

DENTAL CARIES

Dept. Of Oral Pathology

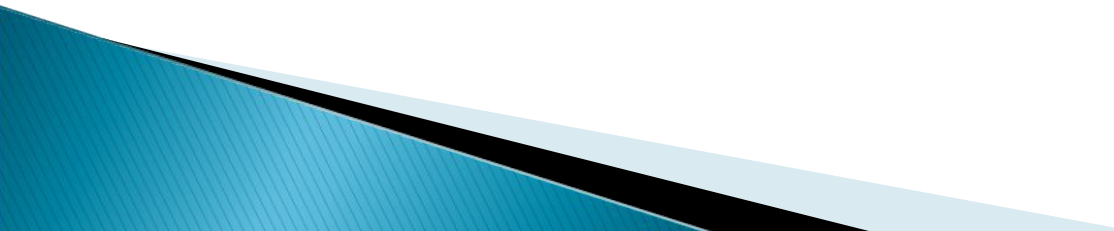


LEARNING OBJECTIVES

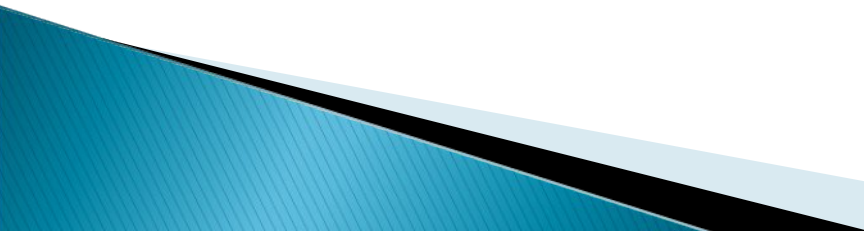
- ✱ At the end of the lecture student should be able to
 - Classify caries
 - Describe different types of caries and their clinical appearance

CLASSIFICATION OF DENTAL CARIES

1. According to location on individual tooth :

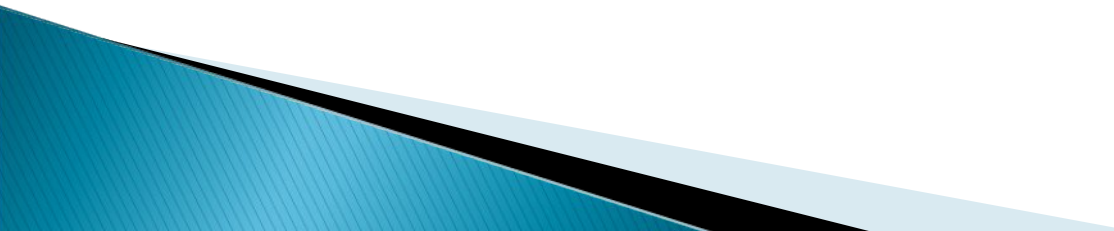
- Pit and fissure caries
 - Smooth surface caries
 - Linear enamel caries
 - Cervical caries
 - Root caries
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2. According to rapidity of the process :

- Acute dental caries
 - Rampant caries
 - Radiation caries
 - Nursing bottle caries
 - Adolescent caries
 - Chronic dental caries
 - Arrested caries
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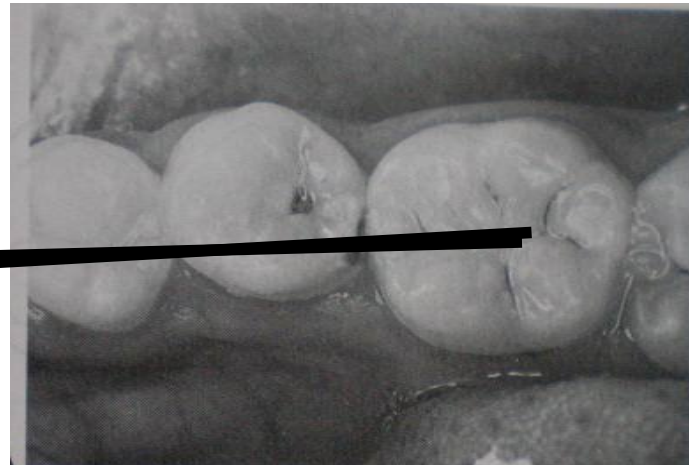
3. According to whether the lesion is new or it is around margins of restoration :
 - a. Primary or Virgin caries
 - b. Secondary or recurrent caries
- According to location on individual tooth
 - a. Pit & fissure caries -

It forms the lesion in pit & fissures usually resulting from the imperfect the developmental enamel lobes.

