

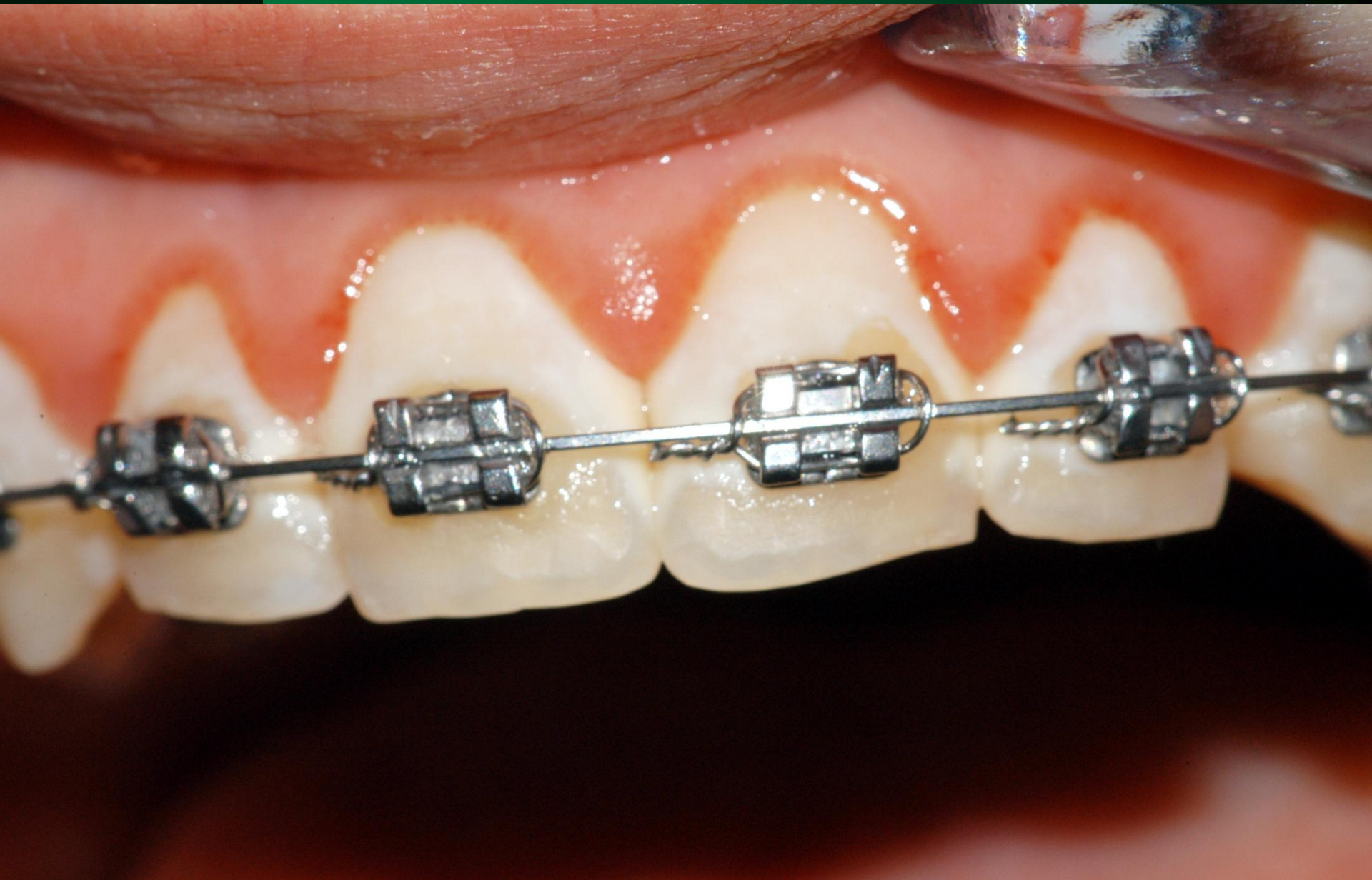


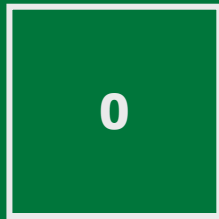
Cariology I

Source:

Fejerskov O., Kidd E., *Dental Caries, The Disease and its Clinical Management*,
Blackwell Munksgaard 2003



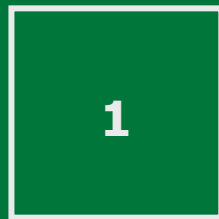




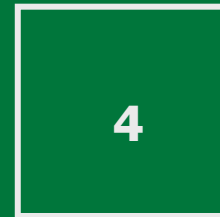
Sound on bitewing



Radiolucency in enamel and
outer half of dentine



Radiolucency confined to enamel



Radiolucency in enamel and
reaching to inner half of dentine

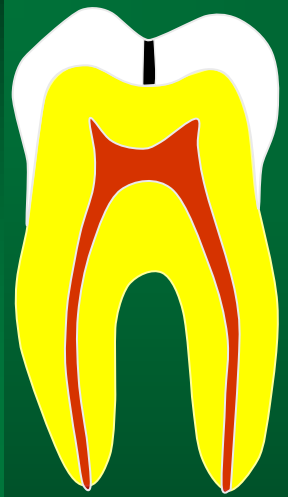


Radiolucency in enamel up to
enamel-dentine junction

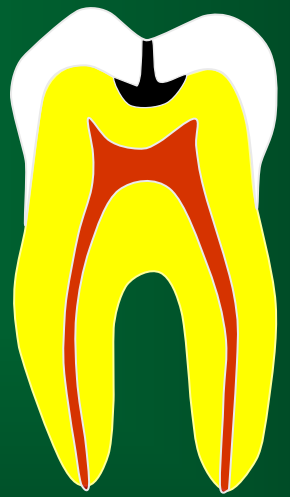
**Diagrammatic representations
of caries on bitewing
radiographs.**



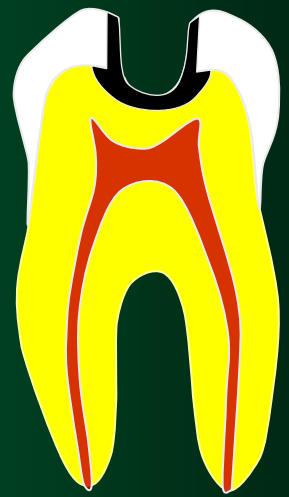
CS
caries
superficialis



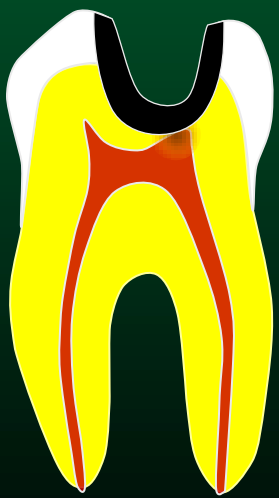
CM
caries
media



CPP I
caries pulpa proxima
caries in 1/2 of
dentine thickness no changes in the
dental pulp
no pain

