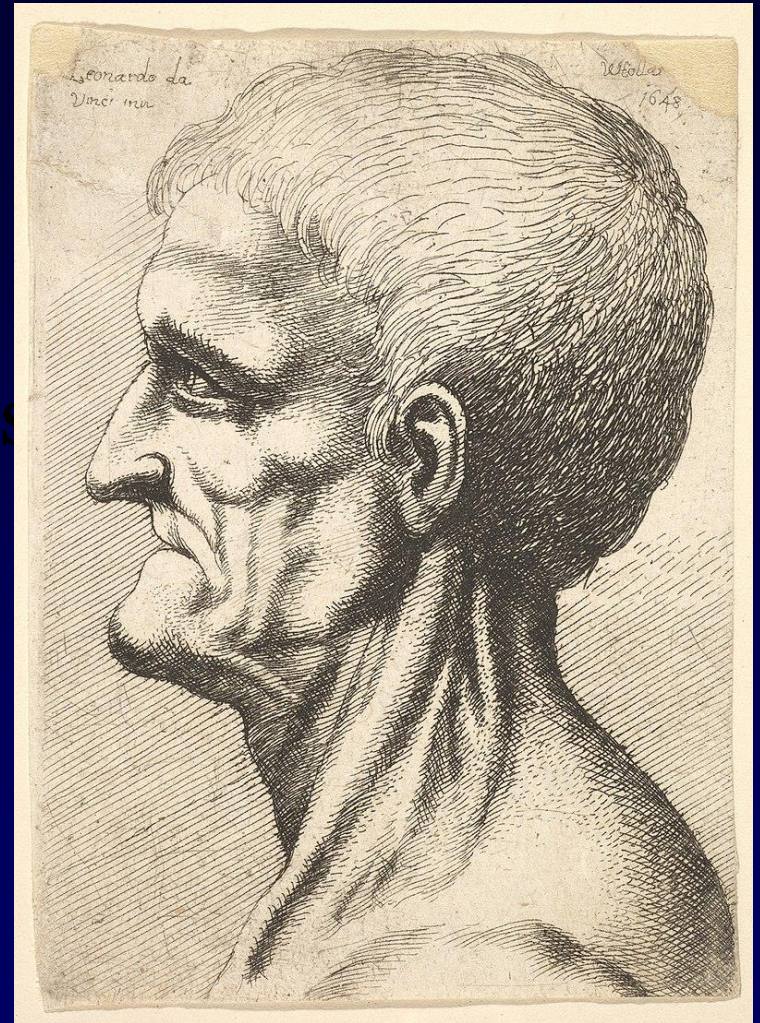


# The anatomical and functional reconstruction of the face and mandible

dr. Gábor Gerber

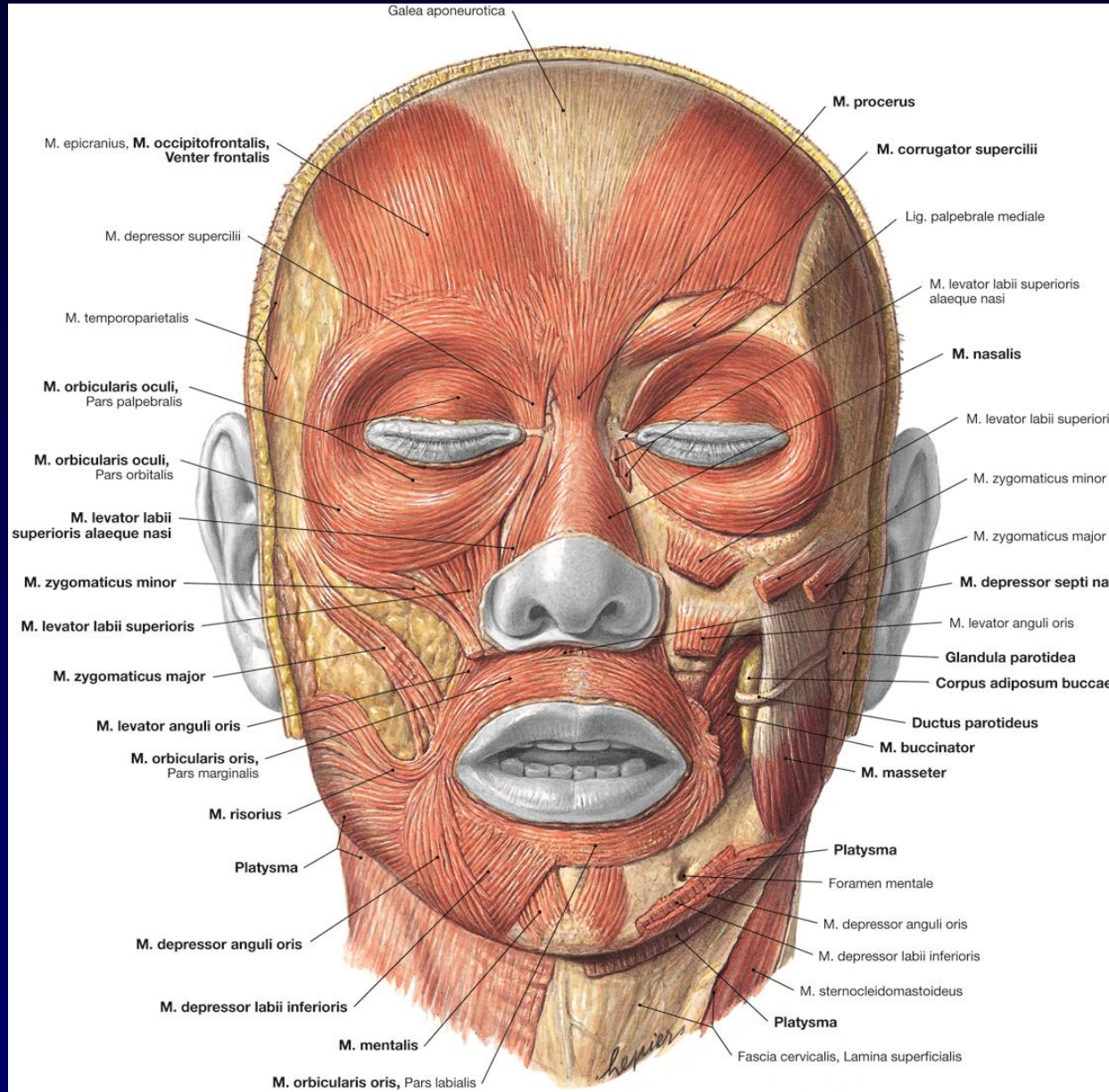


Three Peasants in Conversation] Dürer

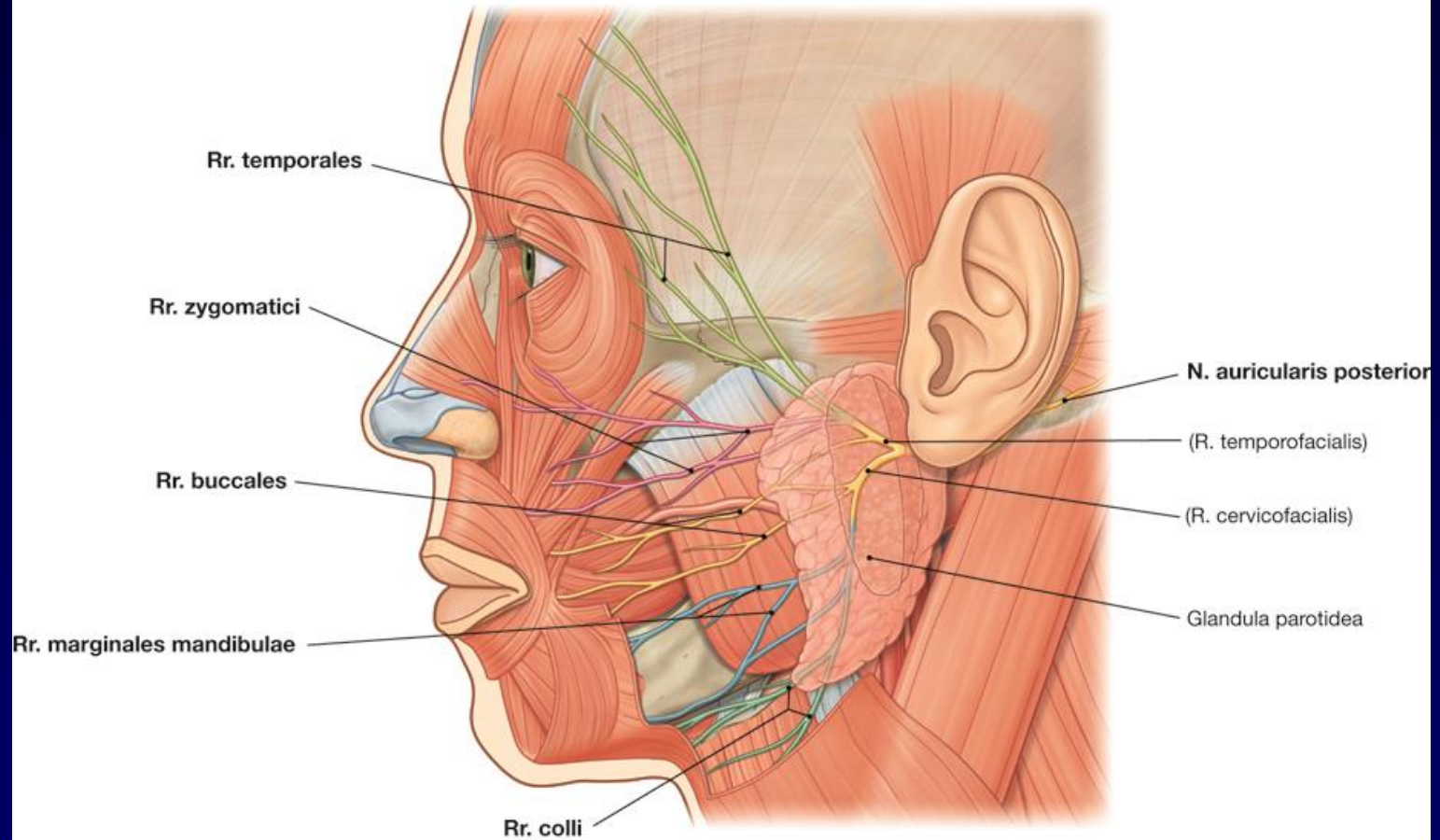


A toothless man drawn by Leonardo da Vinci

# Muscles of facial expression



# Muscles of facial expression innervation: facial nerve (VII)

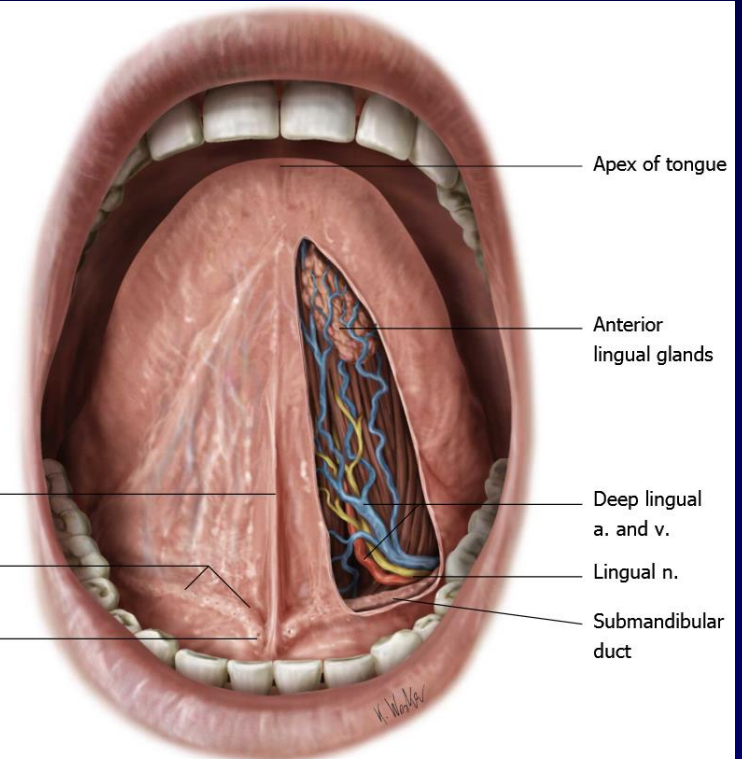
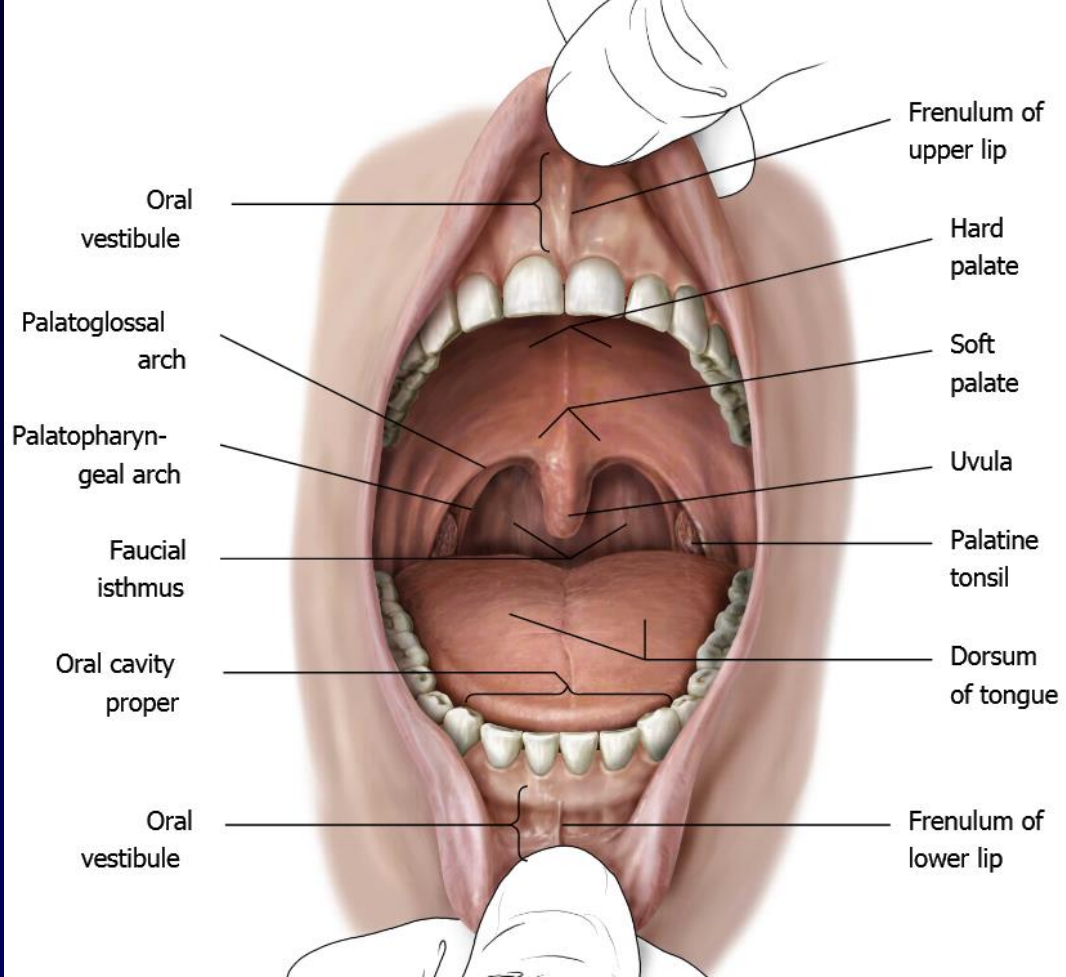


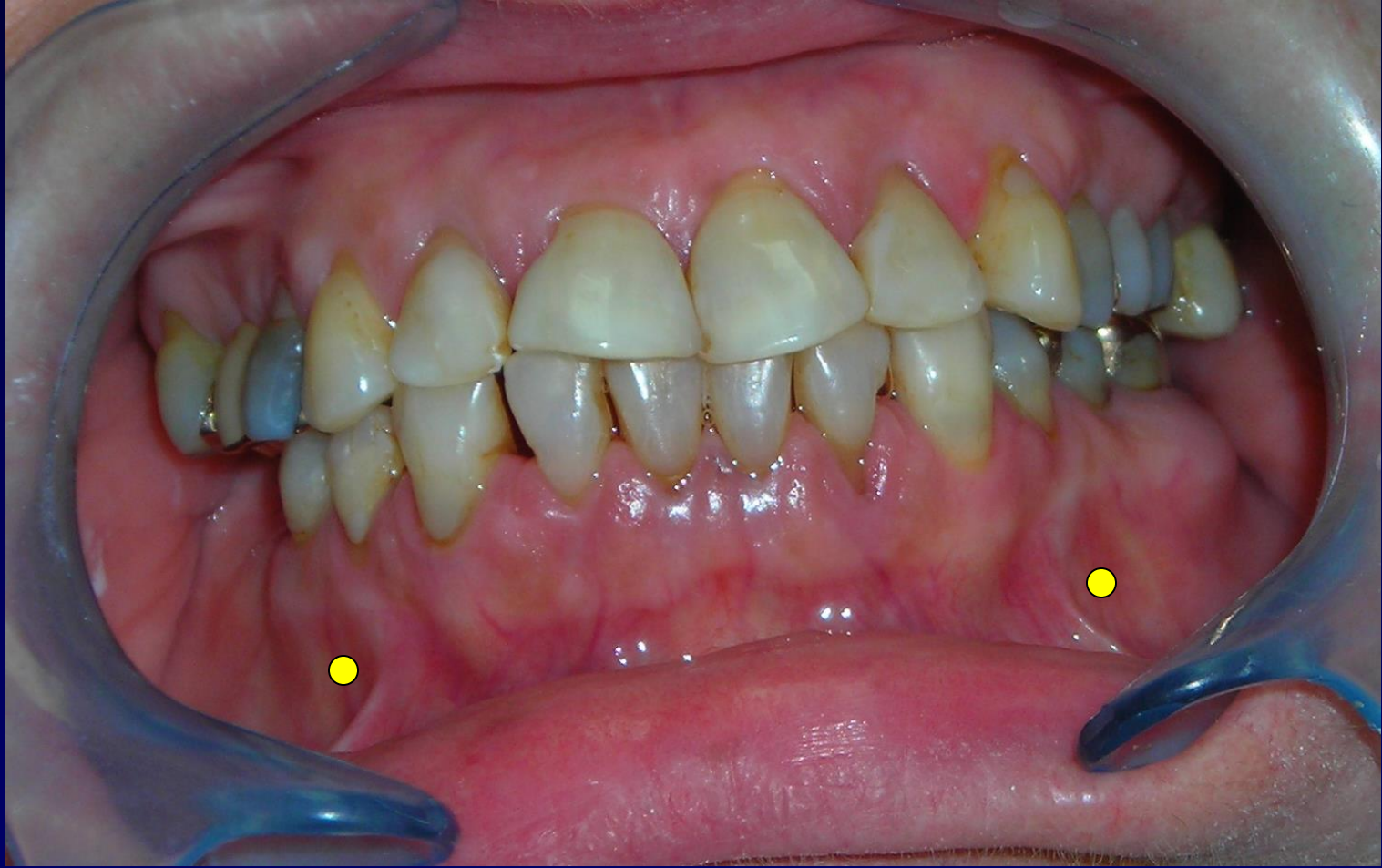
# facial nerve paralysis

## Bell's palsy



# Oral Cavity Vestibule and oral cavity proper









# PARTS

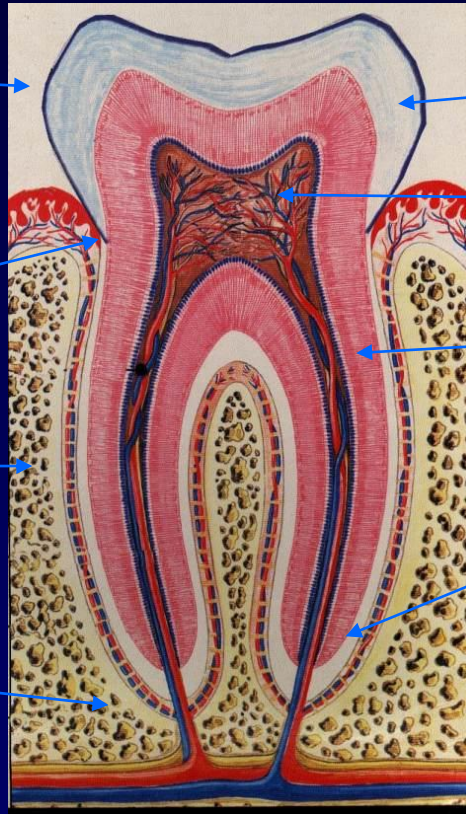


**CROWN**  
(corona  
dentis)

**NECK**  
(collum  
dentis)

**ROOT**  
(radix  
dentis)

**apex radice  
dentis**



**ENAMEL**  
(enamelum)

**PULP CAVITY**  
(cavum dentis)

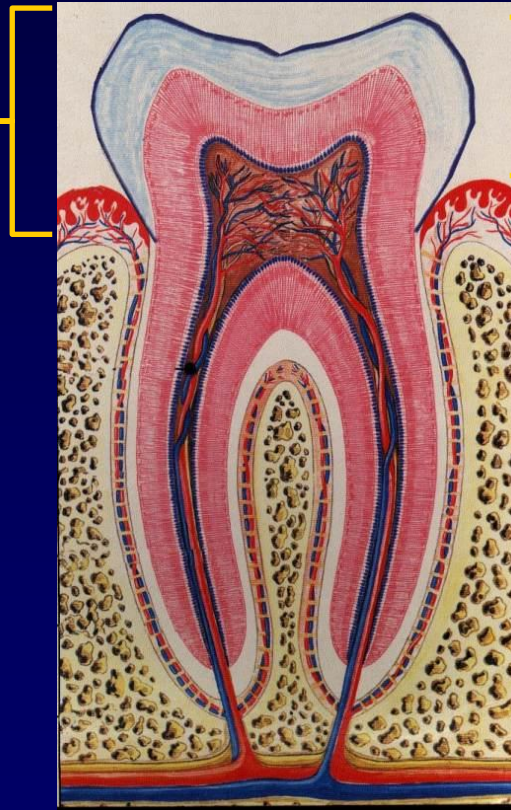
**DENTIN**  
(dentinum)