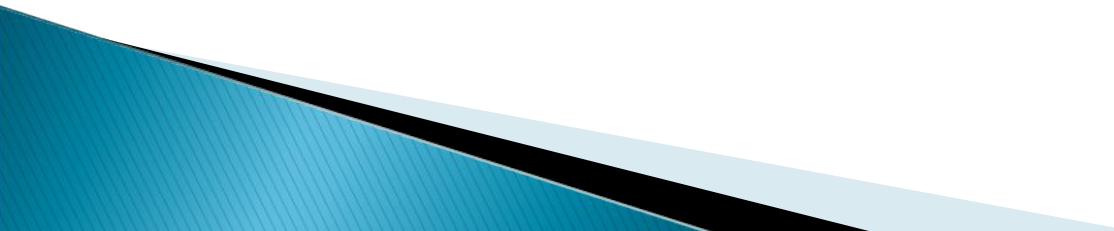


- ✿ It develops in the occlusal surface of molars and premolars, in buccal and lingual surface of molars and lingual surface of maxillary molars.
- ✿ It appears brown or black in early lesions and will feel slightly soft and ‘catch’ on explorer.
- ✿ Pit and fissure caries seen on first molar and second premolar’s occlusal surfaces.

Pit and fissure caries seen
on first molar




b. Smooth surface caries -

- ✿ Smooth surface caries does not begin in enamel defects but rather in smooth areas of enamel surface that is habitually uncleaned & usually & continually covered by plaque.
 - ✿ It develops on proximal surface of teeth and gingival third of buccal (facial) and lingual surface.
 - ✿ It is generally preceded by formation of microbial plaque
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Facial smooth surface caries



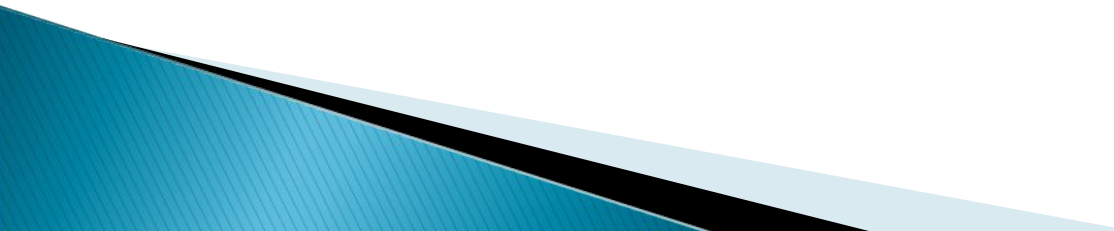
c) Linear enamel caries –

- ✿ This atypical form of dental caries is seen in primary dentition.
 - ✿ Lesions are seen on the labial surface of maxillary anterior teeth in neonatal line region.
 - ✿ Variant of this form of caries is also known as *Odontoclasia*.
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d) Cervical caries –

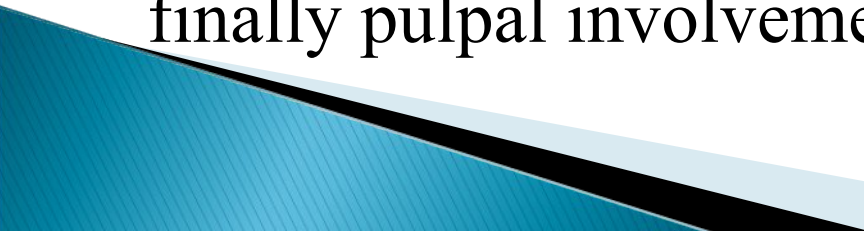
- ✿ It occurs on the buccal, lingual & labial surface of teeth.
 - ✿ It extends from area opposite the gingival crest occlusally to the convexity of tooth.
 - ✿ It also extends on the proximal surface and also beneath the free gingiva.
 - ✿ The lesion is seen as a crescent shaped open cavity.
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e) Root caries –

