

# **DENTAL CARIES**

**Dept. of Oral Pathology**

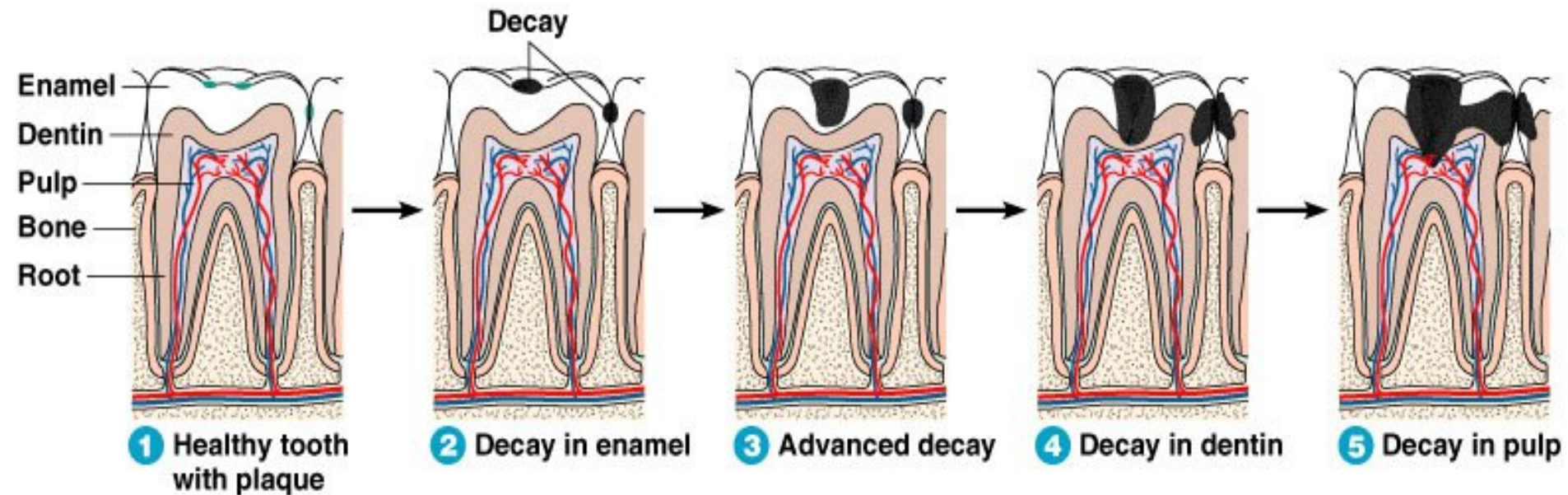
# LEARNING OBJECTIVES

- ✱ At the end of the lecture student should be able to
  - Describe histopathology of caries