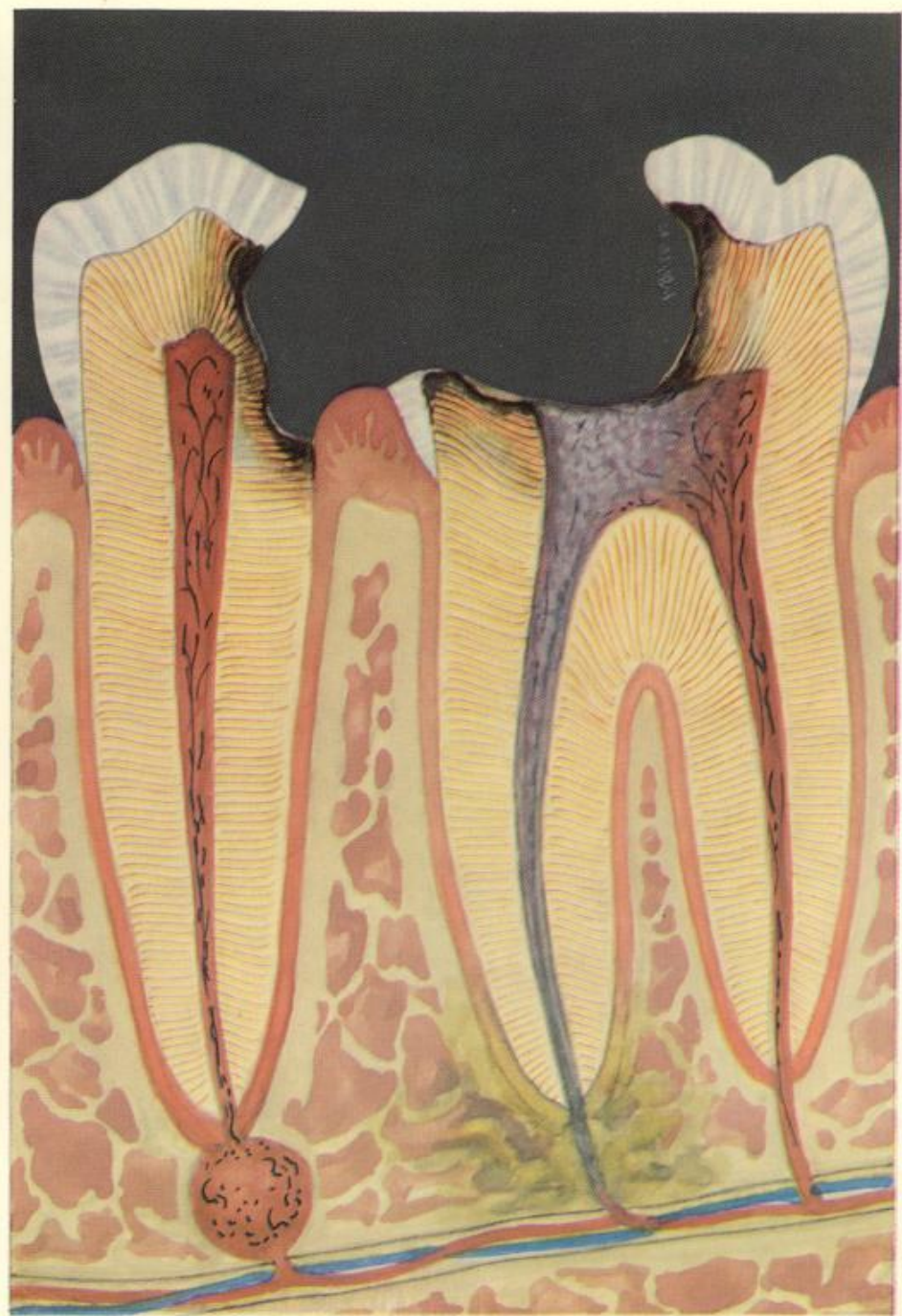


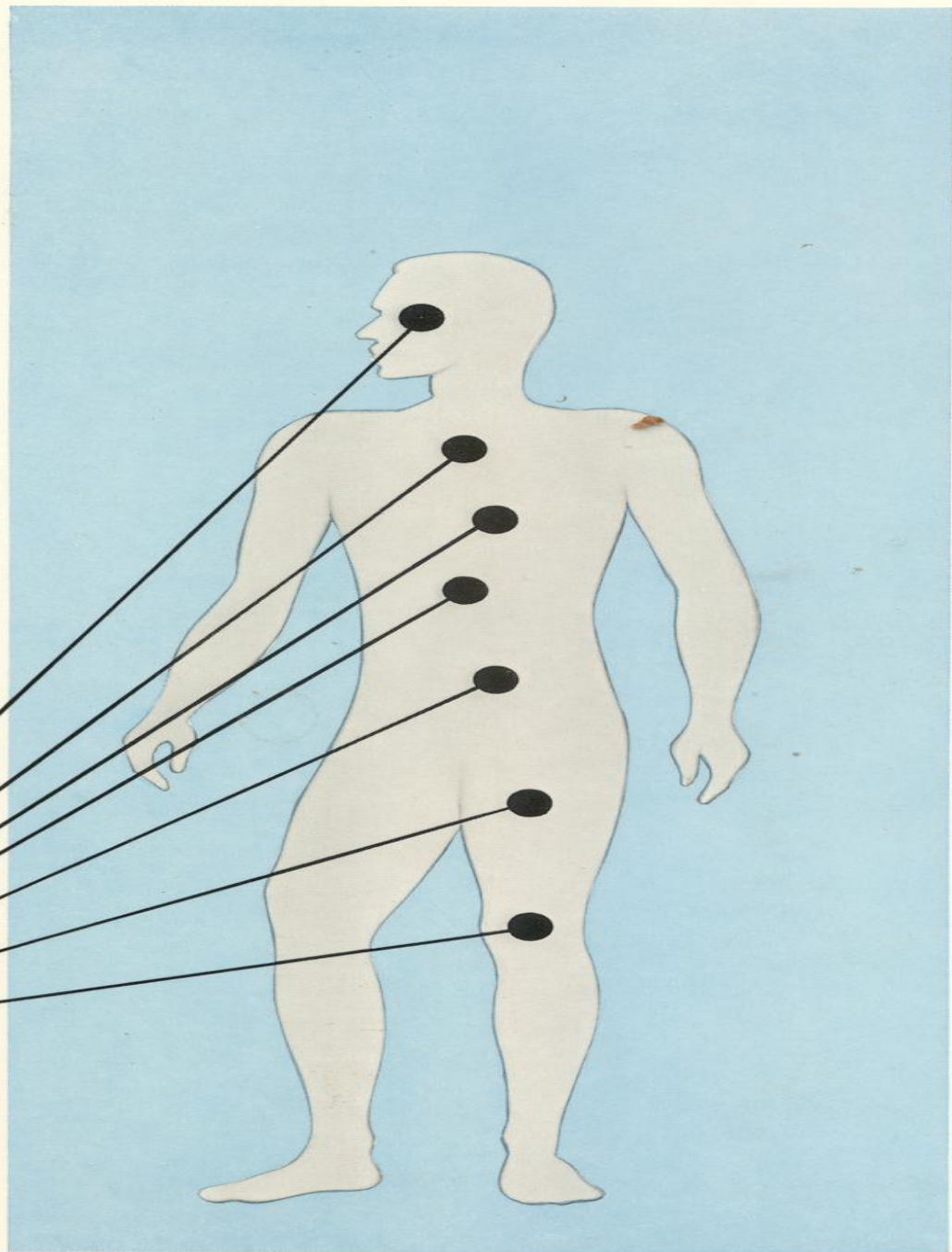
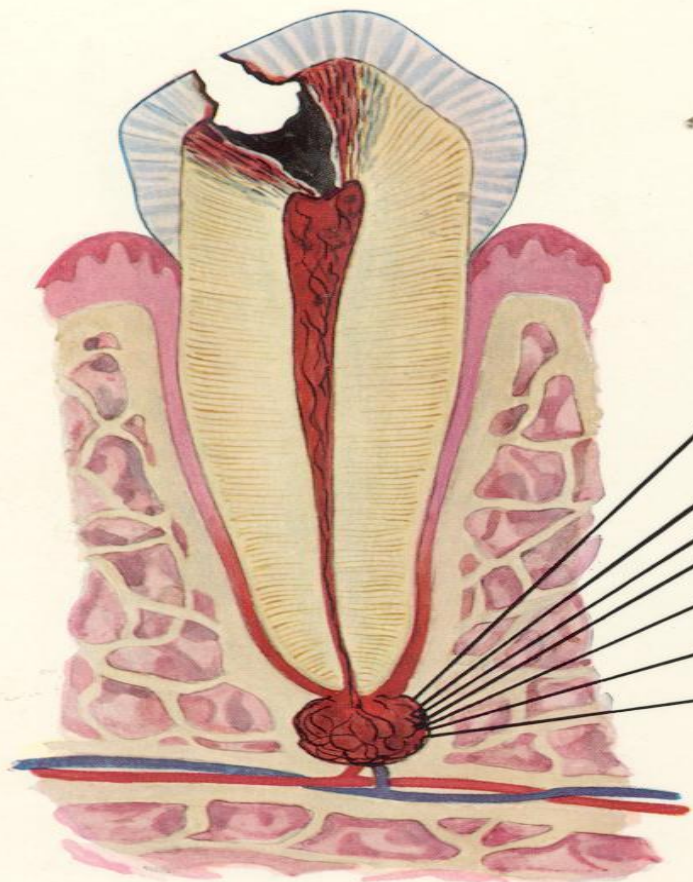
CPP II
caries pulpa proxima
dentin – continuous,
but thin
microbs present
pain on stimuli, no
spontaneous

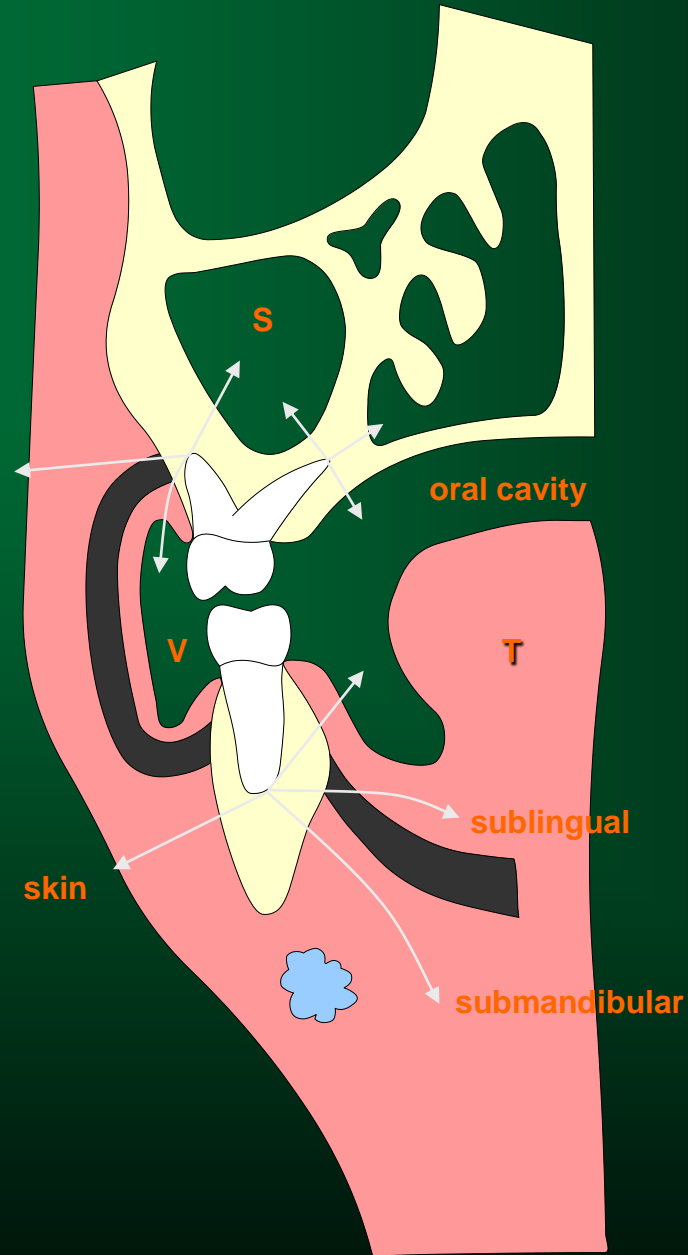


Pulp exposure
pain – spontaneous
Inflammation of the dental
pulp
(pulpitis)









This coronal section shows the directions that may be taken by pus from an apical abscess.

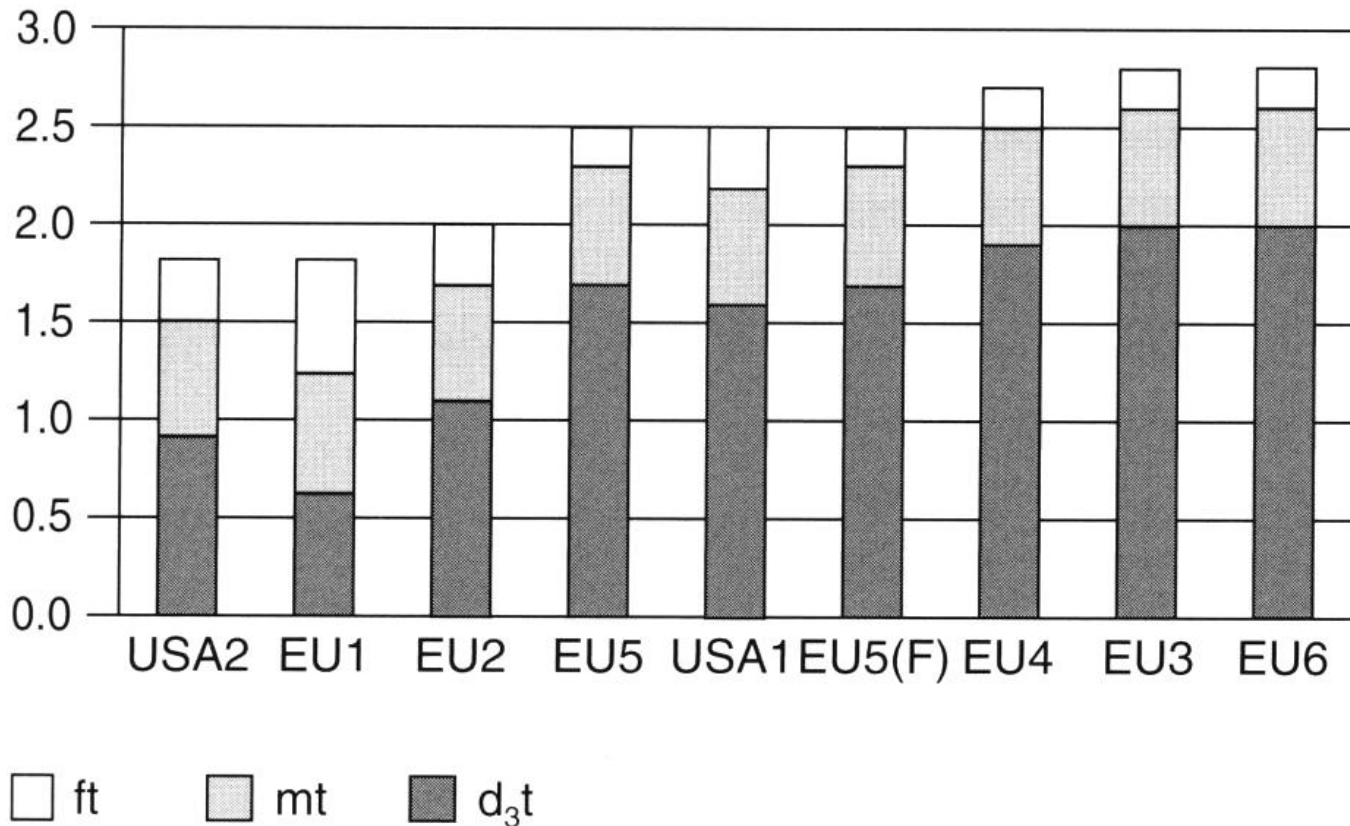


Figure 9.3 Number of decayed, missing, and filled teeth recorded in the same 10 6-year-old children by nine dentists from five countries using their own standard methodology and criteria at the d_3 threshold (Pitts *et al.*, 2000).