- ✿ It was also called as caries of cementum.
 - ✿ It is defined as “ a soft progressive lesion that is found anywhere on the tooth surface that has lost connective tissue attachment and is exposed to the environment”
 - ✿ Seen in persons with gingival recession and exposed root surface.
 - ✿ Occurs mostly on buccal and lingual surfaces of root.
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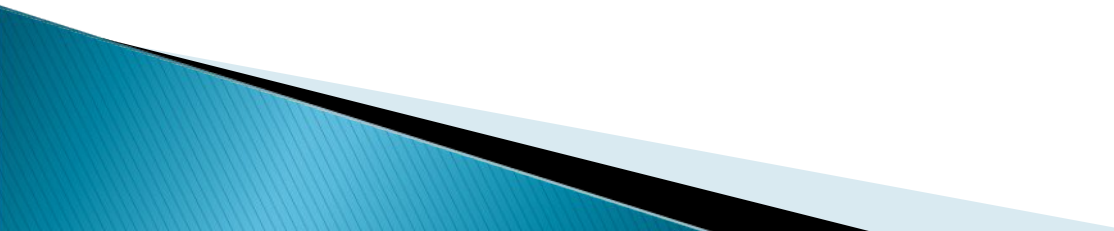
✿ They invade along Sharpey's fibres or in between bundles of fibres.

✿ They spread along various concentric layers of cementum.

- After decalcifying cementum, destruction of matrix occurs.
 - With continuation of caries process there is invasion of microorganisms into underlying dentinal tubules with subsequent matrix destruction and finally pulpal involvement.
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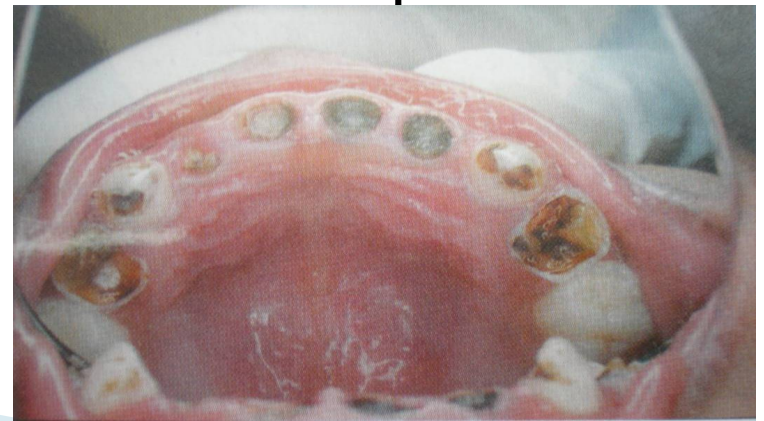
☀ According to rapidity of the process :

a. Acute Dental Caries –

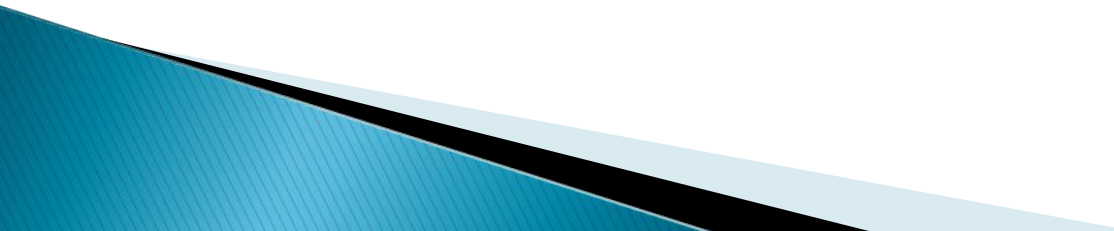
- ☀ It is that form of caries which runs rapid clinical course resulting in early pulp involvement by carious process.
 - ☀ Occurs most frequently in children and young adults as the dentinal tubules are large and open and show no sclerosis.
 - ☀ Pain is a common feature.
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b) Rampant caries –

- ✱ It is a condition characterized by sudden, rapid and uncontrollable destruction of teeth, affecting the surfaces of teeth that are relatively caries free.
- ✱ It occurs on proximal and cervical surfaces of mandibular incisors.
- ✱ Seen mostly in primary dentition and permanent dentition of teenagers.



c) Radiation caries –

- ✱ The development of rampant caries in patients undergoing radiation therapy in head and neck regions said to be radiation caries.
 - ✱ Xerostomia occurs in patients undergoing radiation therapy which is said to be responsible for caries development by modification of salivary secretion.
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☀ Three forms of dental defects are seen :

1. First is characteristic caries like lesion usually completely encircling the tooth. Amputation of tooth crown is seen.
2. Second type of lesion is seen as brown to black discoloration of crown.
3. Third type of lesion seen as spot depression which spreads from incisal or occlusal edges on labial or buccal and lingual surfaces.

d) Nursing bottle caries –

- ✿ Also known as baby bottle syndrome and baby mouth syndrome.
- ✿ It is form of rampant caries occurring in deciduous teeth.