**CEMENTUM**



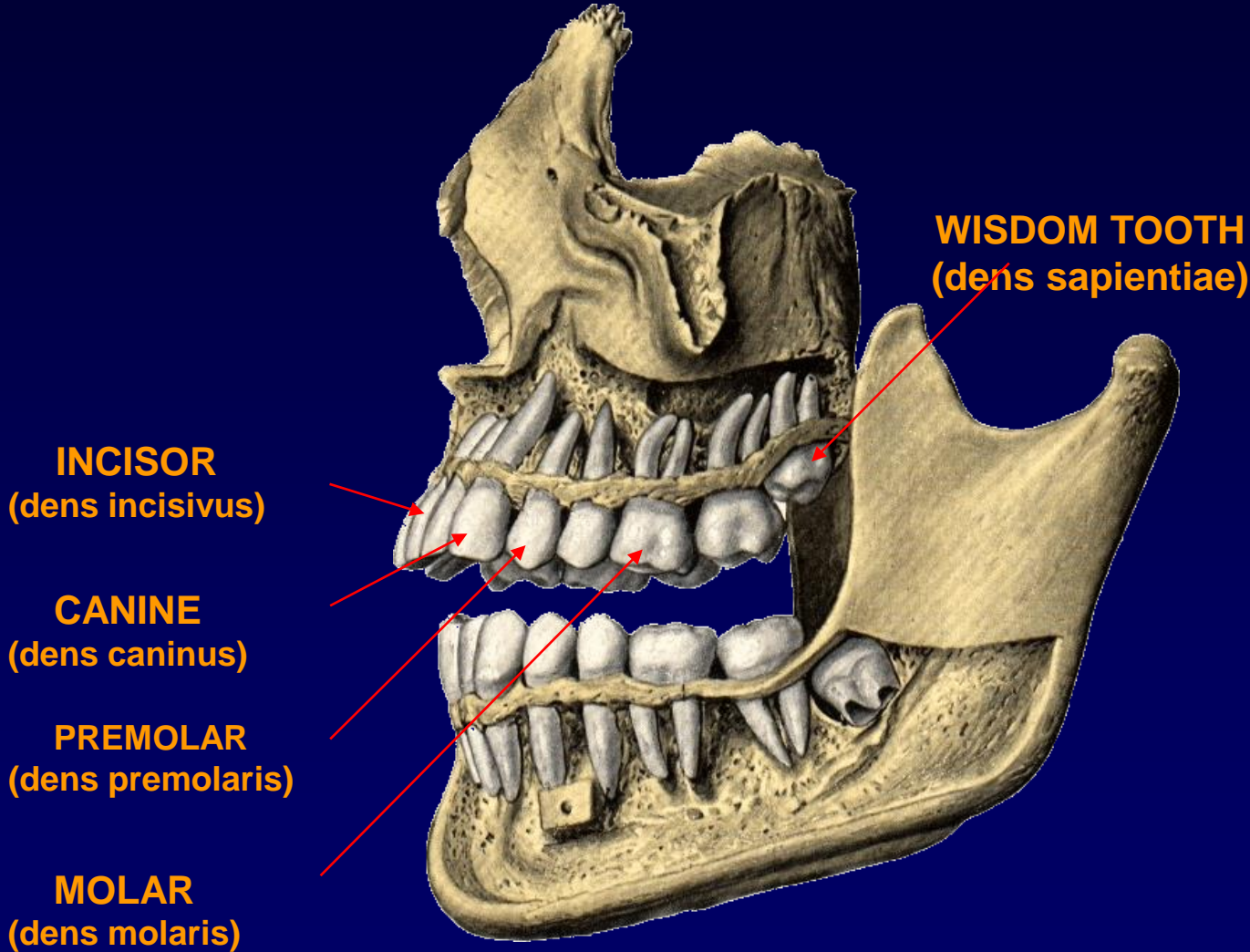
# PARTS

Anatomical crown



Clinical crown

# Tooth types



**INCISOR**  
(dens incisivus)

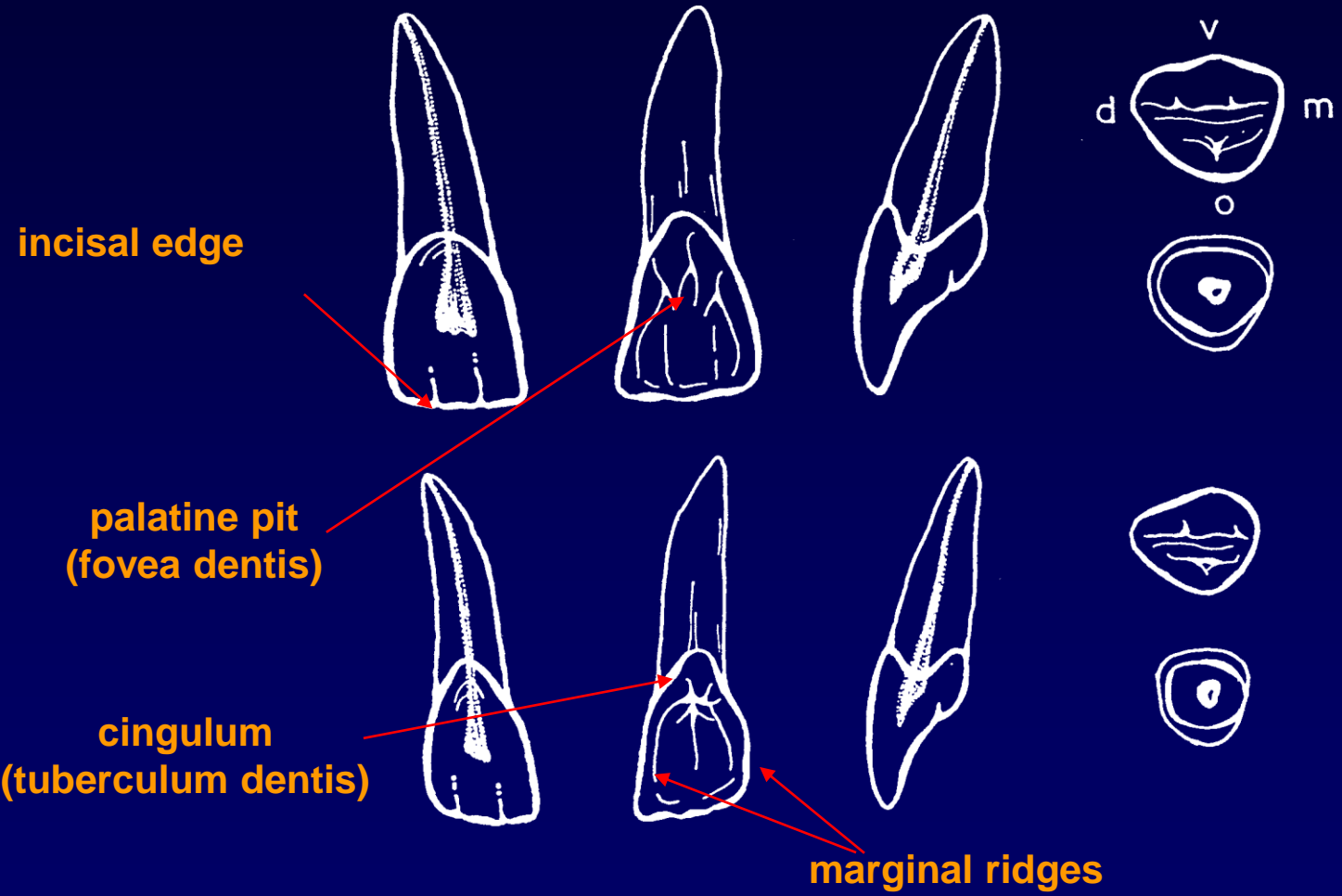
**CANINE**  
(dens caninus)

**PREMOLAR**  
(dens premolaris)

**MOLAR**  
(dens molaris)

**WISDOM TOOTH**  
(dens sapientiae)

# UPPER INCISORS (DENTES INCISIVI SUPERIORES)



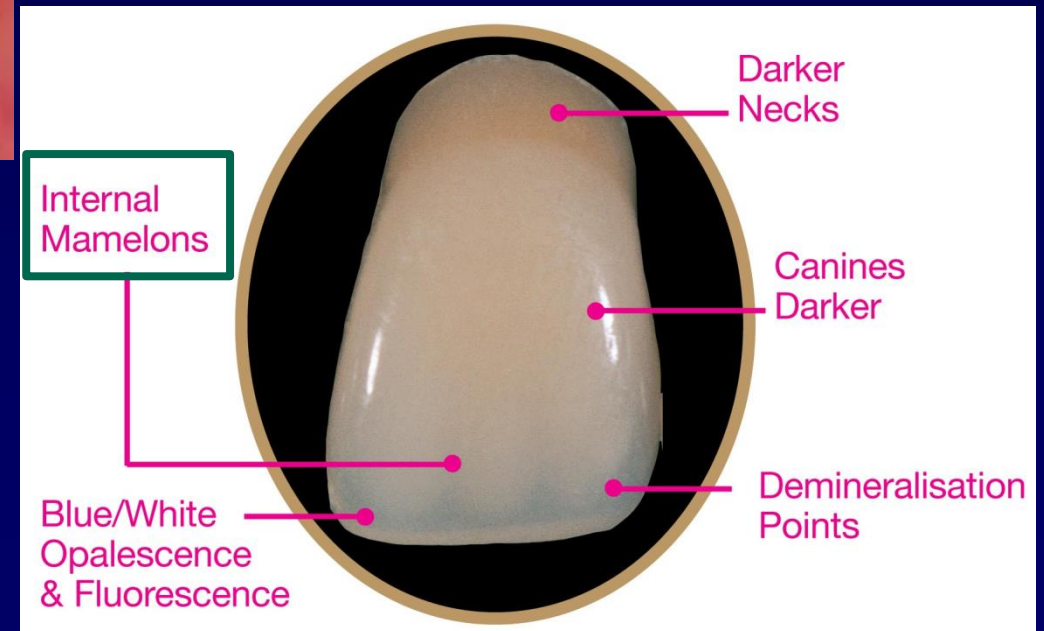
Length (mm): 23,7  
22,1

Number of roots: 1

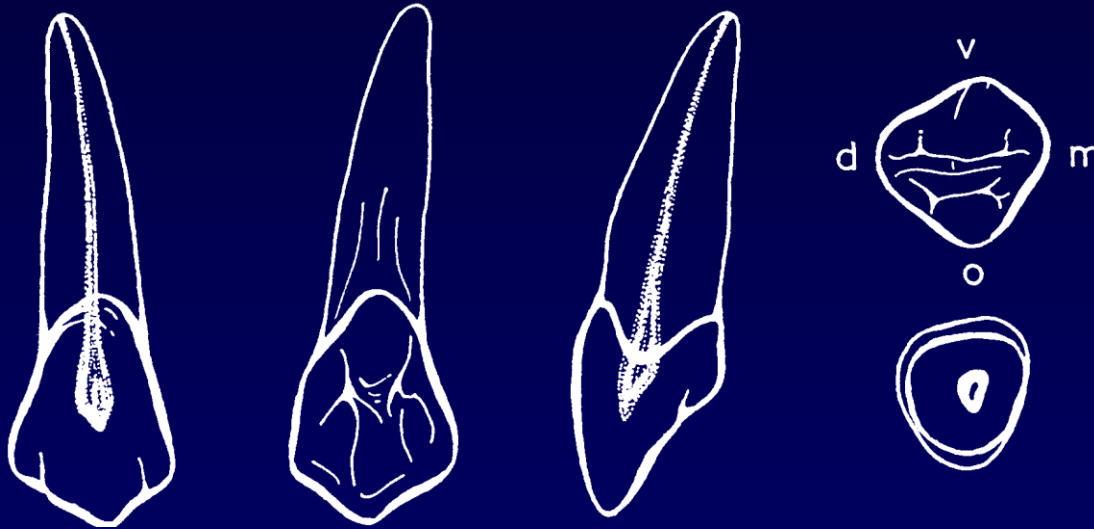
Number of Root canals: 1

# Mamelons (tubercles)

(in clinical dentistry color shades)



# DENS CANINUS SUPERIOR

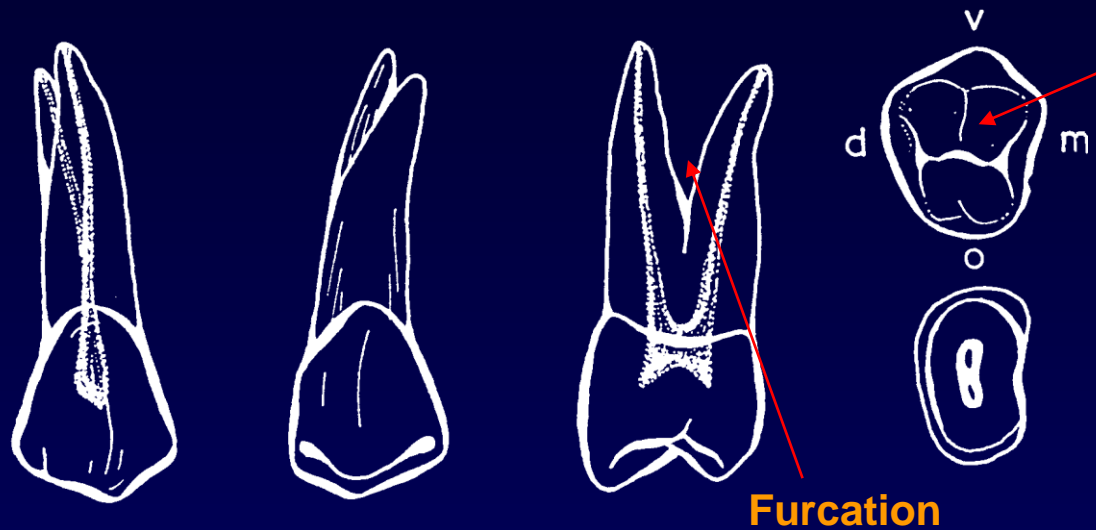


**Length (mm): 27,3**

**Number of  
roots: 1**

**Number of  
Root canals: 1**

# DENTES PREMOLARES SUPERIORES

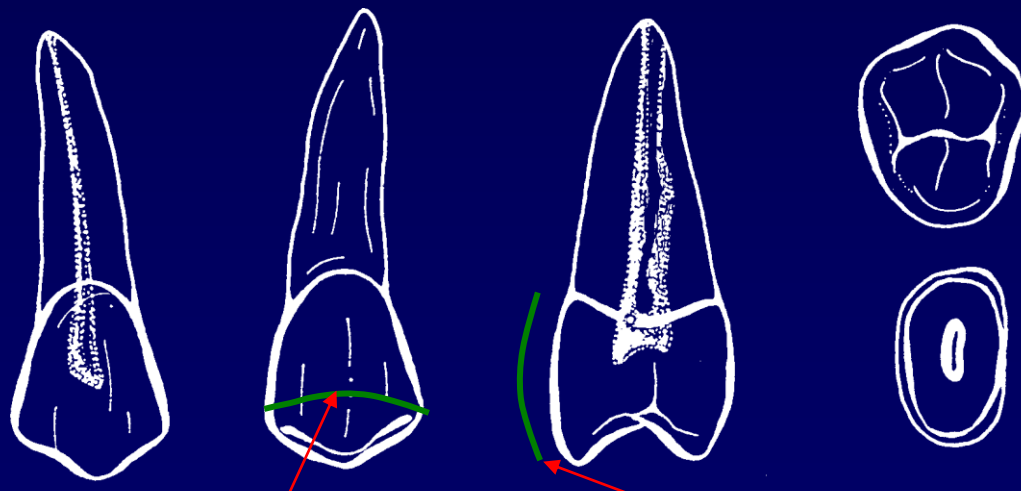


facies oclusalis

Length (mm): 22,3

Number of roots: 2

Number of Root canals: 2 (90%)



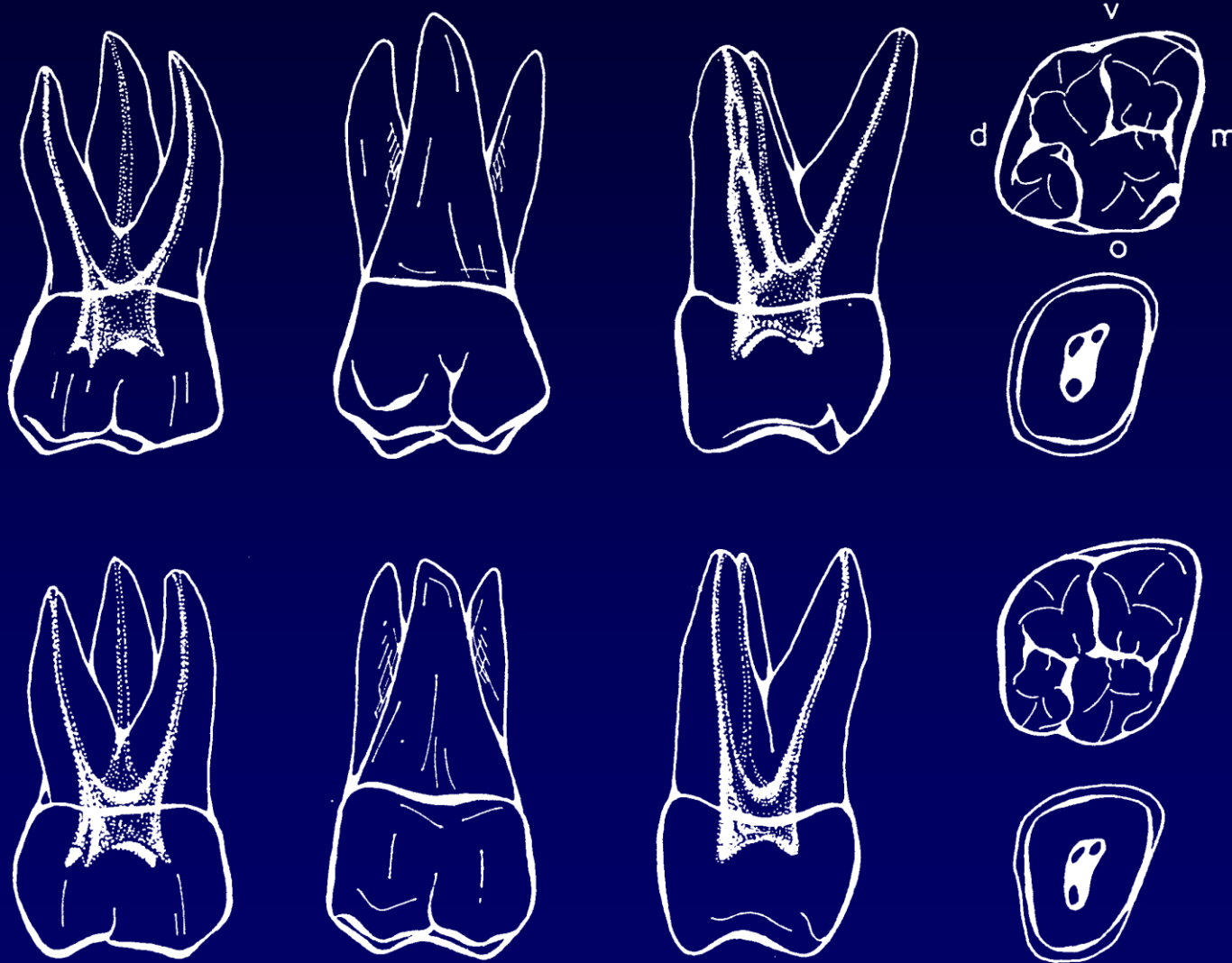
mesio-distal curve

gingivo-occlusal curve

Number of roots: 1-2

Number of Root canals: 2 (58%)

# DENTES MOLARES SUPERIORES



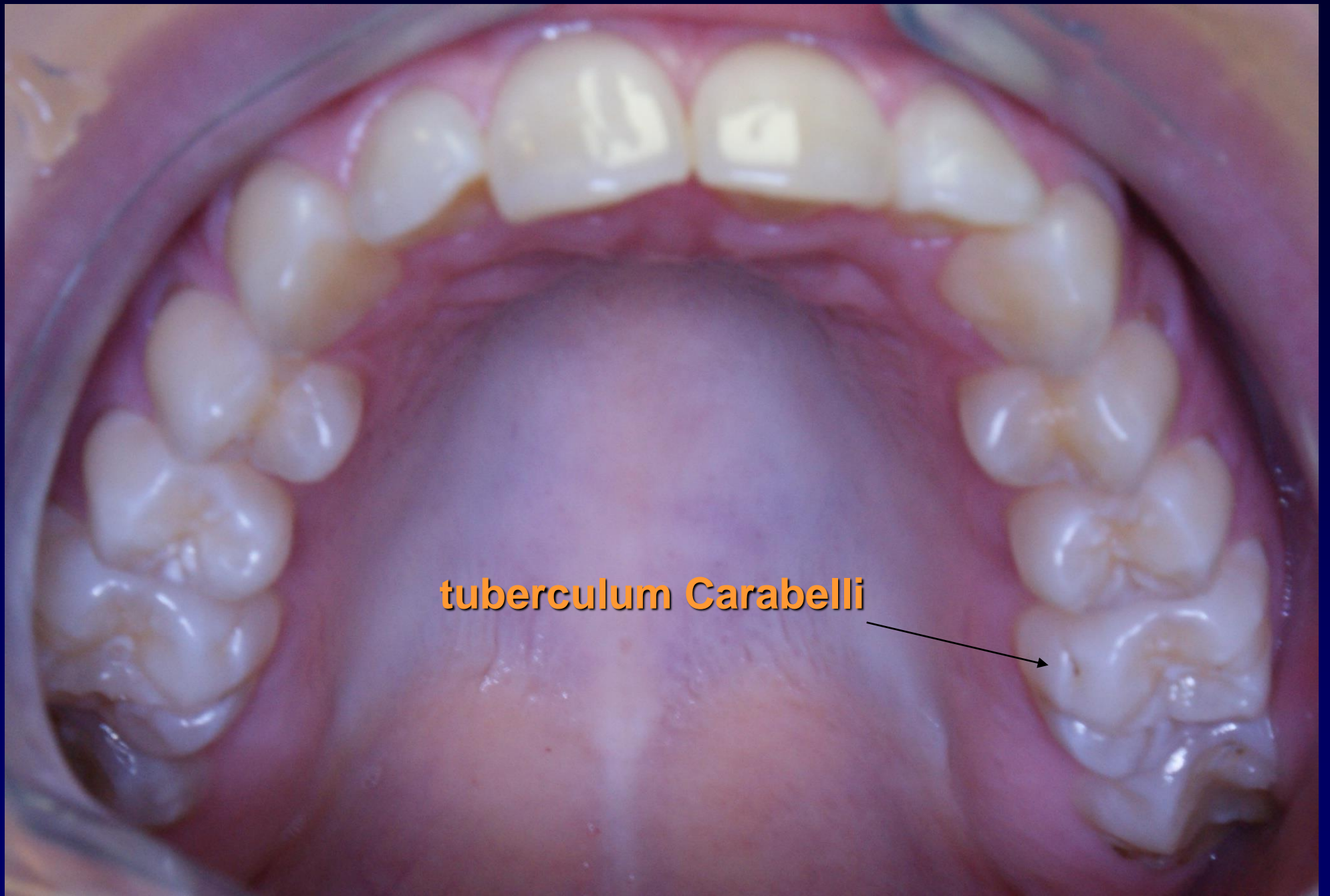
Length (mm): 22,3  
22,2

Number of  
roots: 3

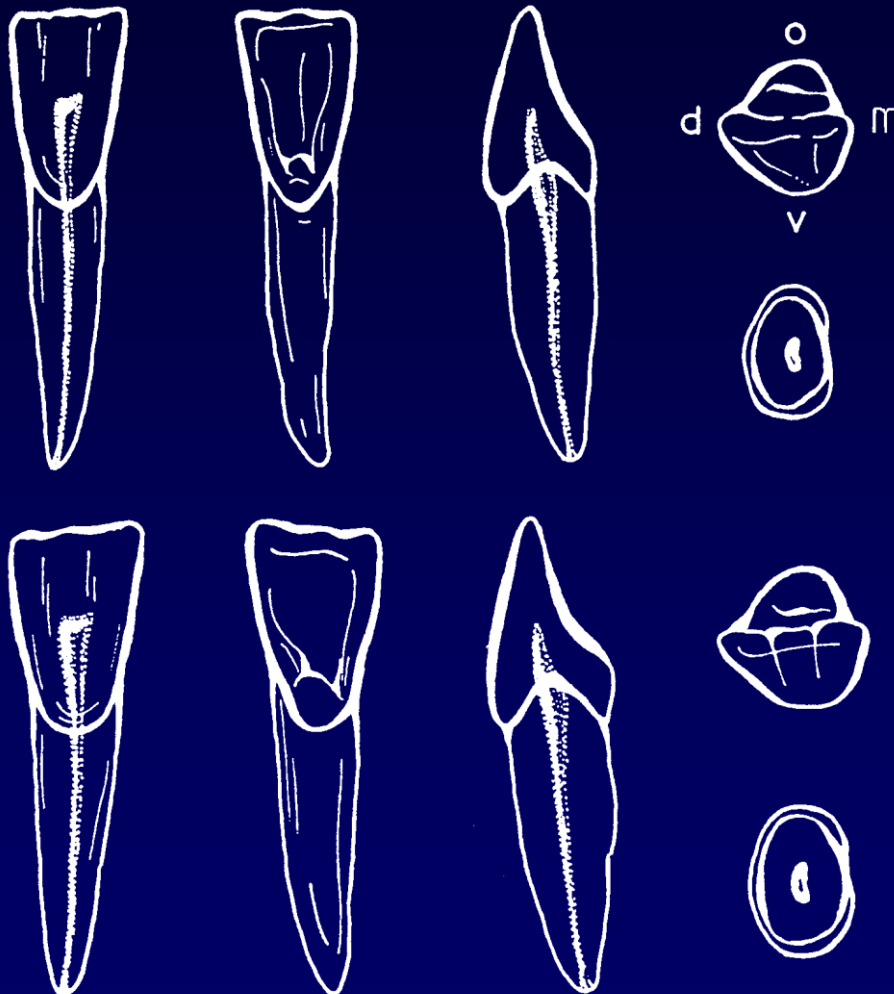
Number of  
Root canals: 3-4  
(mesiobuccal may have  
2 canals)