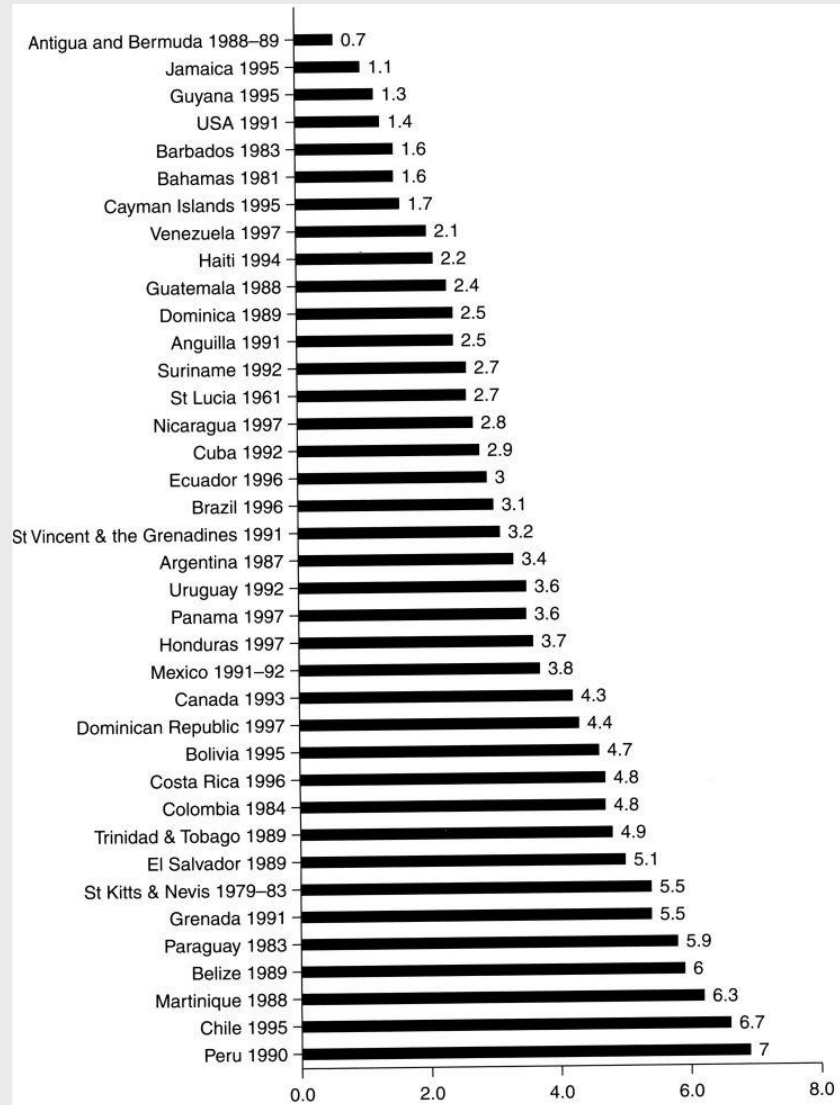


Figure 9.6 Mean caries prevalence results for children aged 12 years from different countries listed in the World Health Organization Global Oral Health Databank in the American (AMRO) region, 1979-1997.

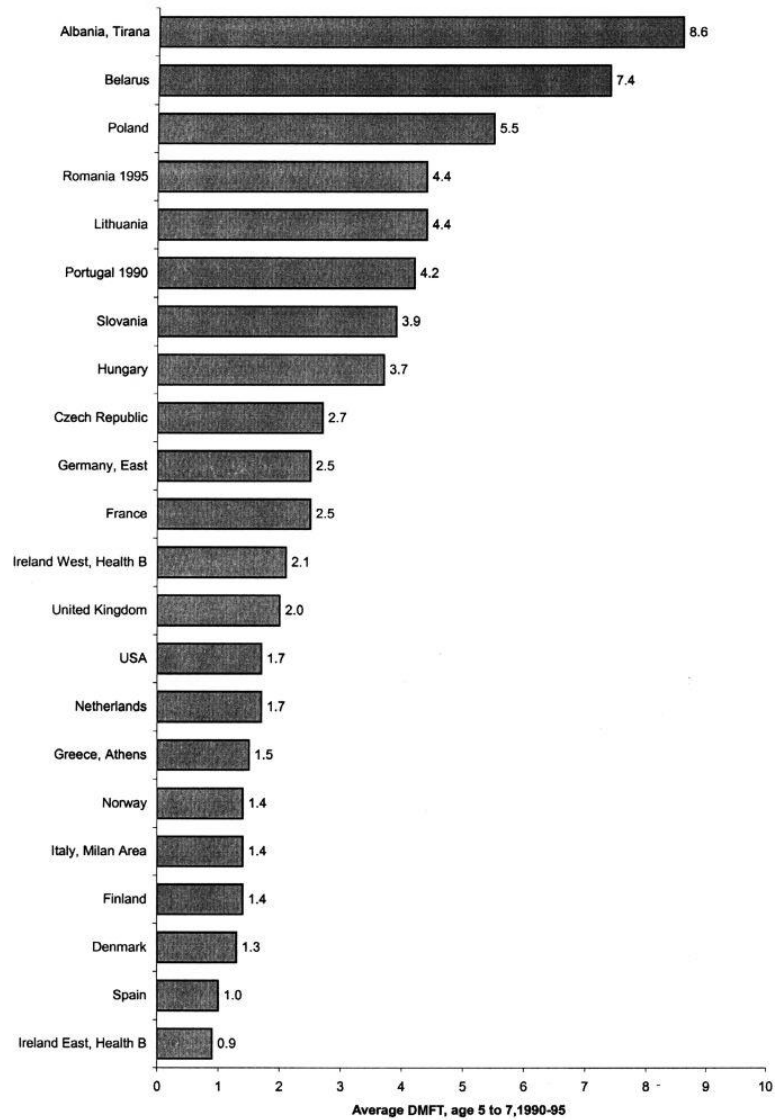


Figure 9.7 Caries prevalence in Europe: average d_3mft at the age of 5–7 years (1991–1995 if not indicated otherwise). From Marthaler (1996).

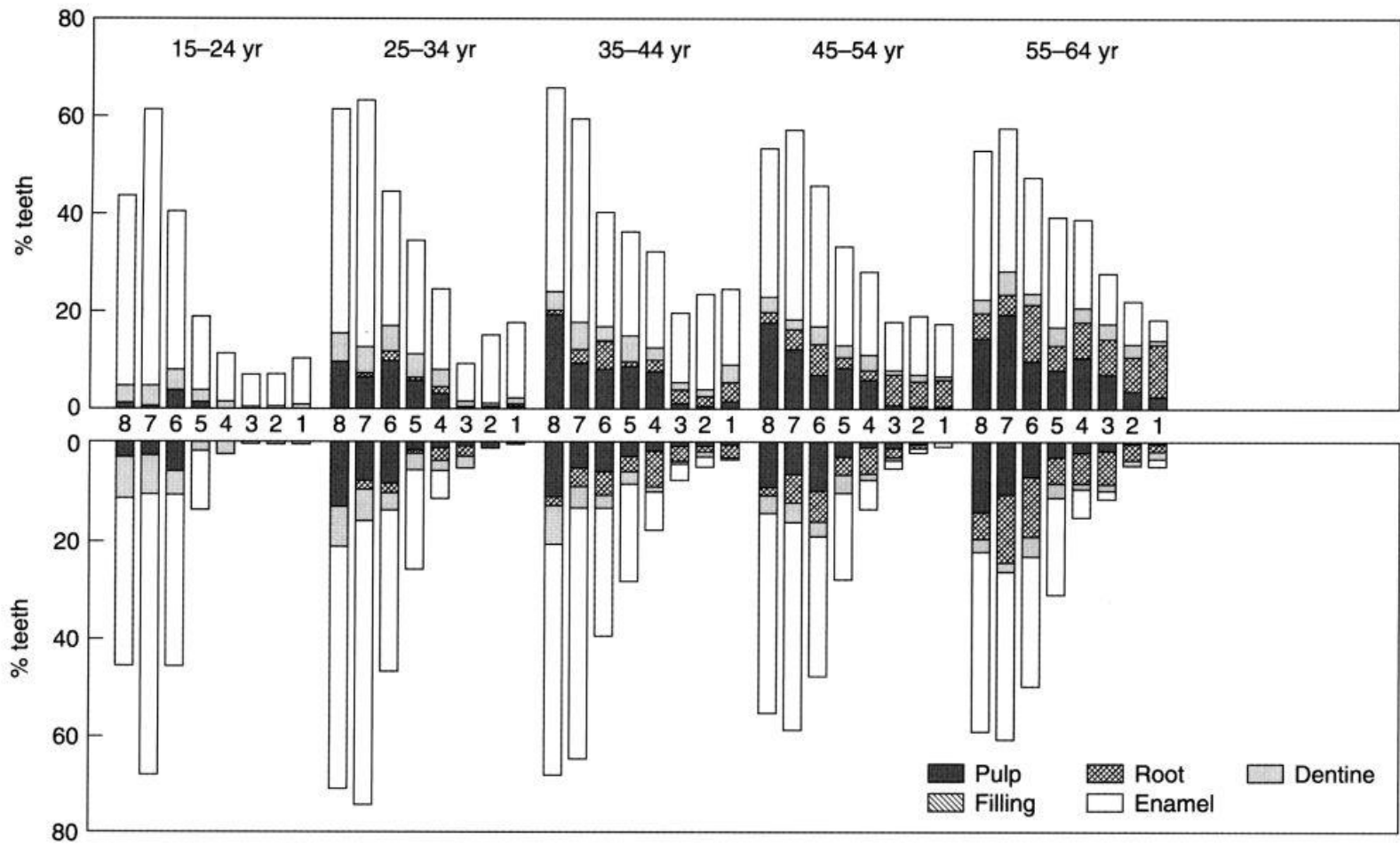


Figure 9.9 Distribution of dental caries according to the tooth types in various age groups in a rural Kenyan population. From Manji *et al.* (1991).

