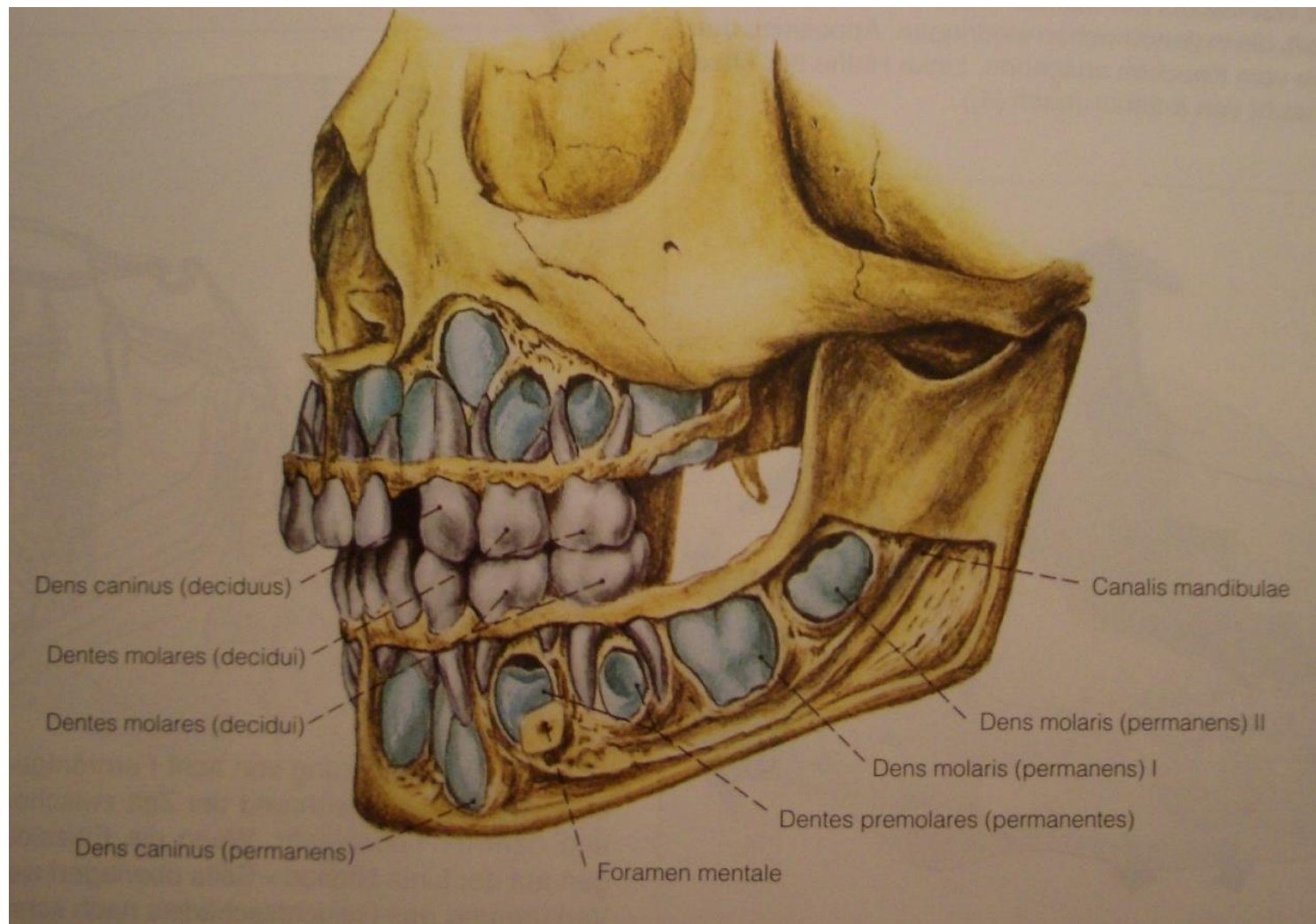


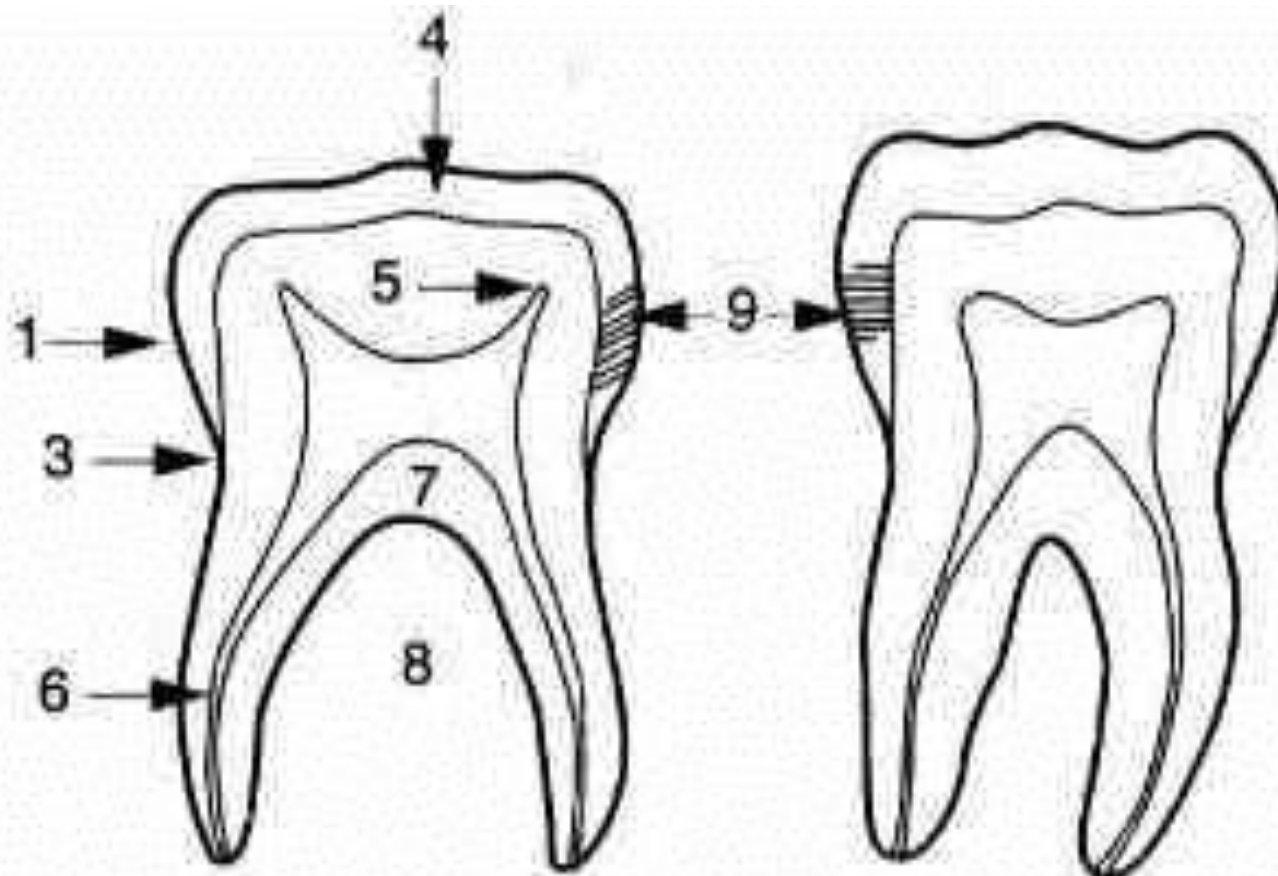
# A fog és a fogbél anatómiája

**Dr. Tóth Zsuzsanna Ph.D.**

**Semmelweis Egyetem**

**Konzerváló Fogászati Klinika**

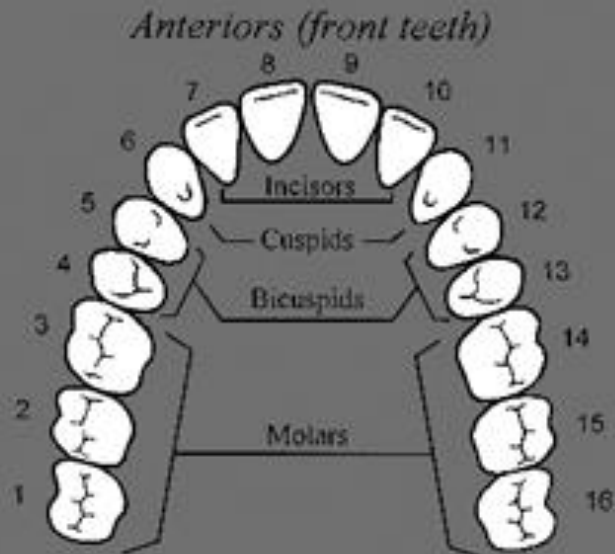




Tejfog

Maradó fog

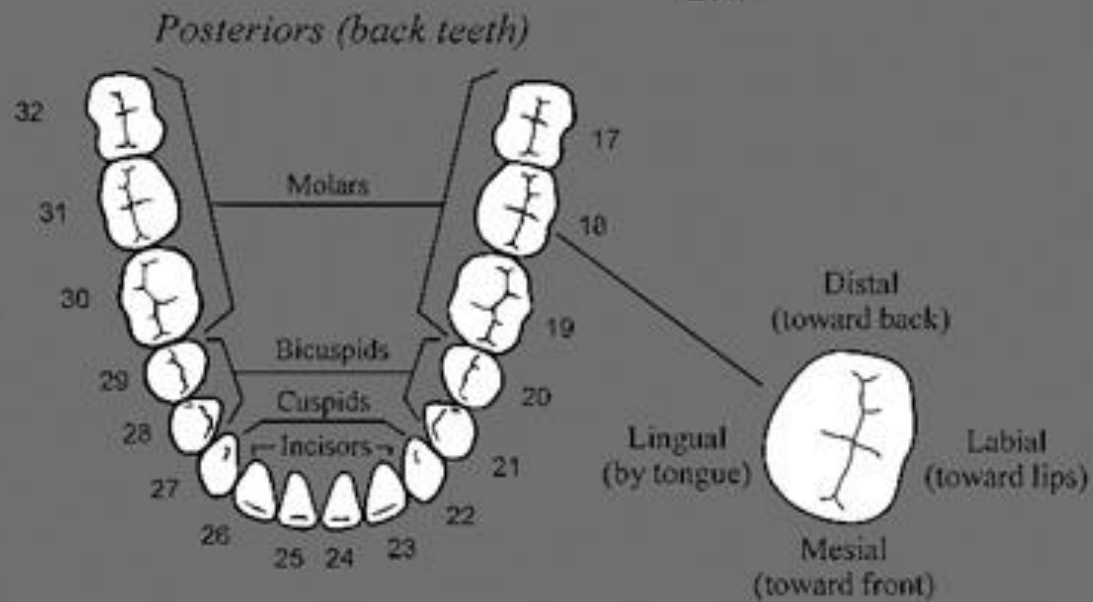
Uppers  
(maxillary)



