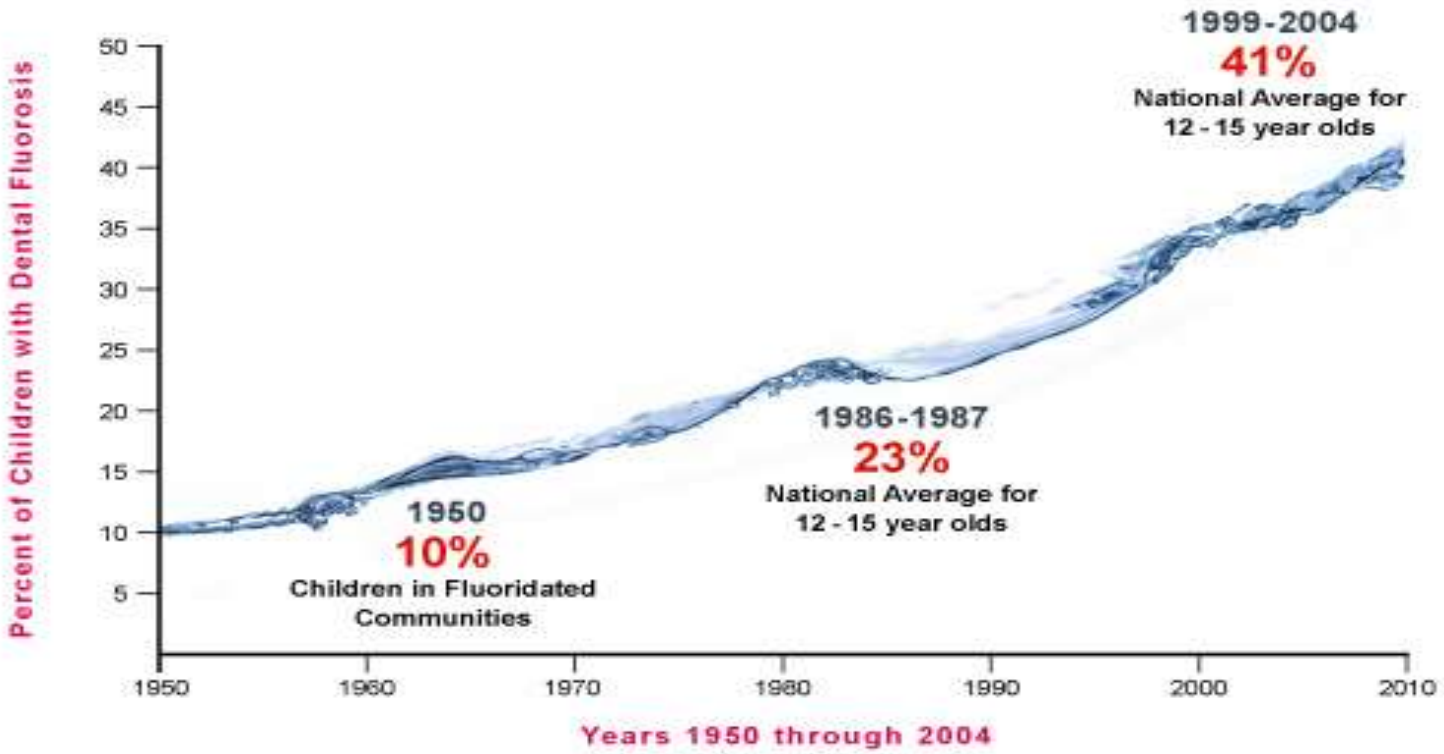
"Mild"

"Moderate"

"Severe"

- Fluorosis is a defect of tooth enamel (hypomineralization)caused by too much fluoride intake during the first 8 years of life (because this is when permanent teeth are developing under the gums). Although fluorosis can be cosmetically treated, the damage to the enamel is permanent. Common causes of fluorosis include: fluoridated drinking water (particularly during infancy), ingestion of fluoride toothpaste, use of fluoride tablets, and consumption of processed foods made with fluoridated water.

Dental Fluorosis Rates in the United States: 1950 through 2004



Beltran ED, et al. (2010). Prevalence and Severity of Dental Fluorosis in the United States, 1999-2004. NCHS Data Brief No. 53. Figure 3.