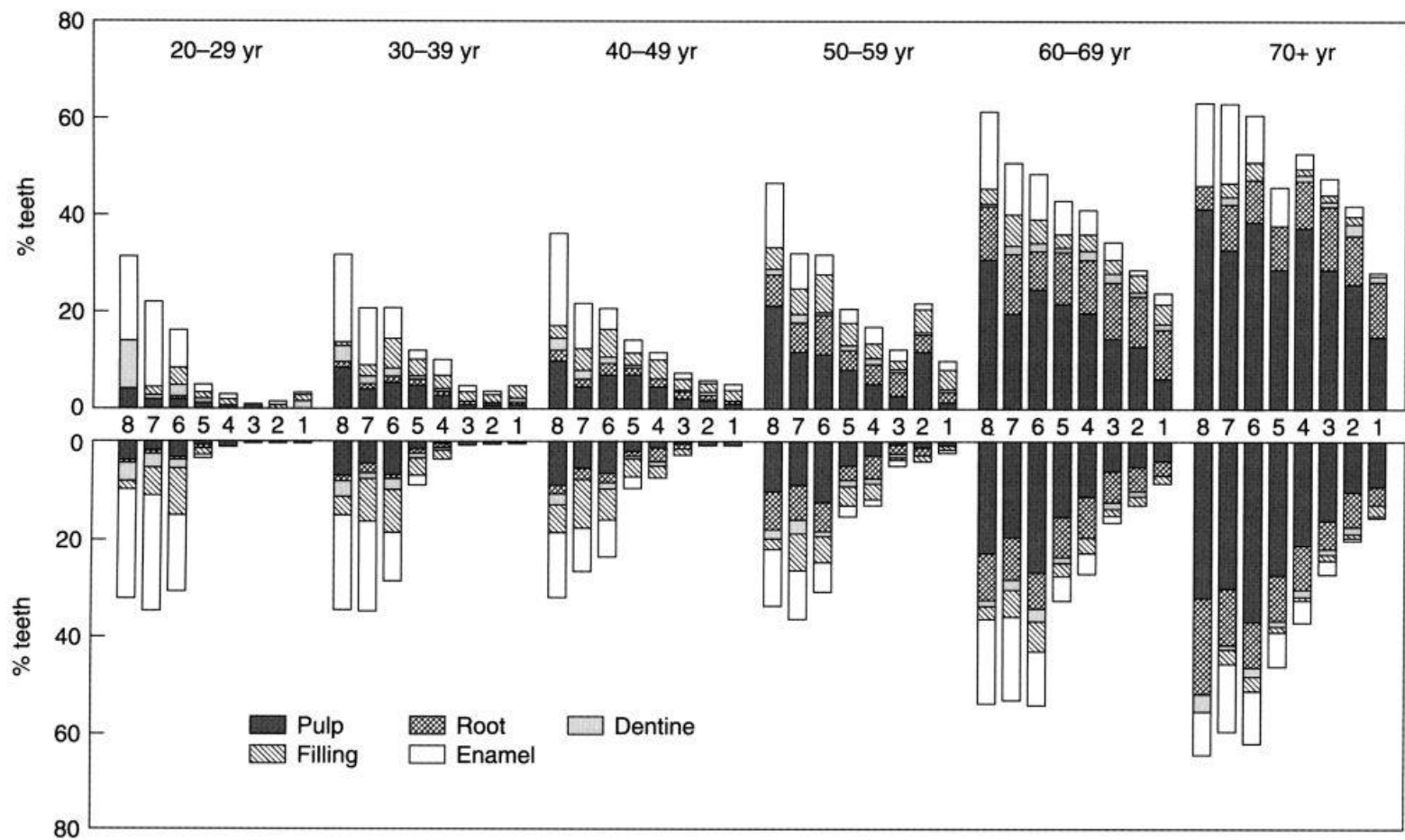


Figure 9.10 Distribution of dental caries according to various tooth types and age groups in urban and rural Chinese populations, presented together. From Manji *et al.* (1991).



Caries of dentine

Conical lesion

Base-towards the surface of the tooth

Apex-towards the dental pulp

7 zones

Zone 1 – tertiary dentine formation

Zone 2 – dentine is normal-in the dental pulp-changes in odontoblasts(degeneration)

Zone 3 – sclerotic dentine (translucent dentine)

Zone 4 – dead tracts

Zone 5 – demineralized dentine (zone of demineralization)

Zone 6 – zone of bacterial invasion

Zone 7 – area of totally decomposed dentine

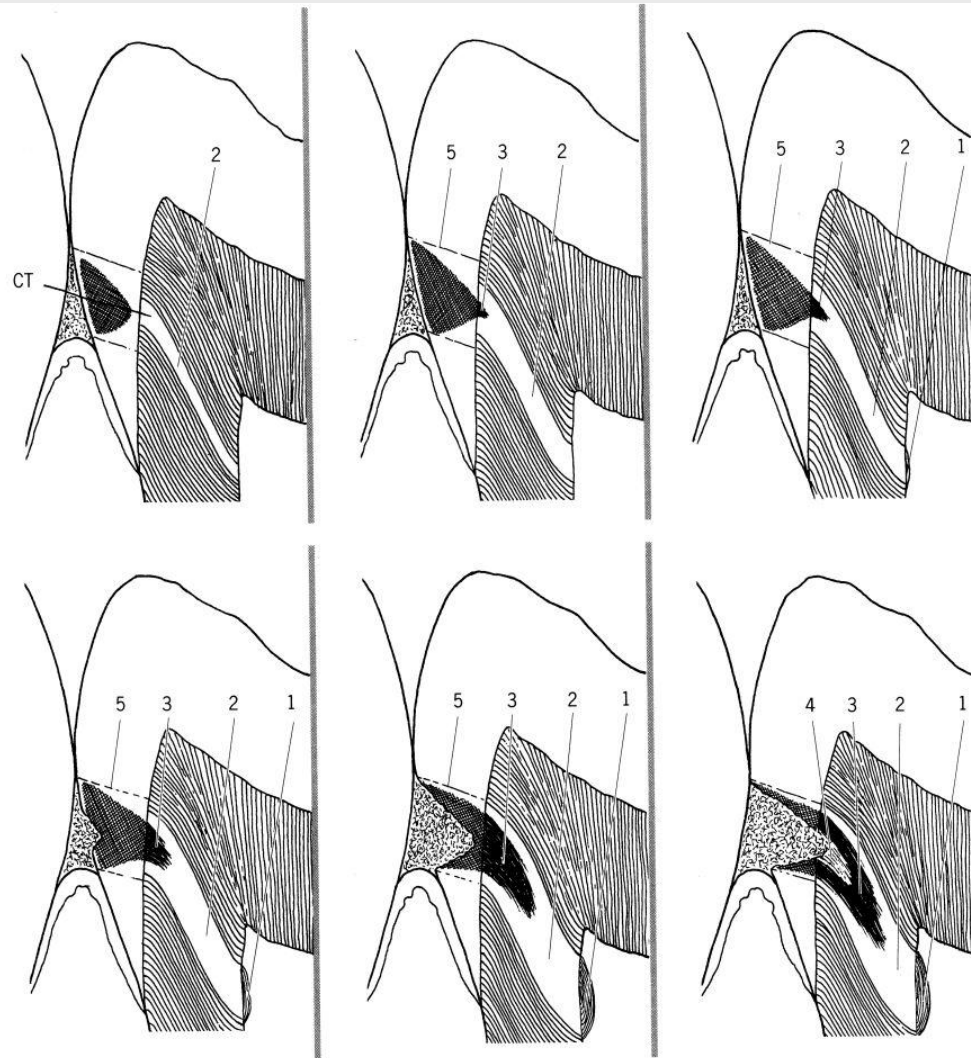


Figure 5.32 Schematic illustration of progressive stages of lesion formation. 1: Reactive dentin; 2: sclerotic reaction or translucent (transparent) zone; 3: zone of demineralization; 4: zone of bacterial invasion and destruction; 5: indication of enamel rod direction. (Modified from Bjørndal, 1911.)