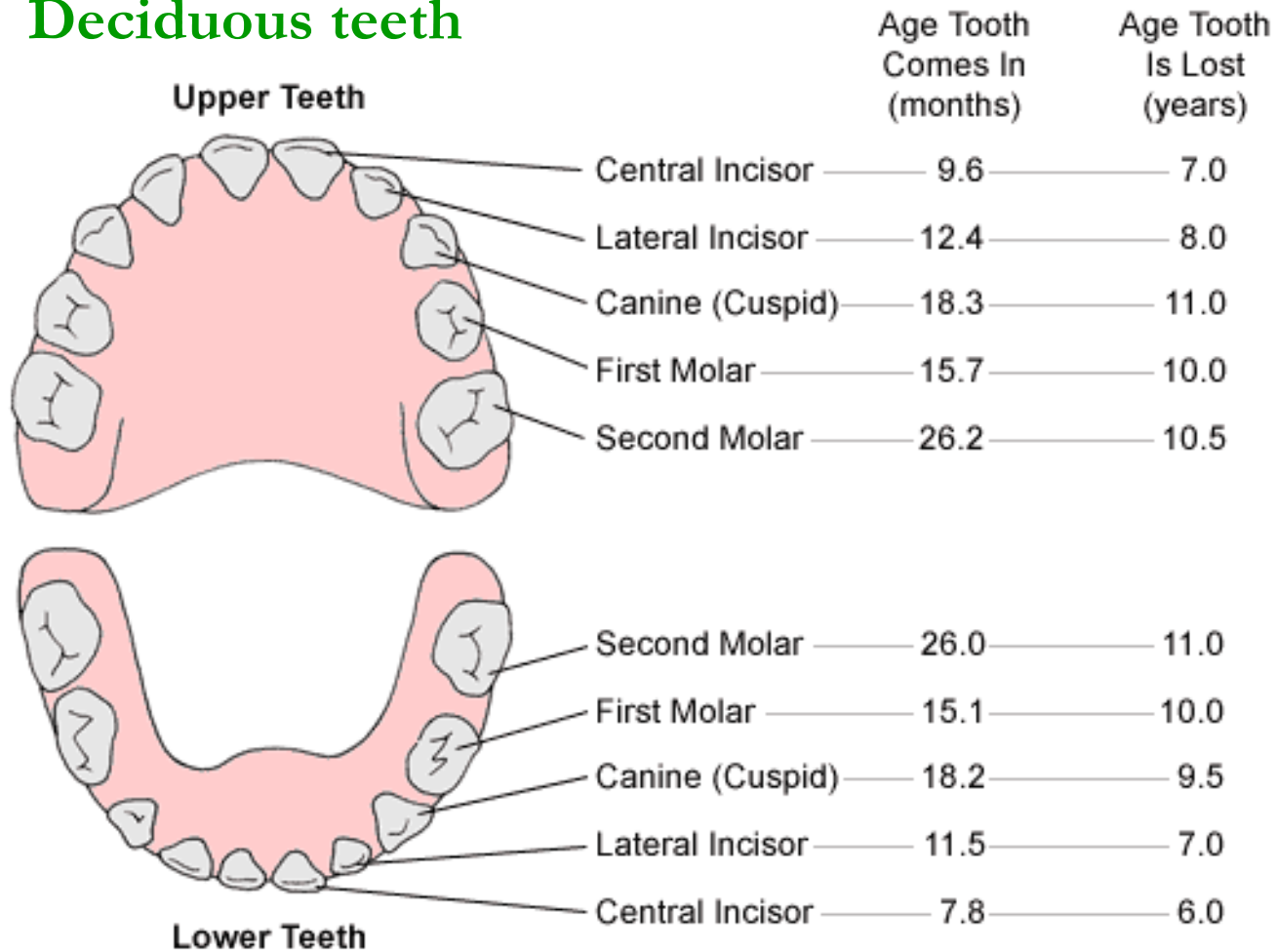
Right

Left

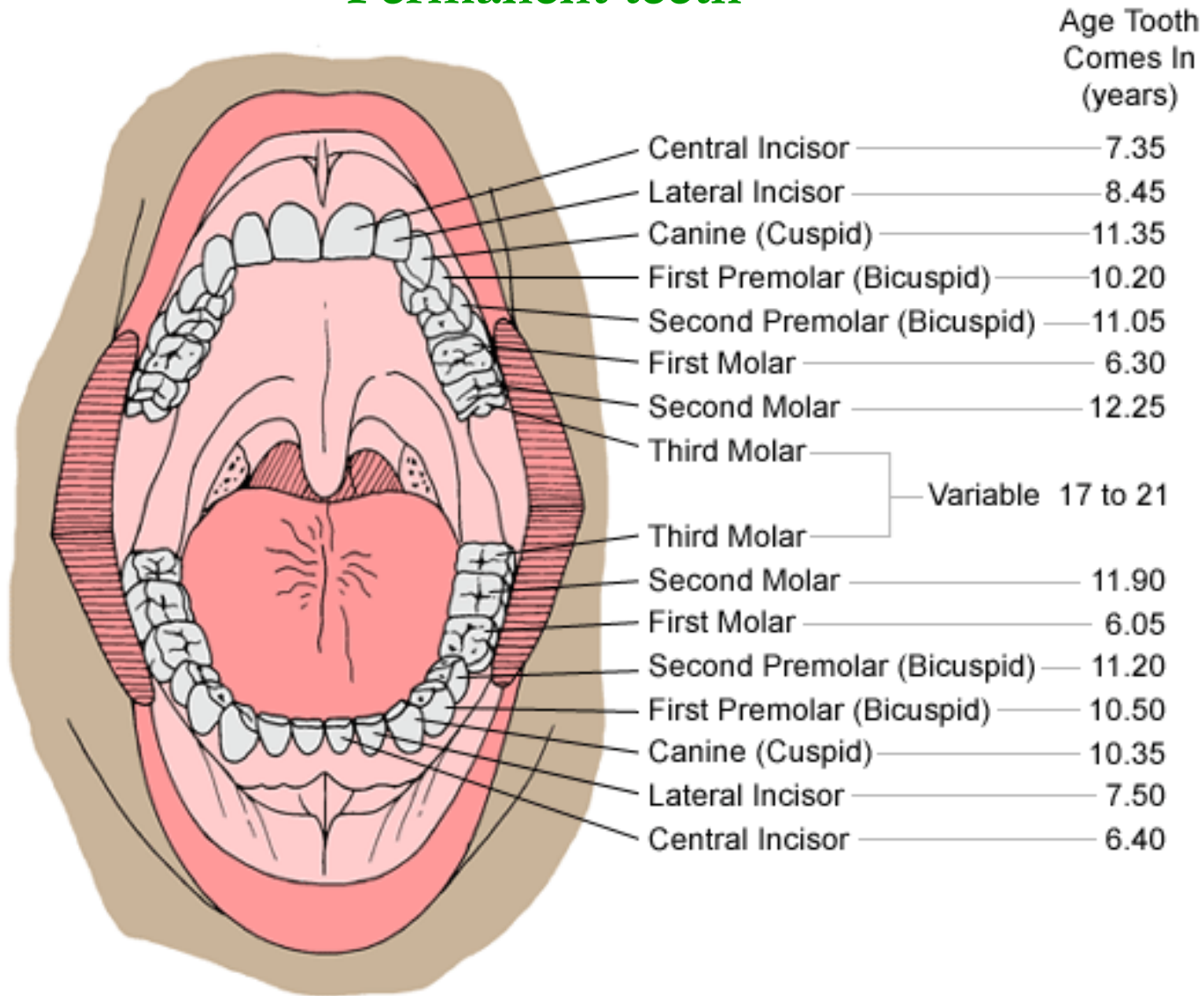
Lowers  
(mandibular)

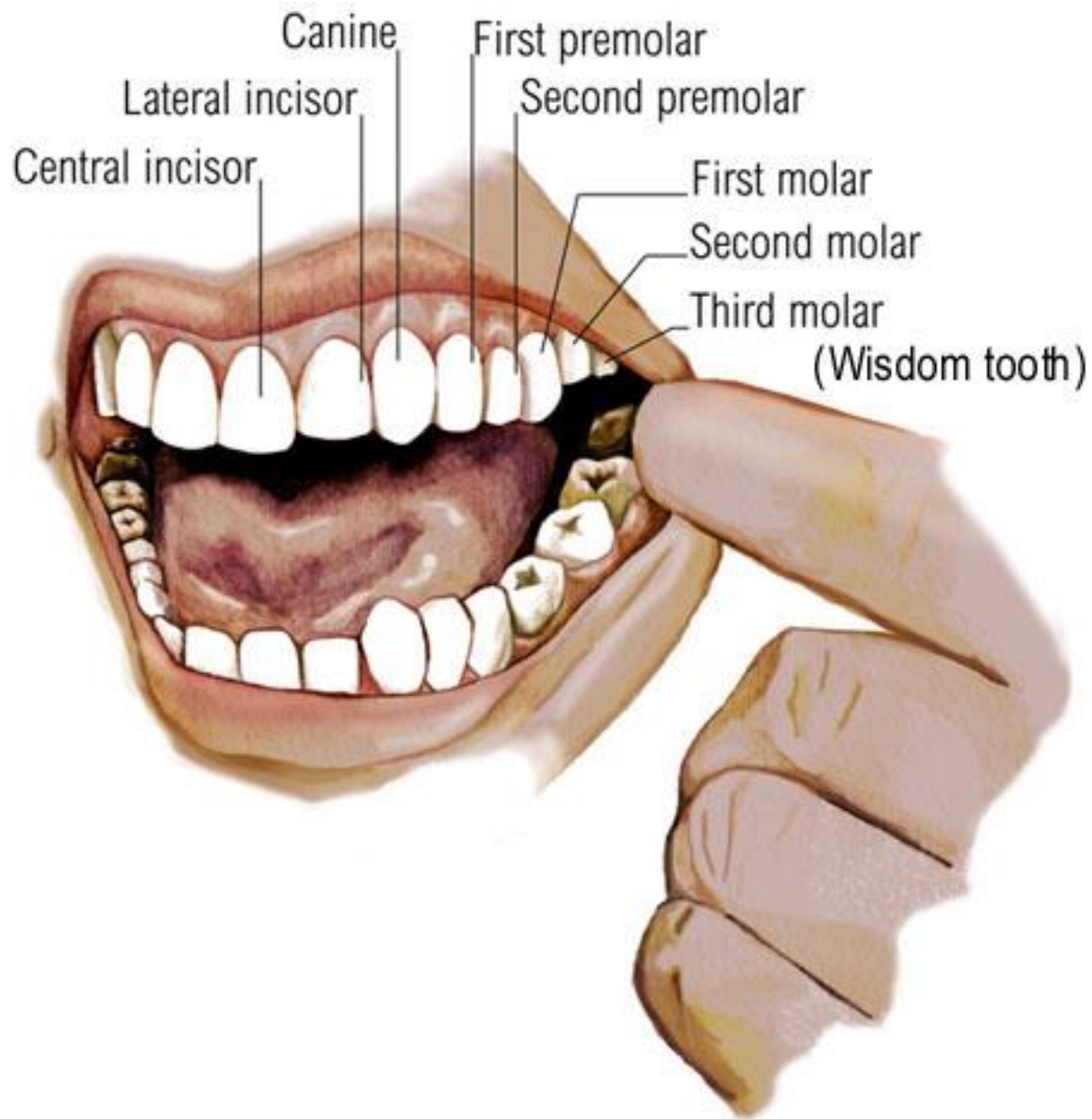


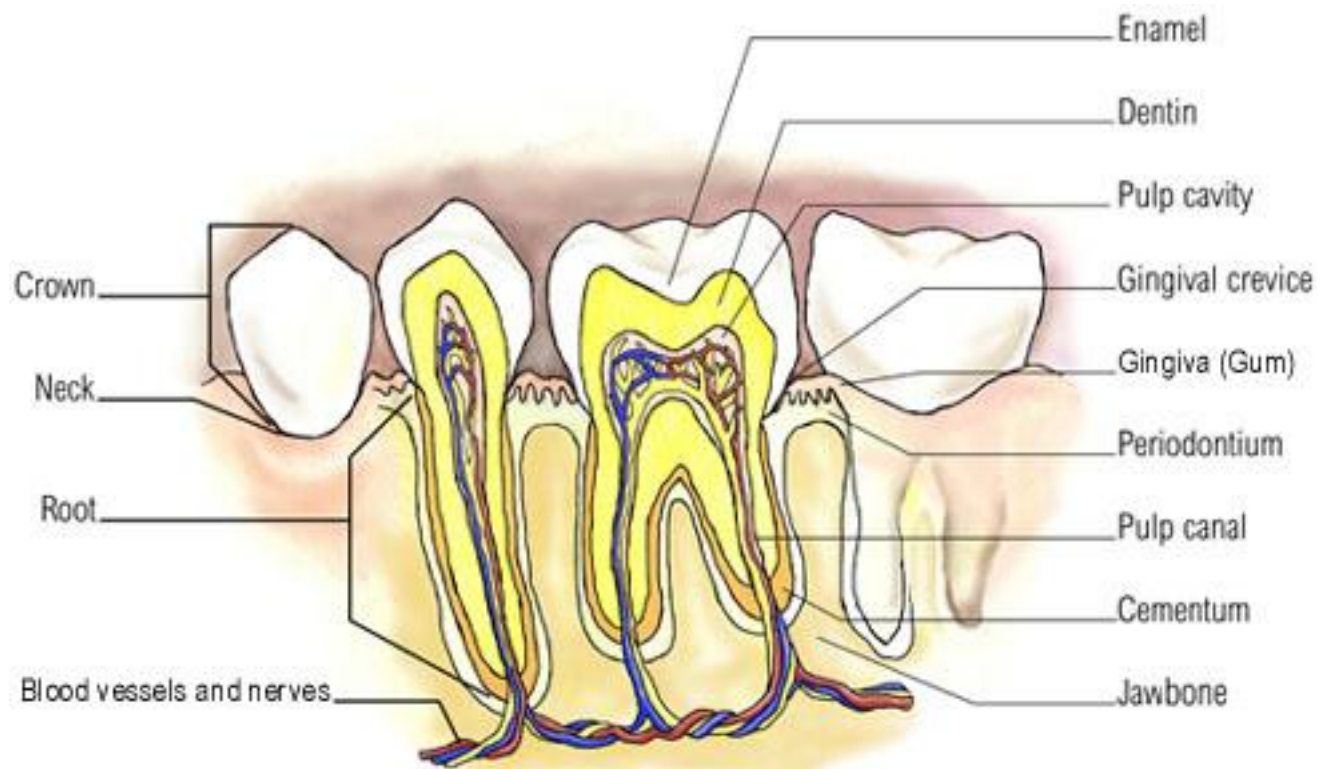
# Deciduous teeth



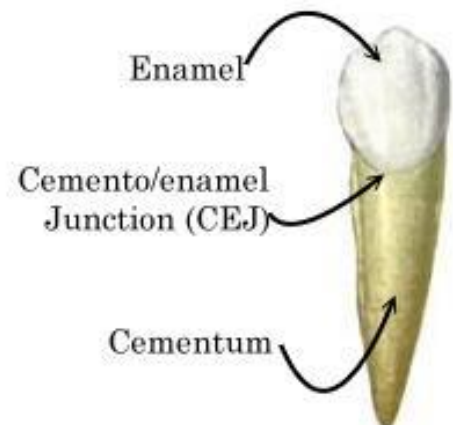
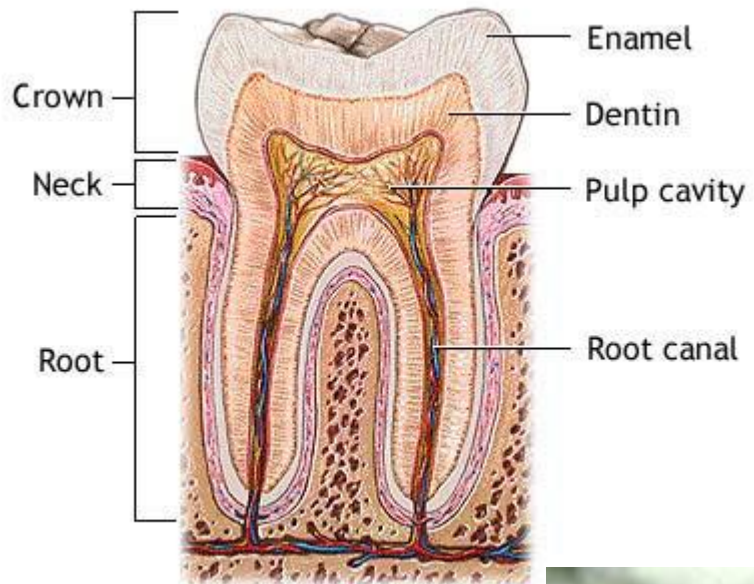
## Permanent teeth

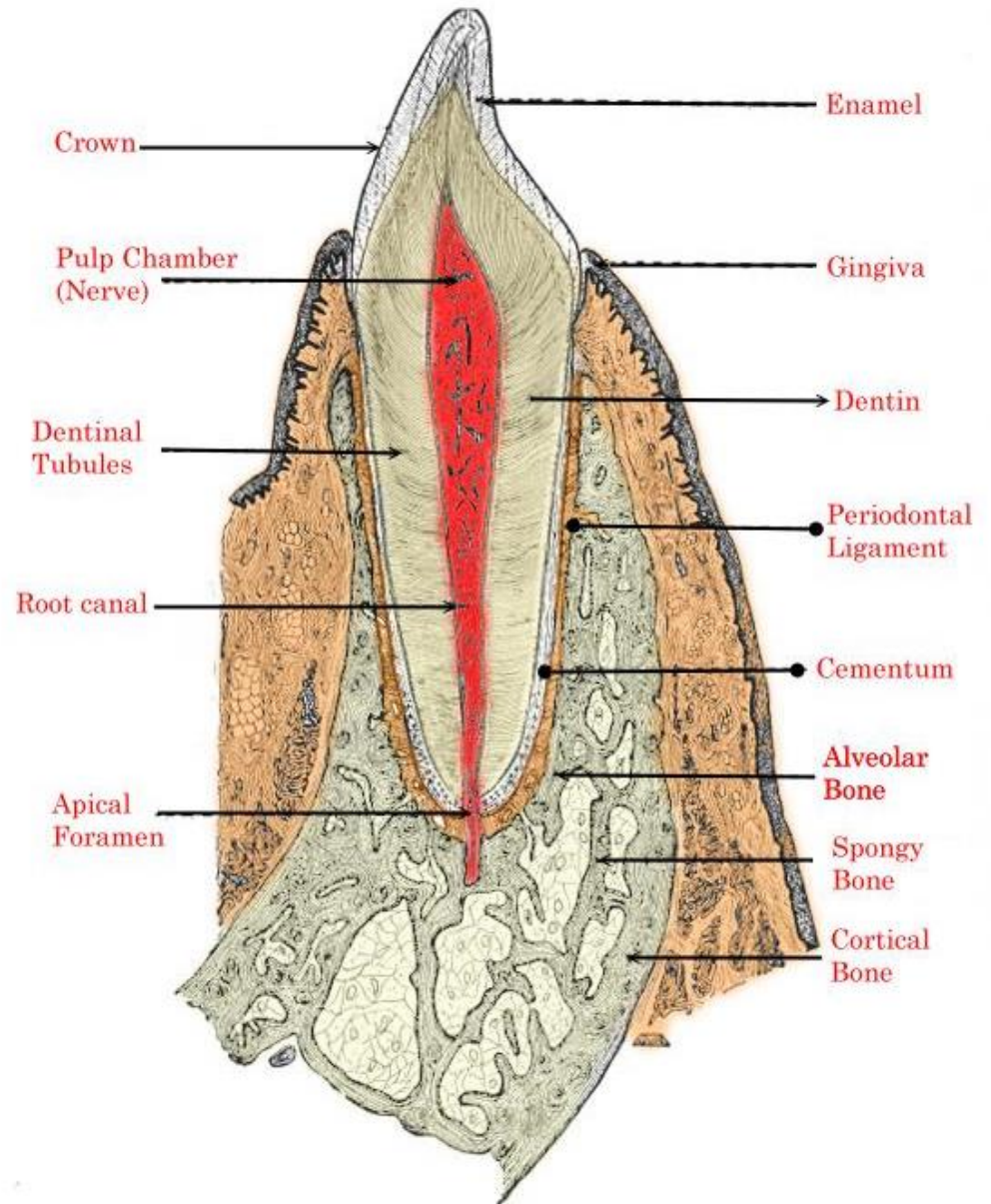
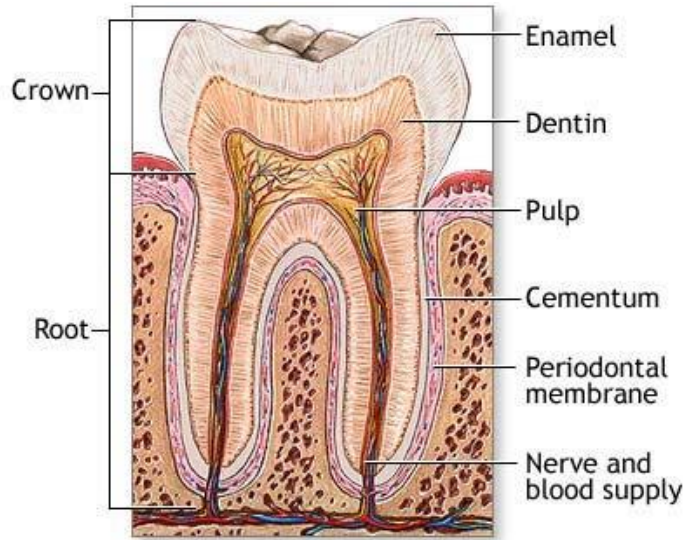