**tuberculum Carabelli**



# DENTES INCISIVI INFERIORES

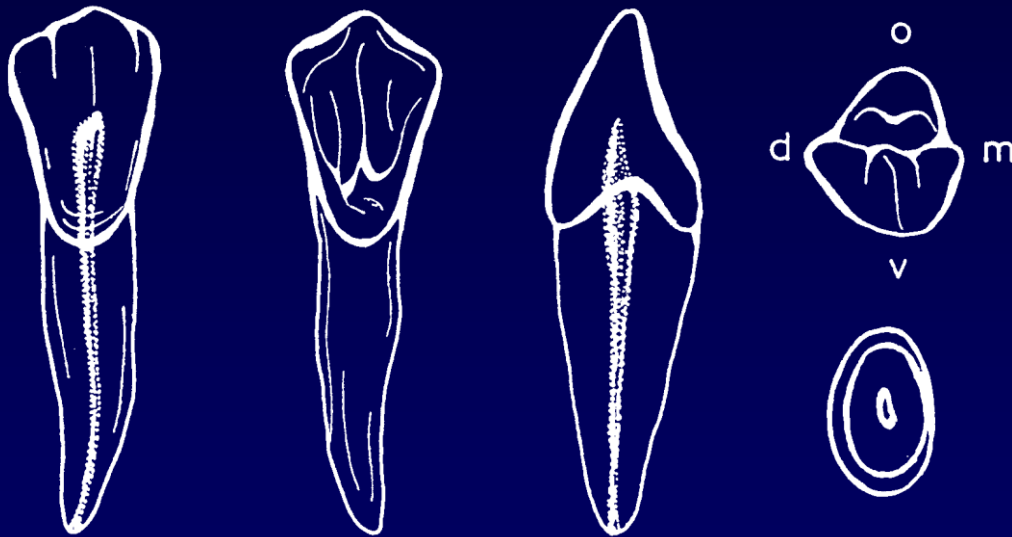


Length (mm): 21,8  
23,3

Number of  
roots: 1

Number of  
Root canals: 1

# DENS CANINUS INFERIOR

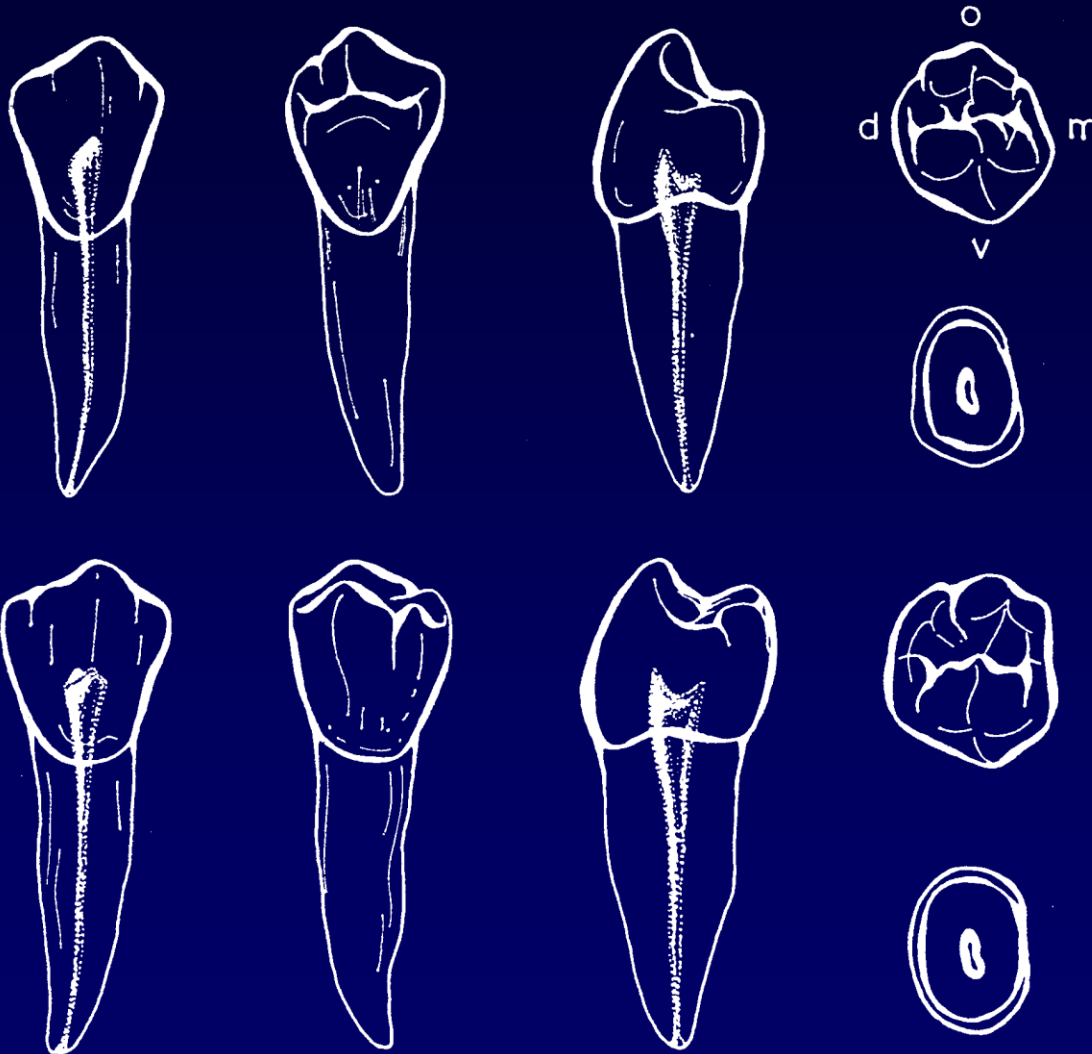


**Length (mm): 26,0**

**Number of  
roots: 1**

**Number of  
Root canals: 1**

# DENTES PREMOLARES INFERIORES



Length (mm): 22,9  
22,3

Number of  
roots: 1

Number of  
Root canals: 1

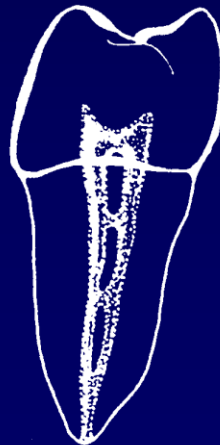
# DENTES MOLARES INFERIORES



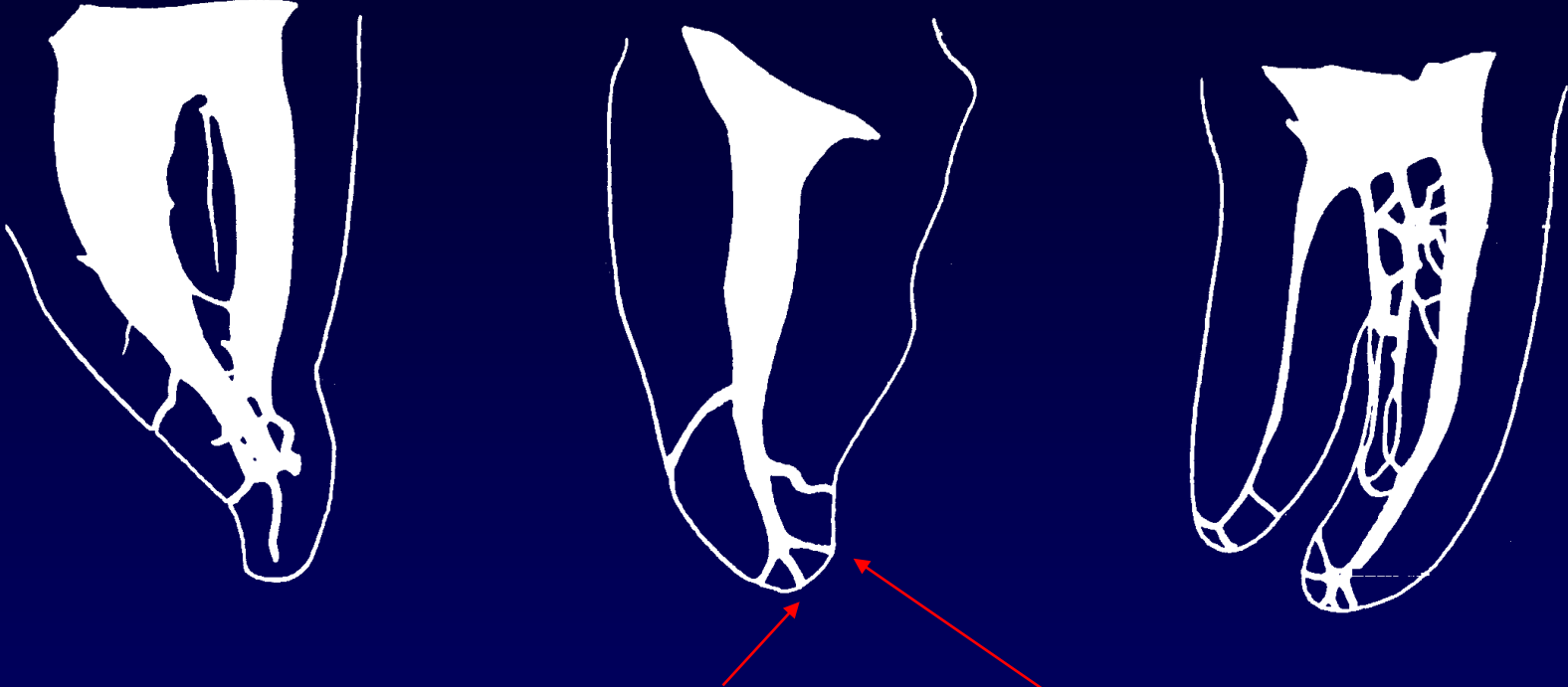
Length (mm): 22,0  
21,7

Number of  
roots: 2

Number of  
Root canals: 3-4

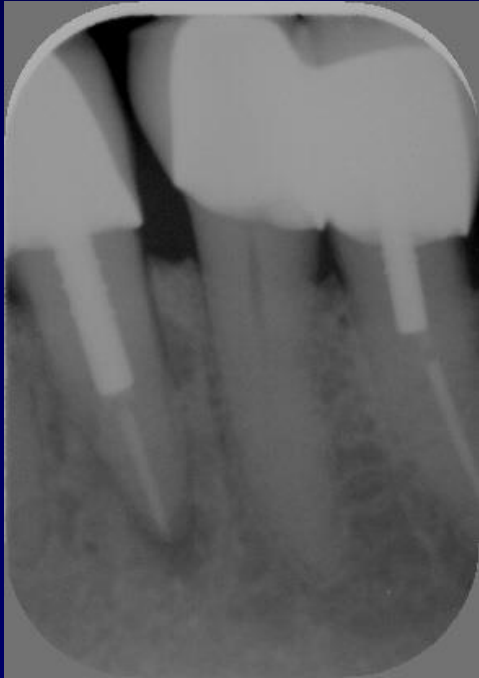


# Variation of root canals



apical foramen

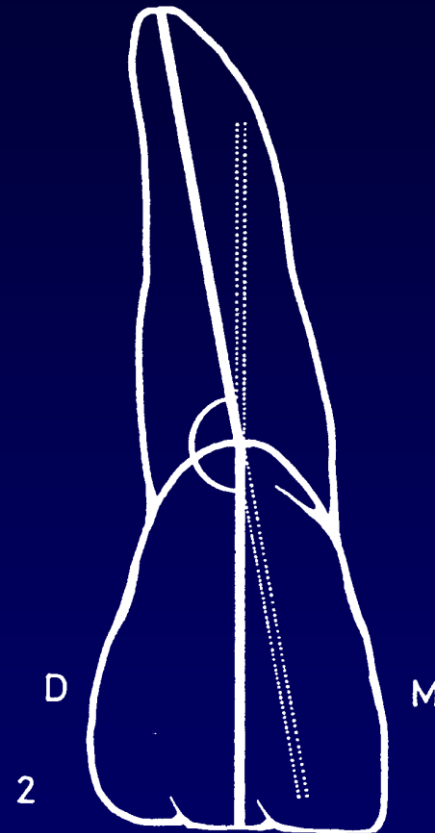
accessory canals



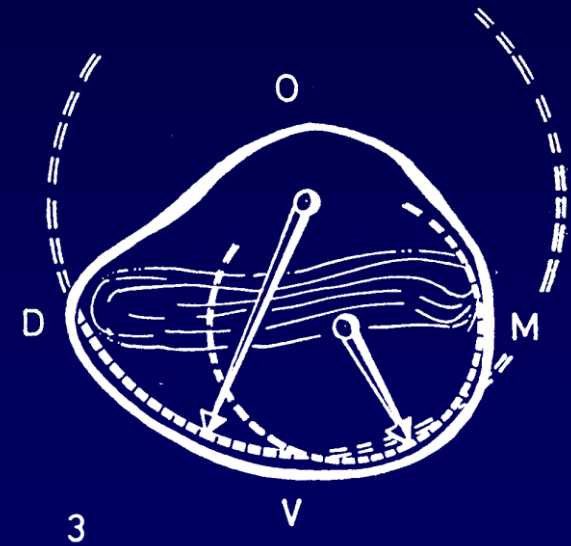
# Mühlreiter's symbols



Angular



Root



Circumferential

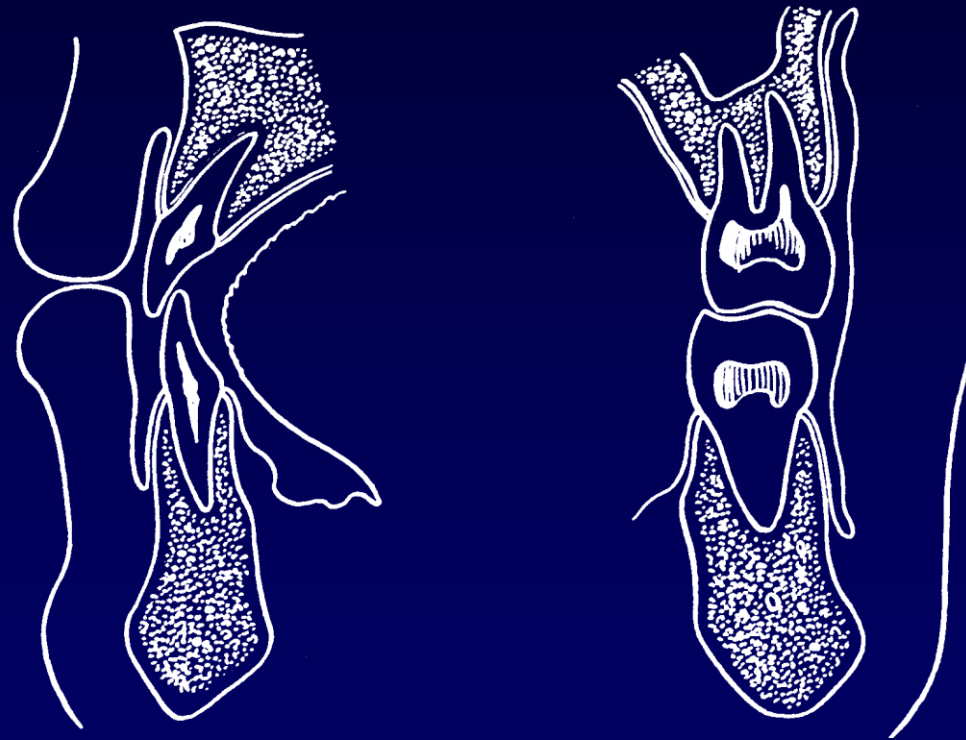
## Correction of tooth 12 aplasia



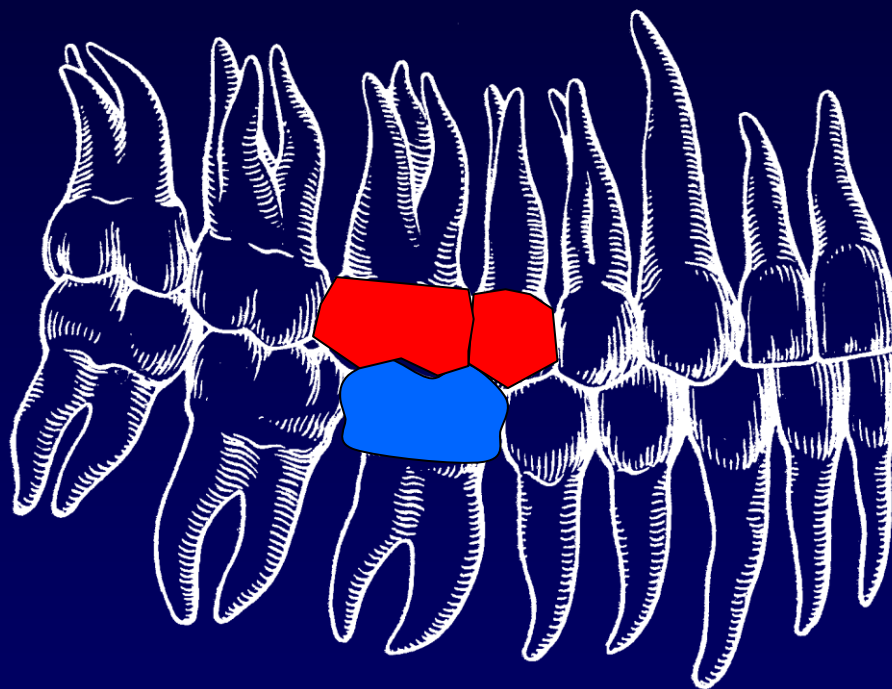




# OCCLUSION



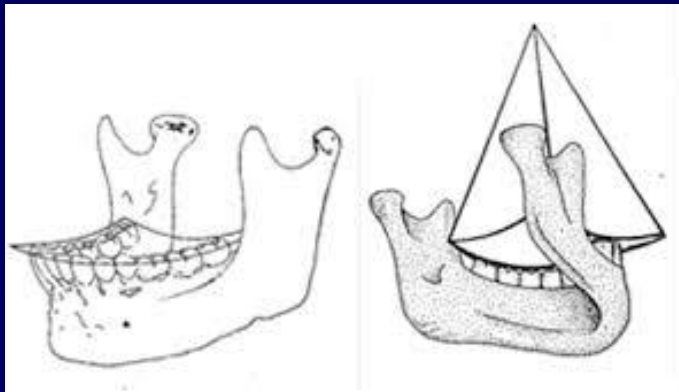
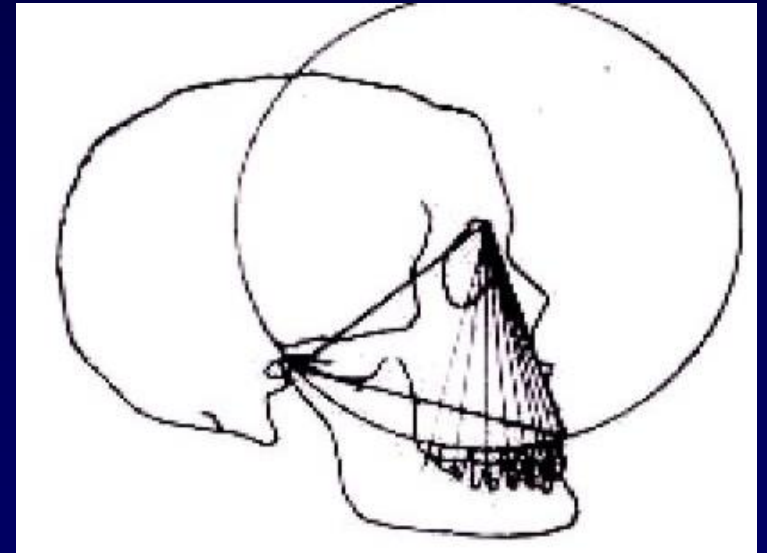
# OCCLUSAL UNIT