# HISTOPATHOLOGY OF DENTAL CARIES



# PROGRESSION TOWARDS CARIES

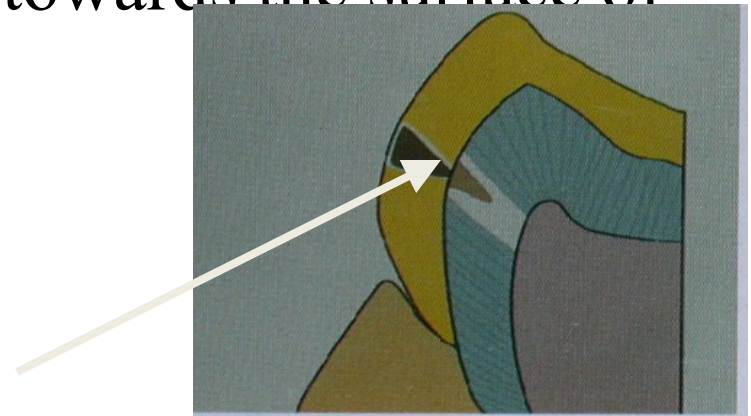


# HISTOPATHOLOGY OF DENTAL CARIES

## SMOOTH SURFACE CARIES:

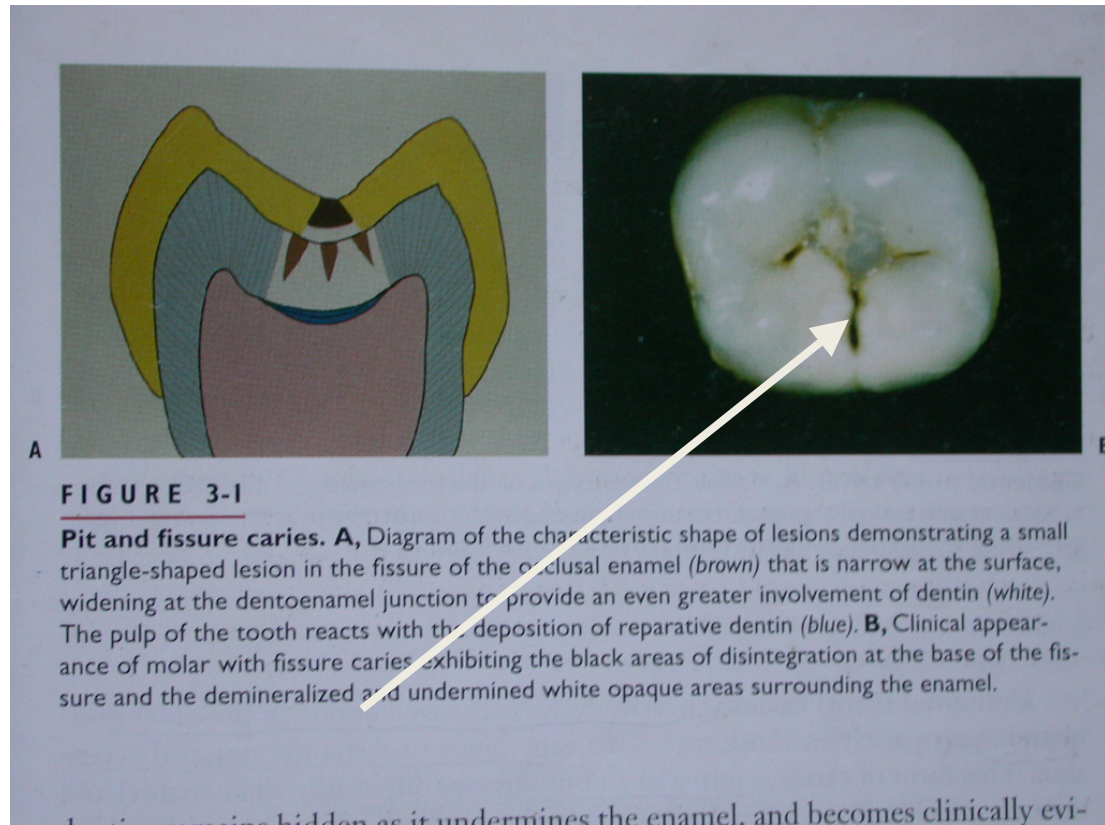
Earliest manifestation is appearance of white chalky area  
first change is loss of inter prismatic substance with  
increased prominence of rods.

As process advances & involves deeper it forms  
triangular shape lesion with base towards the surface of  
the tooth.



## PIT & FISSURE CARIES:

Here triangular shaped lesion is formed with the base towards the DEJ.







Incipient caries : The early carious lesion on visible smooth surface of teeth is clinically manifested as a white ,opaque region, which is best demonstrated when the area is air dried .