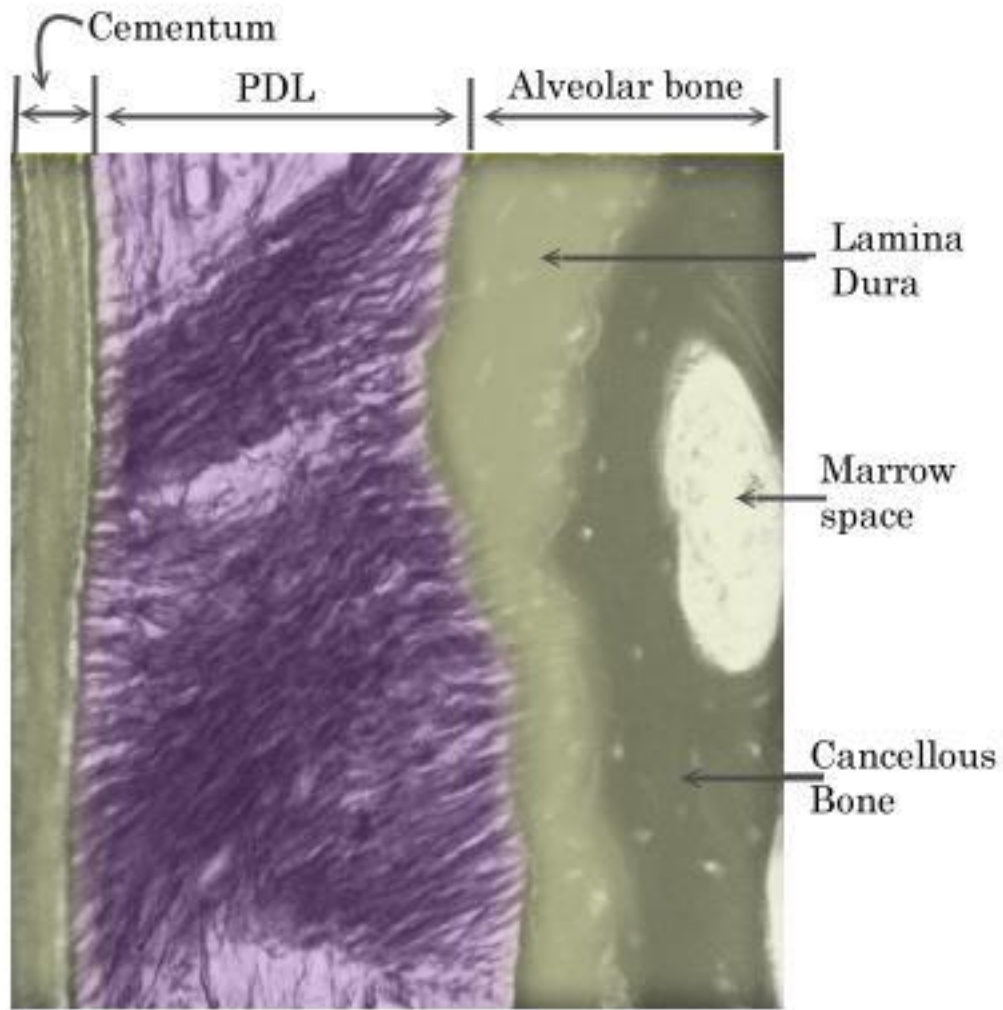


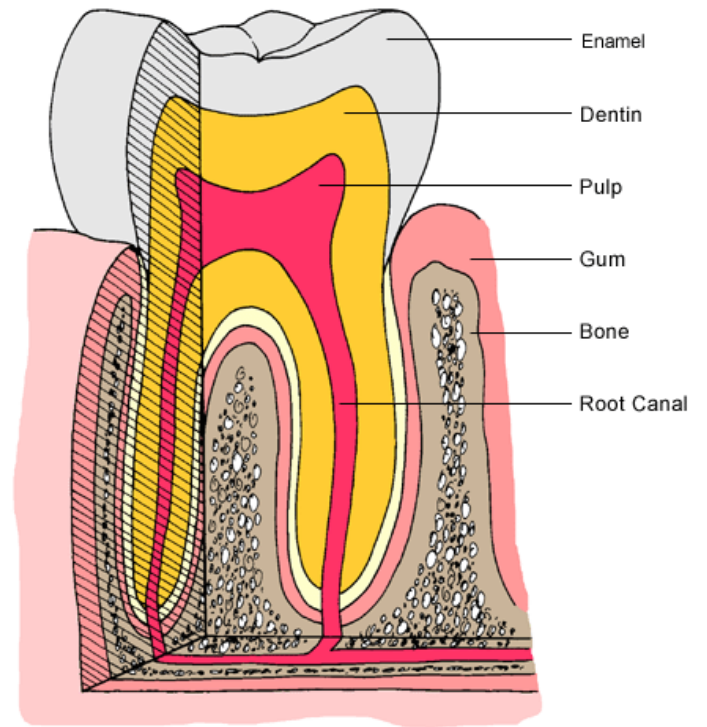
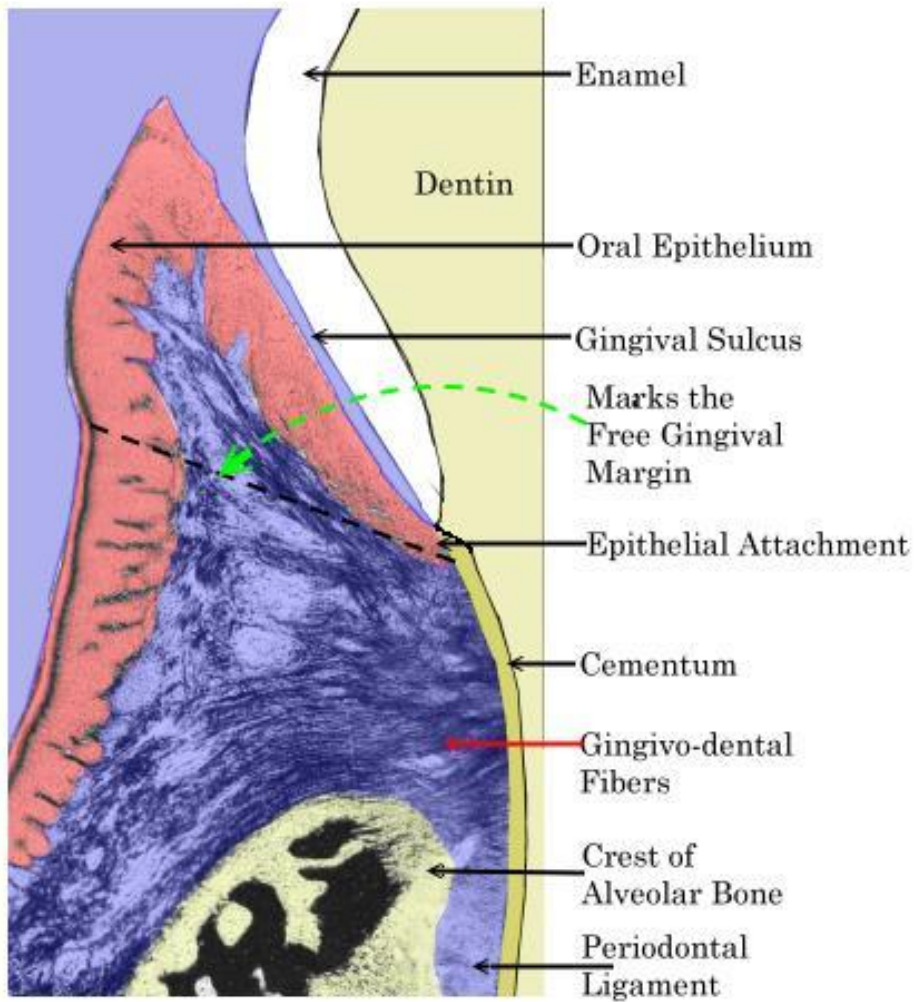


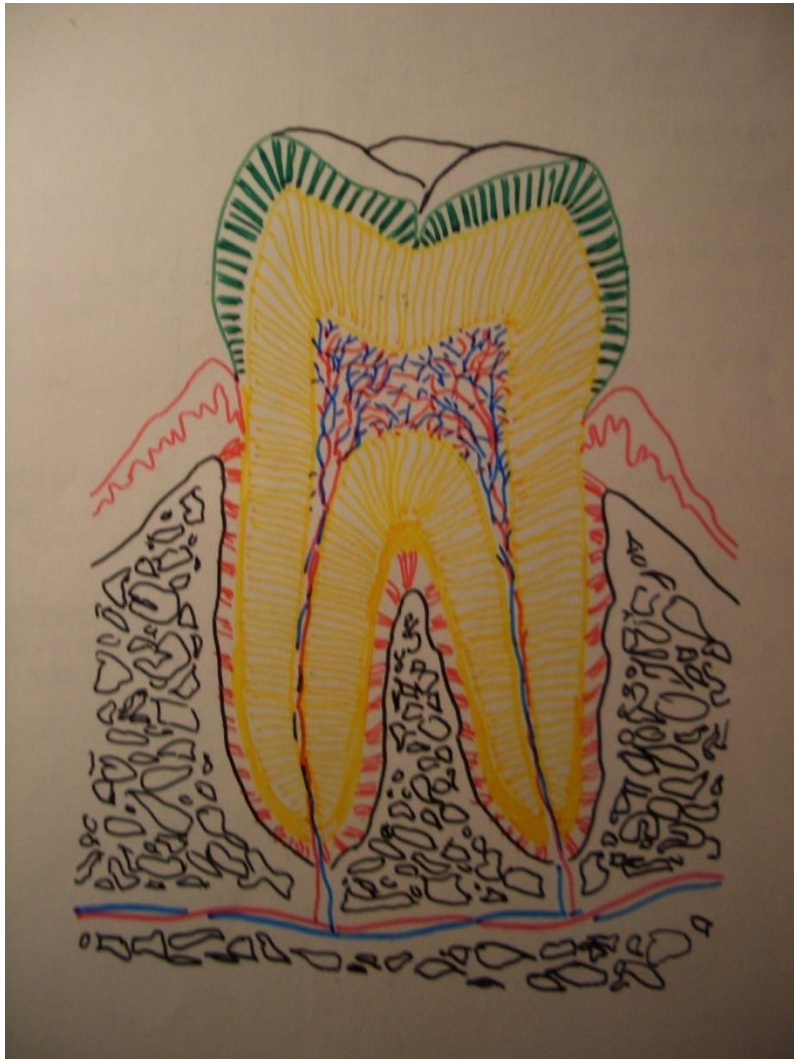


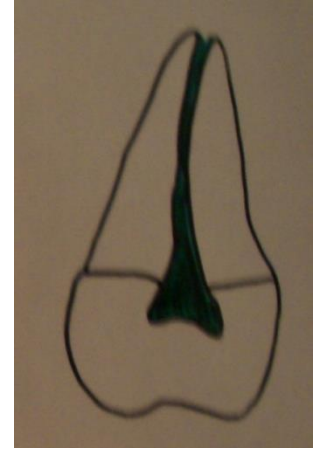
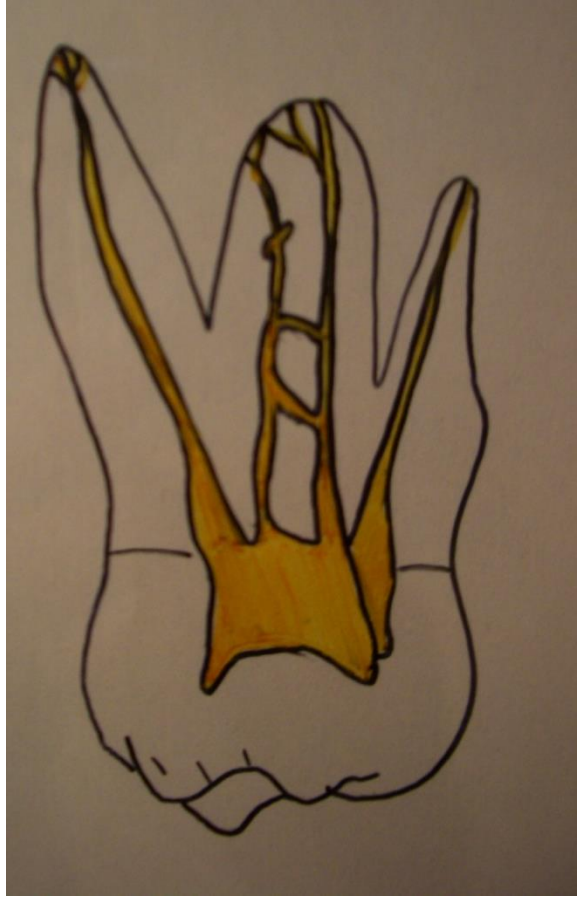
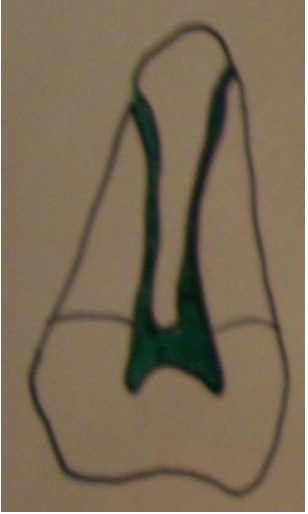


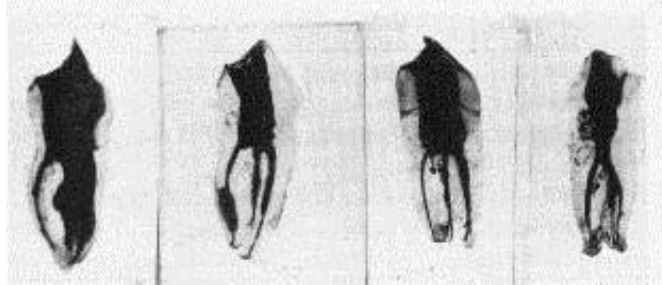
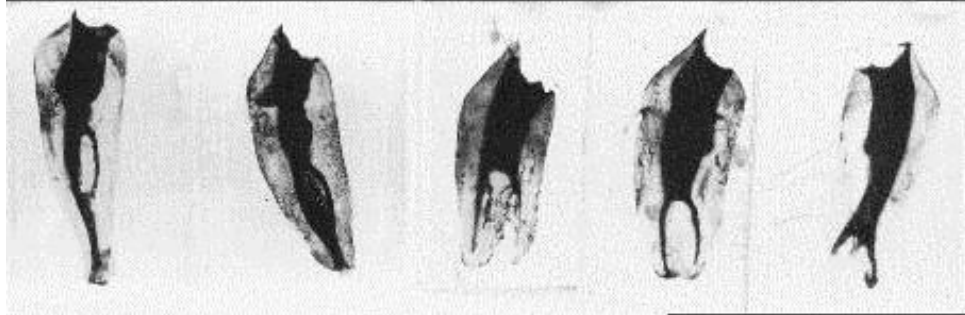
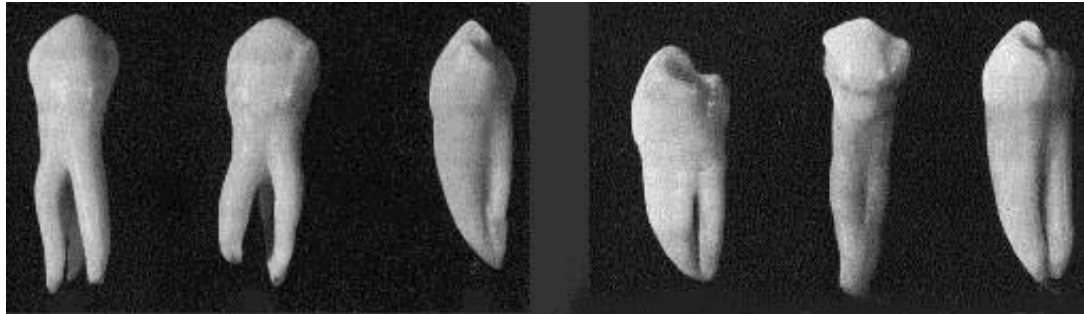