# MONSON – CURVE (Wilson + Spee ) curve of occlusion



centre in the region of the glabella



10.16 cm radius

# OCCLUSAL SURFACE

46



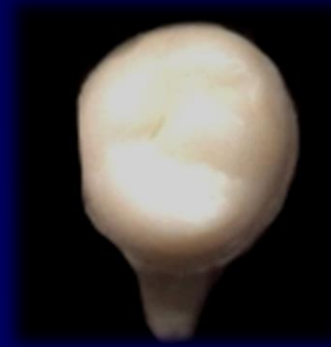
47



28



28



# VARIATIONS



## shades of teeth



# CARIES



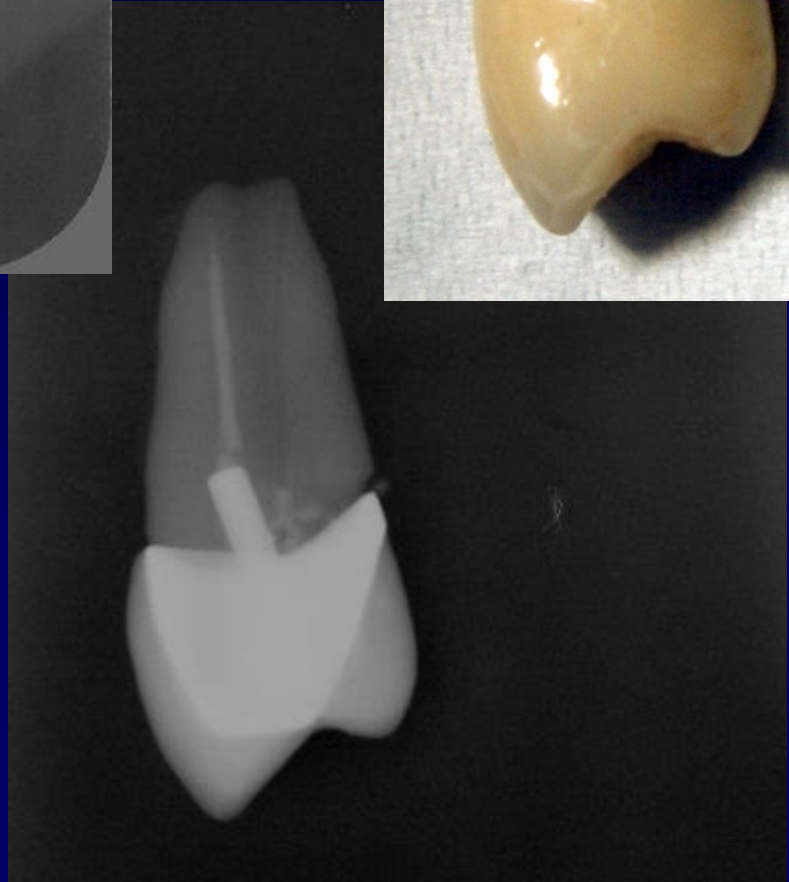


# Intraoral radiography





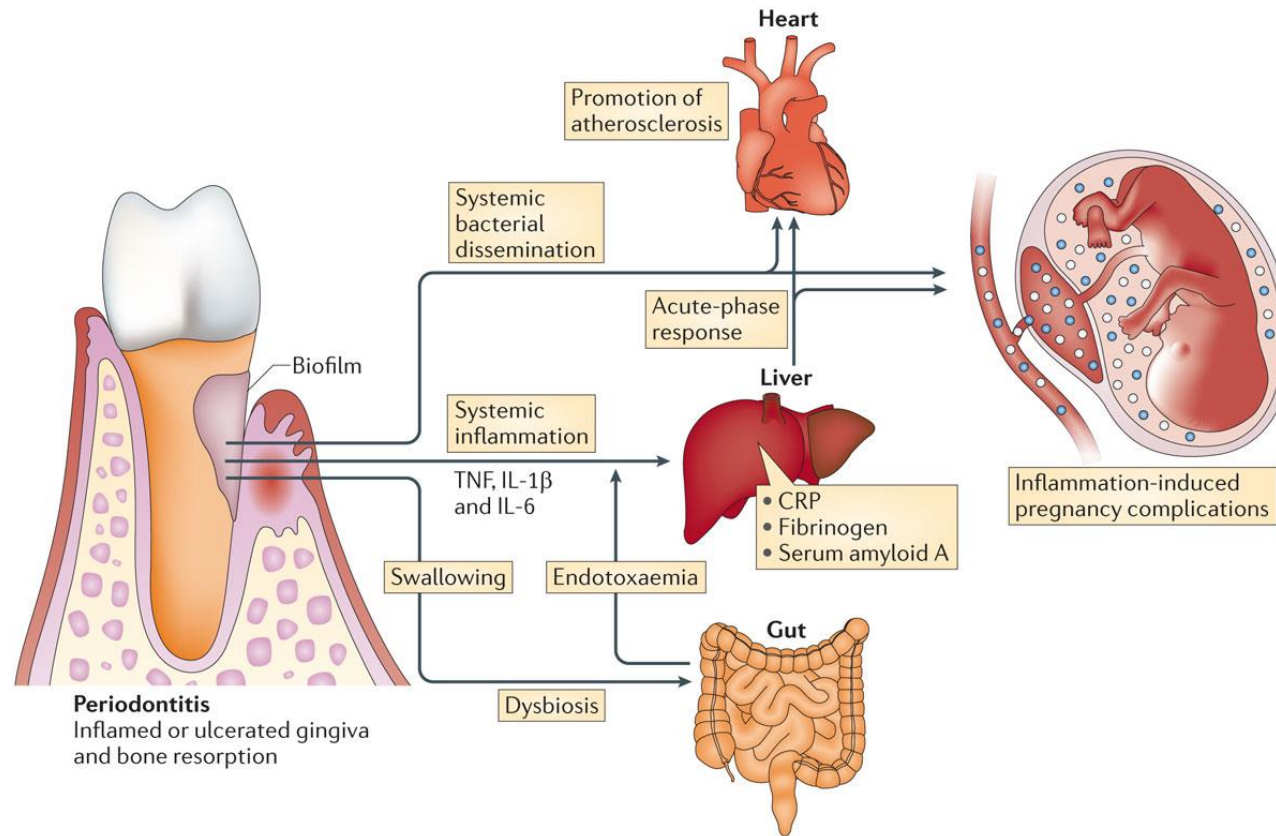
**lamina dura (compacta)**



# PARODONTIUM



# Periodontitis: from microbial immune subversion to systemic inflammation



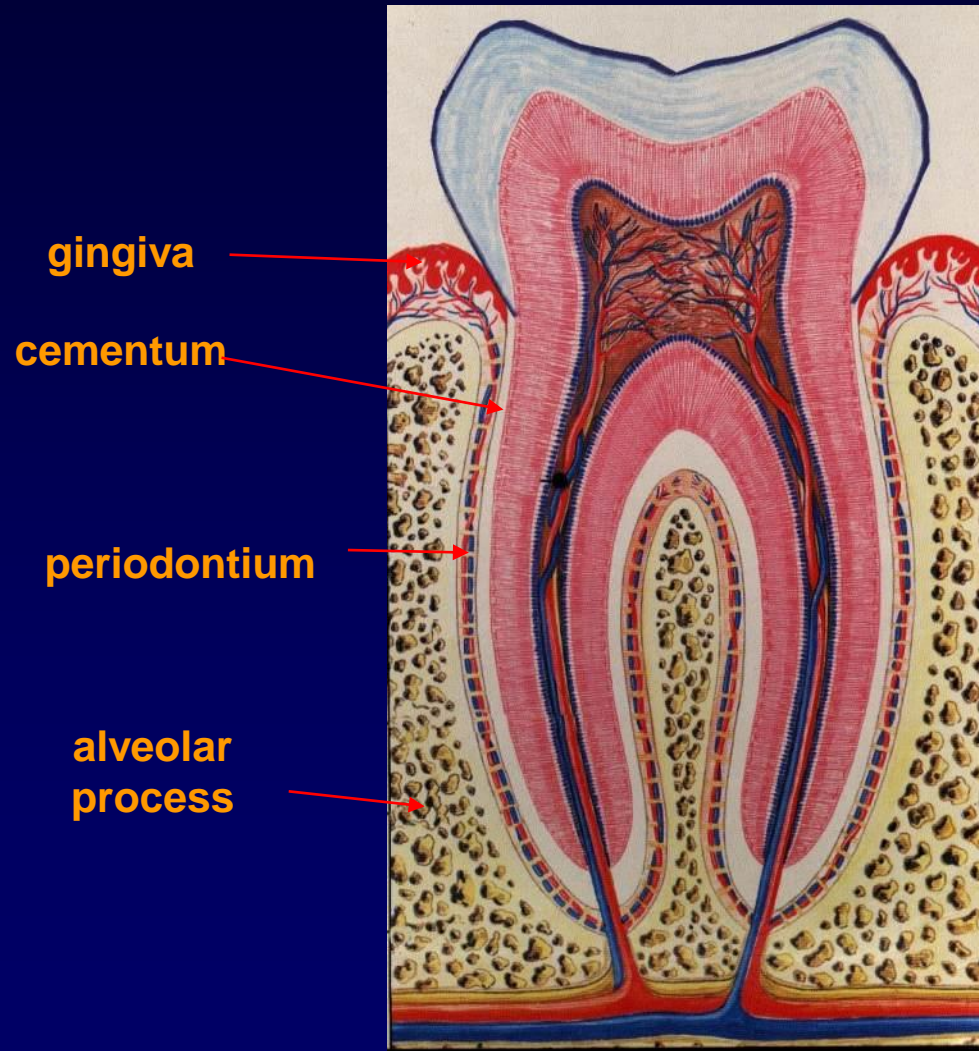
Nature Reviews | Immunology

Periodontitis: from microbial immune subversion to systemic inflammation

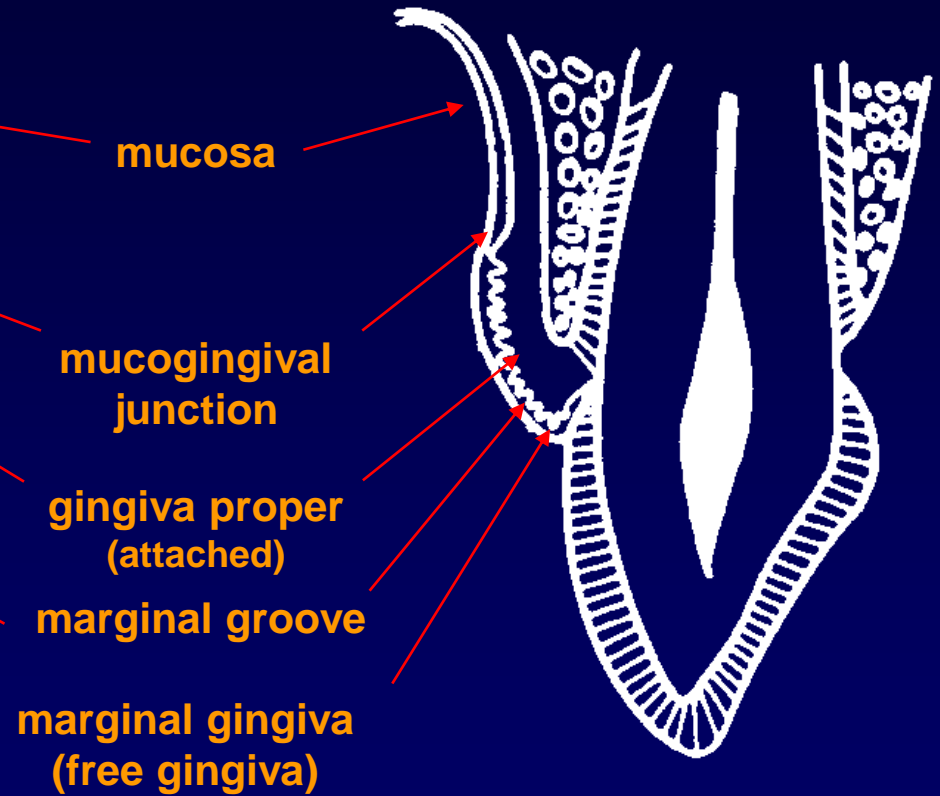
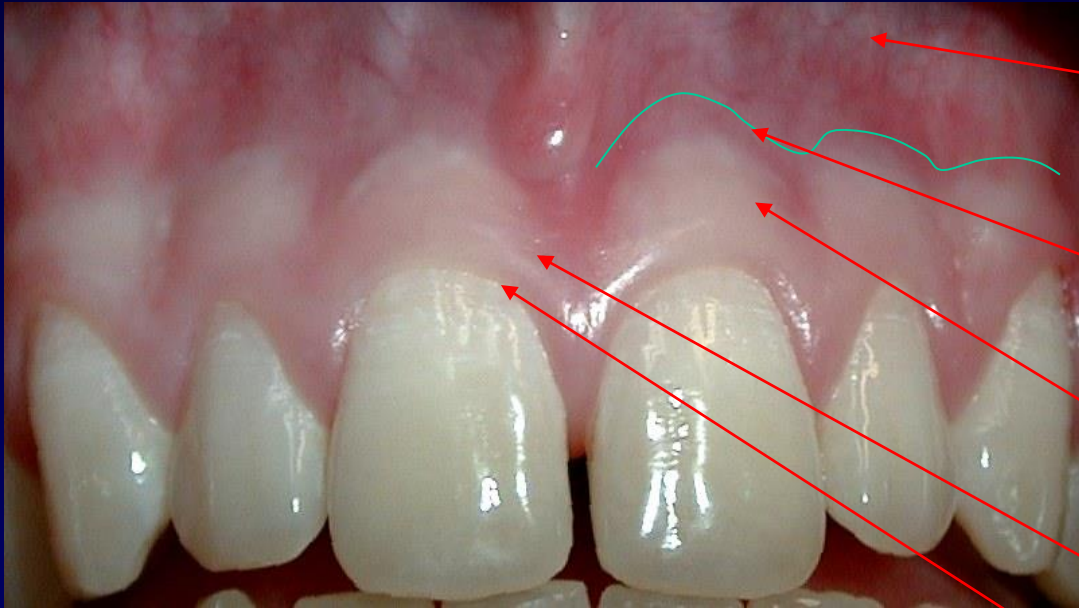
[George Hajishengallis](#)

Nature Reviews Immunology 15, 30–44 (2015) doi:10.1038/nri3785

# PARTS OF PERIODONTIUM (PARODONTIUM)



# GINGIVA



mucosa

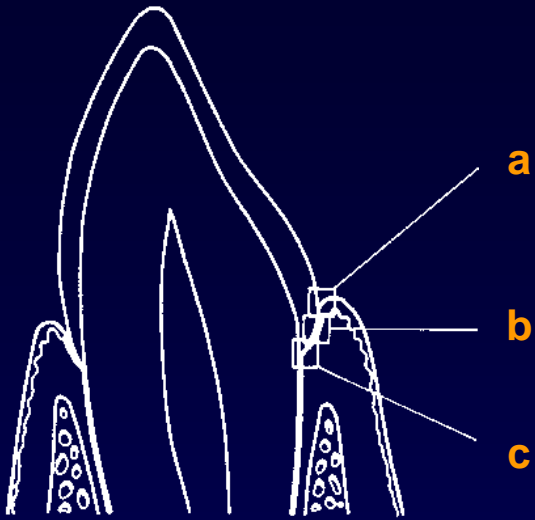
mucogingival junction

gingiva proper (attached)

marginal groove

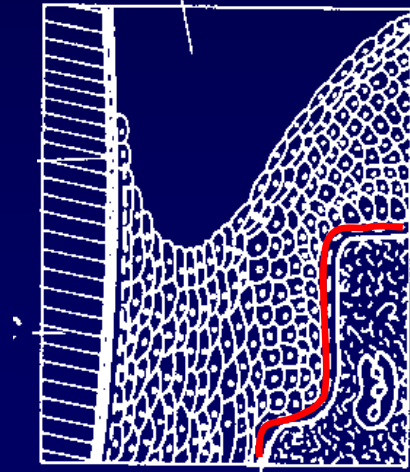
marginal gingiva (free gingiva)

# JUNCTION EPITHEL



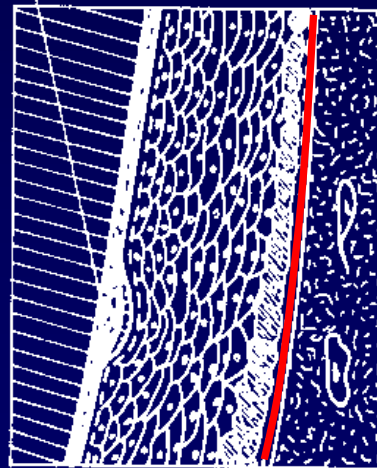
gingival  
sulcus

enamel



basal membrane

a

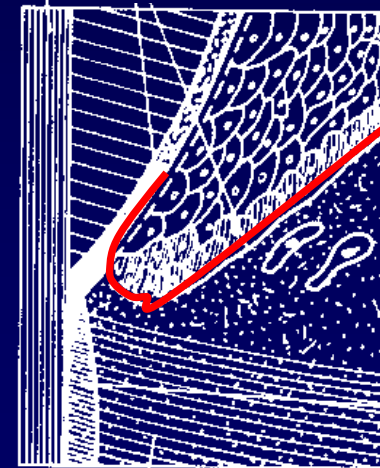


Basal layer

b

dentin

basal membrane



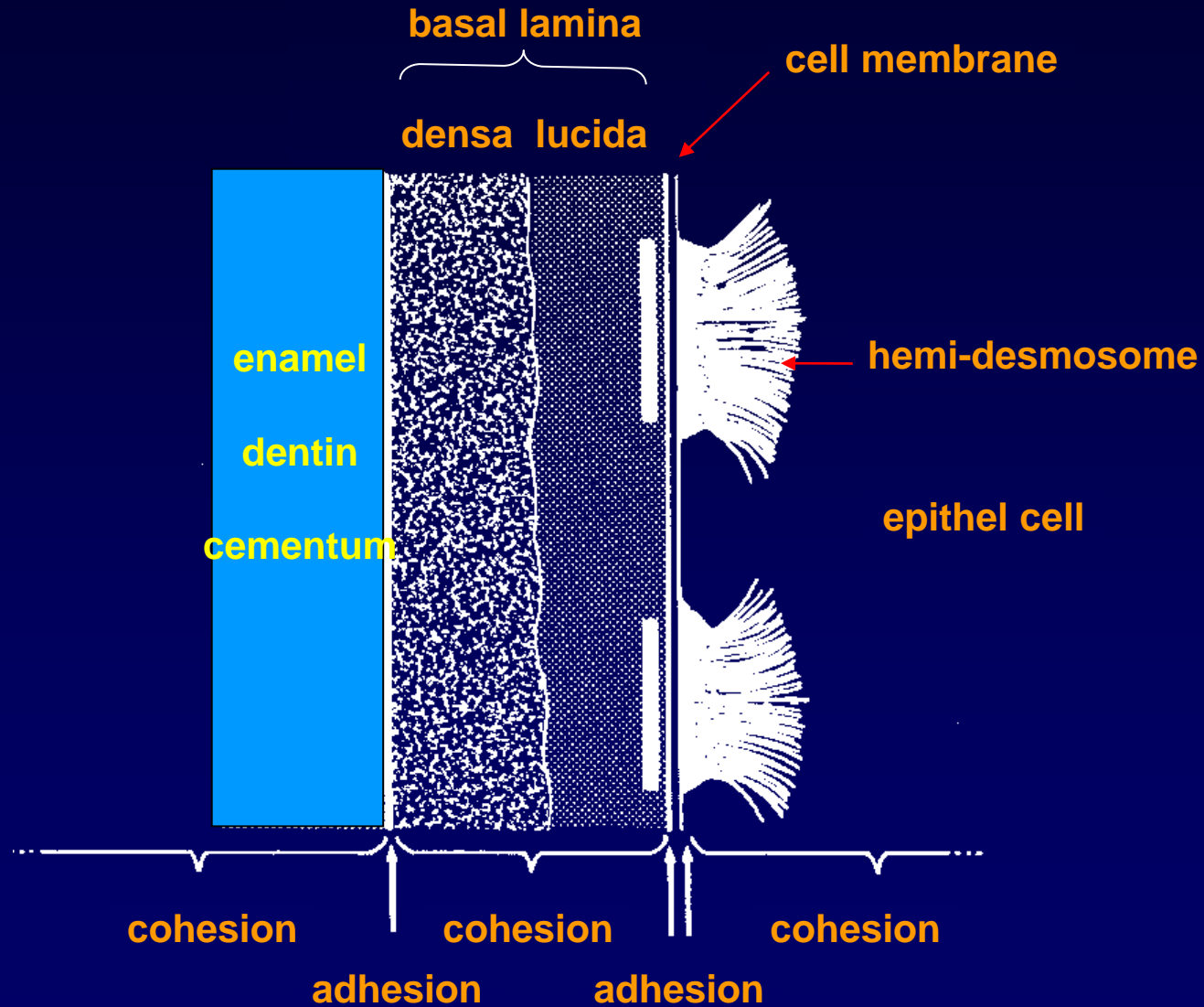
cement

dentogingival fibers

c

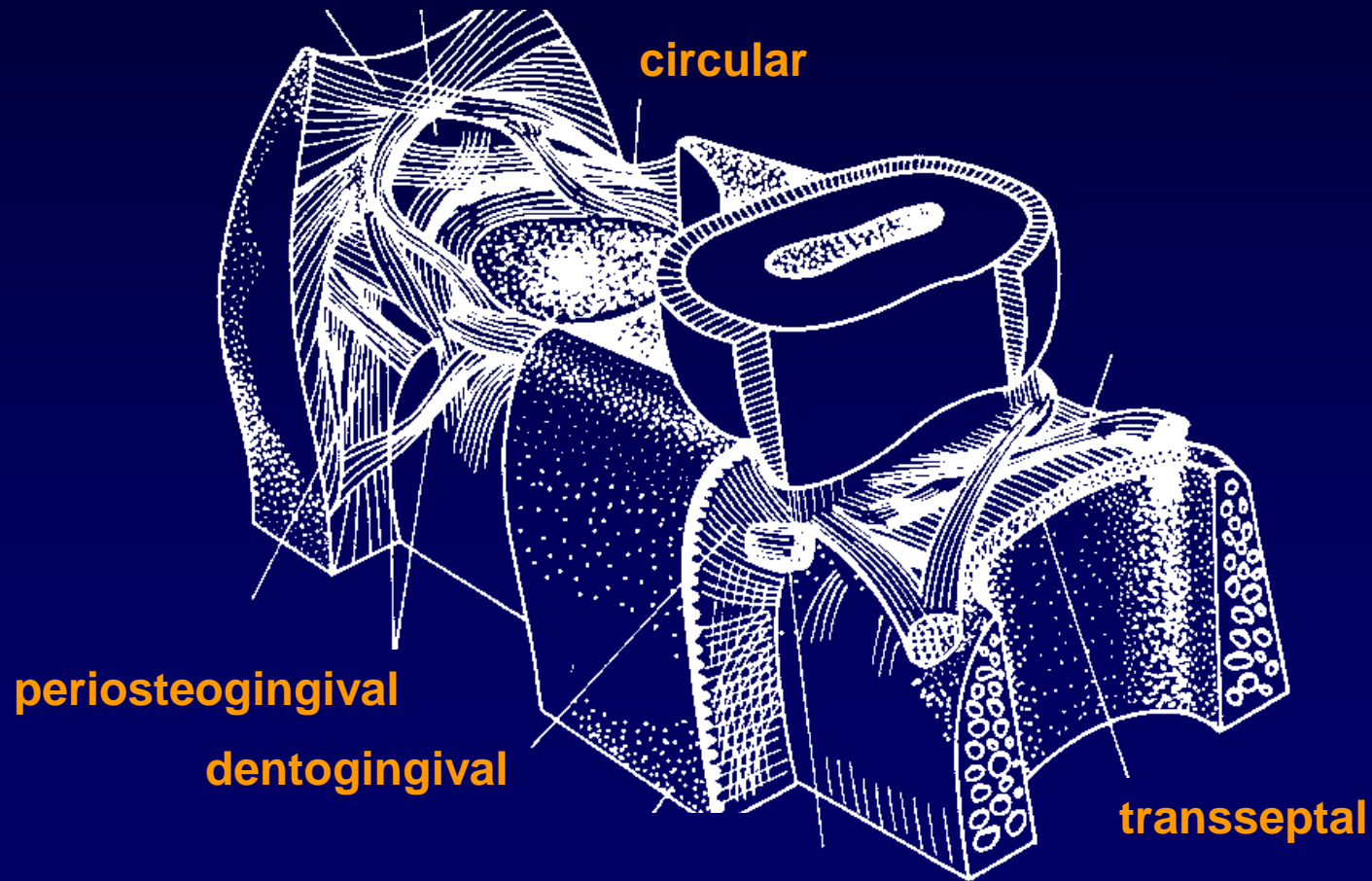


# GINGIVAL ATTACHMENT



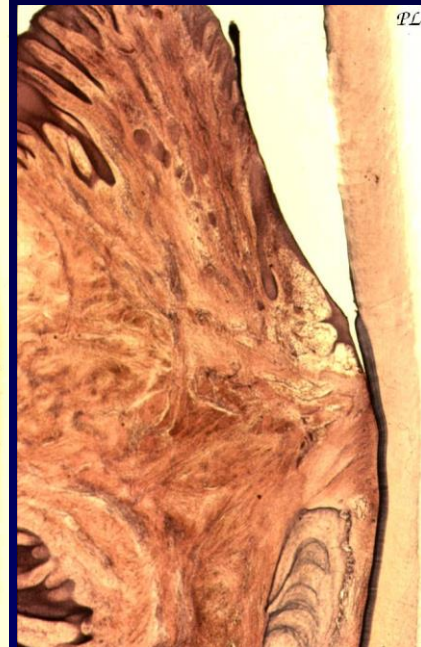
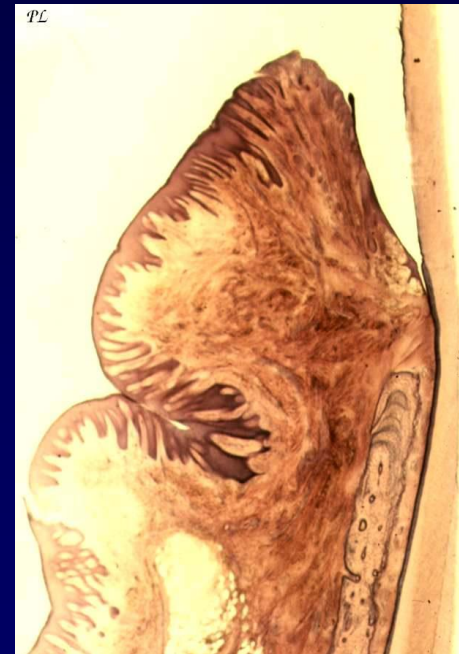
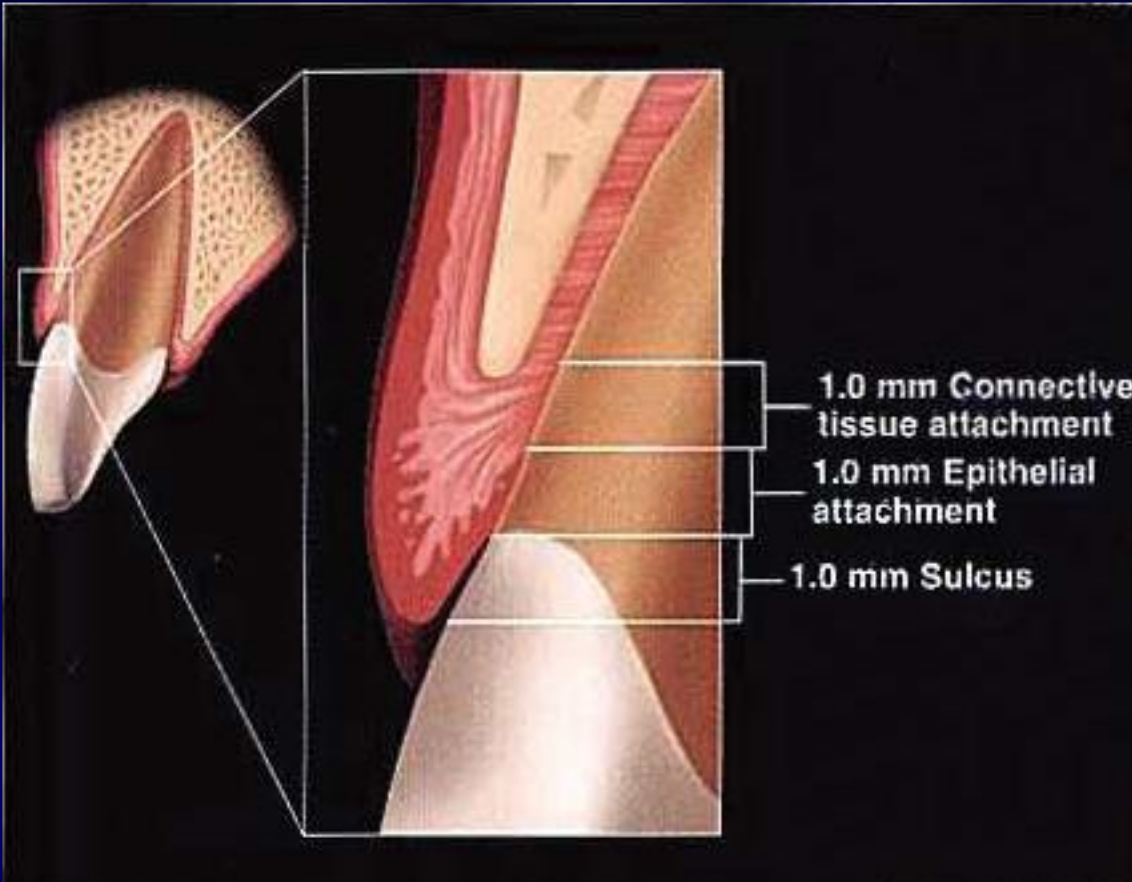
# GINGIVAL FIBERS

Interpapillar (supporting the COL area)