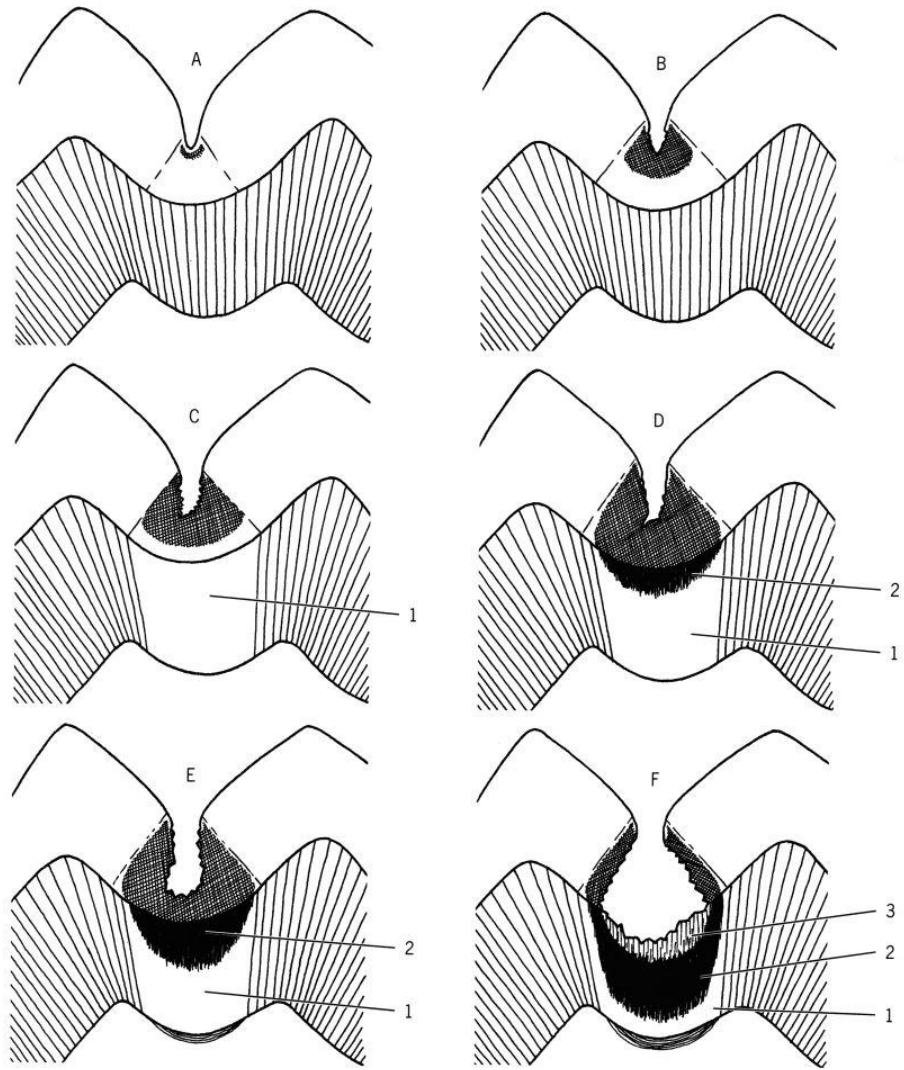


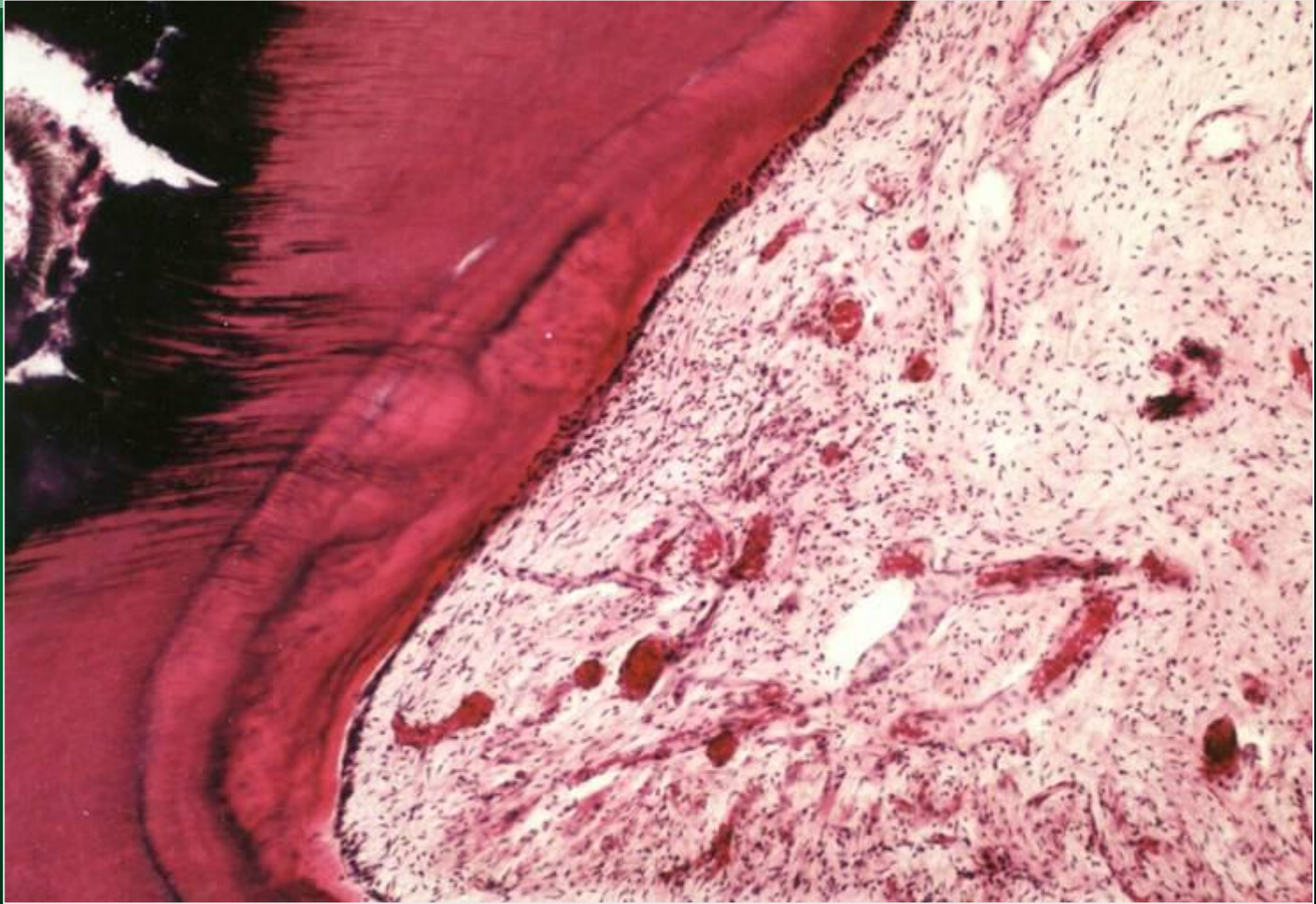
Figure 5.33 Schematic illustration of the progressive stages of occlusal lesion formation in an occlusal fossa. 1: Sclerotic reaction or translucent (transparent) zone; 2: zone of demineralization; 3: zone of bacterial invasion and destruction. (Modified from Ekstrand *et al.*, 1991.)



Composition of the bacterial community in carious dentin

Bacterial genera and groups	Necrotic dentin	Decalcified dentin
Streptococcus	+++	+to++
Mutans, streptococci	+++	+
Anaerobic gram +cocci	+++	+to++
Actinomyces	++to+++	+to++
Lactobacillus	+++	+++
Eubacterium	+++	+++
Propionibacterium	+++	+++
Arachnia(Propionibacterium)	+++	+++
Bifidobacterium	+++	+++
Veillonella	++to+++	+
Prevotella	+	+
Bacteroides	+	+
Fusobacterium	+	+
Motile gram negative rods	+	+