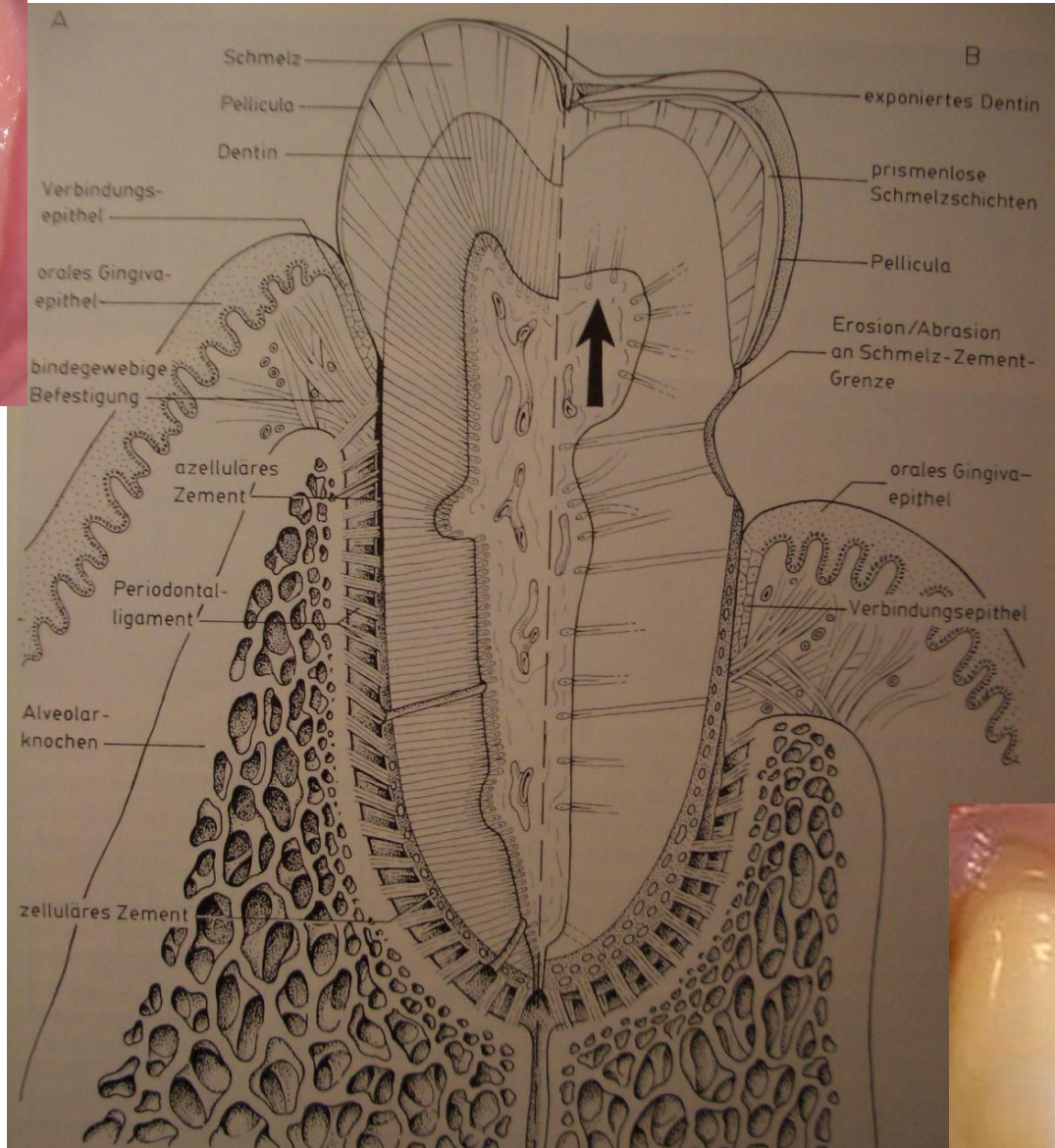


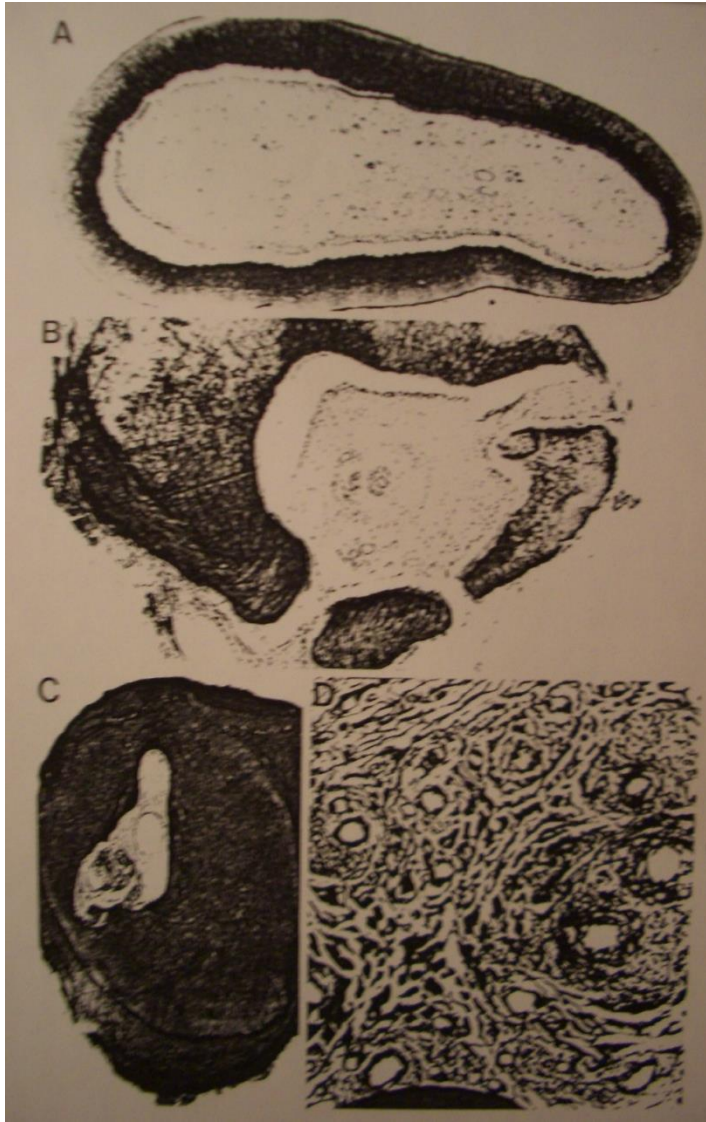


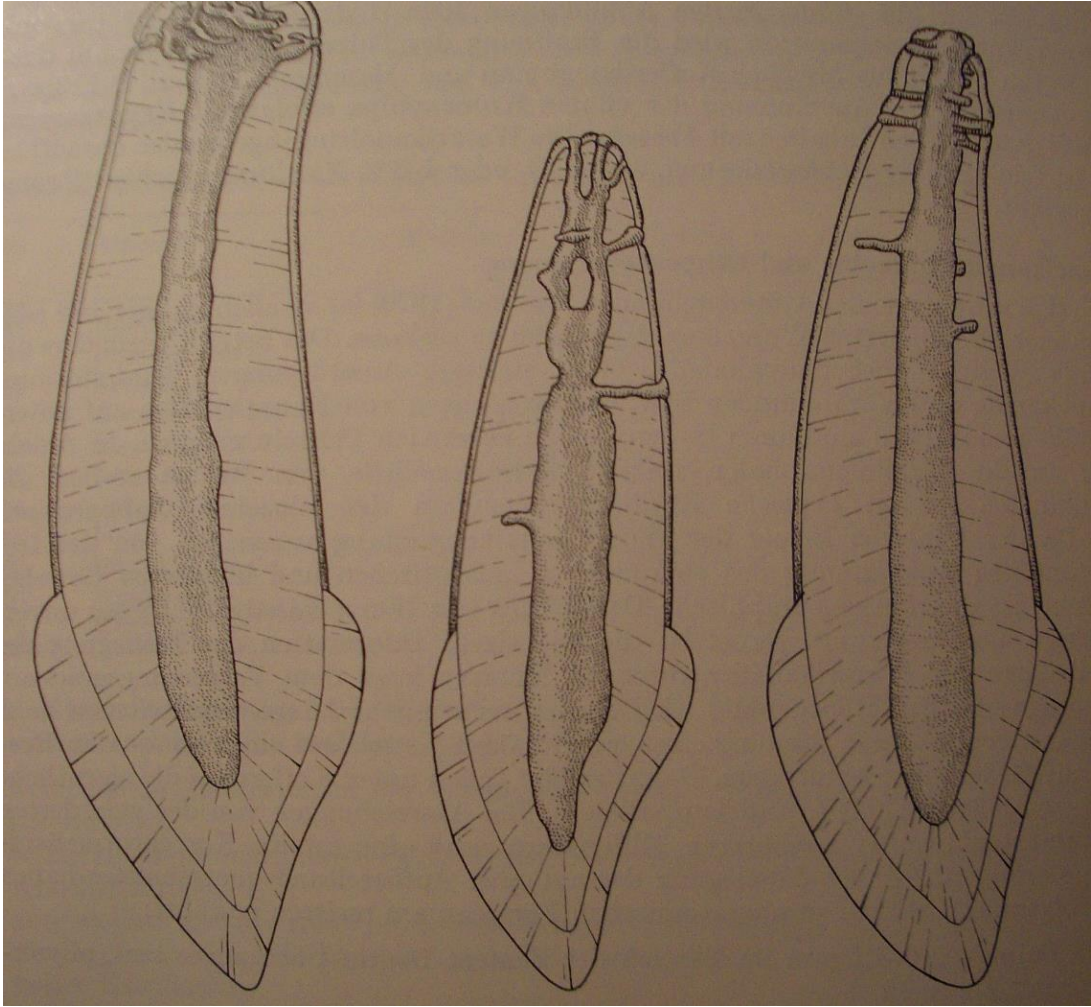




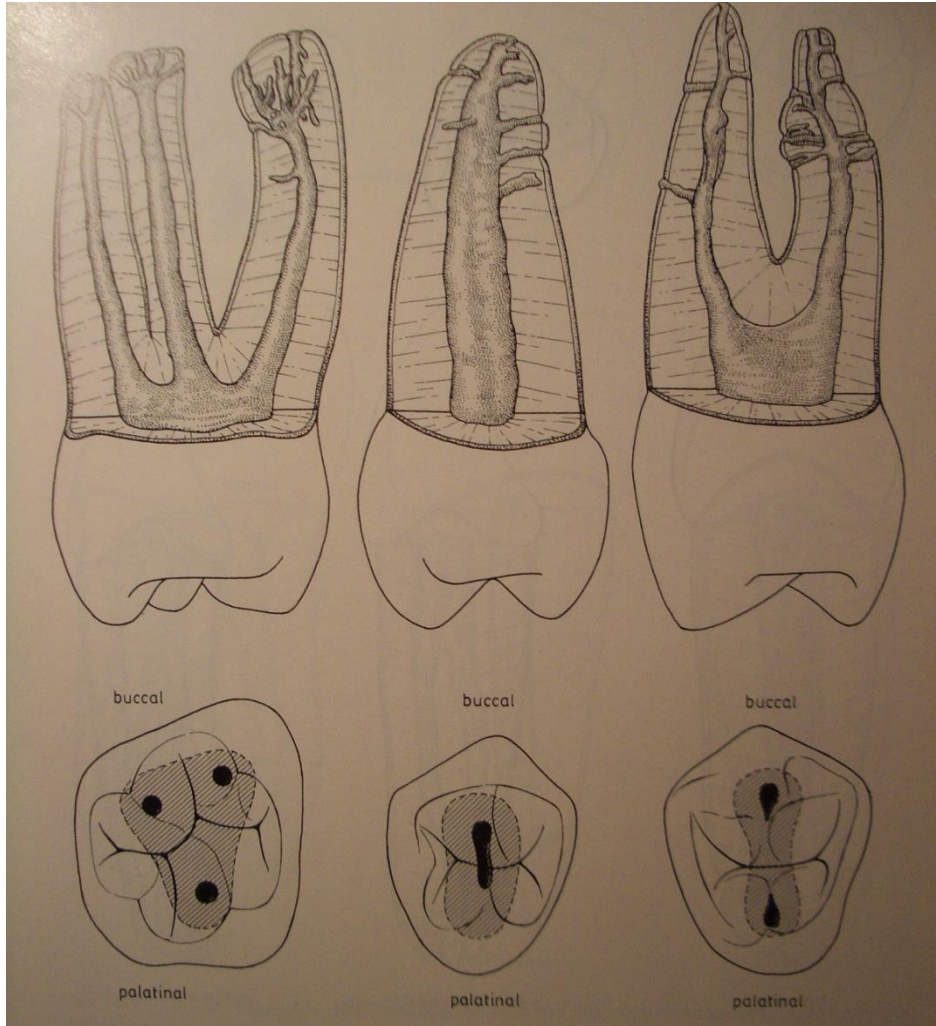








This case was submitted by Dr. Giuseppe Cantatore



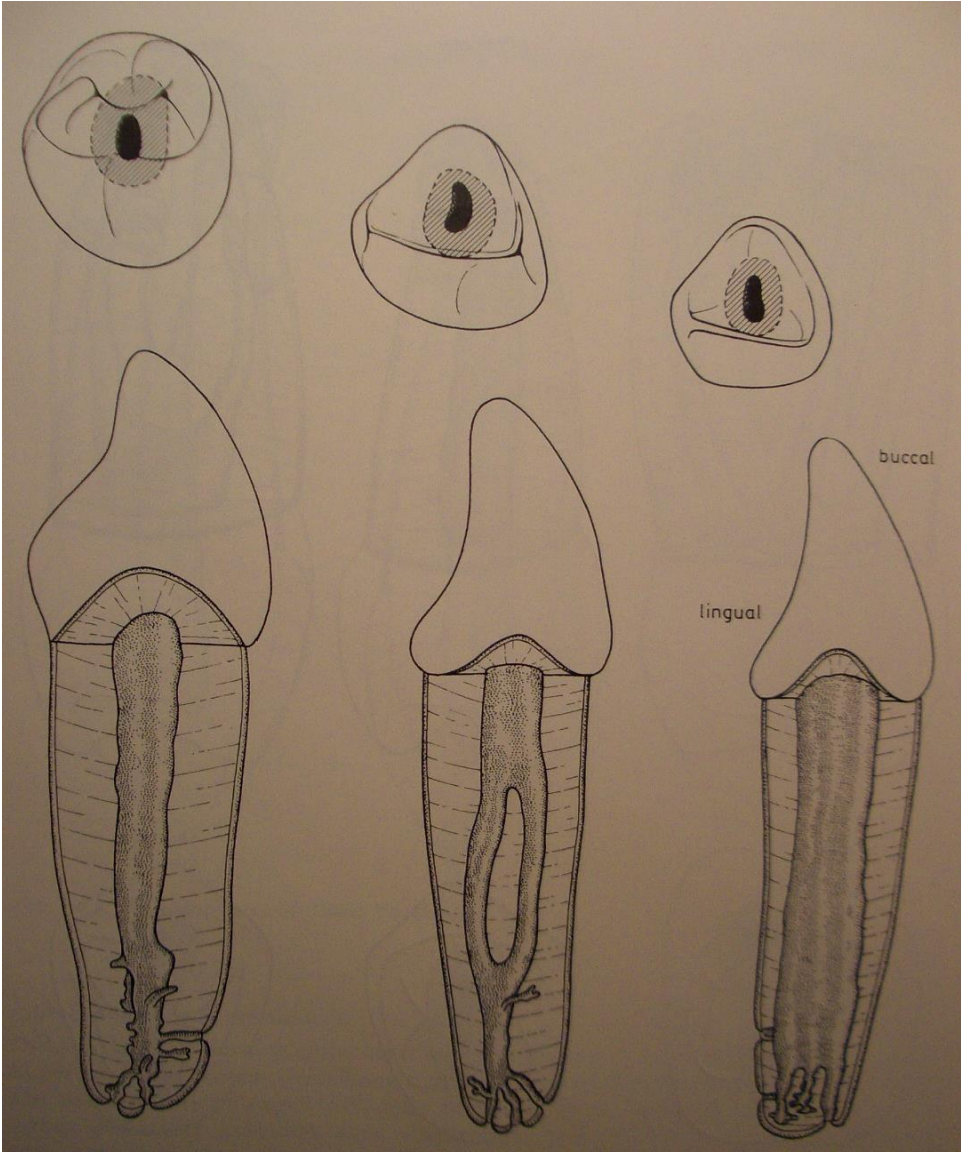
This case was submitted by Dr. Clifford Ruddle