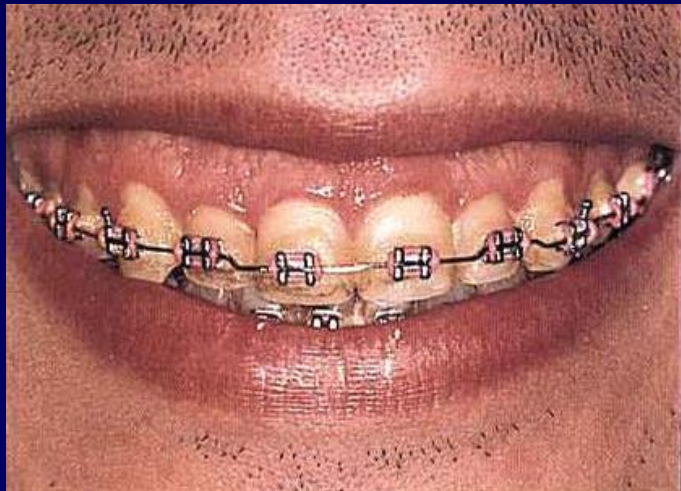
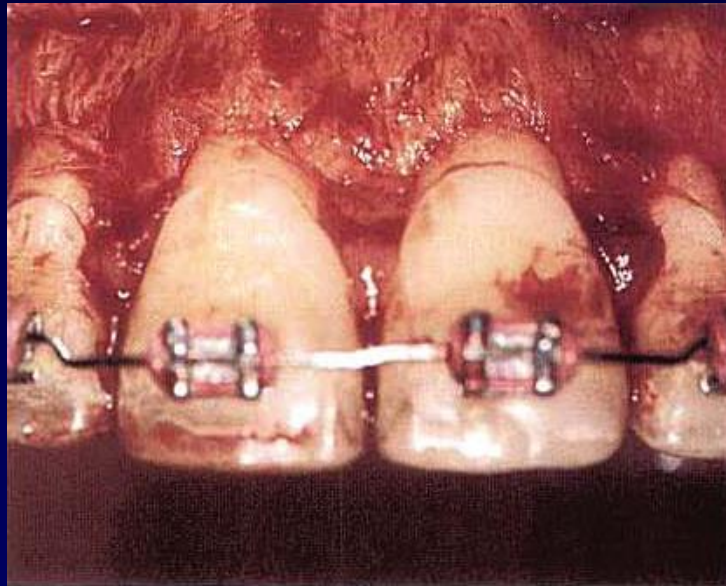




# Biological width



## Biological width



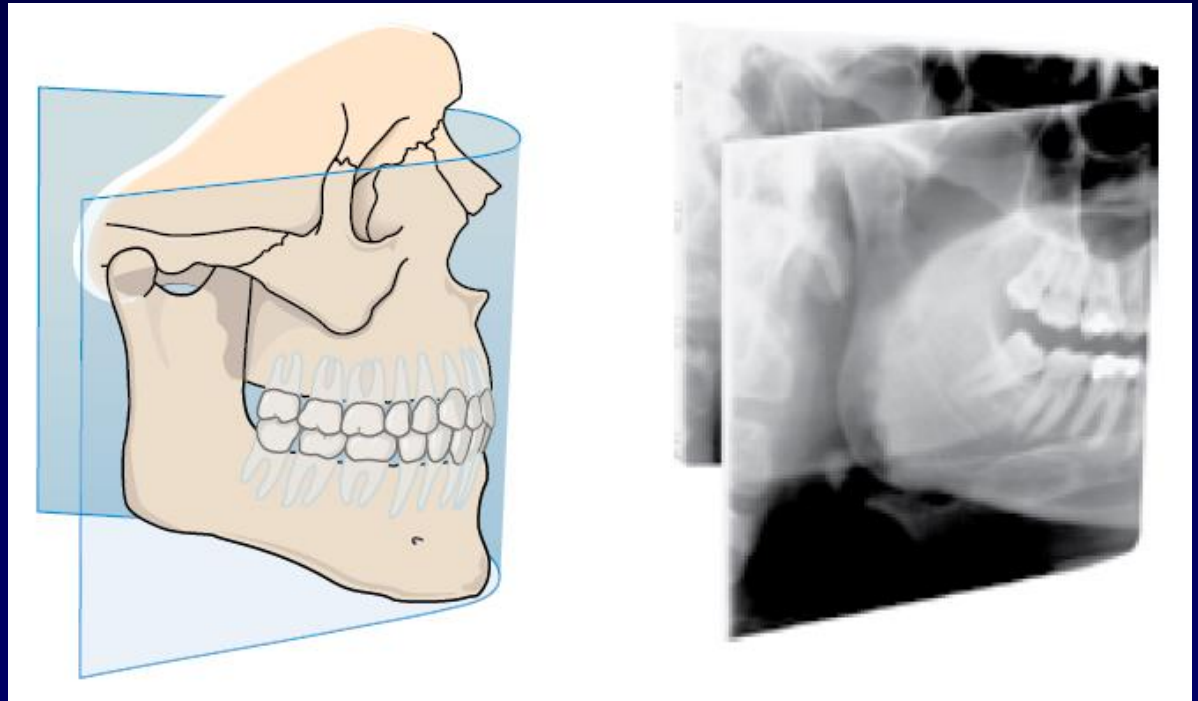
*J. William Robbins, DDS, MA*

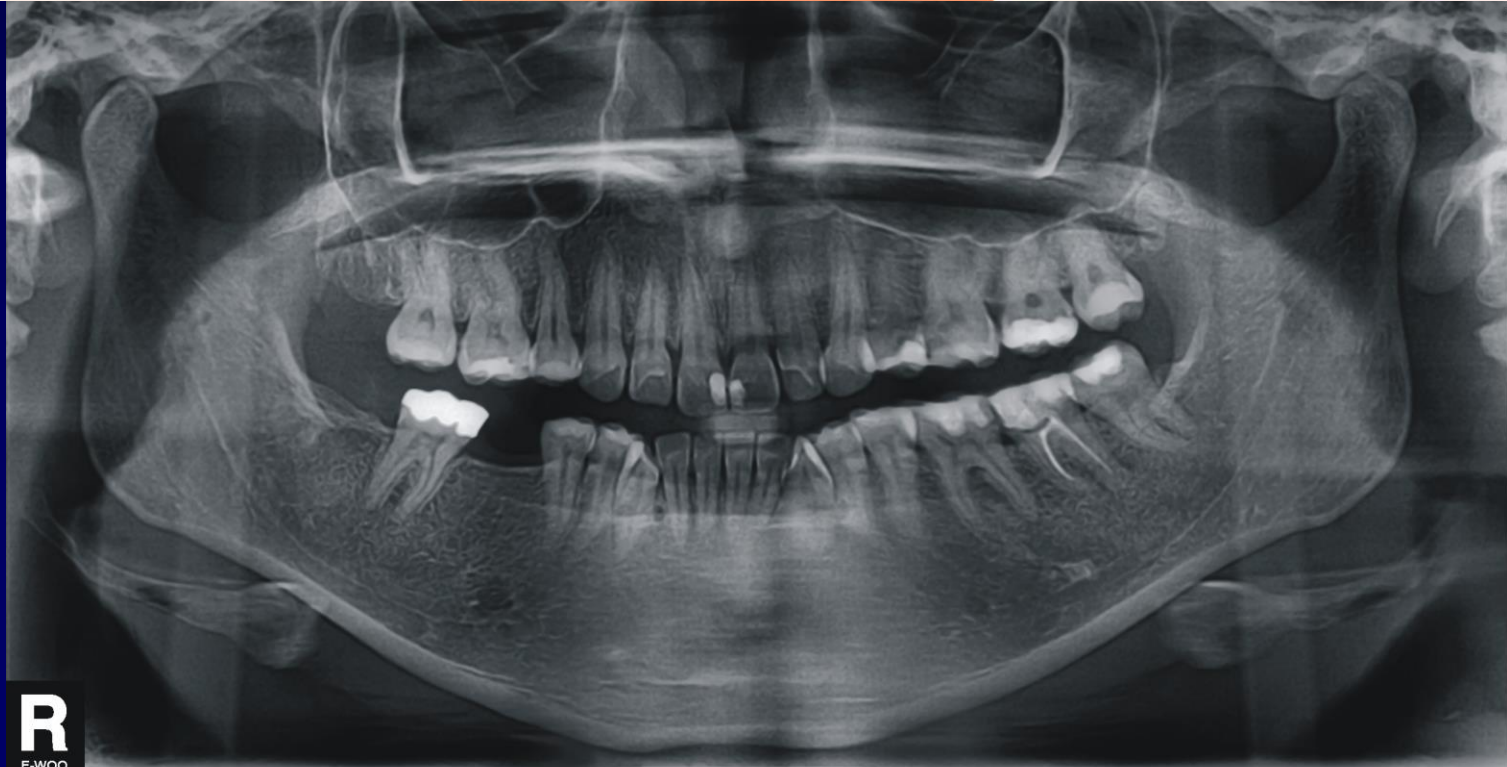
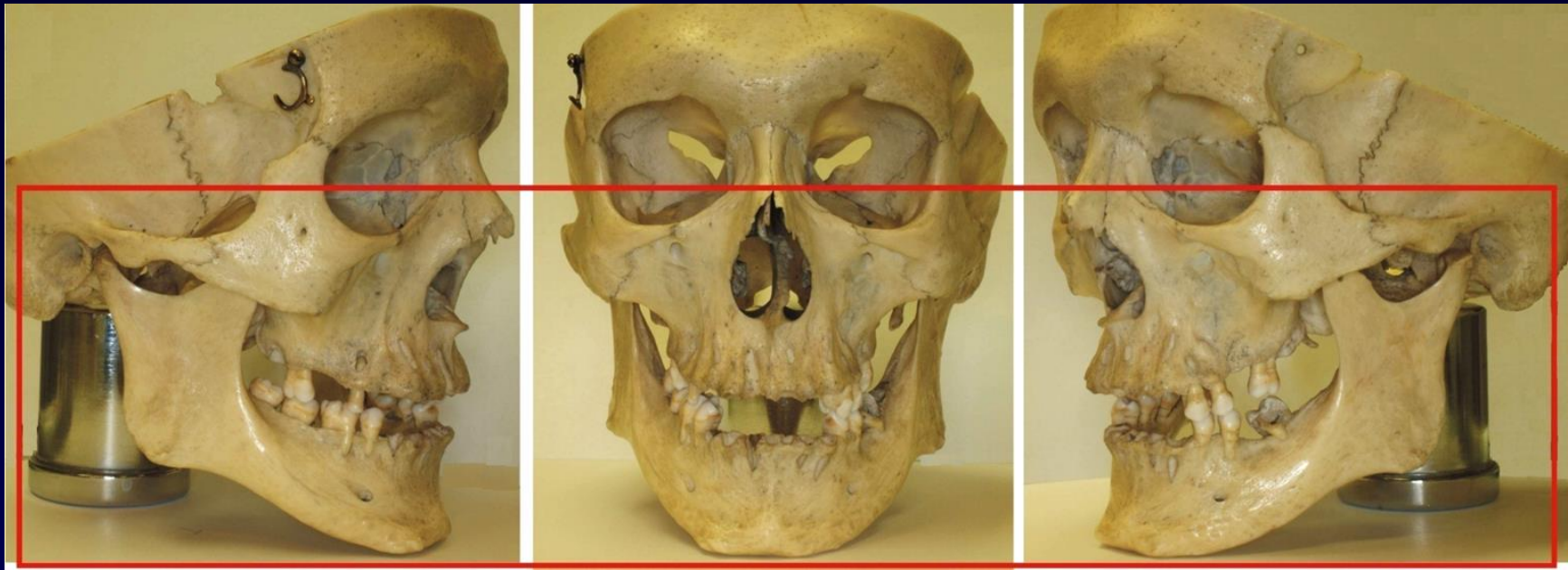
Pract Periodont Aesthet Dent 1999;11(2):265-272.

## PARODONTIUM DAMAGE

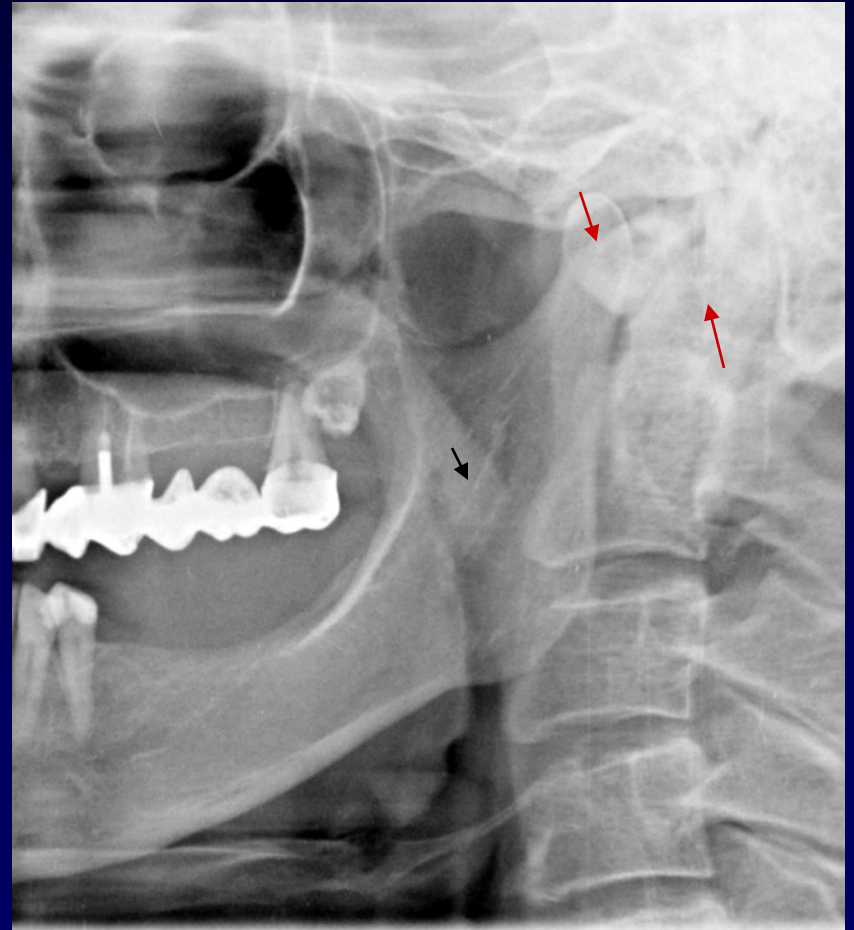


# Orthopantomograph (panoramic radiograph)









## carotid arterial plaques



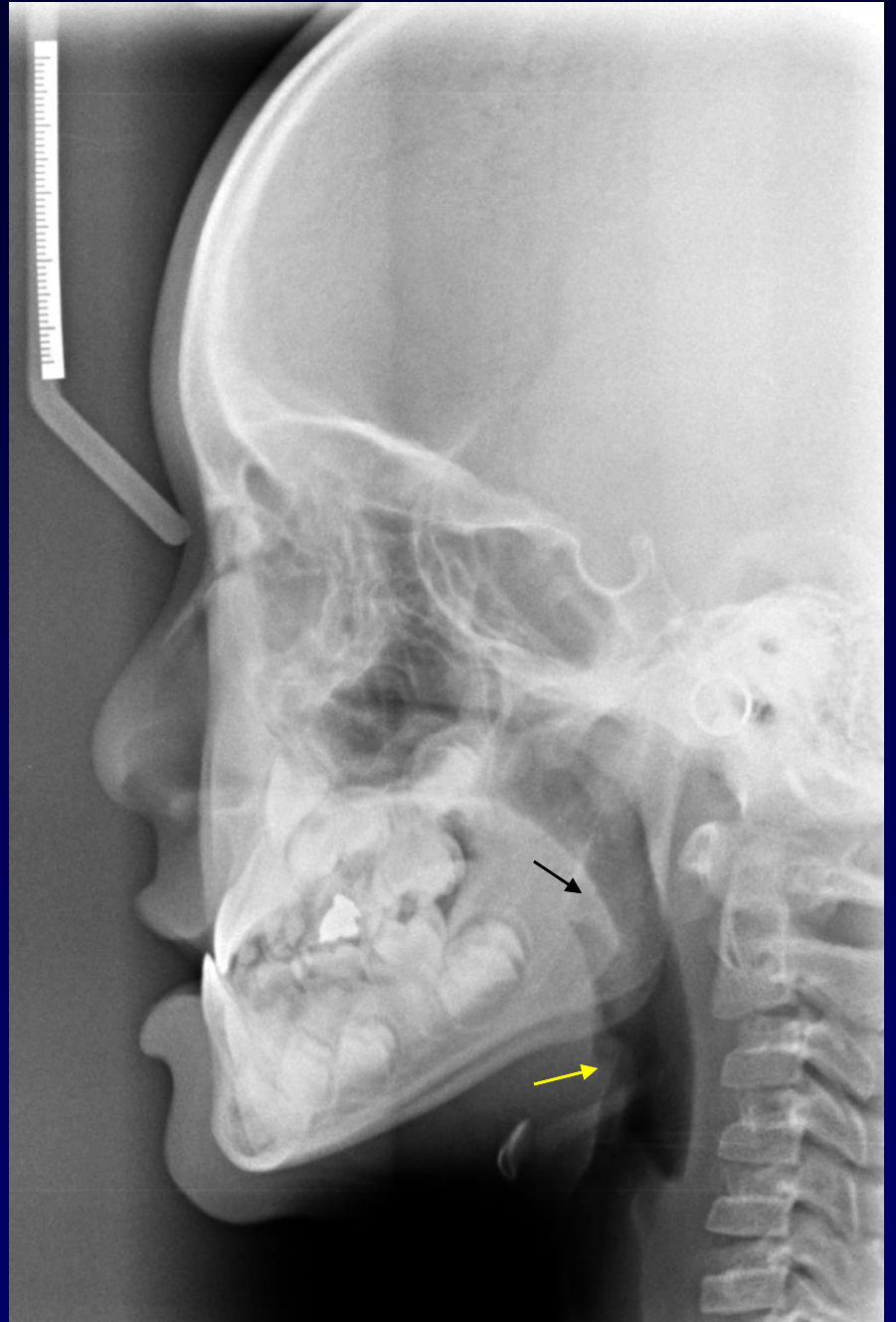
ARTHUR H. FRIEDLANDER, D.D.S.;  
LISA ALTMAN, M.D.