Finding



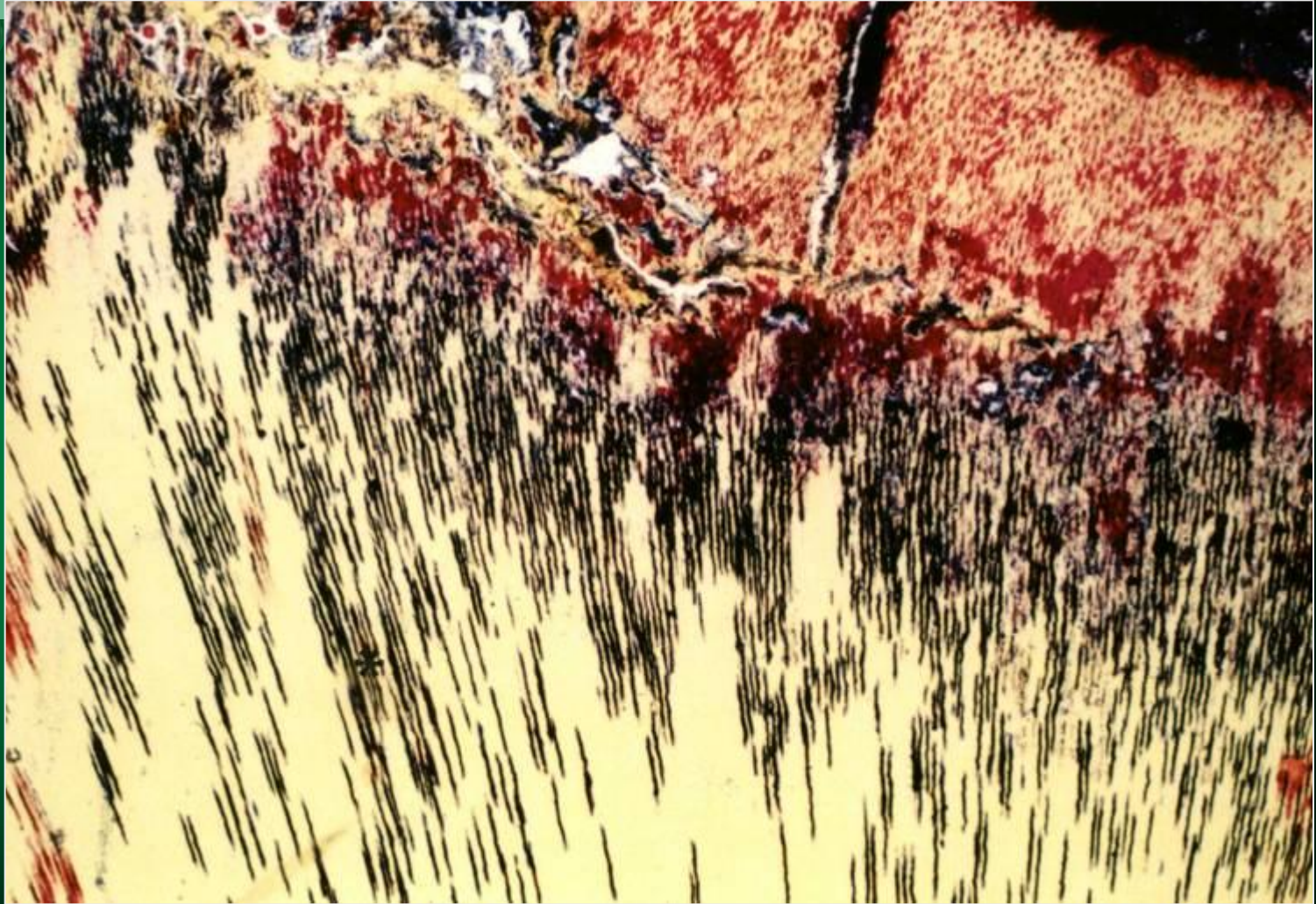
Light microscopy –dental pulp

Finding



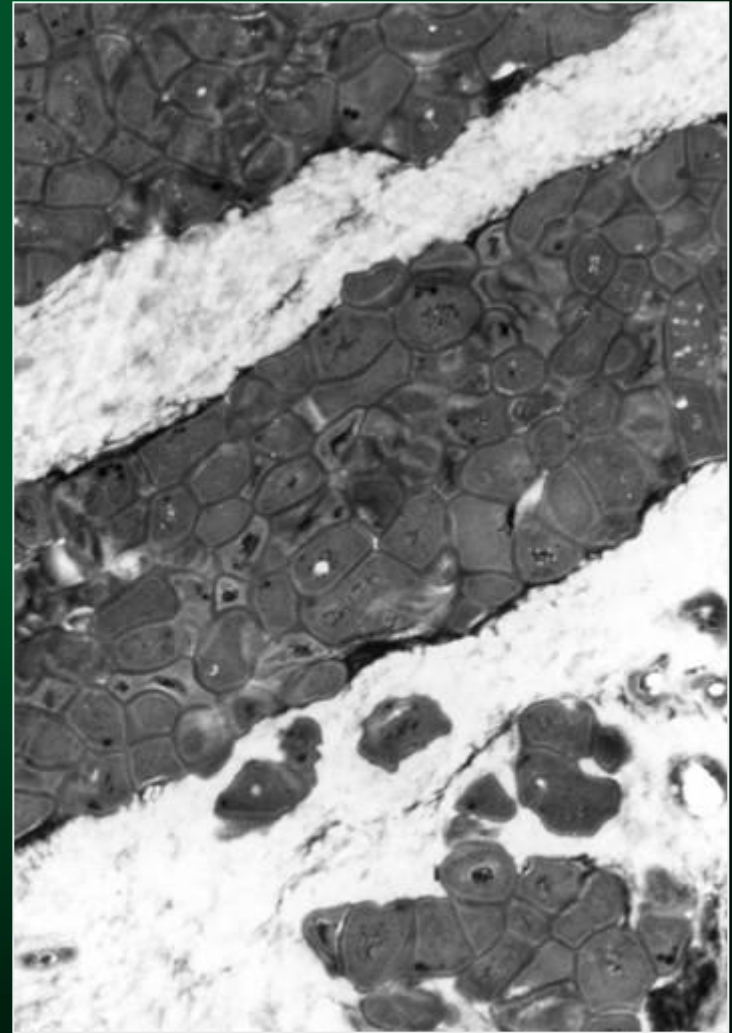
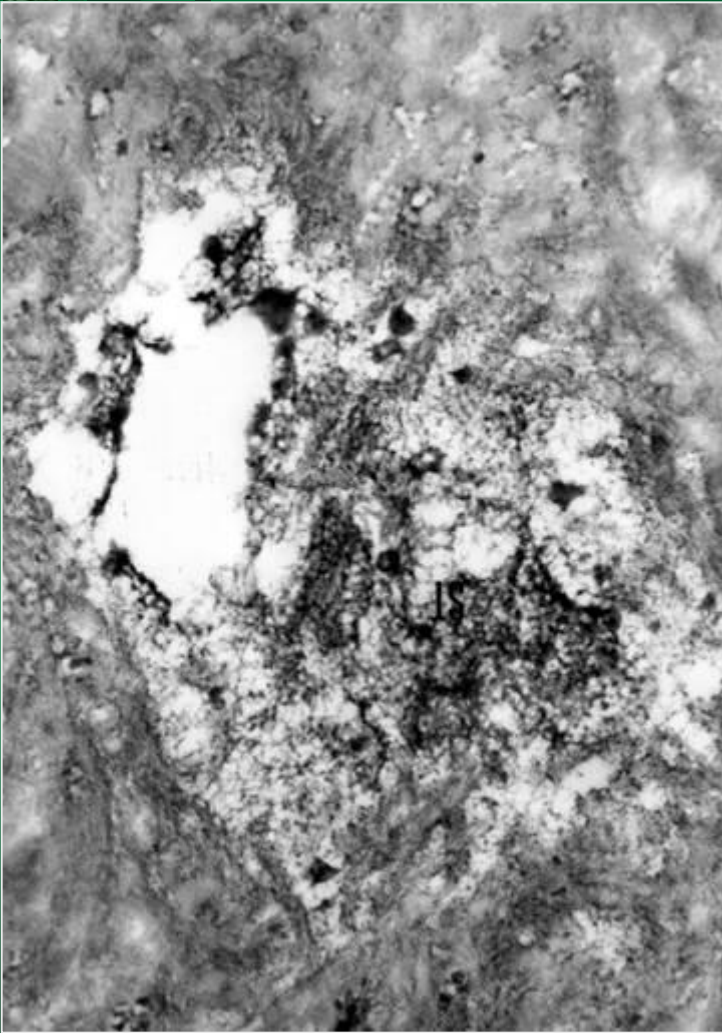
Dental pulp – penetration of microbes

Finding



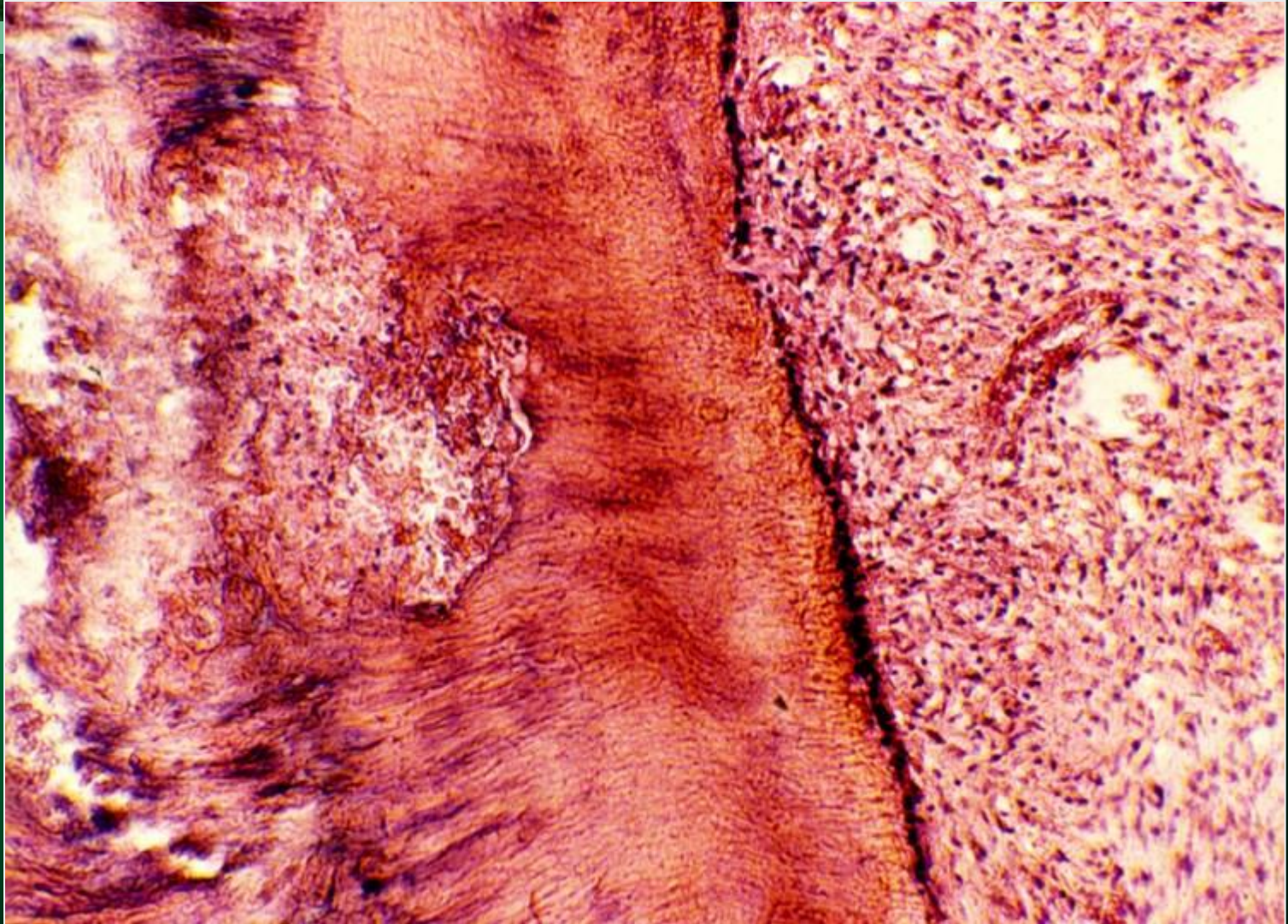
Brown-Bren staining

Finding



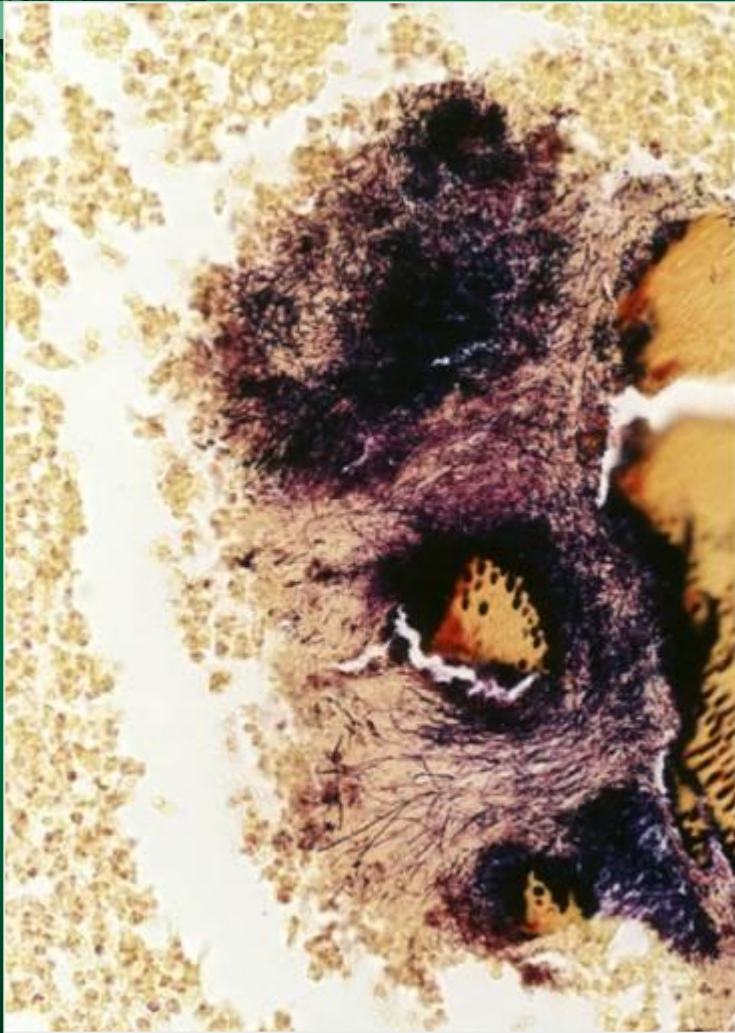
TEM- penetration of microbes , defense, obturation of tubules