National Research Council. (1993). Health Effects of Ingested Fluoride. National Academy Press, Washington DC. p. 4-5.

Age group	Reference weight kg (lb)	Adequate intake (mg/day)	Tolerable upper intake (mg/day)
Infants 0–6 months	7 (16)	0.01	0.7
Infants 7–12 months	9 (20)	0.5	0.9
Children 1–3 years	13 (29)	0.7	1.3
Children 4–8 years	22 (48)	1.0	2.2
Children 9–13 years	40 (88)	2.0	10
Boys 14–18 years	64 (142)	3.0	10
Girls 14–18 years	57 (125)	3.0	10
Males 19 years and over	76 (166)	4.0	10
Females 19 years and over	61 (133)	3.0	10
Dietary reference intakes for fluoride[8]			

If the water supply is fluoridated at the level of 1 ppm, one must consume one litre of water in order to take in 1 mg of fluoride.
It is thus improbable a person will receive more than the tolerable upper limit from consuming optimally fluoridated water alone.

Gingivitis

- The mildest periodontal disease, reversible and may affect anyone, it is responsible for tooth loss in adults > 45 years.

Causes of Gingivitis

- Build up of plaque
- Hormonal changes
- Rarely:
- Blood dyscrasia (leukemia).
- Mucocutaneous disease(lichen planus).
- Viral inf.(herpetic gingivostomatitis).
- Severe gingivitis occur in AIDs.
- Medicine: Ca channel blocker, cyclosporin, phenytoin, anticholinergic and antidepressants, tobacco (smoked or non smoked).

Clinical picture

- Erythema, Swelling, Bleeding.

Prevention:

- Same methods for the prevention of dental caries.

Halitosis

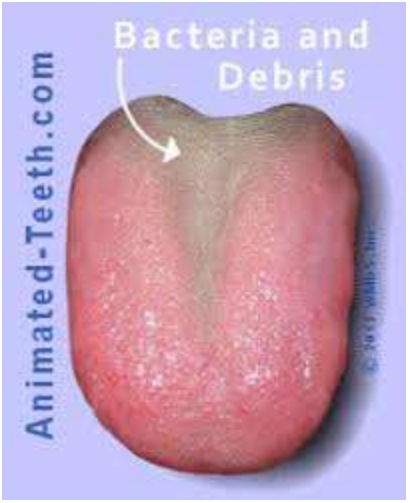
- Oral malodor may be a symptom of oral pathology, however 90% of cases are caused by poor oral hygiene

Pathophysiology

- Break of sulfer containing proteins into volatile sulfer compds(VSCs).
- Poor oral hygiene.
- Xerostomia.
- Garlic, tobacco, onion, alcohol.
- Pulmonary dis.(lung inf., TB, tonsilitis, rhinitis, sinusitis)
- Renal, hepatic failure, hyperglycemia (acetone smell)