*J Am Dent Assoc* 2001;132;1130-1136

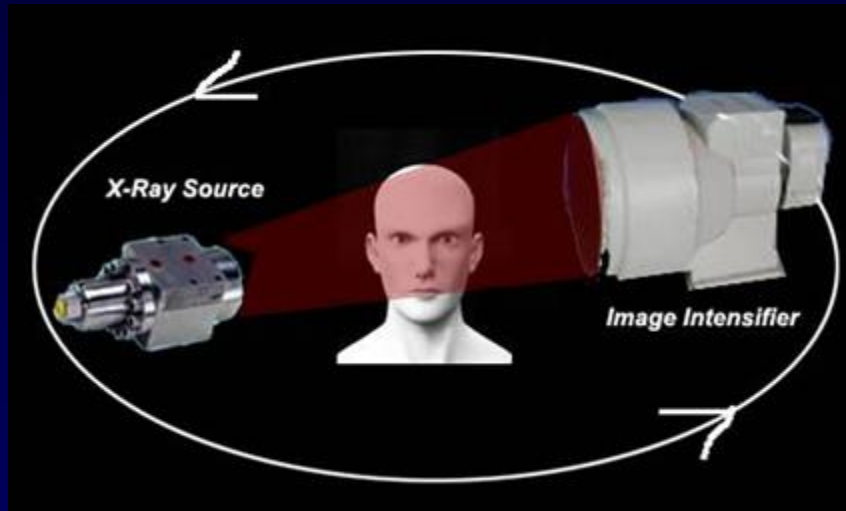


# cephalometric x-ray

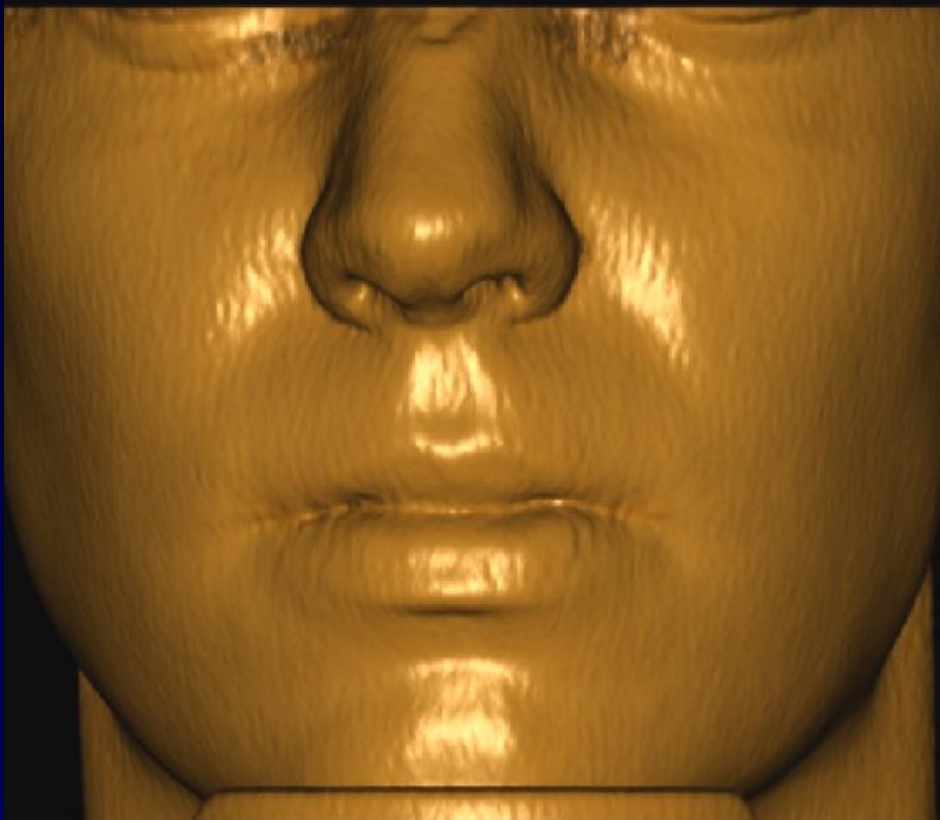


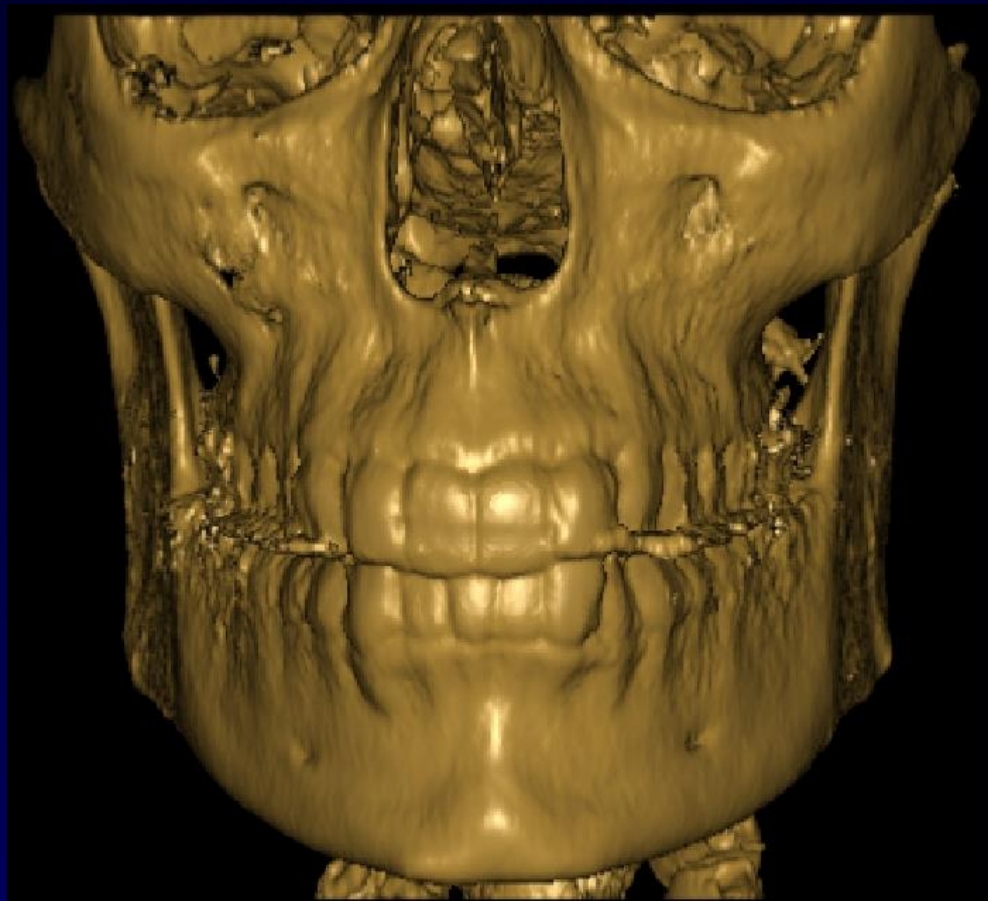


# Cone Beam CT

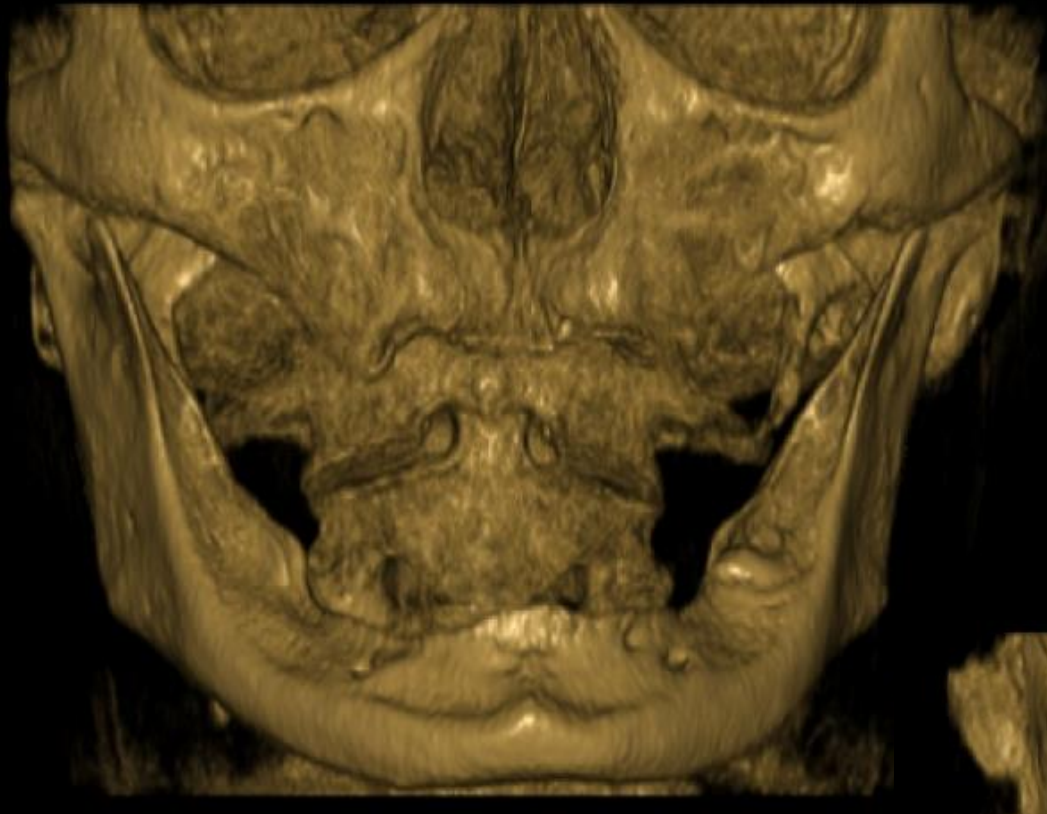


# CONE BEAM CT

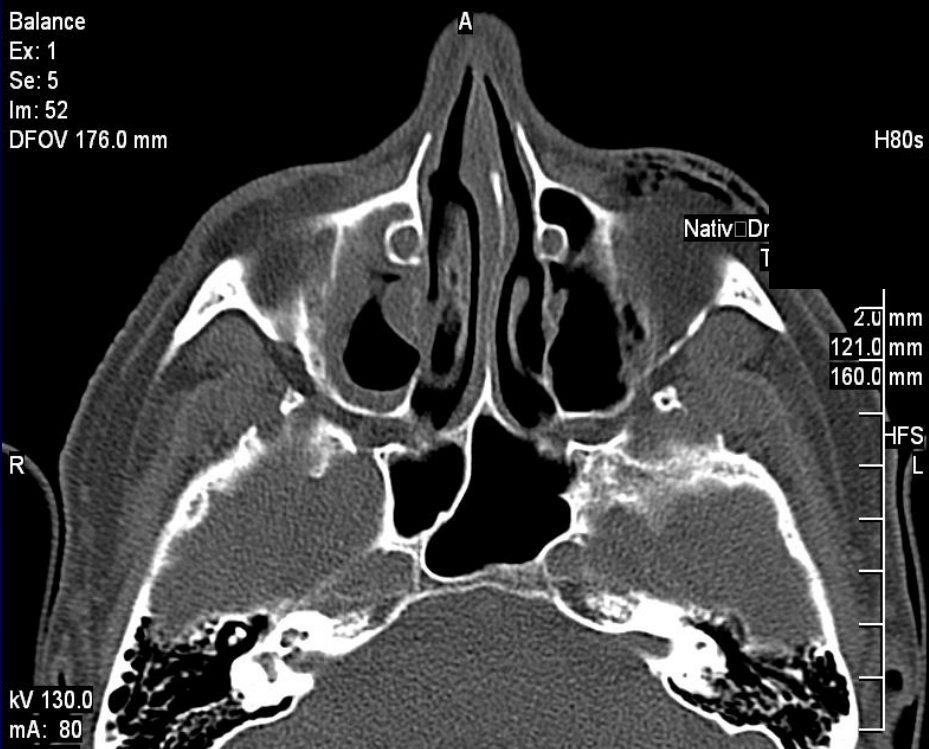






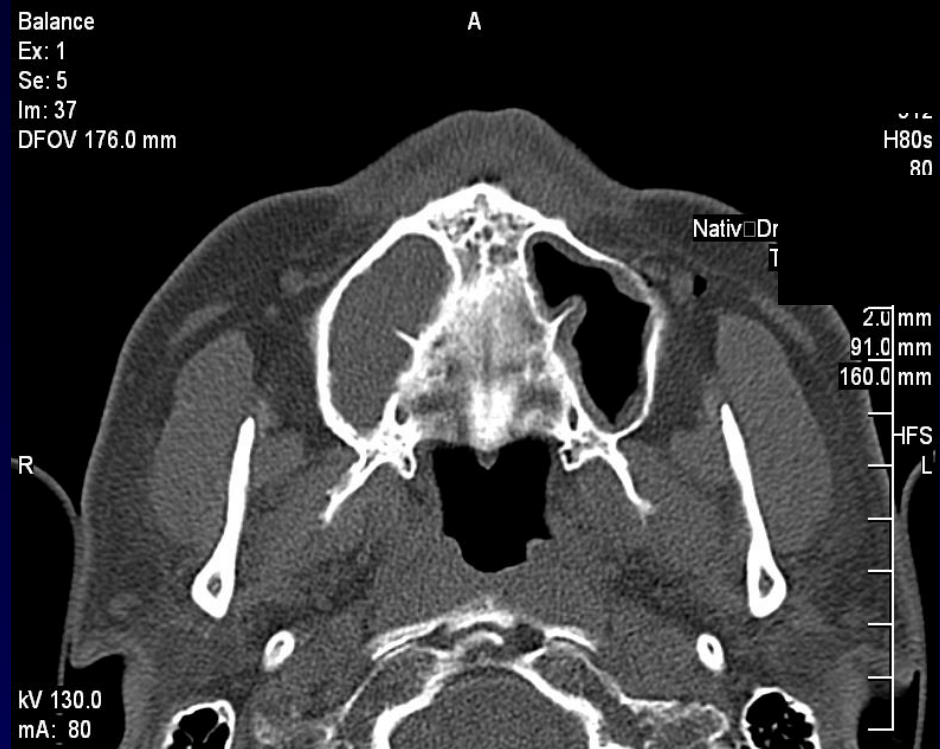


Balance  
Ex: 1  
Se: 5  
Im: 52  
DFOV 176.0 mm



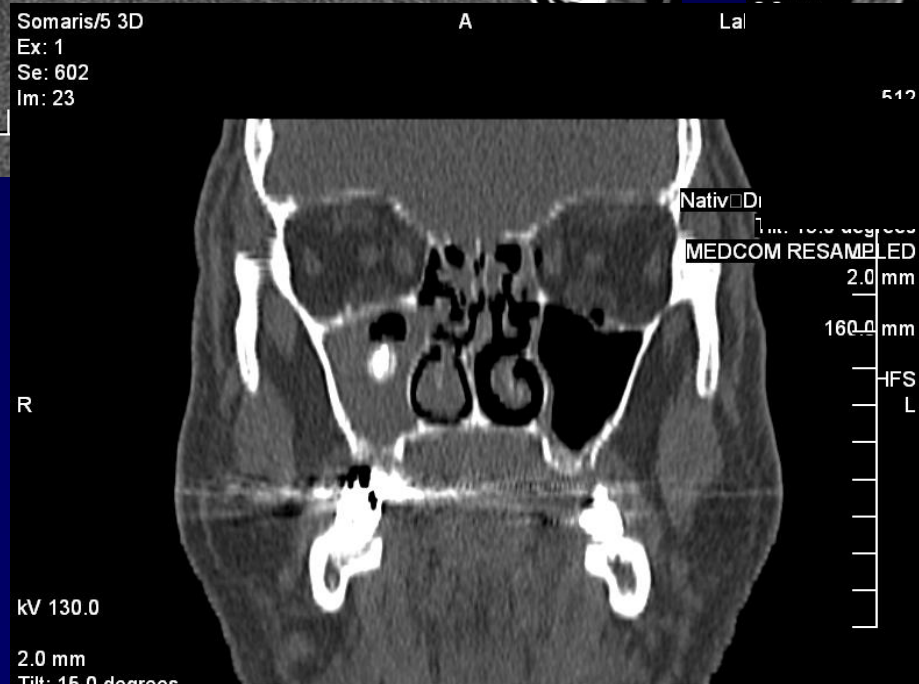
kV 130.0  
mA: 80  
2.0 mm  
Tilt: 15.0 degrees  
1000 ms  
12:23:44  
W=1000,L=200

Balance  
Ex: 1  
Se: 5  
Im: 37  
DFOV 176.0 mm



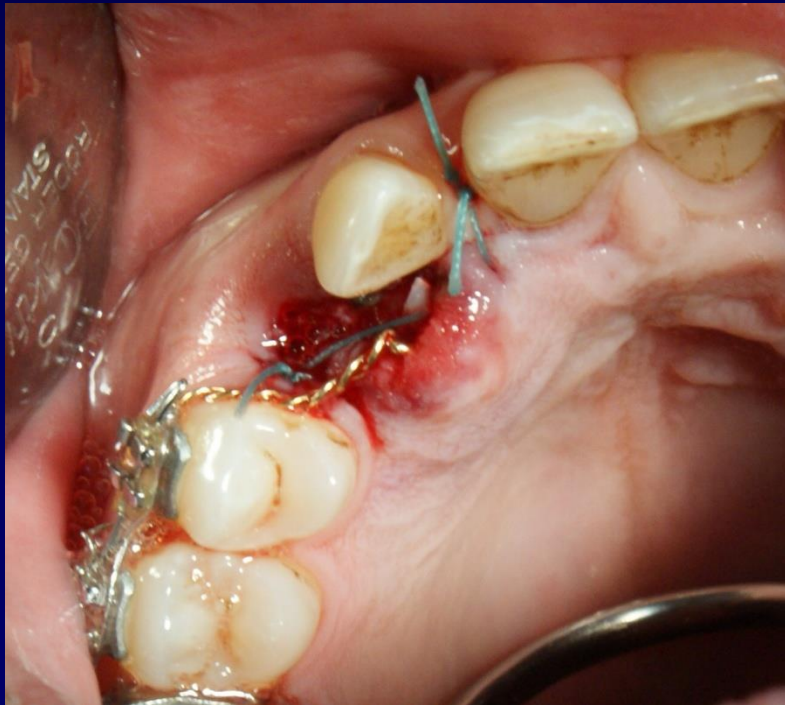
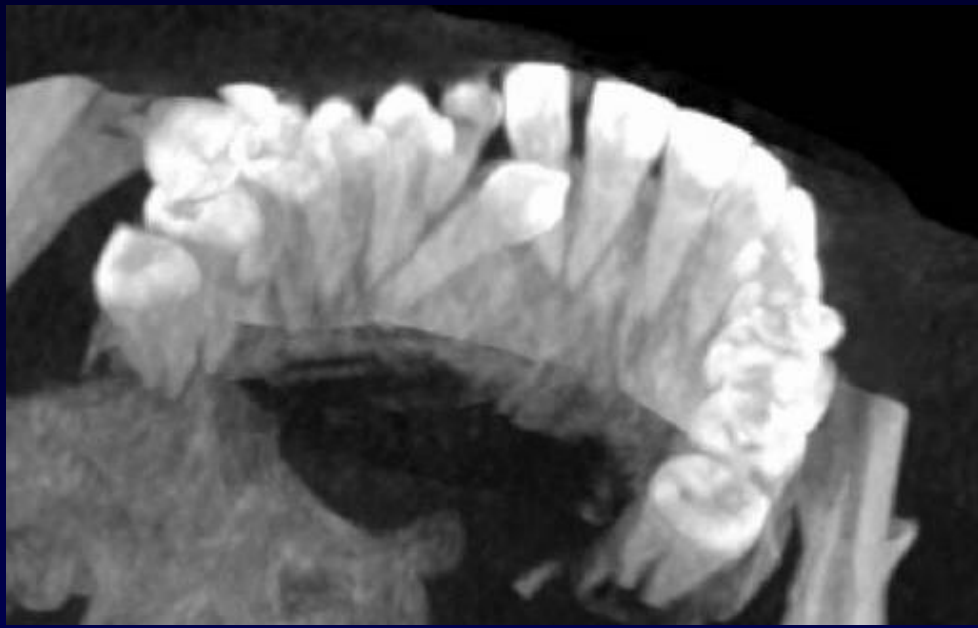
kV 130.0  
mA: 80

Somaris/5 3D  
Ex: 1  
Se: 602  
Im: 23



kV 130.0  
2.0 mm  
Tilt: 15.0 degrees

CT







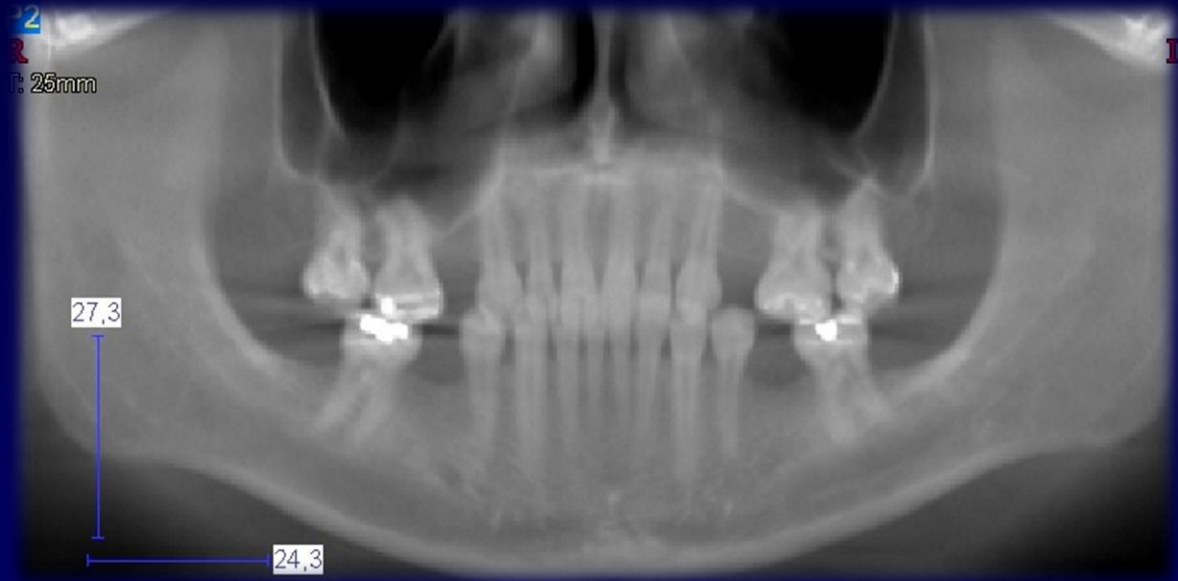
*Gerber Gábor*

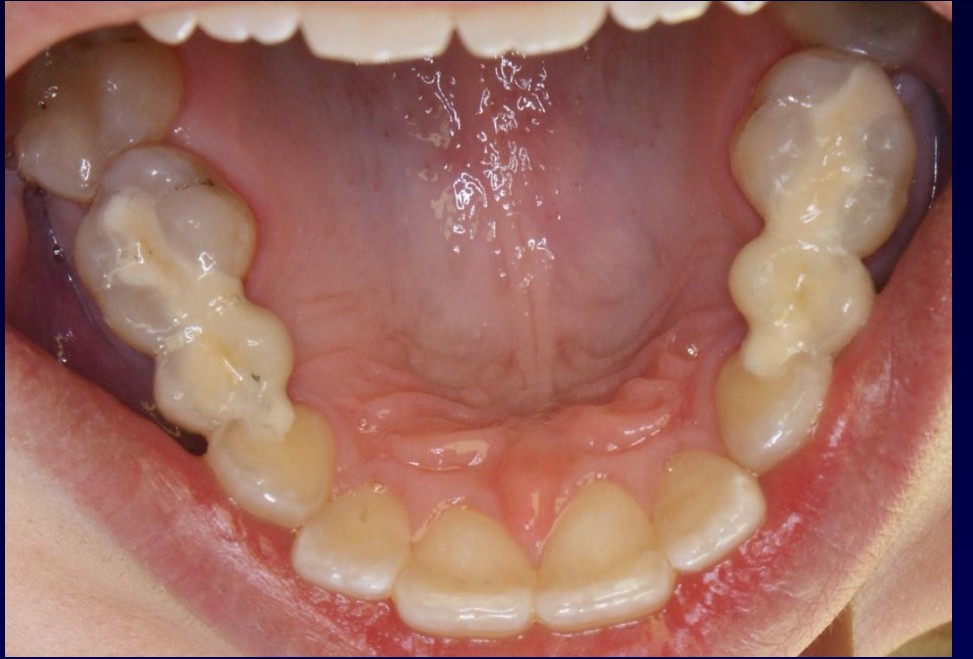


*Gerber Gábor*



## *Bolk's theory of terminal reduction*

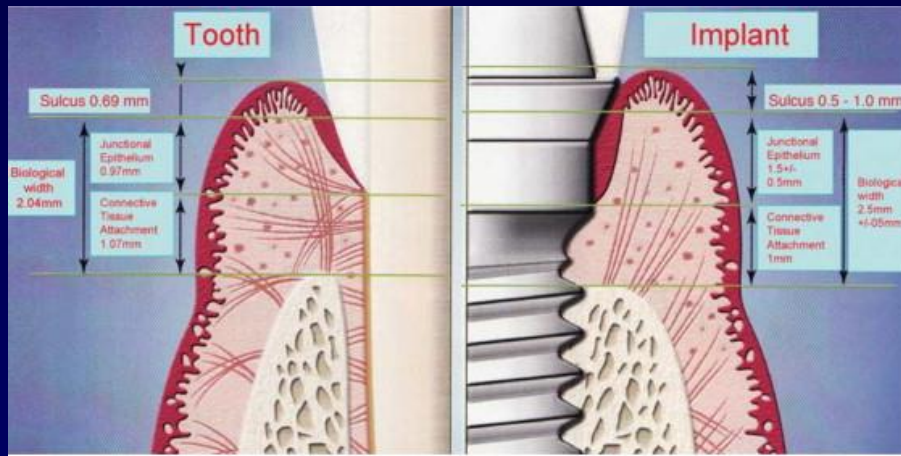






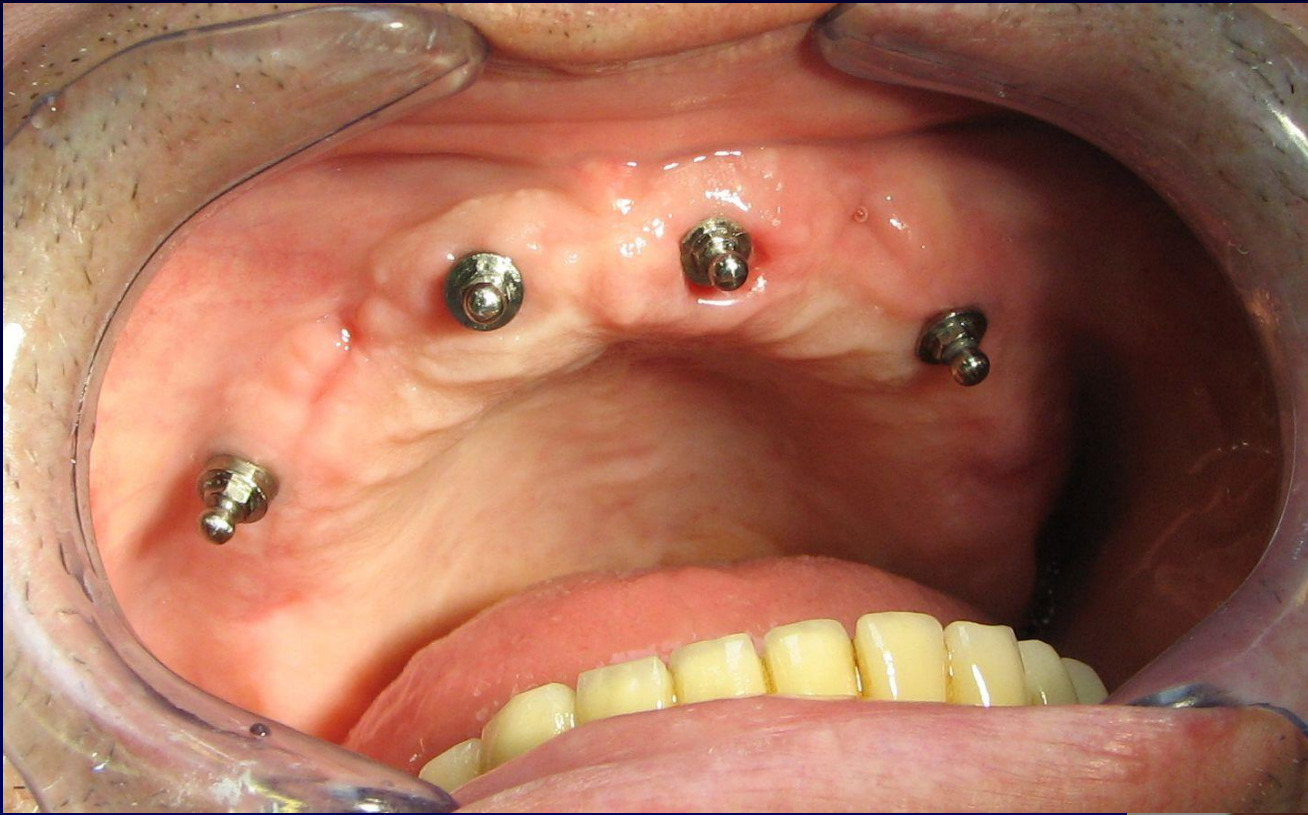


# Comparison of peridental and peri-implant tissues



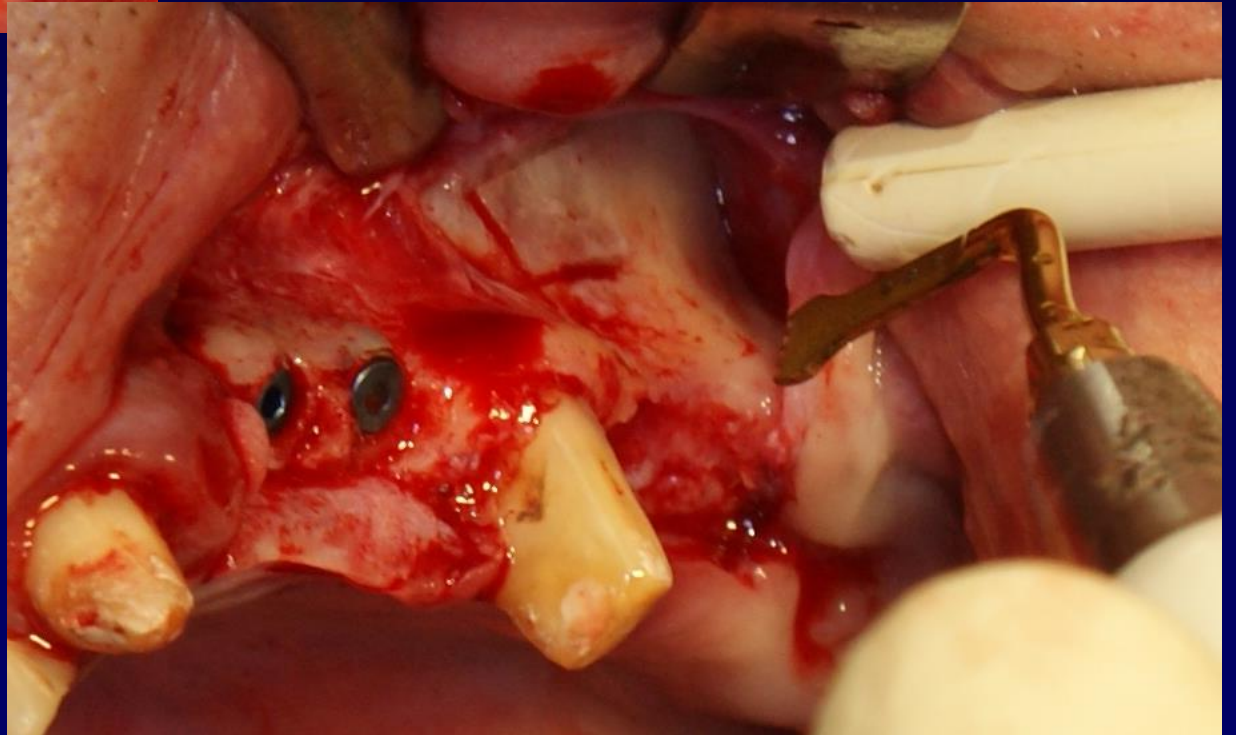
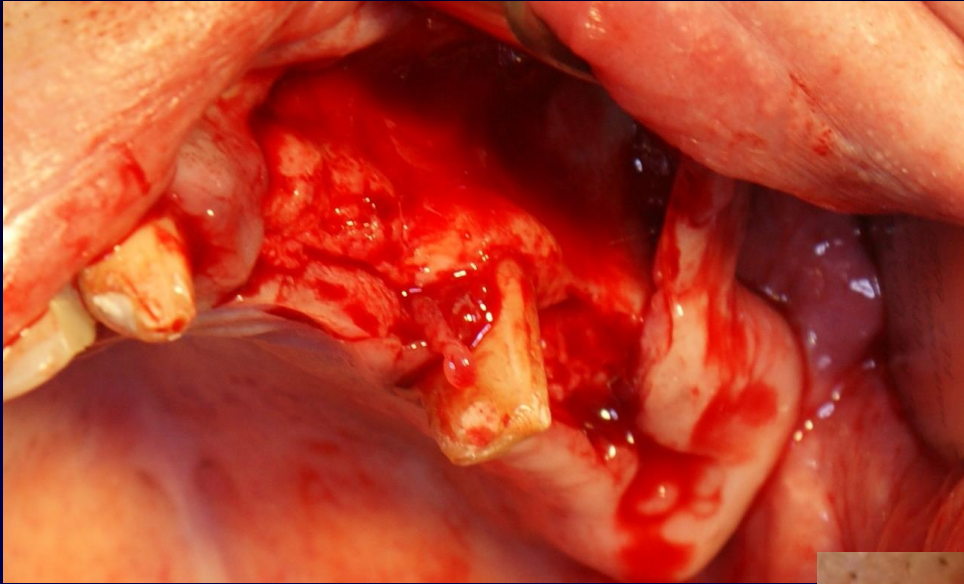
PERIDENTAL TISSUE	PERI-IMPLANT TISSUE
Free gingival margin with buccal keratinized epithelium	Free gingival margin with buccal keratinized epithelium
Gingival sulcus apically limited by the junctional epithelium	Gingival sulcus apically limited by the junctional epithelium
Keratinized epithelium at the base of gingival sulcus	No keratinized epithelium at the base of gingival sulcus
Junctional epithelium adherent, less permeable, high regenerative capacity	Junctional epithelium poorly adherent, more permeable, low regenerative capacity
Cementum	No cementum
Gingival fibers inserting perpendicularly in the cementum	Gingival fibers running parallel to the implant collar
Biological width of at least 2.04 millimeters	Biological width of 2.5 mm ± 0.5 mm
Periodontal ligament	No periodontal ligament
No direct contact between tooth and bone	Direct contact of implant to bone