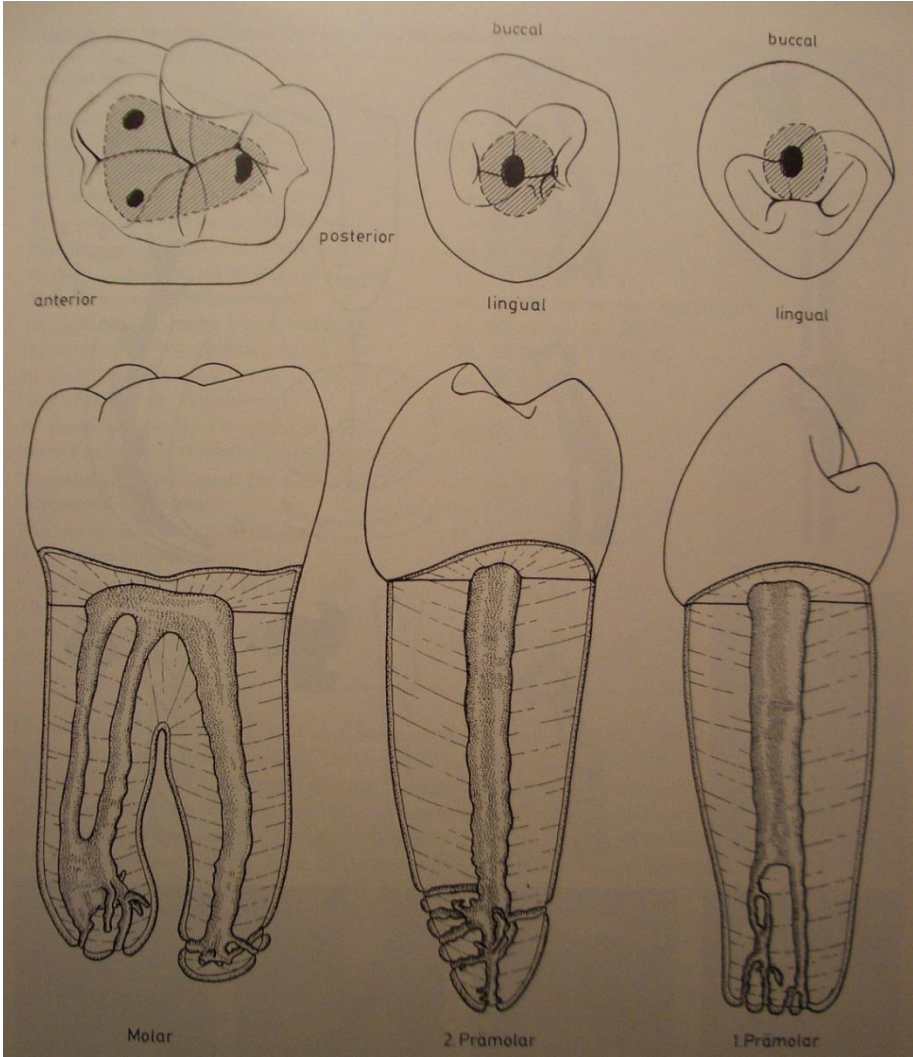
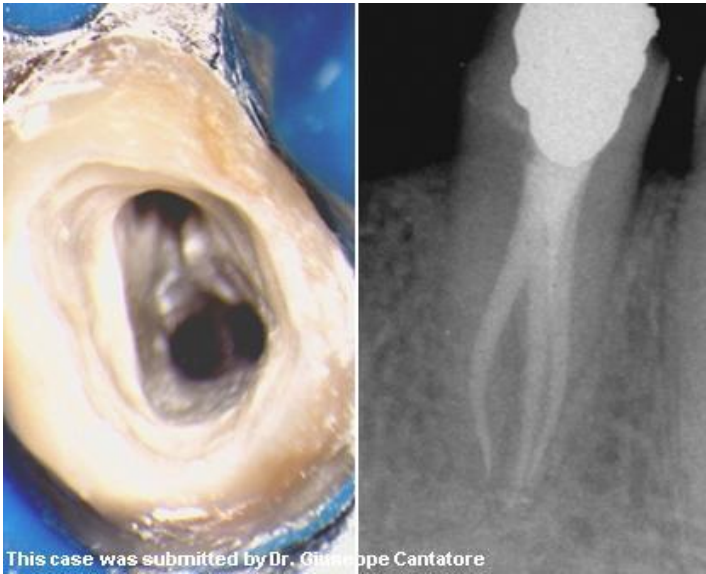


This case was submitted by Dr. David Hatcher



This case was submitted by Dr. Clifford Ruddle







This case was submitted by Dr. Clifford Ruddle



This case was submitted by Dr. Bruce Fogel



This case was submitted by Dr. Richard Rubinstein



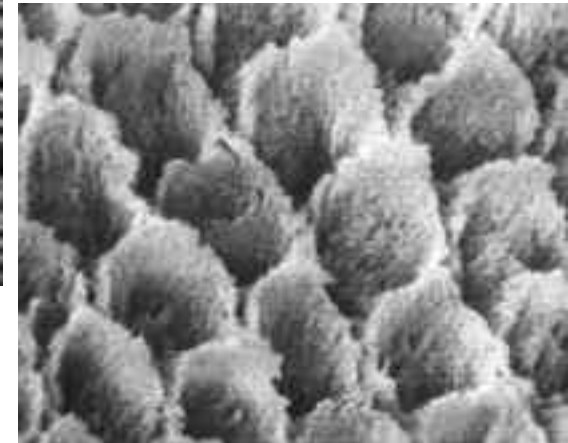
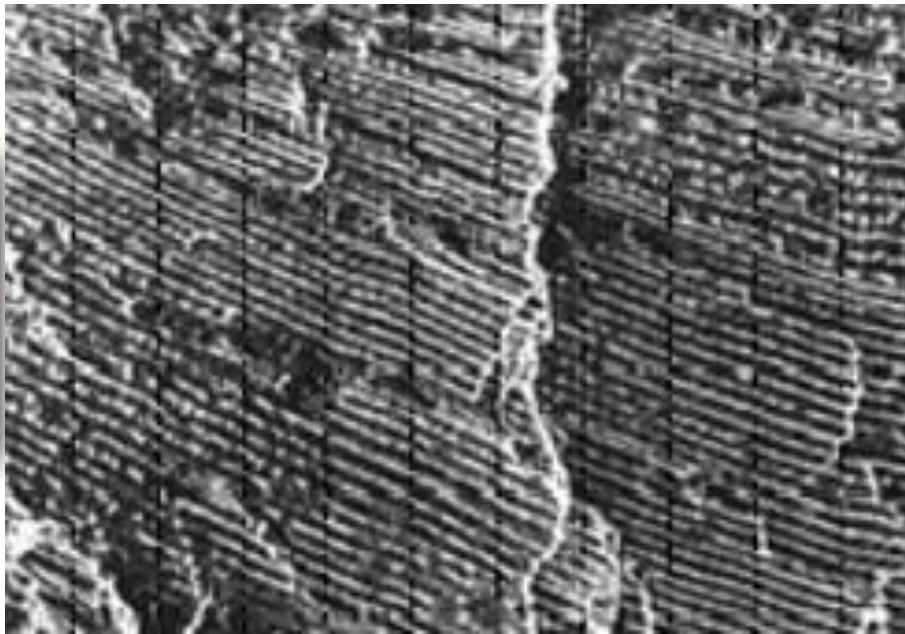
This case was submitted by Dr. Jay Berthinume



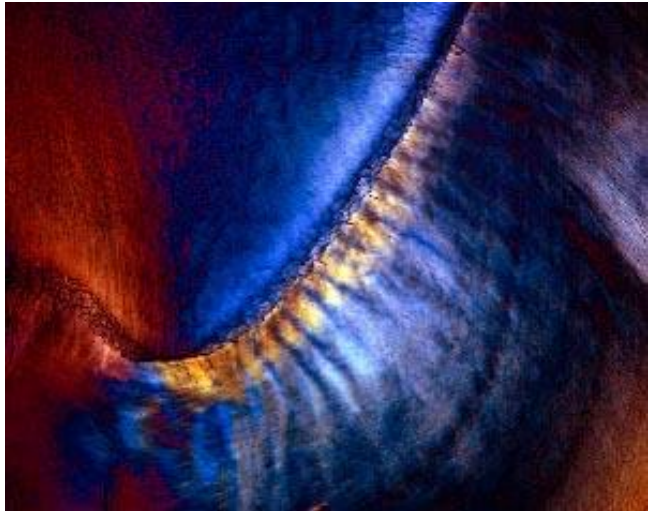
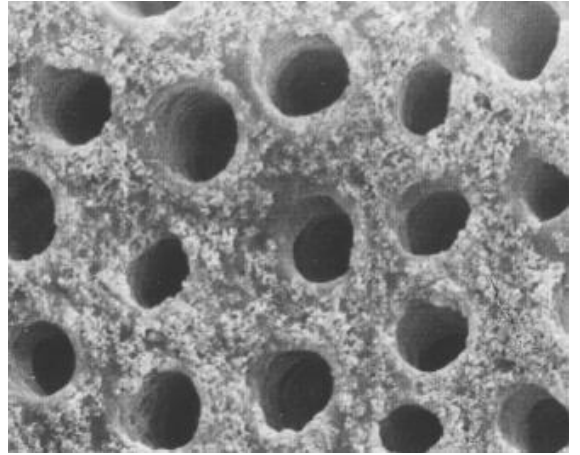
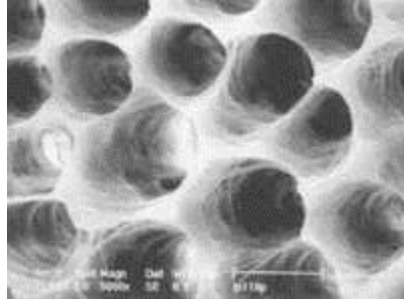
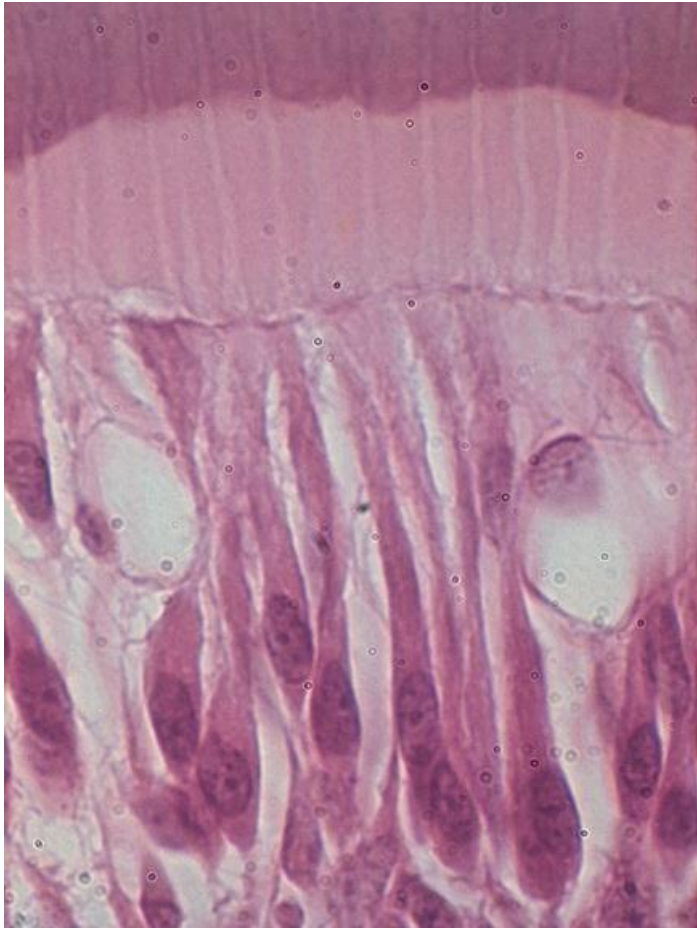
This case was submitted by Dr. Richard Rubinstein

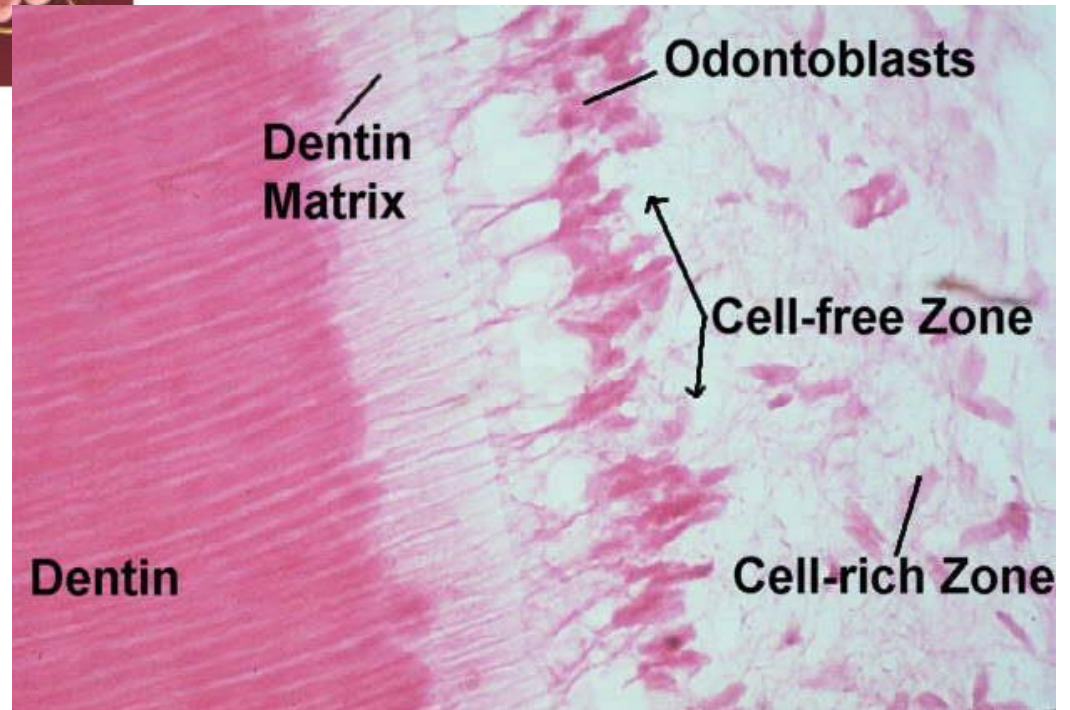
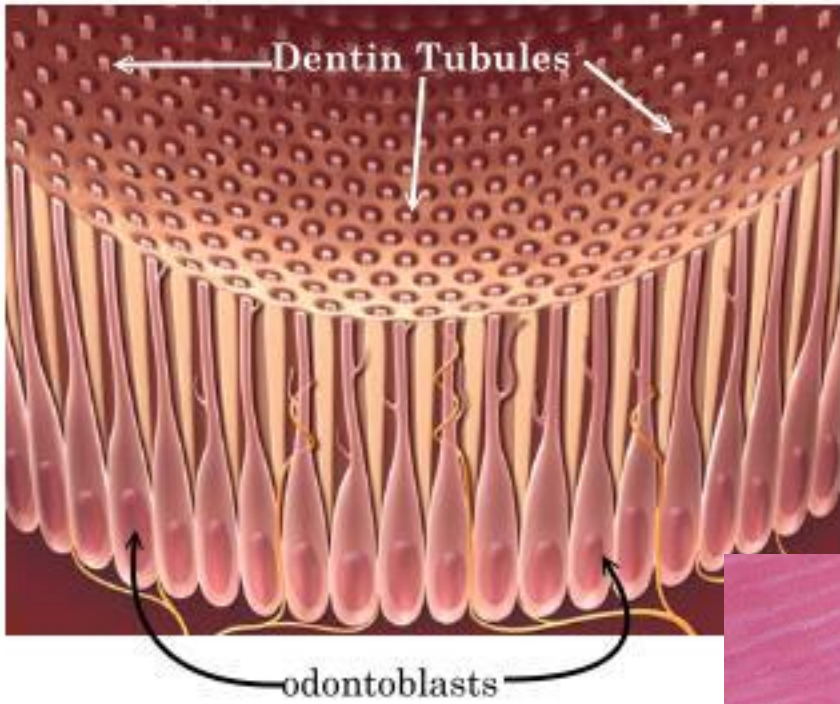