Finding



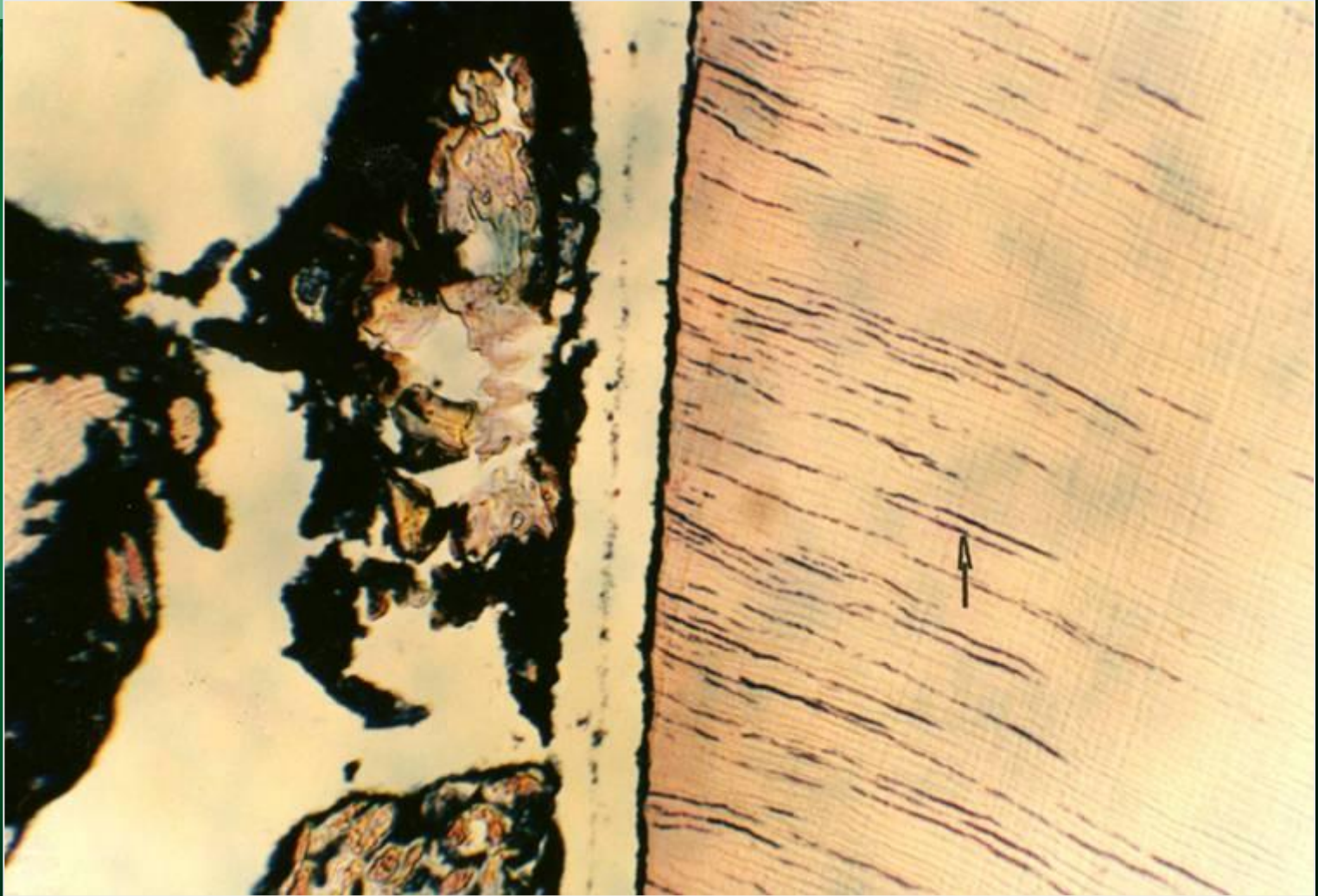
pulpitis

Finding

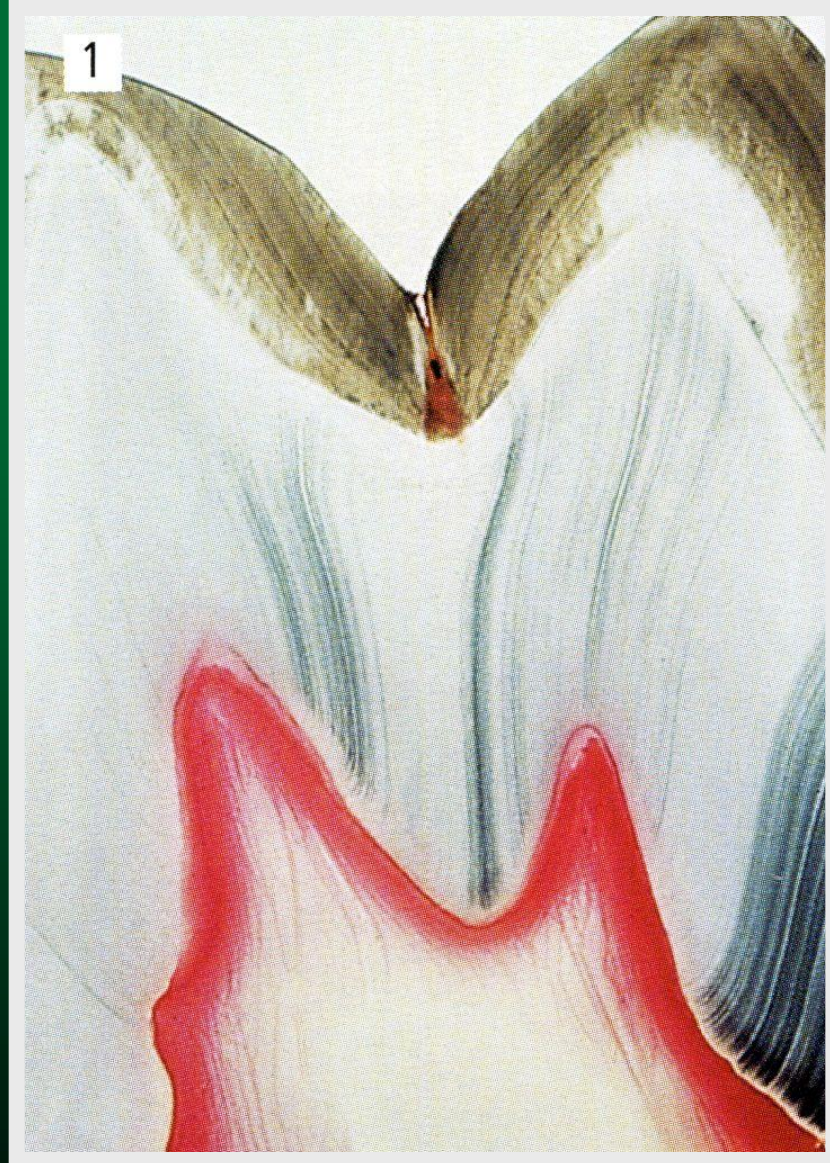


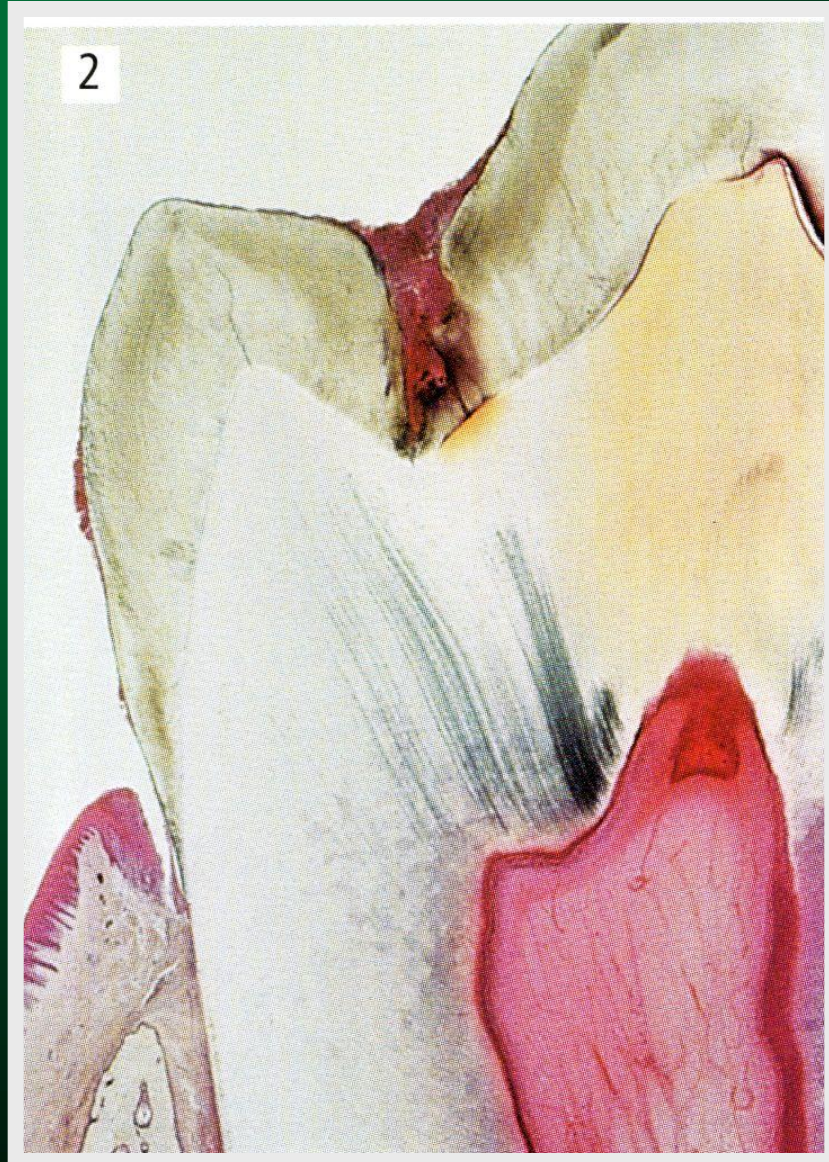
Exposed dental pulp – actinomycosis

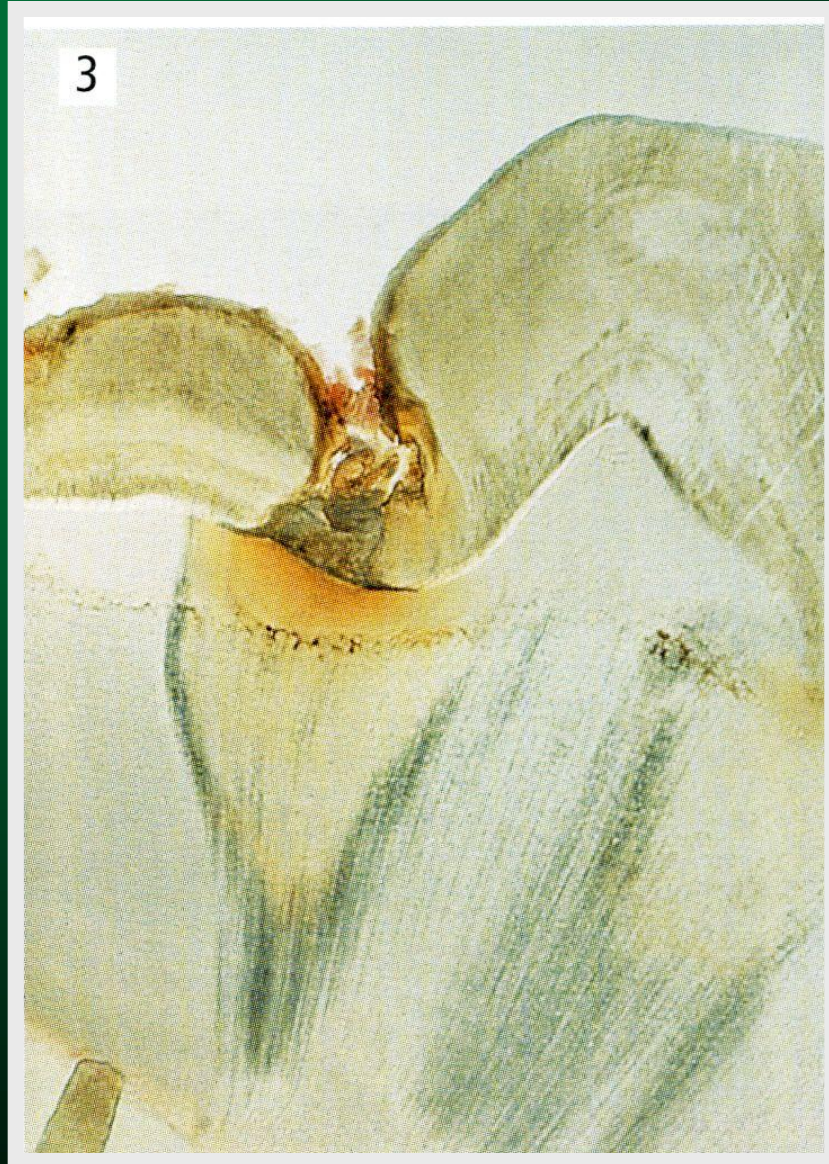