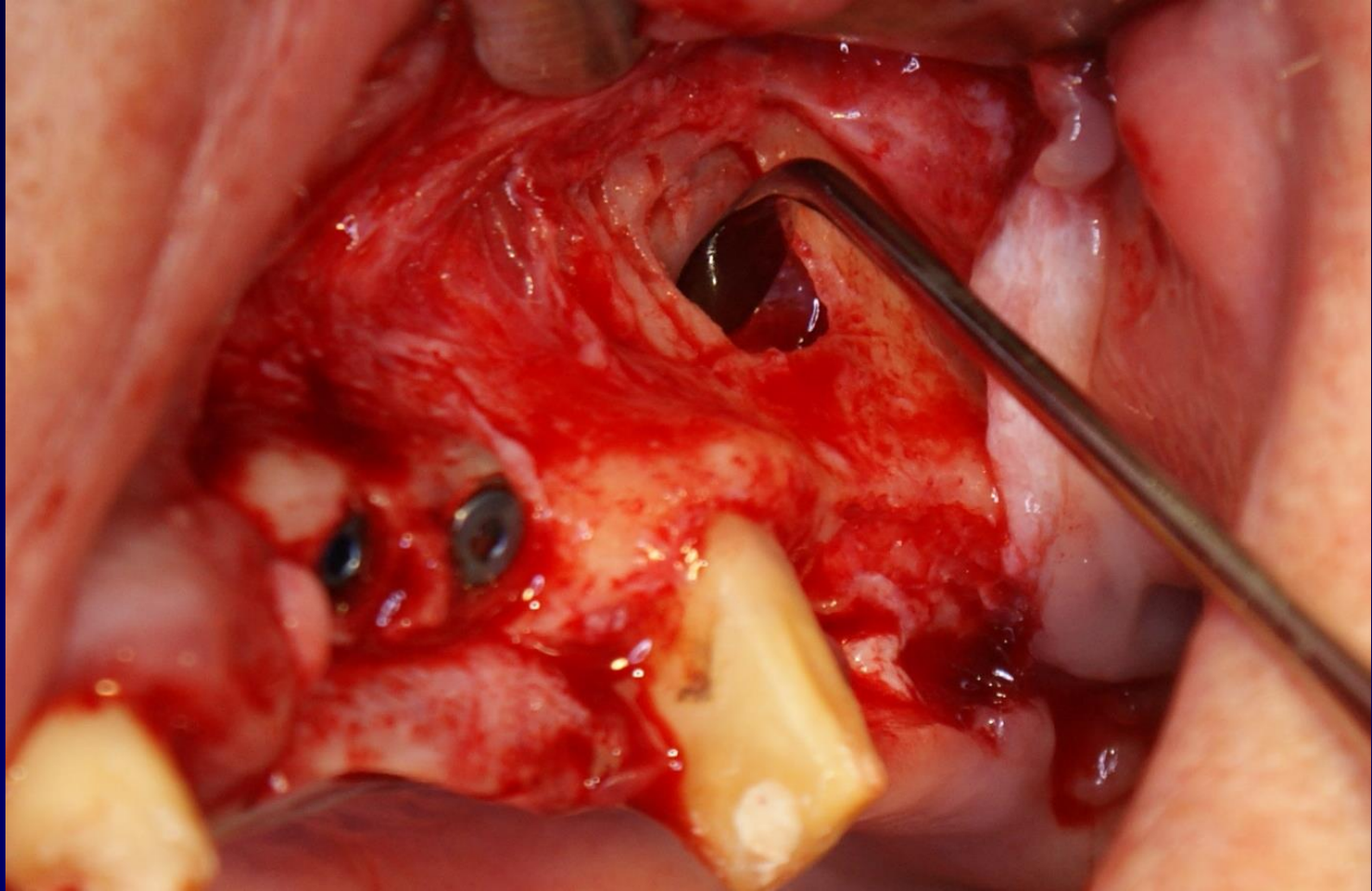
Gingival Retraction Techniques for Implants Versus Teeth  
 • Vincent Bennani, Donald Schwass and Nicholas Chandler BDS,  
 • JADA, 2008-10-01, Volume 139, Issue 10, Pages 1354-1363,