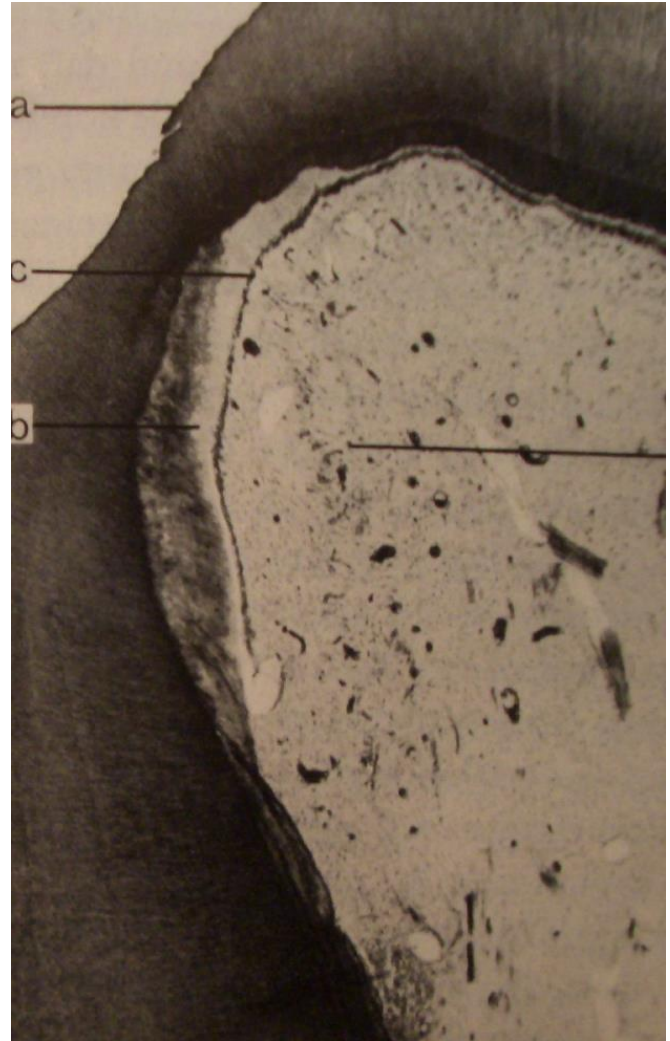
Human enamel





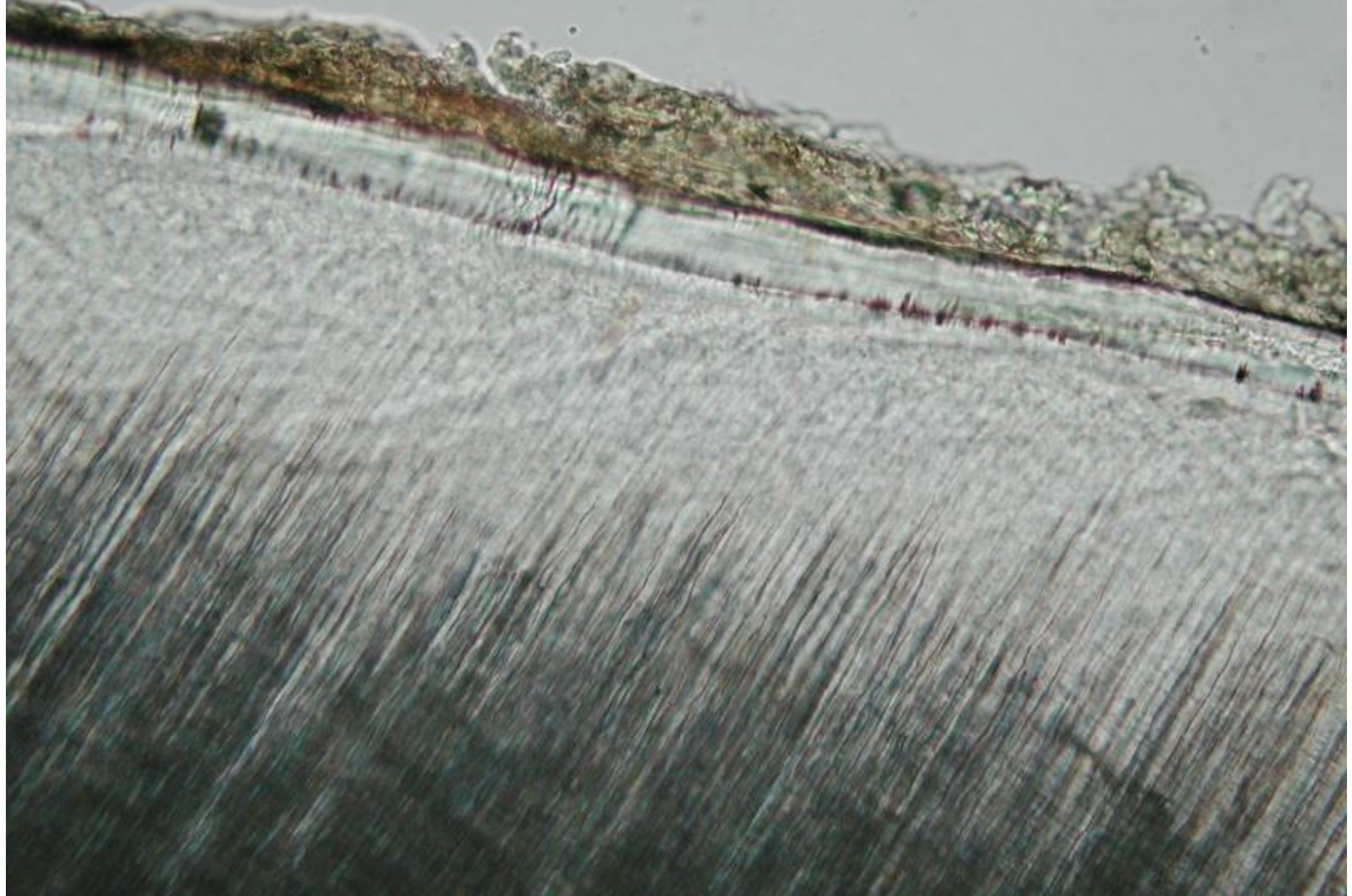








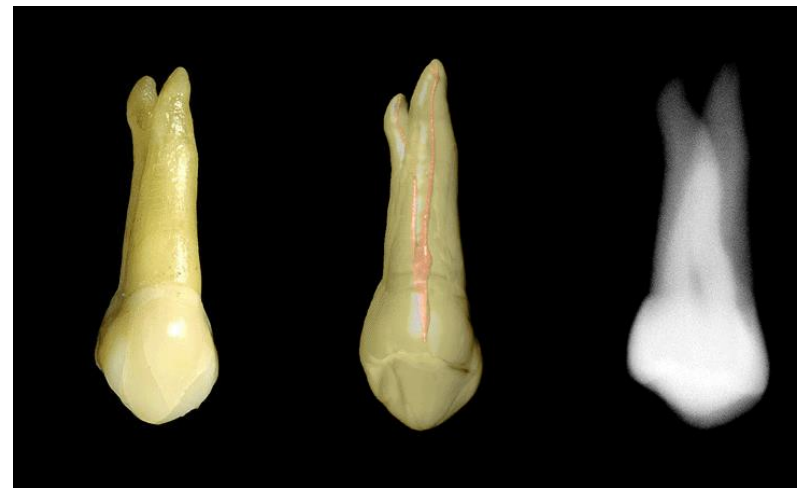
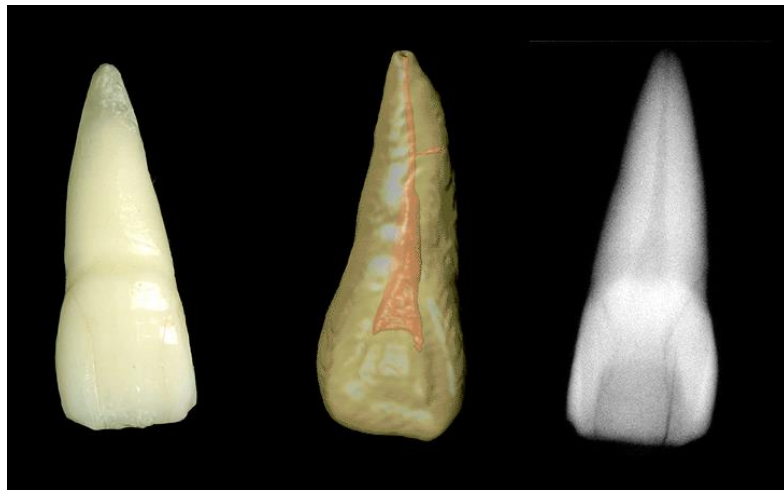
Department of Histology ©  
Jagiellonian University, Medical College



# Brown & Herbranson

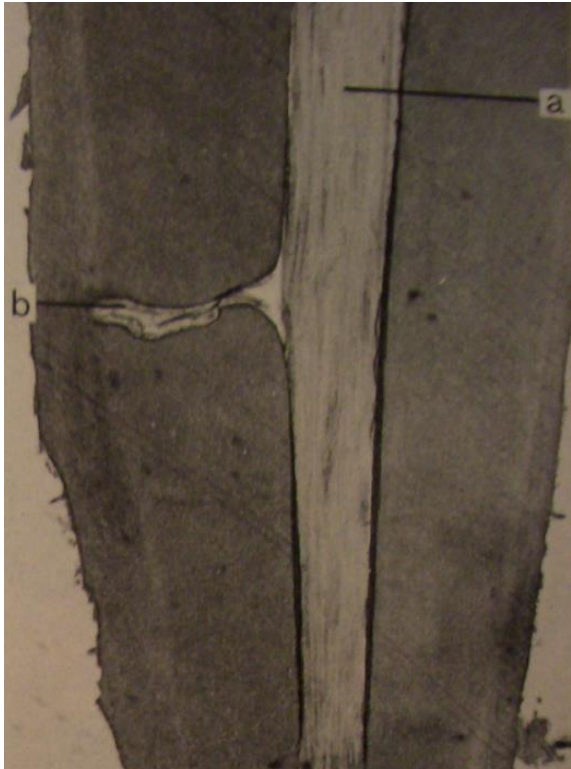


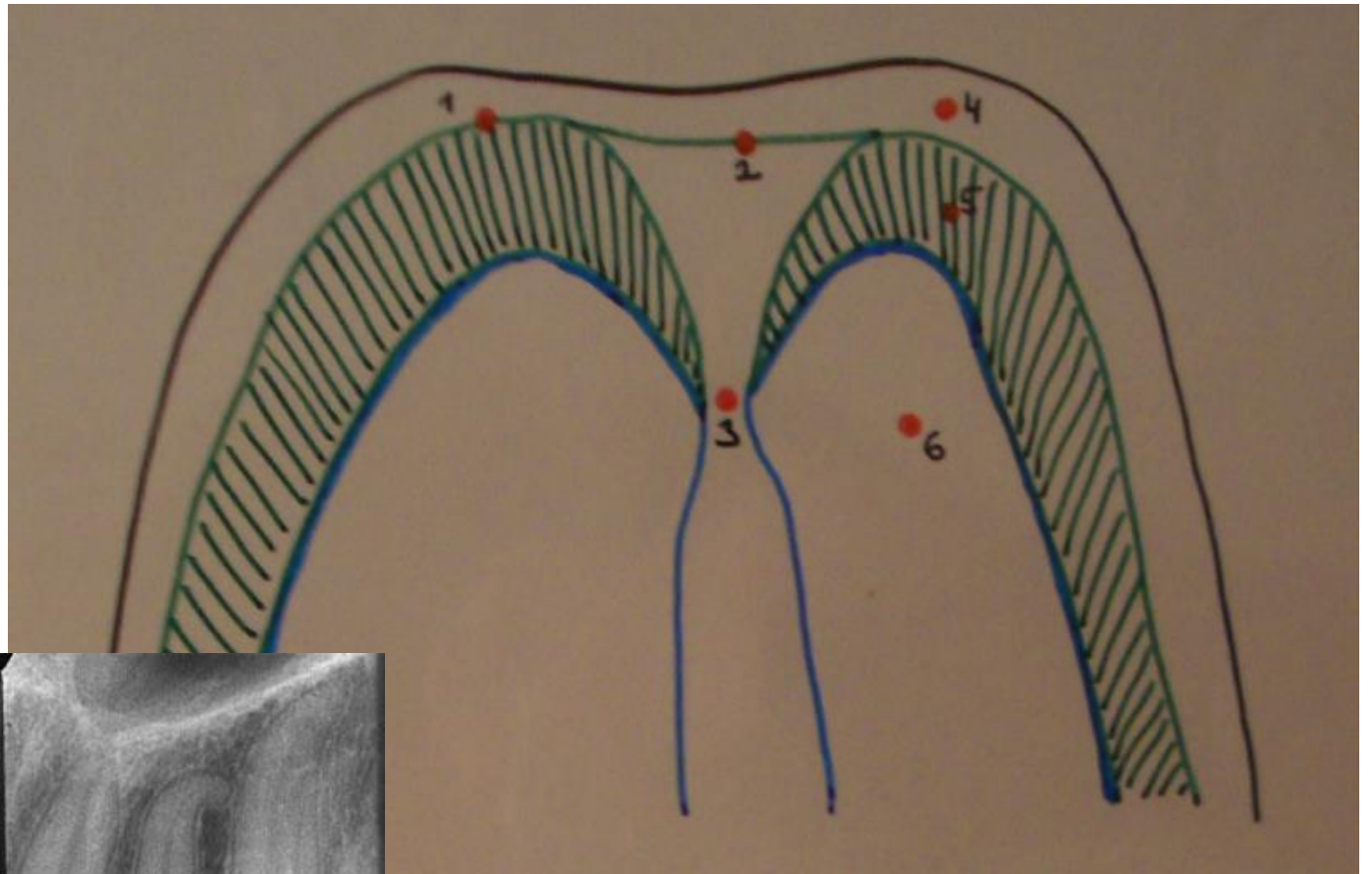
## Dental Anatomy & Interactive 3-D Tooth ATLAS



[www.toothatlas.com](http://www.toothatlas.com)