Finding



microbes in dentine tubules

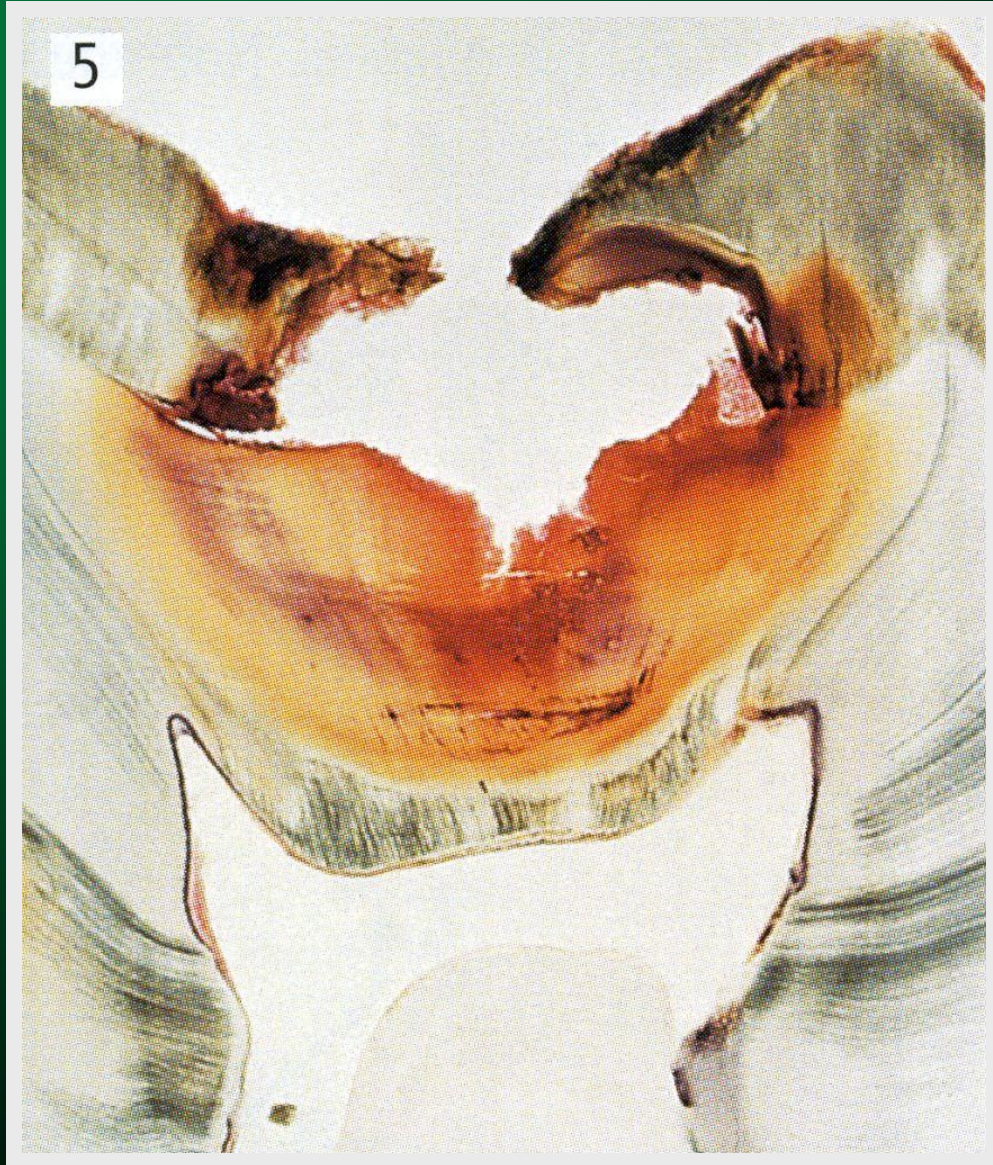


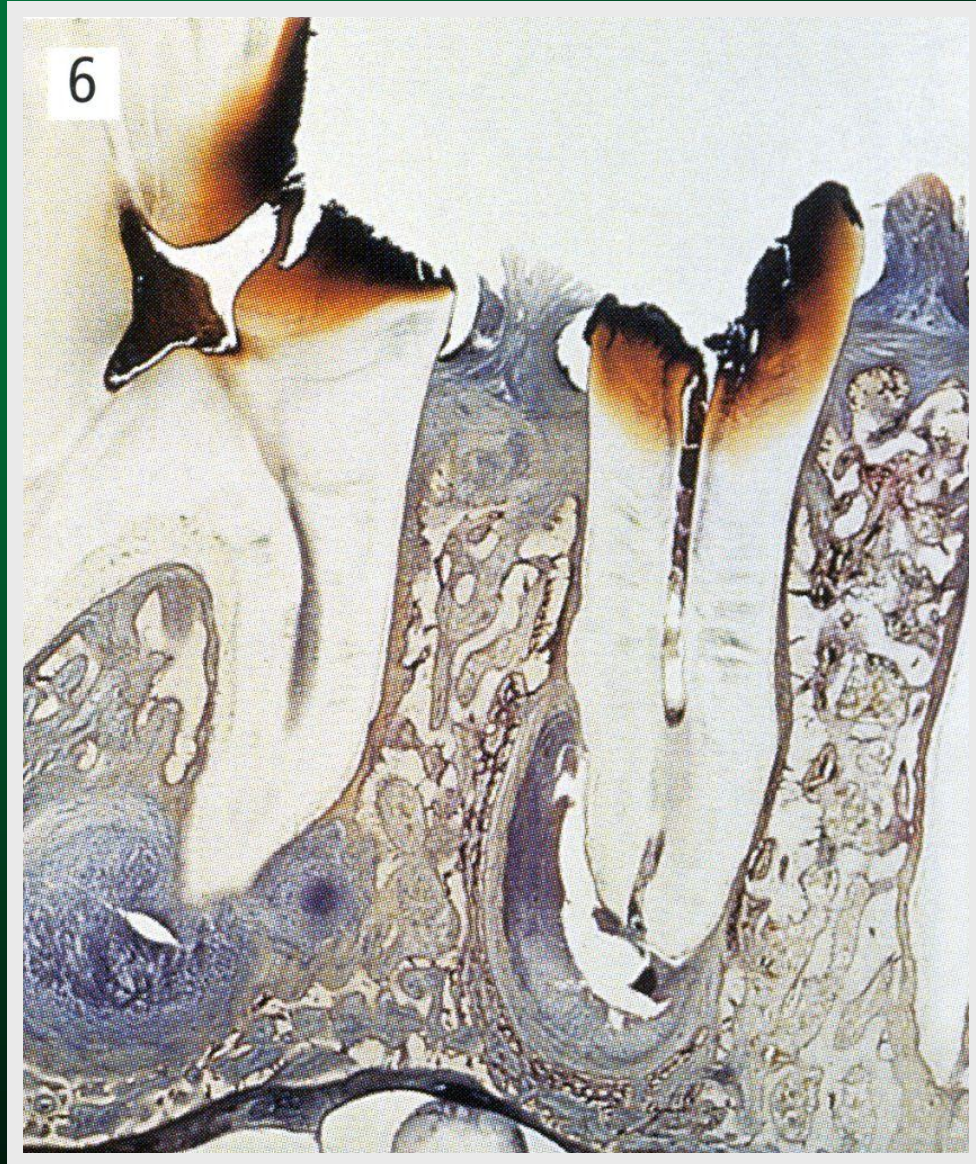


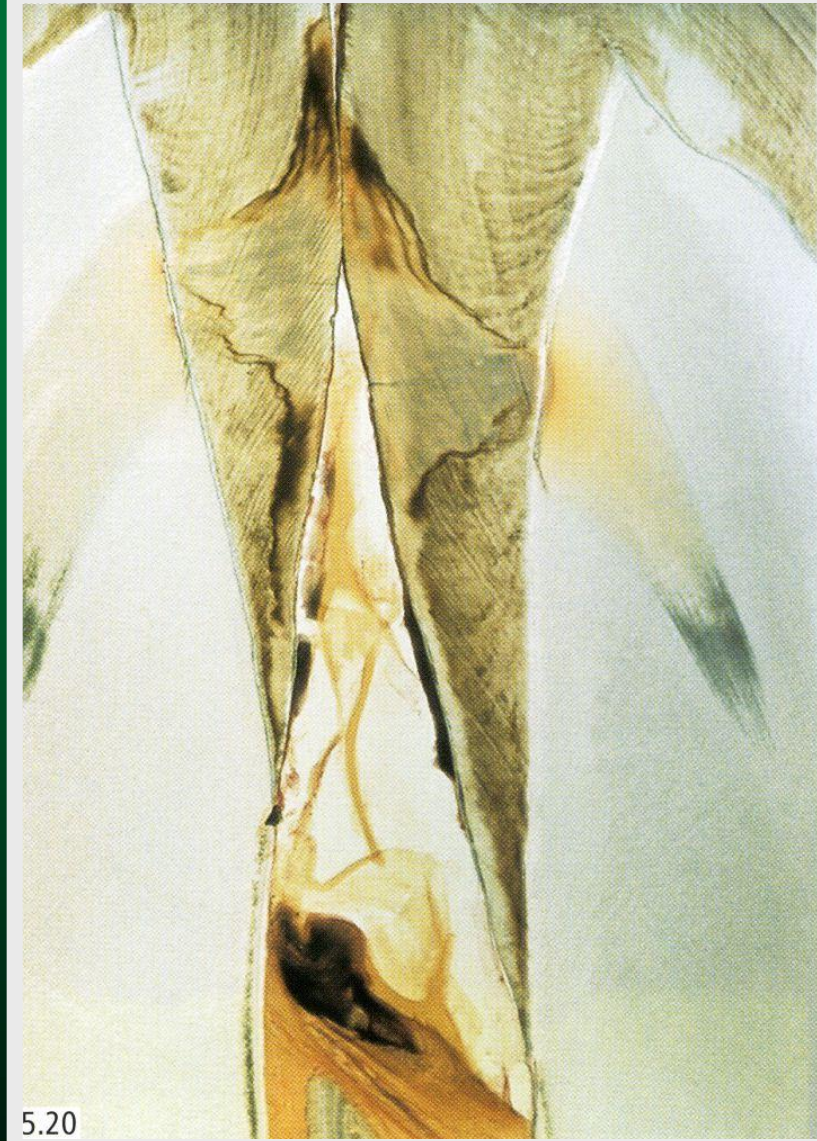


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5.20