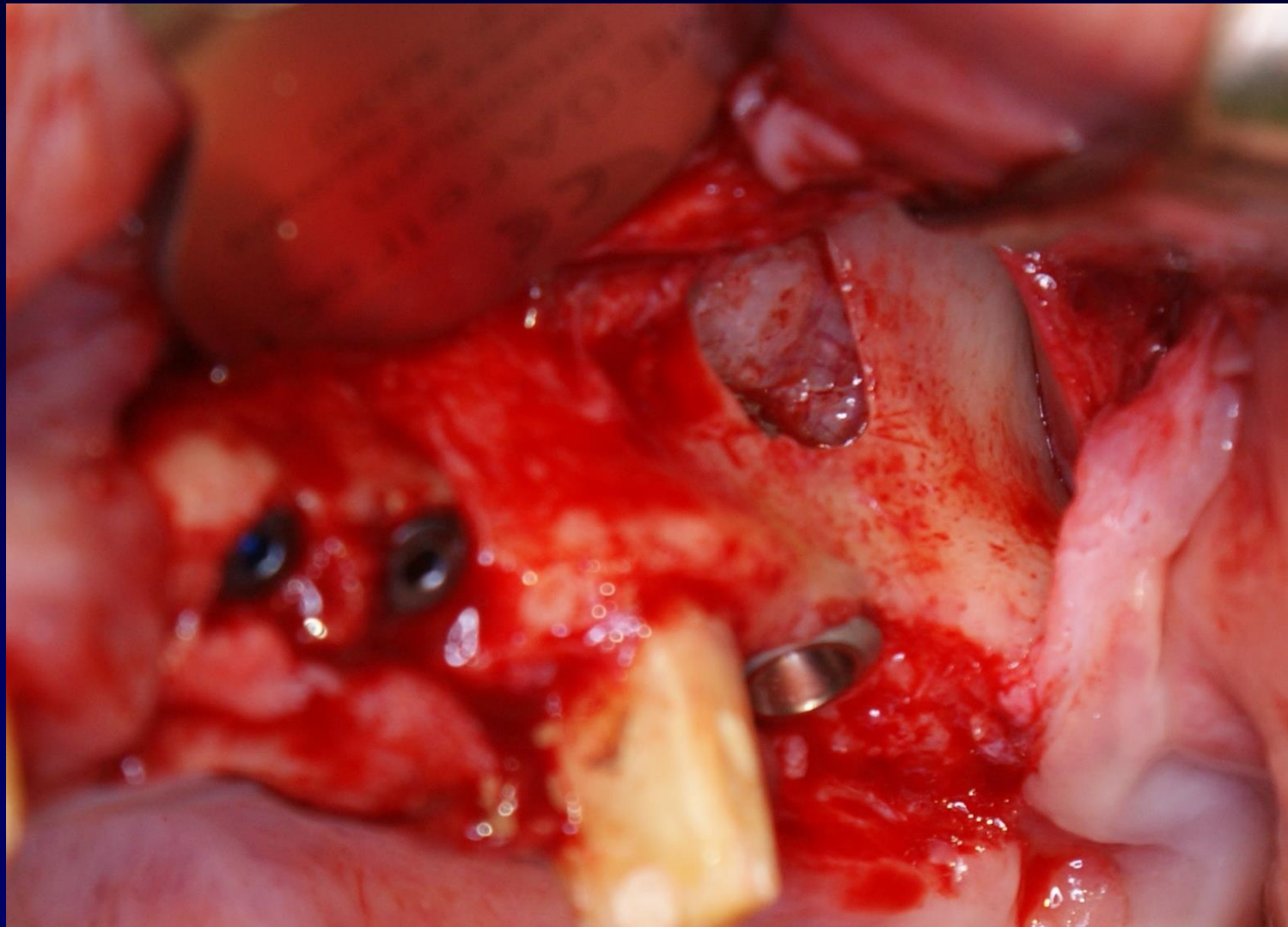


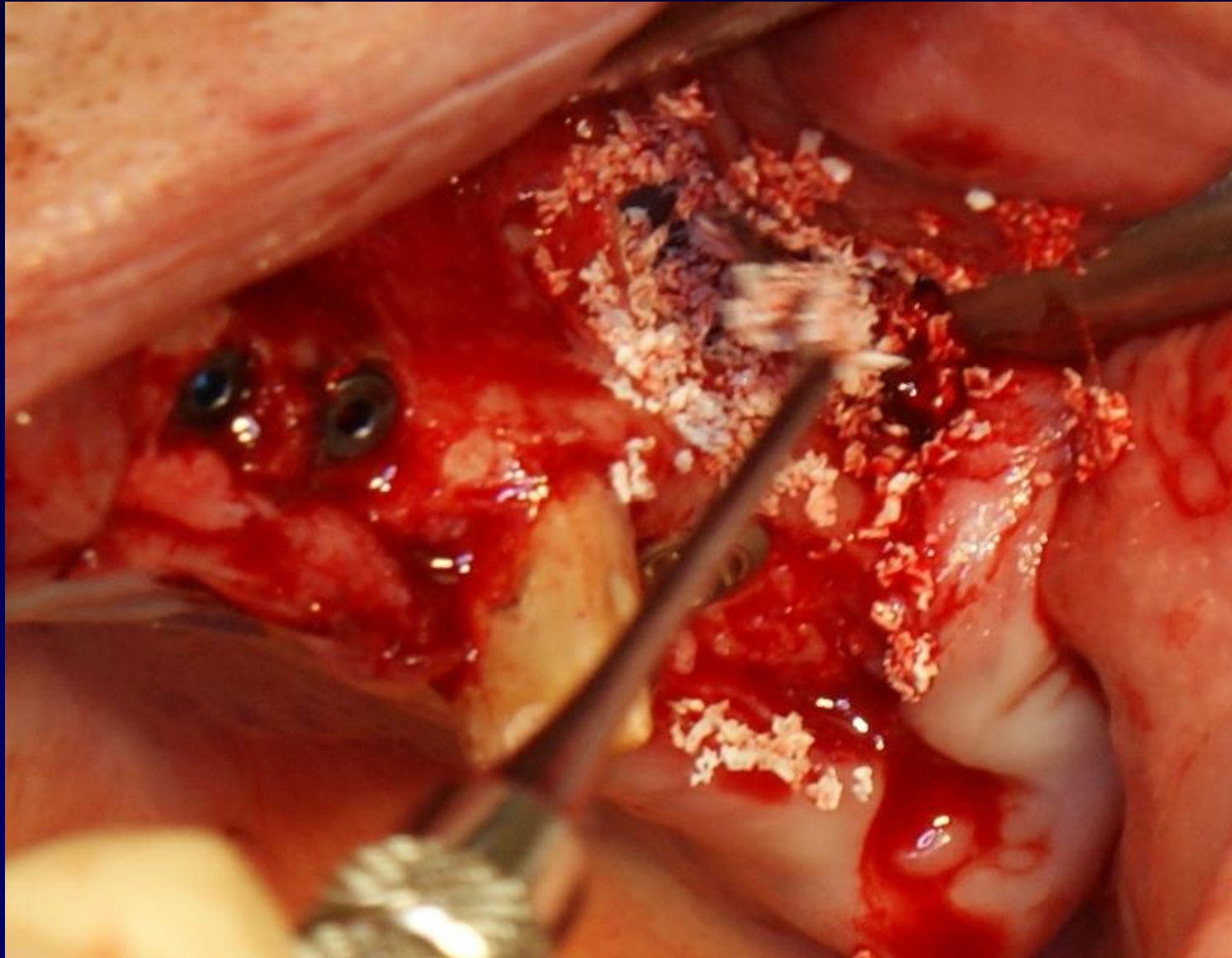


## Sinus lift

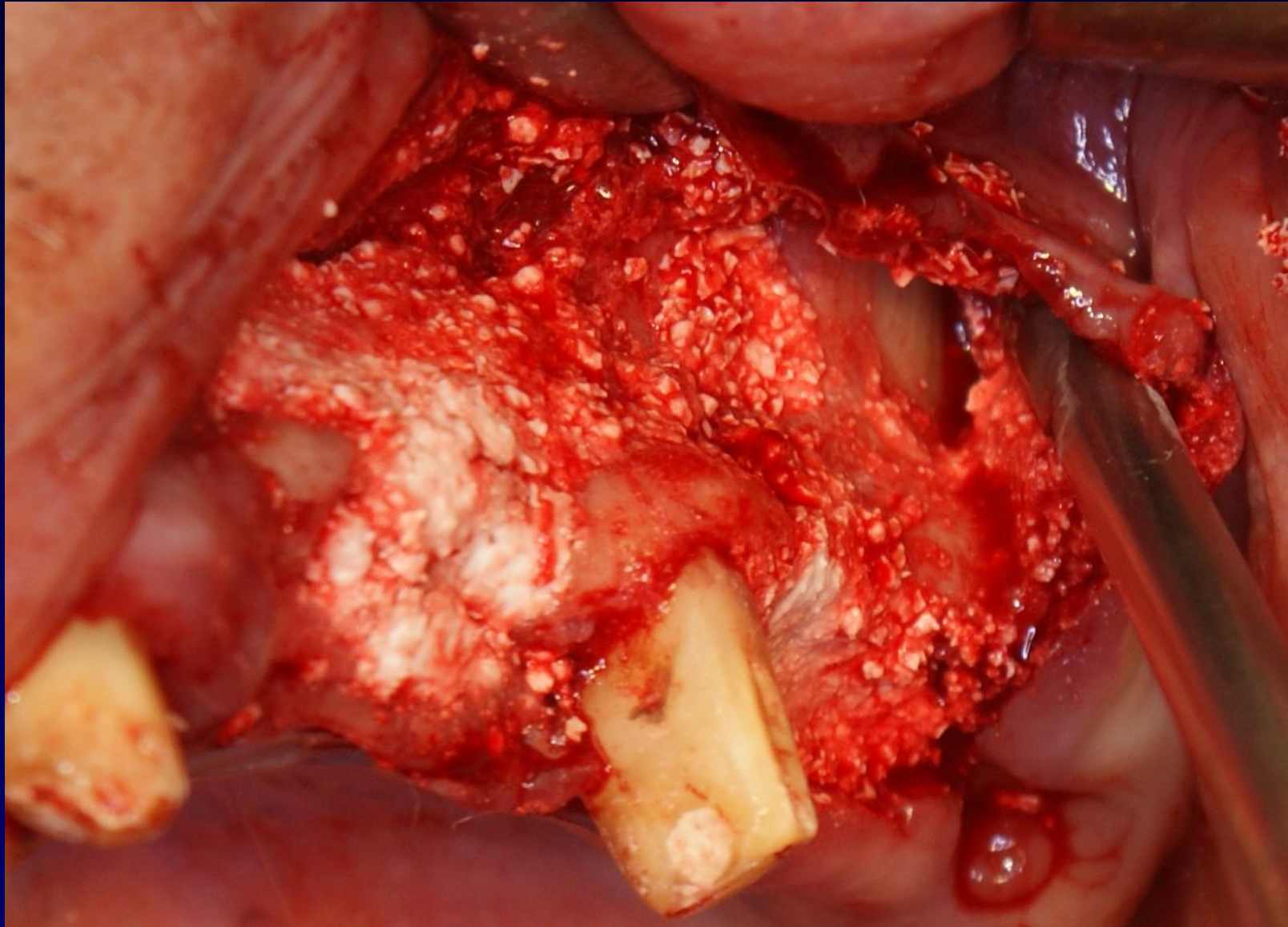


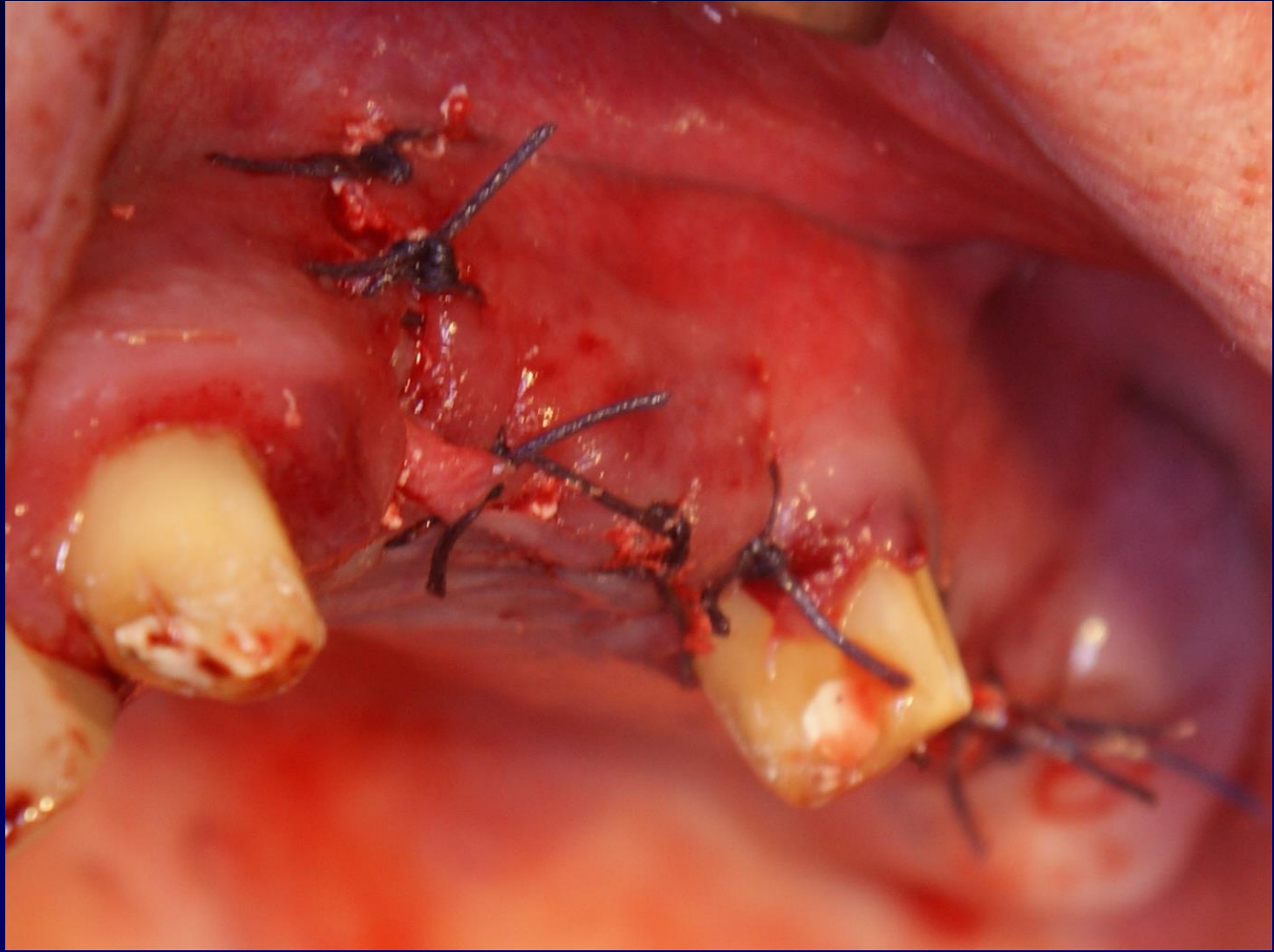


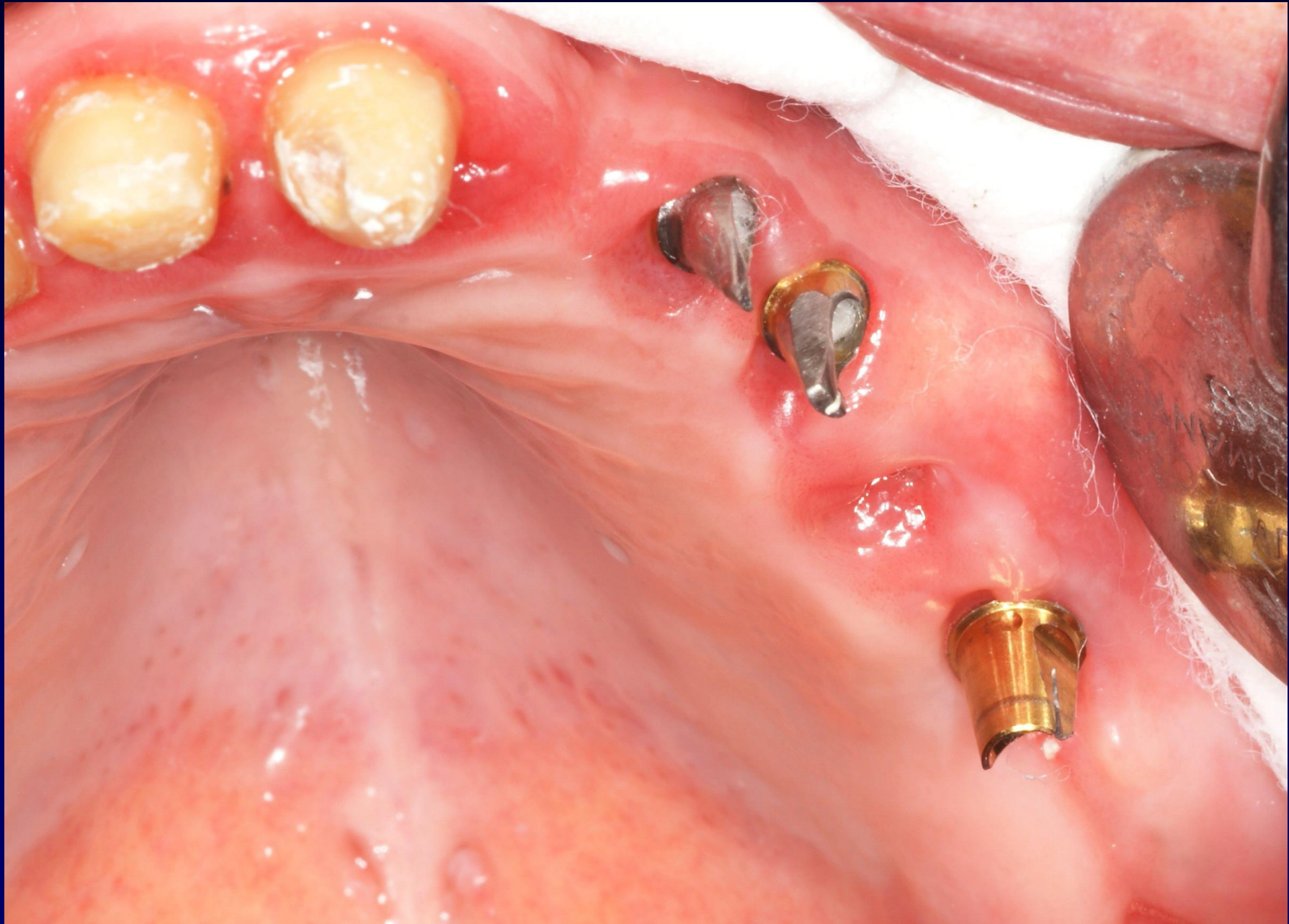




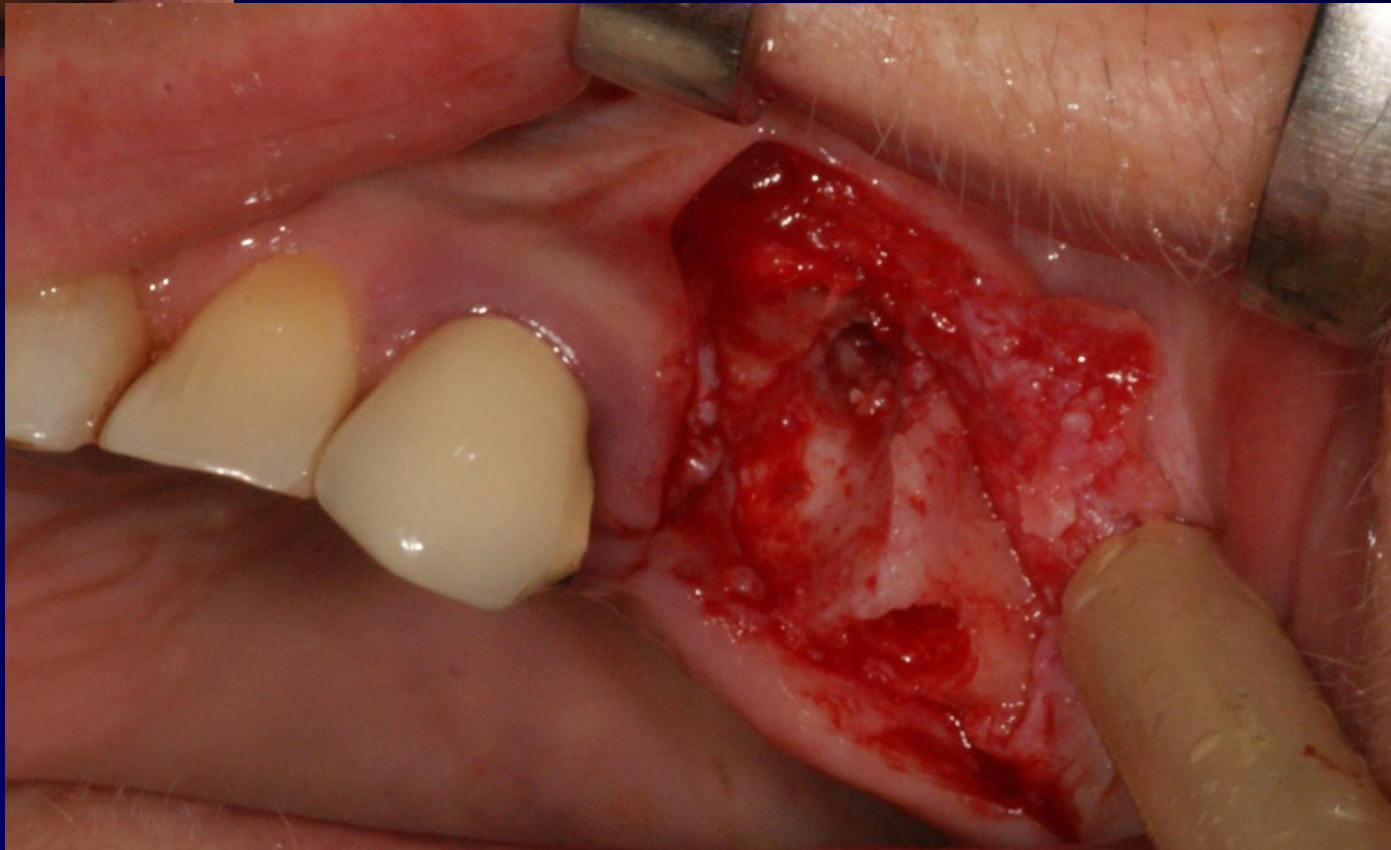


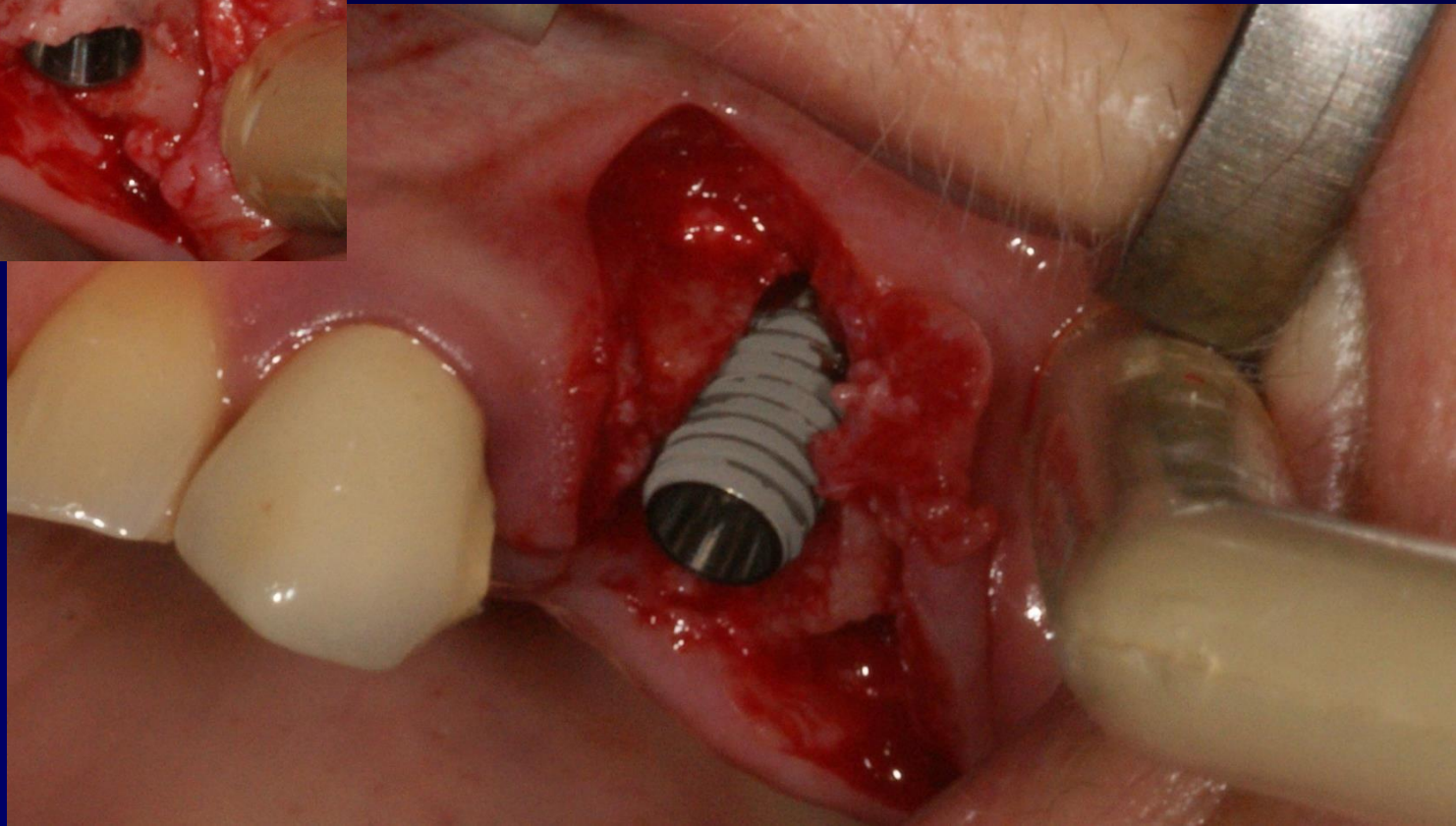
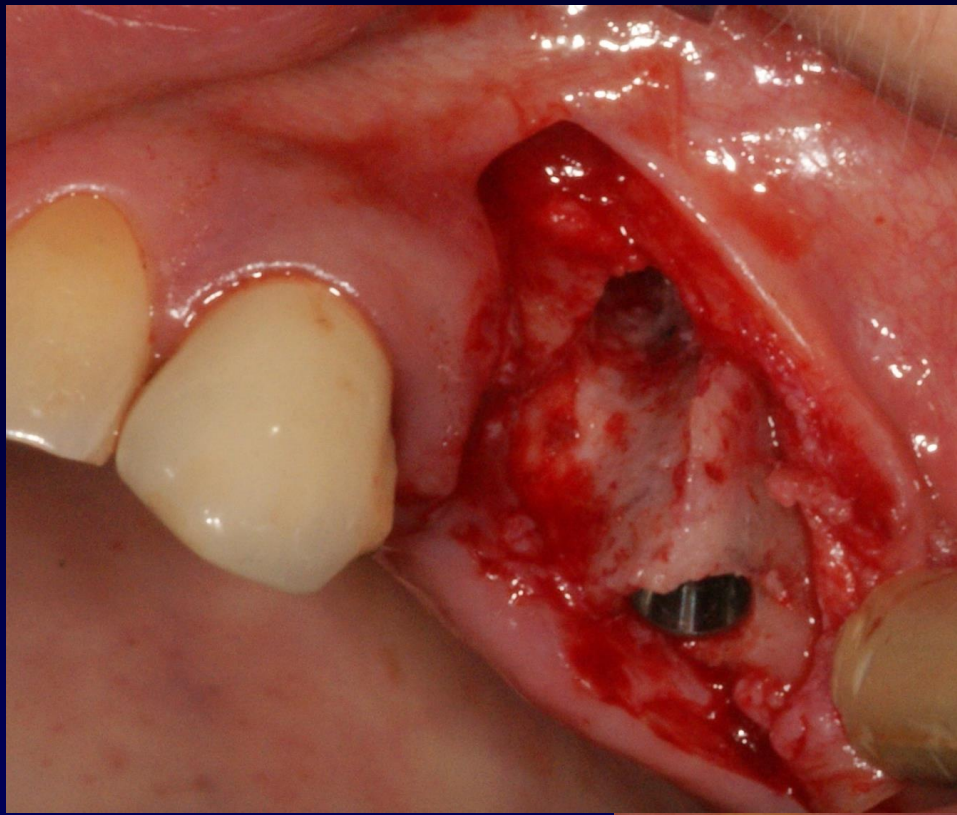


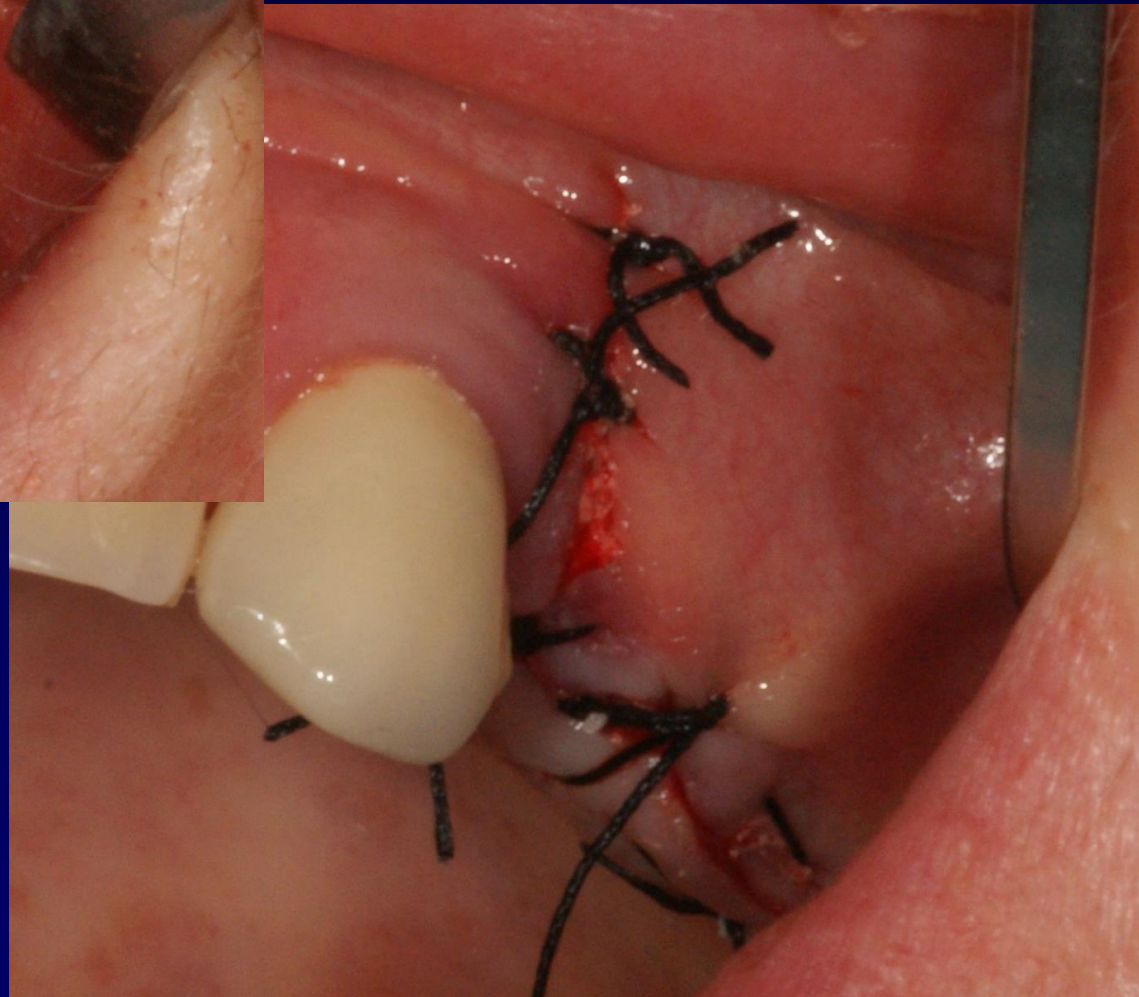
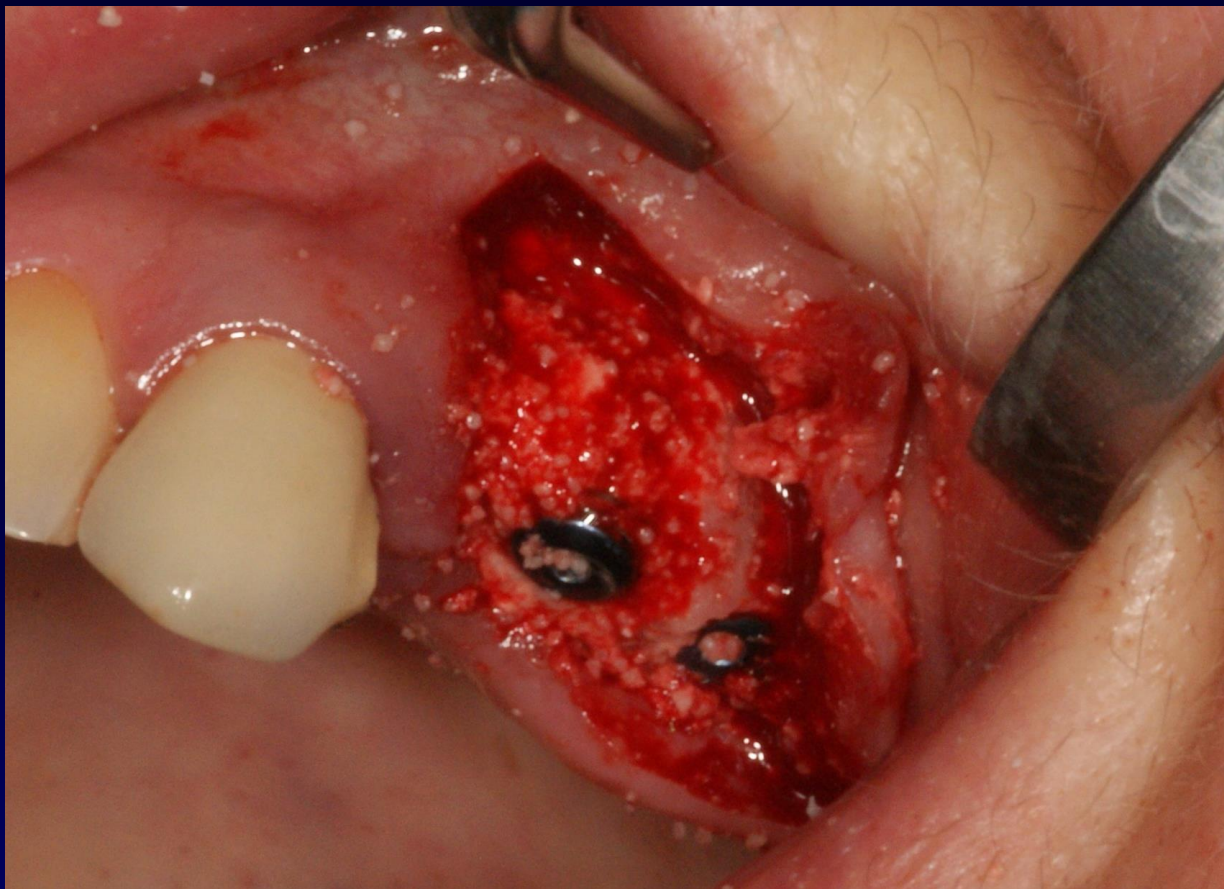












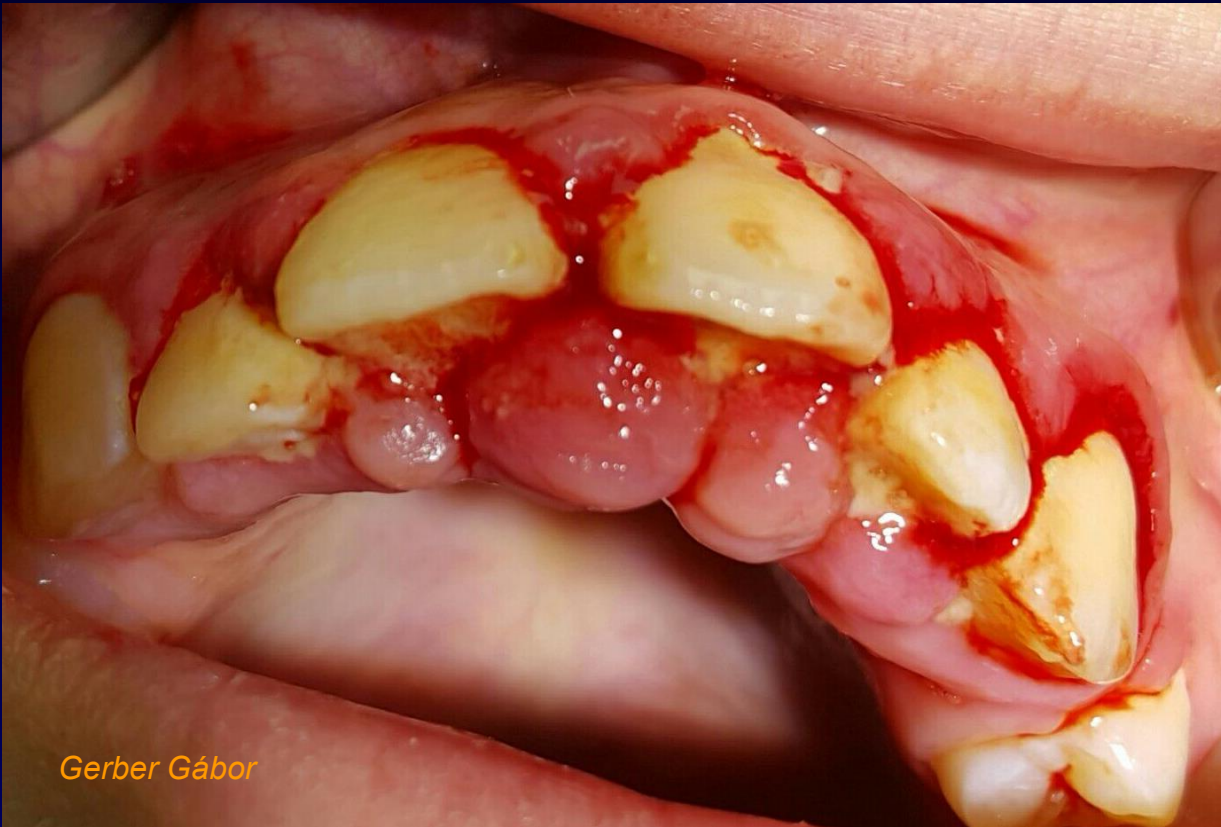








# Parodontitis





**2 hét fogmosás**

# Laser gingivectomy

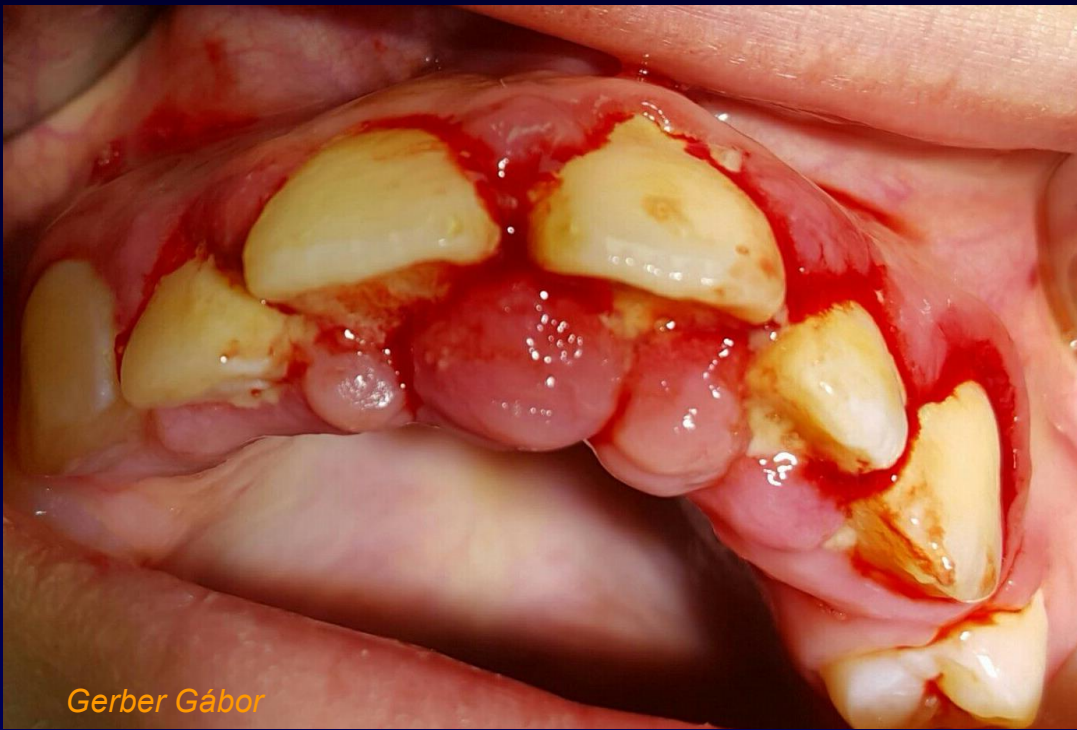




**1 hónap**



**4 hónap**



Gerber Gábor



Gerber Gábor



Gerber Gábor



Gerber Gábor