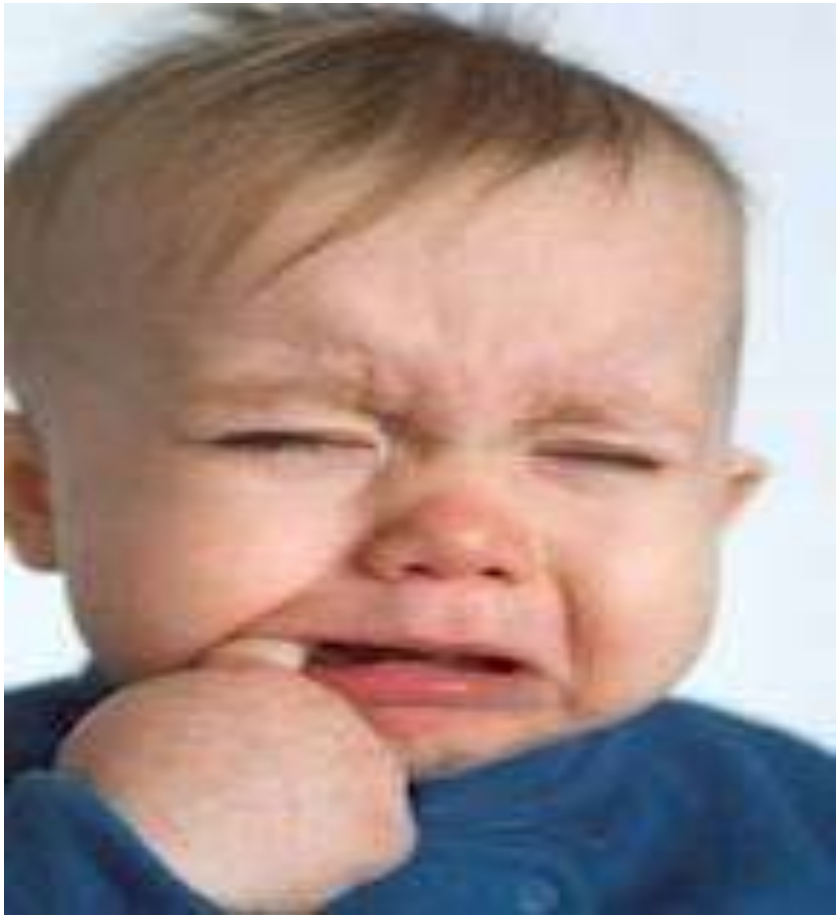
Prevention of halitosis

- The primary site for formation of VSCs in the back of the tongue
- Brushing teeth and tongue using tongue blades.



- Zinc salt and chlorine dioxide rinses.
- Zinc salt reduces receptor binding for VSCs production, also kills Gram –ve bacteria.
- Chlorine dioxide break disulfide bond and oxidizes the precursors of VSCs.

Teething discomfort



Teething discomfort

- The 1°(deciduose) dentition 1st appears at age of 6 months, and the process is usually complete at age 24hr.
- Not all babies suffer from teething discomfort.

Pathophysiology:

- Eruption of teeth causes pain, reddening with sleep disturbances.
- **Vomiting?? Diarrhea?? Fever??**

Treatment of teething discomfort

- Non-ph.

Massaging teeth (teething Ring, dry toast).

- Ph.

Topical analgesics:

Benzocaine 5-20%gel and Phenol.

Systemic analgesics: acetaminophen.

Aphthous ulceration

- Superficial painful oral lesion, occurring in recurrent bouts at intervals between few days to few months.
- Incidence increases between

20- 40 years.

Unknown cause, but risk factors include:

Stress, trauma, food sensitivity, nutritional deficiency (iron, zinc, B_{12}) and infection

Clinical features

- Minor aphthous ulceration is round, grey-white in color, painful, small < 1cm in diameter.
- Pain makes eating and drinking difficult.
- Needs 7-14 days to heal

Conditions to refer

- Major aphthous ulcer

- Herpetiform ulcer

- Oral thrush

(creamy soft elevated Patches)

- Squamous cell carcinoma:

Painless lesions that fails to resolve and then becomes panful.

- Behçet’s syndrome:

Recurrent painful, major aphthous, also observed in the genital region and eye

Treatment

Corticosterois:

Triamcinolone in orabase.

Antibacterial agents:(chlorhexidine)

Read the cases carefully and write T or F in-front of the folowings

- **A 7-month old baby was brought by his parents to buy a teething ring to manage his appearing teeth. Teething in babies usually causes:**
- ( ) Fever.
- ( ) Diarrhea.
- ( ) Vomiting.
- ( ) Sleep disturbances.

- **A mother asks you about using fluoride chewing tab. which has been prescribed by the dentist for her child (8 years, adequate intake 1 mg/day), if you knew that the water supply is fluoridated at the level of 1 PPm, :**
- ( ) regarding this patient No need to give external fluoride since it is supplied in water.
- ( ) Fluoride reduces gingival inflammation.
- ( ) Fluoride increases resistance against acids.
- ( ) Fluoride removes plaque from enamel.

- **A pregnant woman with a mouth ulcer, is bothering her. Her friend had recommended using triamcinolone paste which was effective when she had a mouth ulcer.**

A.( ) It differs from Behçet's syn. that there are no such lesions in the genital tract.

B ( ) Nutritional supplements will help this patient.

C.( ) Triamcinolone paste is a corticosteroid.

D.( ) The ulcer may be due to zinc or iron deficiency.

Thank You For Listening