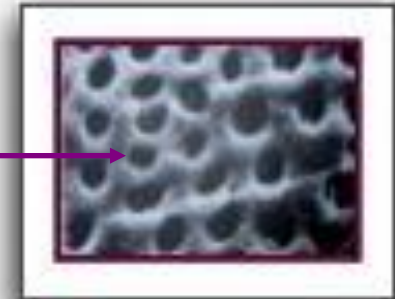






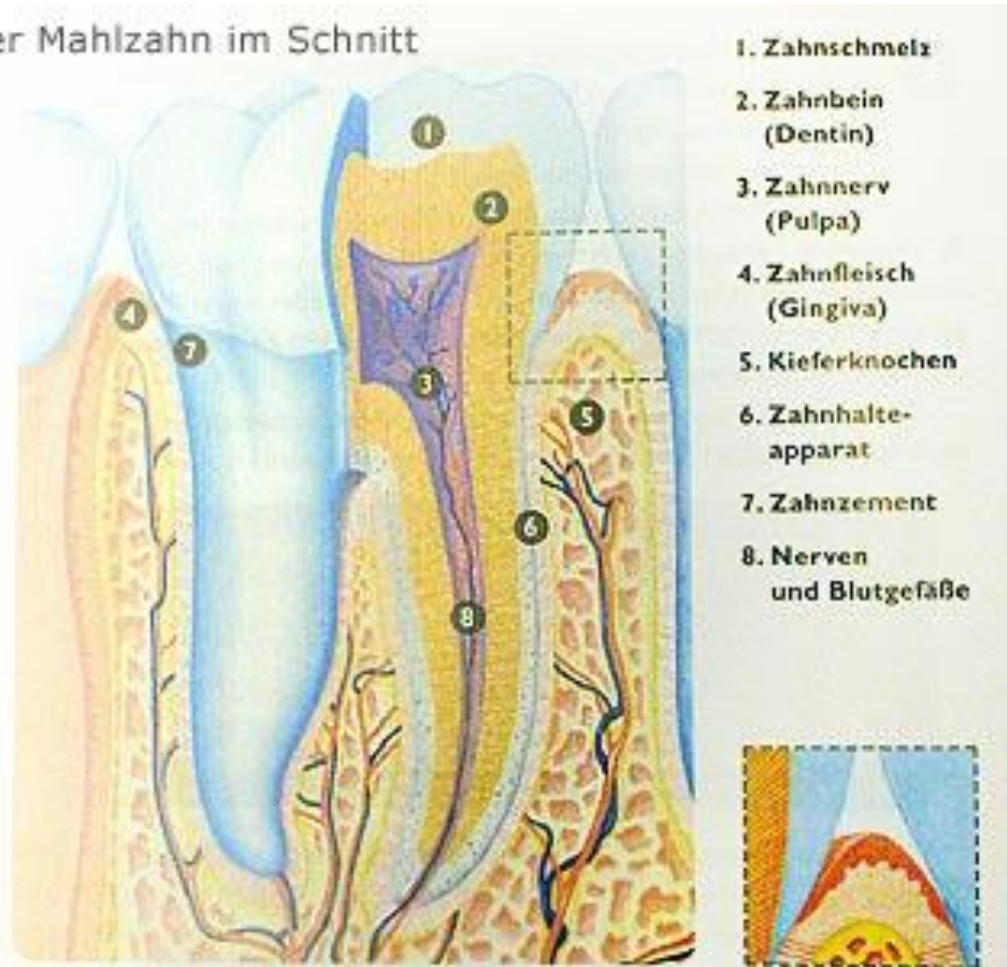
This case was submitted by Dr. David Hatcher





# PULPAMORFOLOGIA

Gesunder Mahlzahn im Schnitt

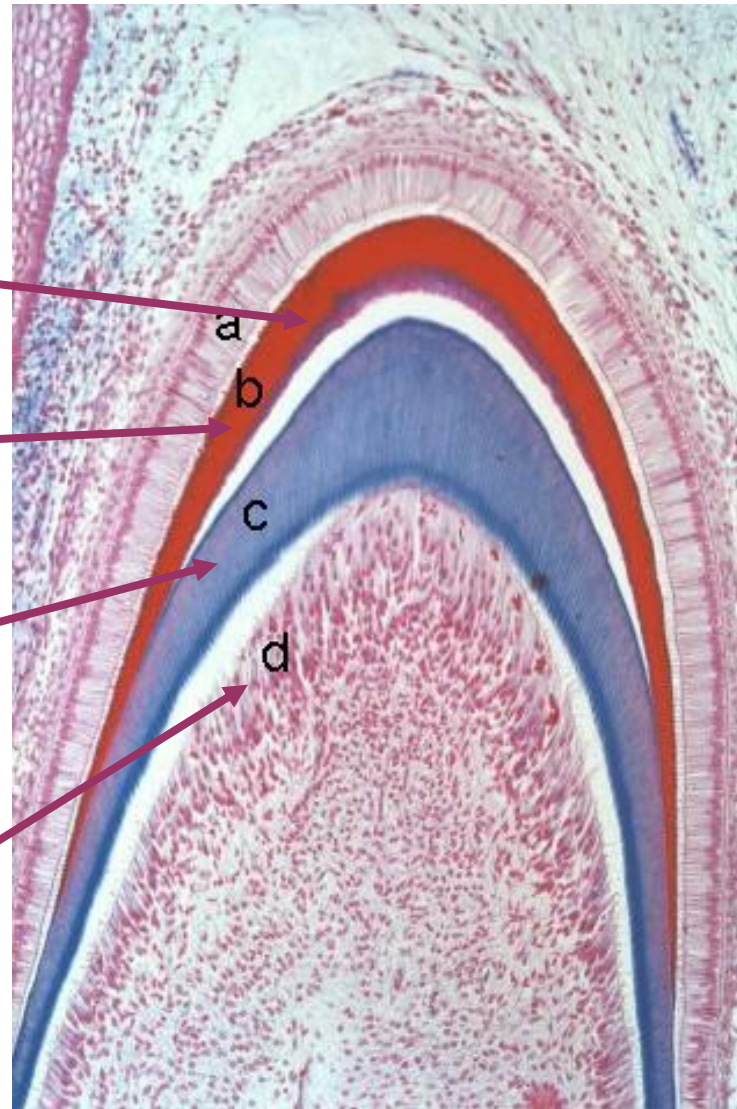


**ameloblastok**

**zománc**

**dentin**

**odontoblastok**





# PULPA

## Feladatai:

- táplálás
- védelem
- beidegzés
- dentinképzés



# Pulpaszövet

**Laza, specializált kötőszövet:**

- alapállományában sejtek
- retikuláris, kollagen rostok
- erek
- idegek

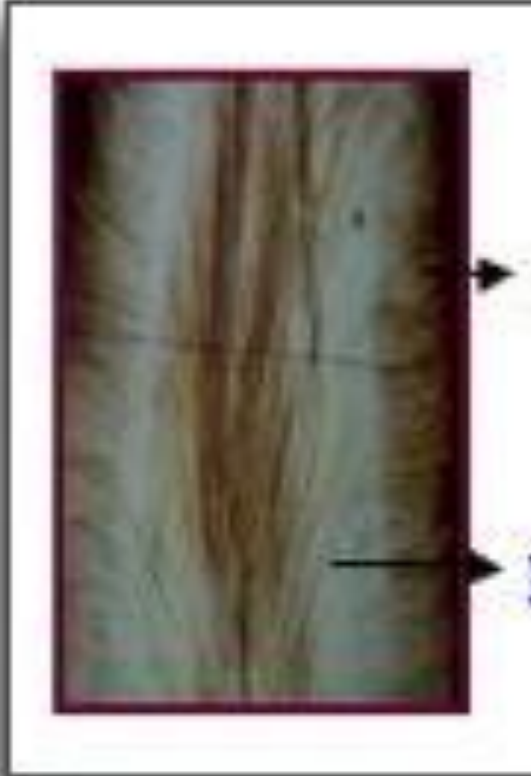
# PULPASZÖVET



## Kocsonyás kötőszövet

- homogén alapállomány
- számtalan aktív fibroblast (nagy, világos és ovális sejtmaggal) hálós elrendeződésben
- néhány retikuláris és (vékony) kollagén rostok
- számos szabad sejt
- odontoblast réteg (epithel-szerű)
- érplexus (vastag – vékony erek)
- idegplexus (velőtlen rostok, különösen az odontoblastok alatt)

# DENTINKÉPZÉS



- **Primer**
- **Secunder**
- **Tertier**

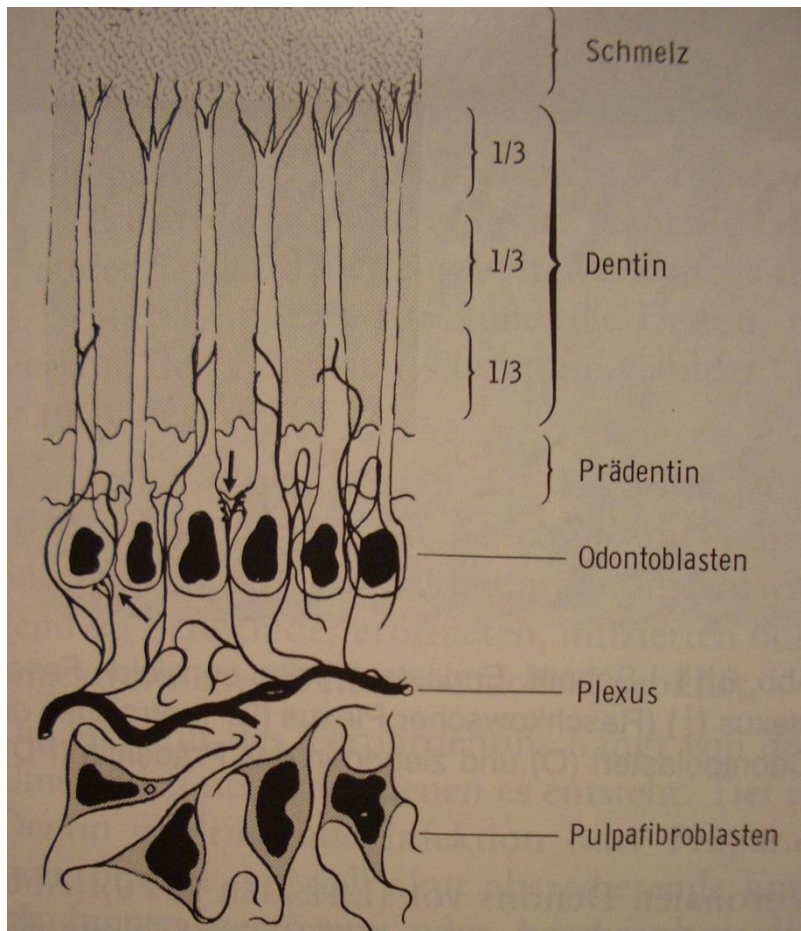


# DENTINKÉPZÉS



- **Primer**
- **Secunder**
- **Tertier**

# Az emberi fog beidegzése



- **Pre-dentin**
- **Odontoblast-réteg**
- **Odontoblast-nyúlványok**
- **Sejtszegény réteg(Weil)**
- **Sejtdús réteg**
- **Fibroblasztok**
- **Ersatzzellen**
- **Abwehrzellen**
- **Fibrilleák és rostok**
- **Erek**
- **Idegrostok (Eifinger)**

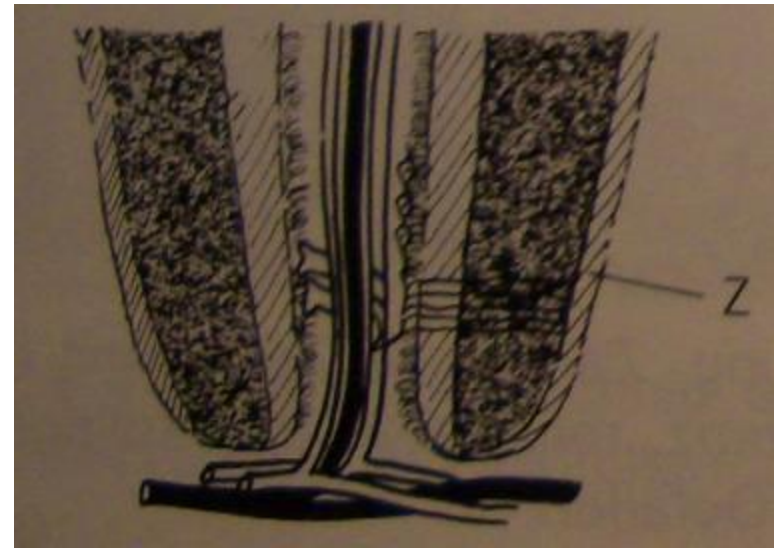
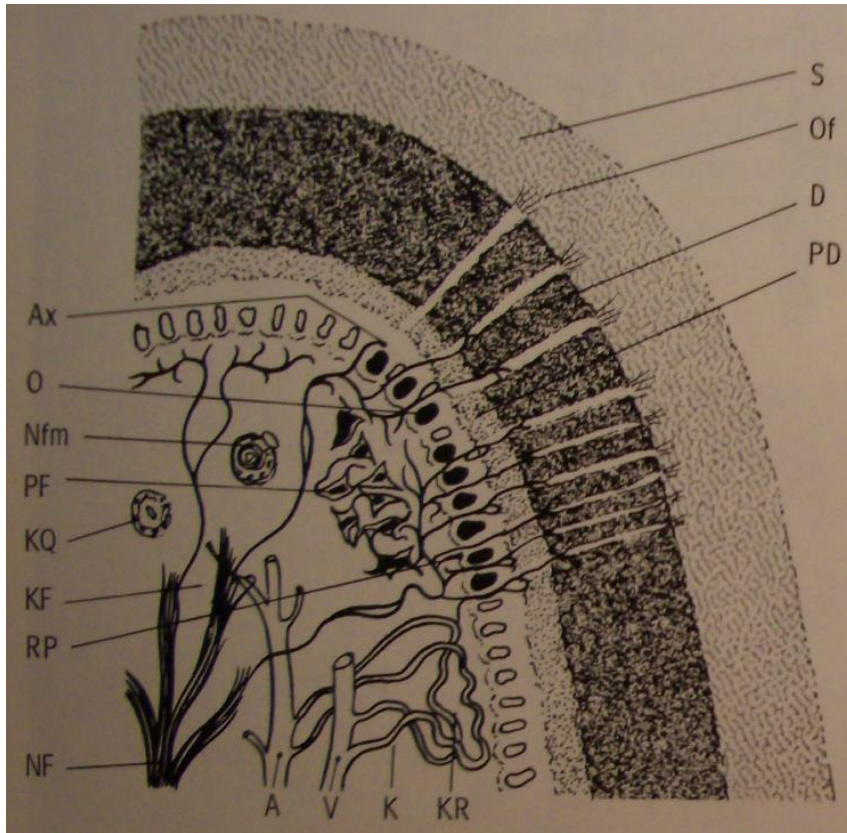
# ODONTOBLASTOK