Causes :

1. Nursing bottle containing milk, fruit juice or sweetened water.
2. Sugar or honey sweetened pacifiers.
3. Breast feeding.

- Using the above one factor as an sleeping aid for sleeping is responsible for this form of caries.

Lower anterior are not affected as they are protected by tongue.



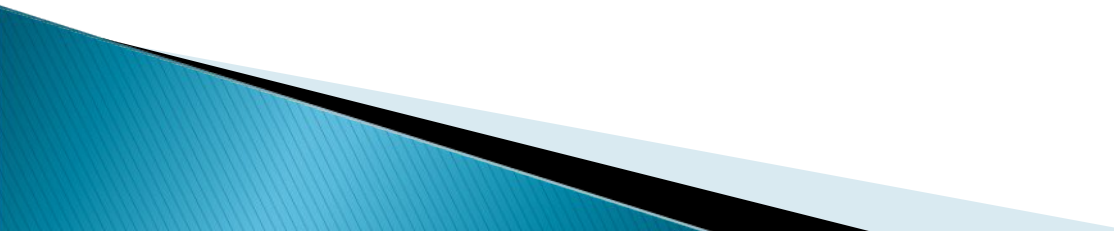
✱ Rampant caries

1. Mandibular incisors are affected.
2. Seen in primary dentition and also in permanent dentition

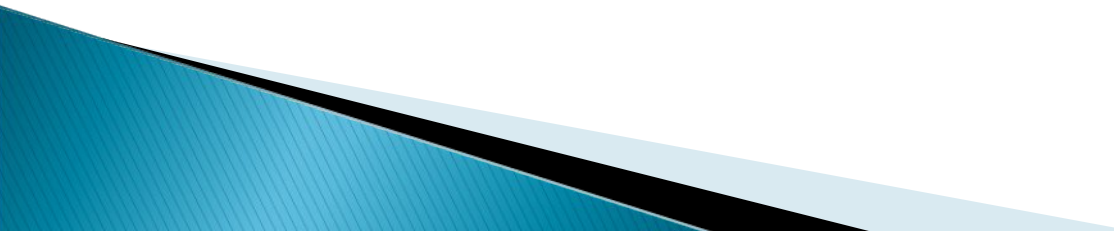
✱ Nursing bottle caries

1. Mandibular incisors are not affected
2. Seen in only primary dentition .

e) Adolescent caries —

- Acute caries attack seen at 11-18 yrs of age is known as adolescent caries.
 - Acute caries attack is also seen in 4-8yrs of age.
 - This type of caries is seen in teeth surfaces which are relatively caries immune.
 - The lesion is small opening with extensive undermining of enamel.
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f) Chronic caries –

- ✿ It is that form of caries which progresses slowly and tends to involve the pulp much latter than the acute caries.
 - ✿ Occurs mostly in adults.
 - ✿ Pain is not a common feature.
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g) Arrested caries –

- ✿ It is that type of caries that becomes static or stationary and doesn't any tendency for further progression.
- ✿ It is seen in occlusal surfaces as a large open cavity in which there is lack of food retention and in which the superficially softened and decalcified dentin is burnished until it takes brown stained, polished appearance and is hard. This is known as “eburnation of dentin.”