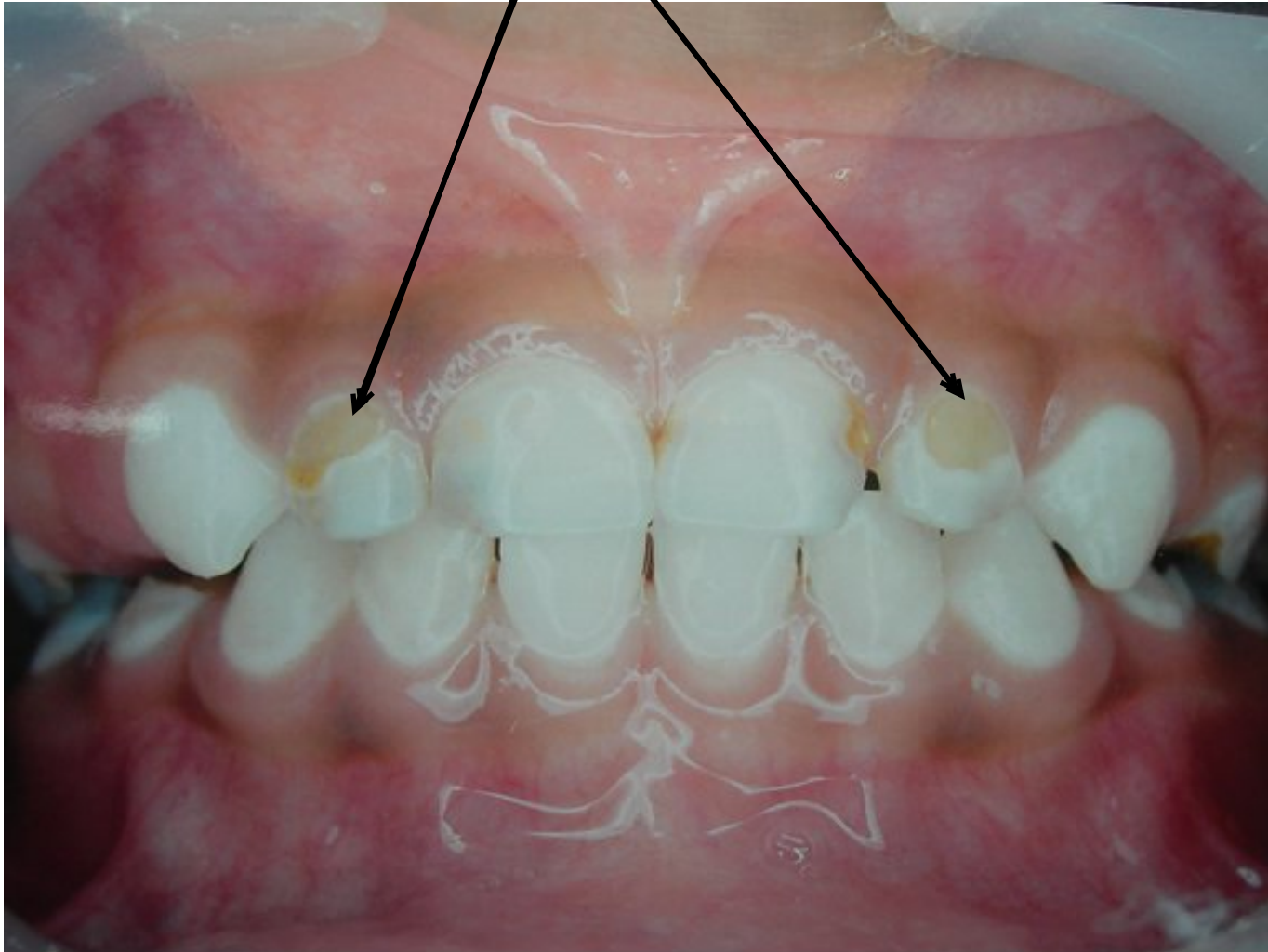
- At this stage some demineralization of enamel has occurred but there is no cavity and no major histological change of the organic matrix of the enamel that tend to slow the caries process.