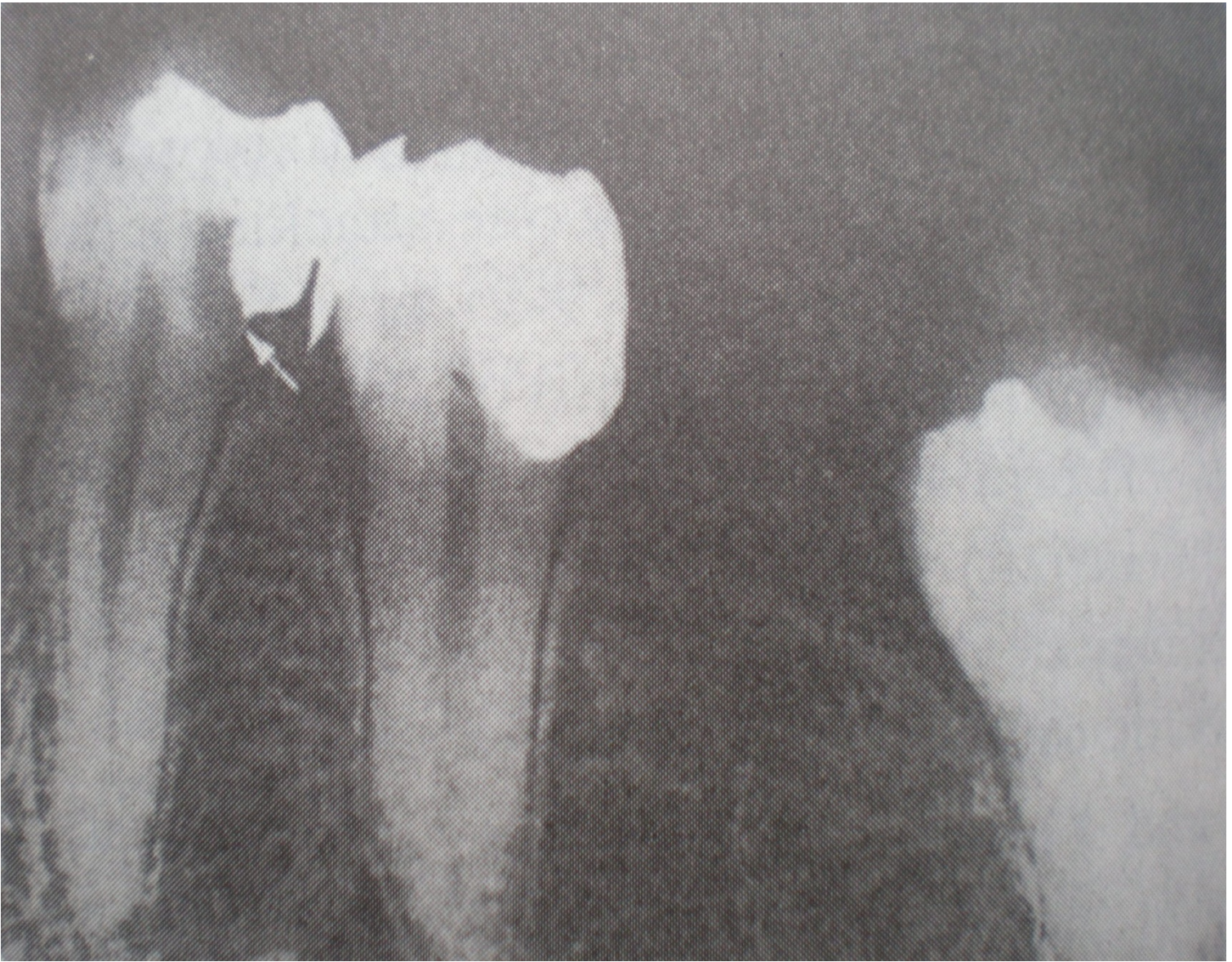


☀ According to new lesion or whether it is occurring around margins of restoration -

a . Primary caries – Primary caries is the new carious lesion occurring on previously intact tooth surface.

b. Secondary caries - It occurs at the junction of restoration & the tooth & may progress under restoration.

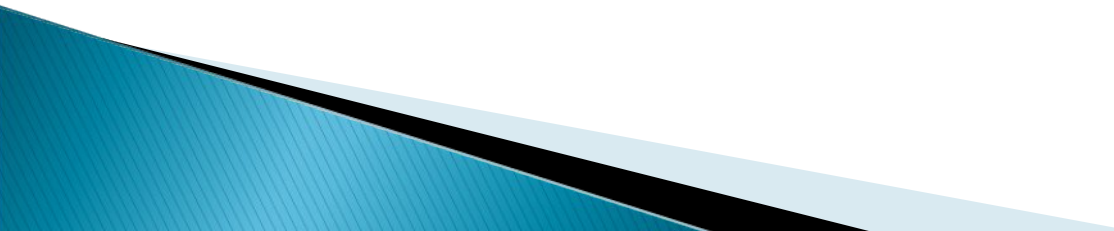




SUMMARY

- classification of caries
- different types of caries and their clinical appearance .

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THANK YOU