# Pit and Fissure Caries





# SMOOTH SURFACE CARRIES

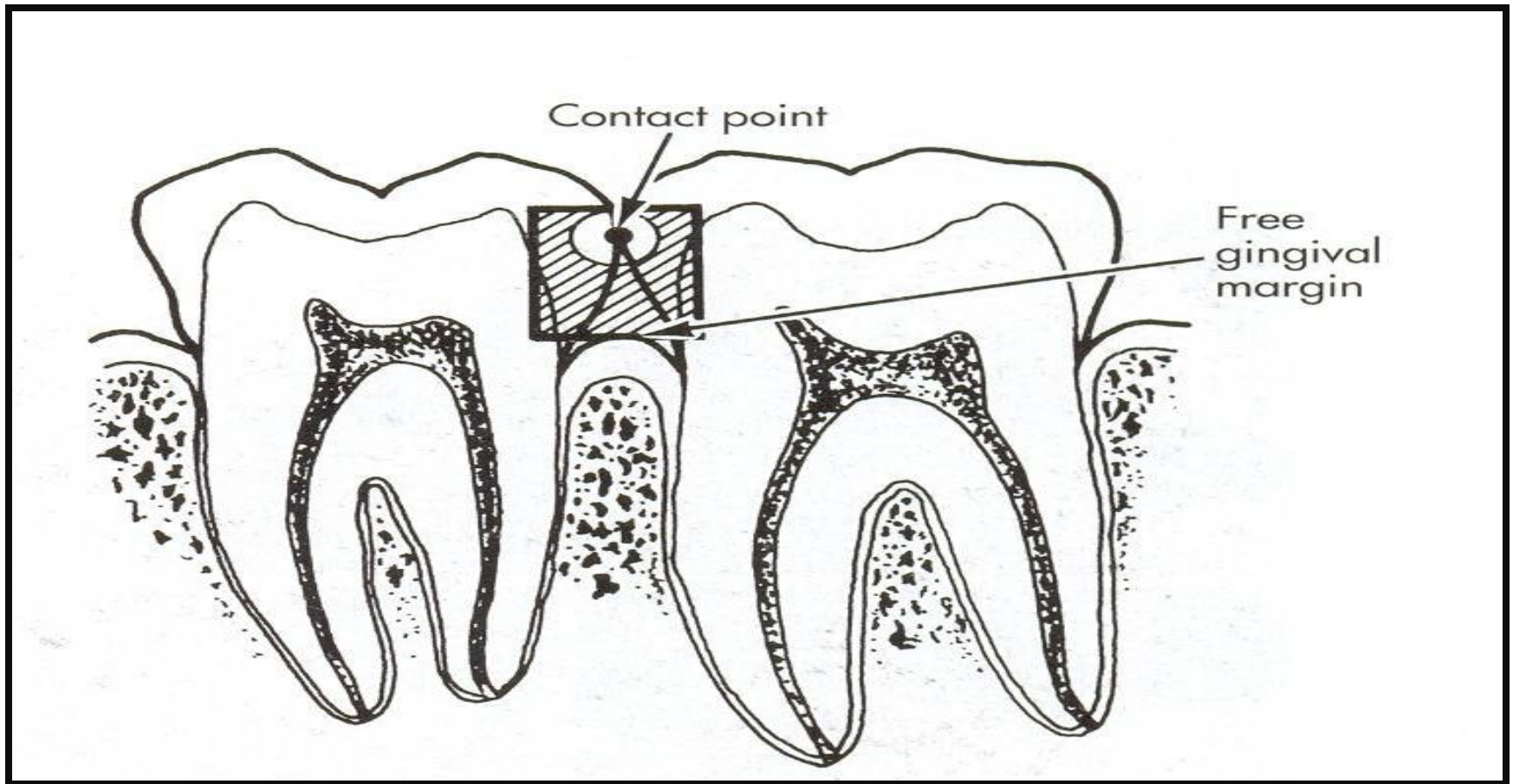


# HISTOPATHOLOGICALLY

This chalky white area is mainly due to:

Loss of interprismatic / inter rod substance of enamel  
resulting in increased prominence of the enamel rods

The incremental lines of Retzius undergo accentuation. This darkening appearance of the ILR in the carious lesion is an optical phenomenon which occurs due to the loss of minerals due to the carious process (as a result of which – the organic structures appear more prominent).



## **PROXIMAL CARIES** –susceptible zone.

This region extends from the contact point down to the height of the free gingival margin . It increases with the recession of the alveolar bone and gingival tissues.

# SUMMARY

-- histopathology of caries

# BIBLIOGRAPHY

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



**THANK YOU**