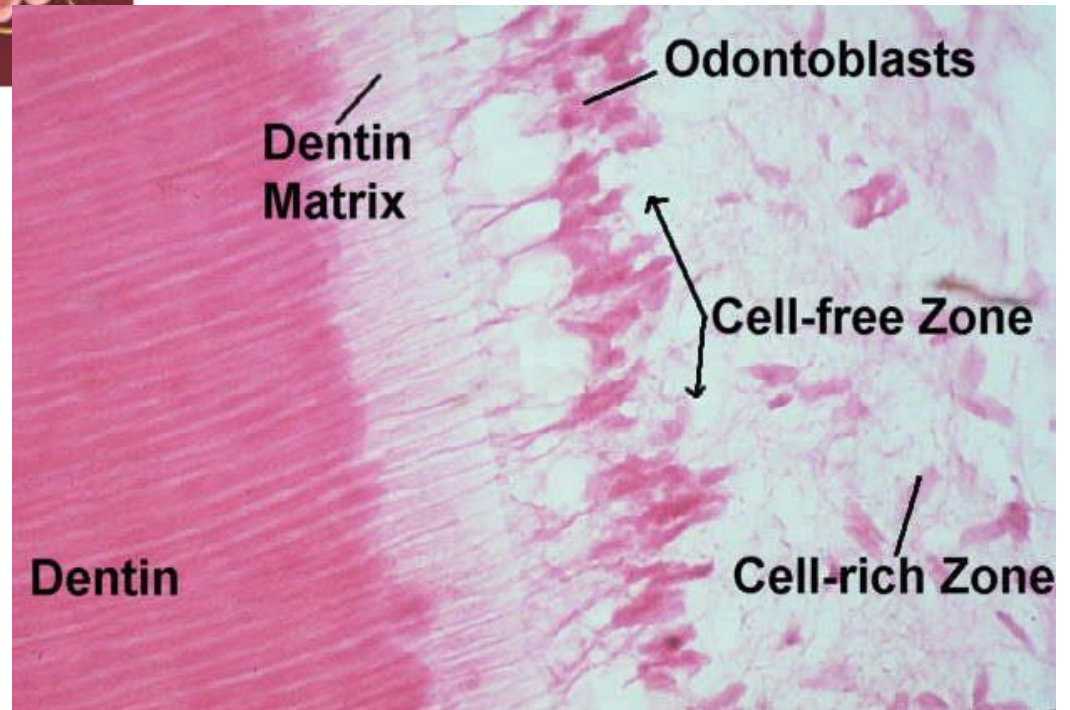
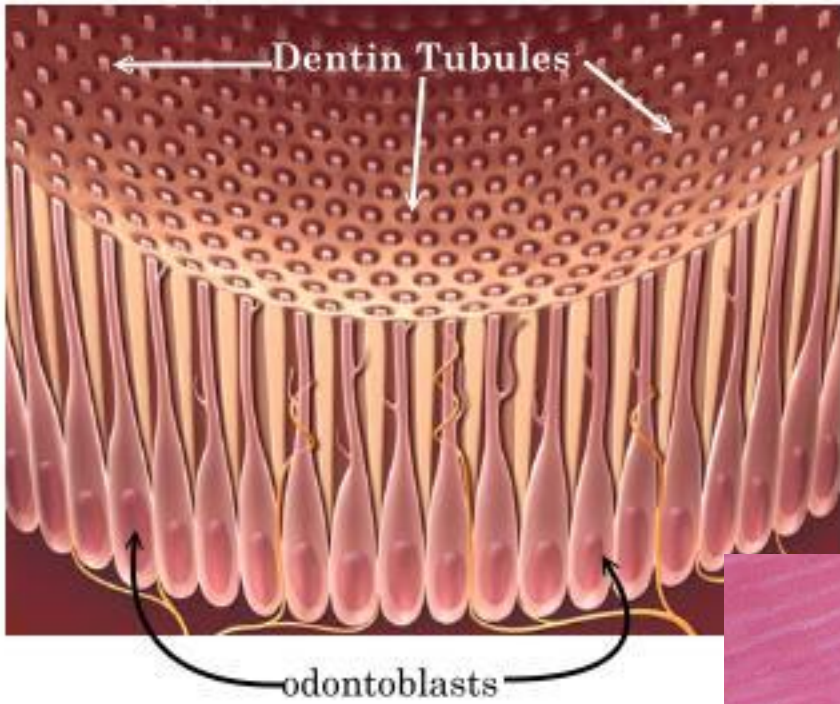
- **Koronai pulpa**

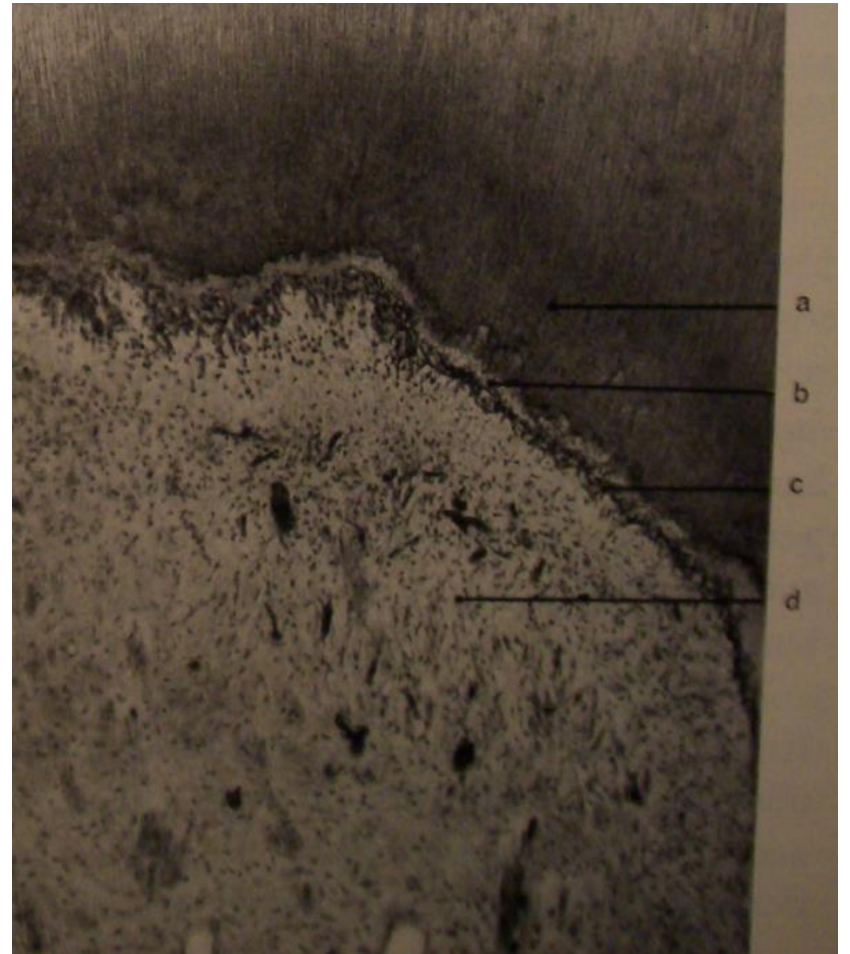
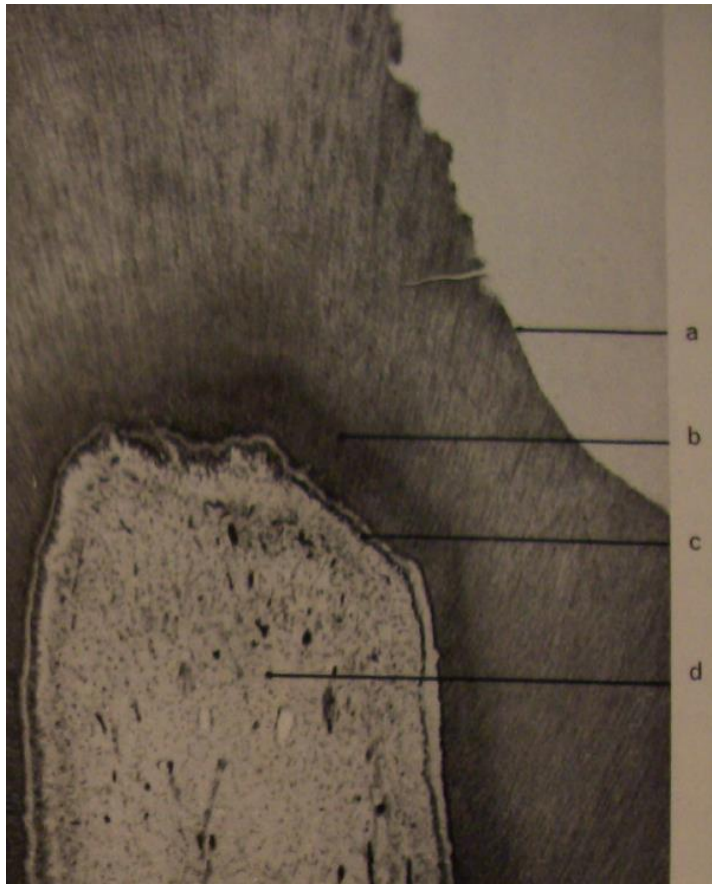
**50 000 sejt/ mm<sup>2</sup>**

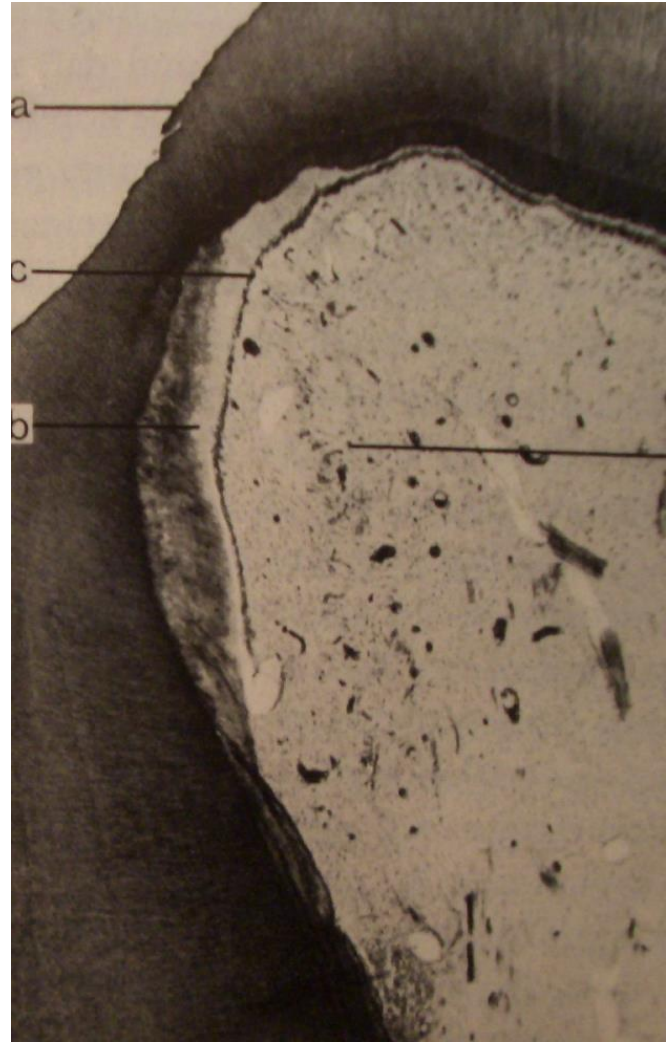
- **gyökérpulpa**

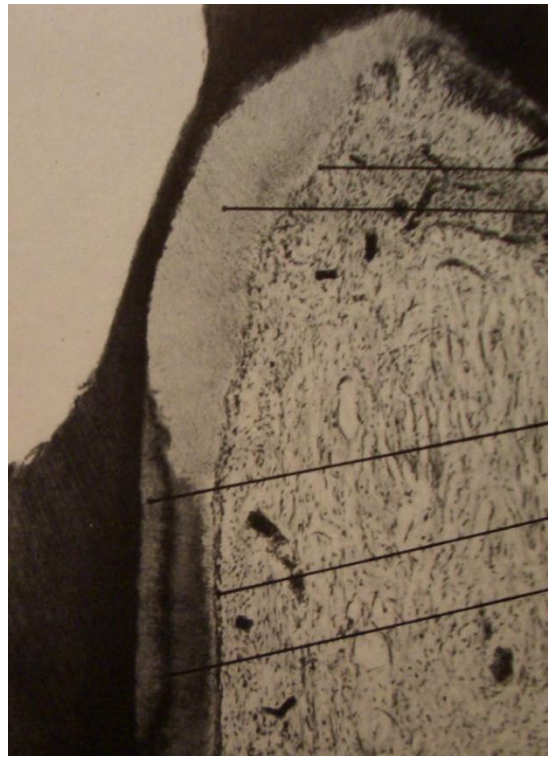
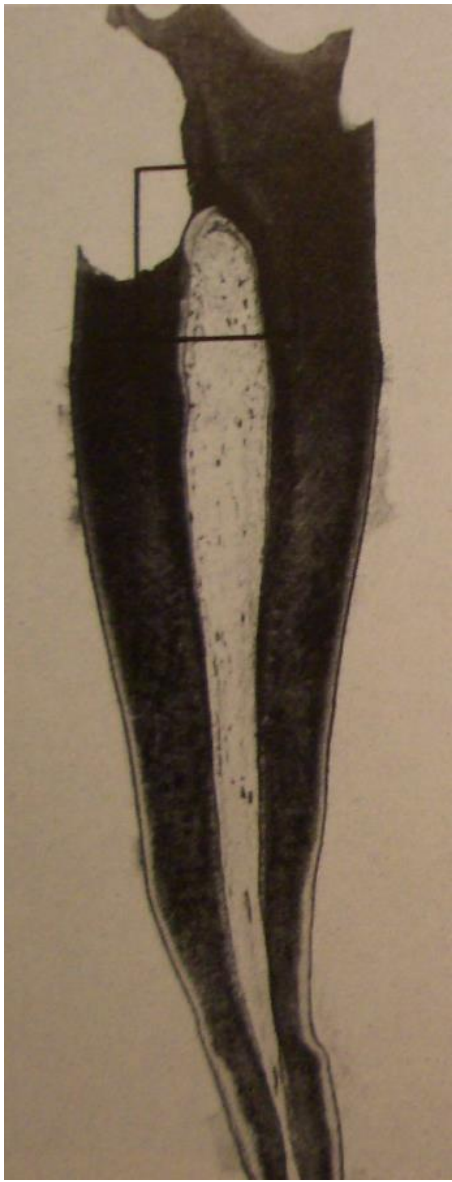
**Szignifikánsan kevesebb**





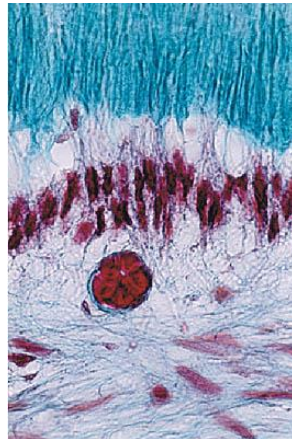
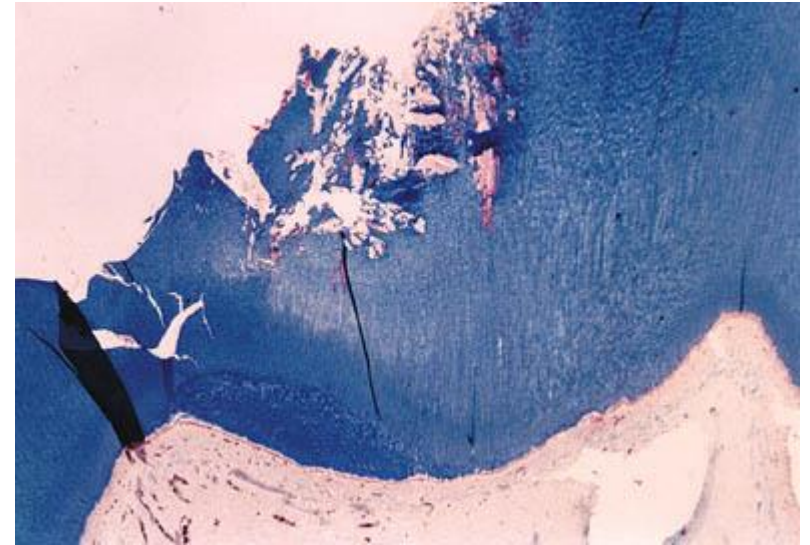
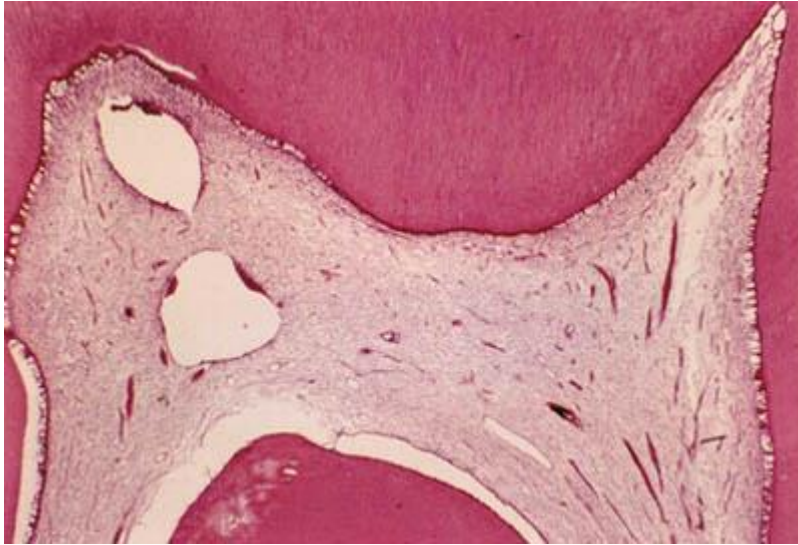




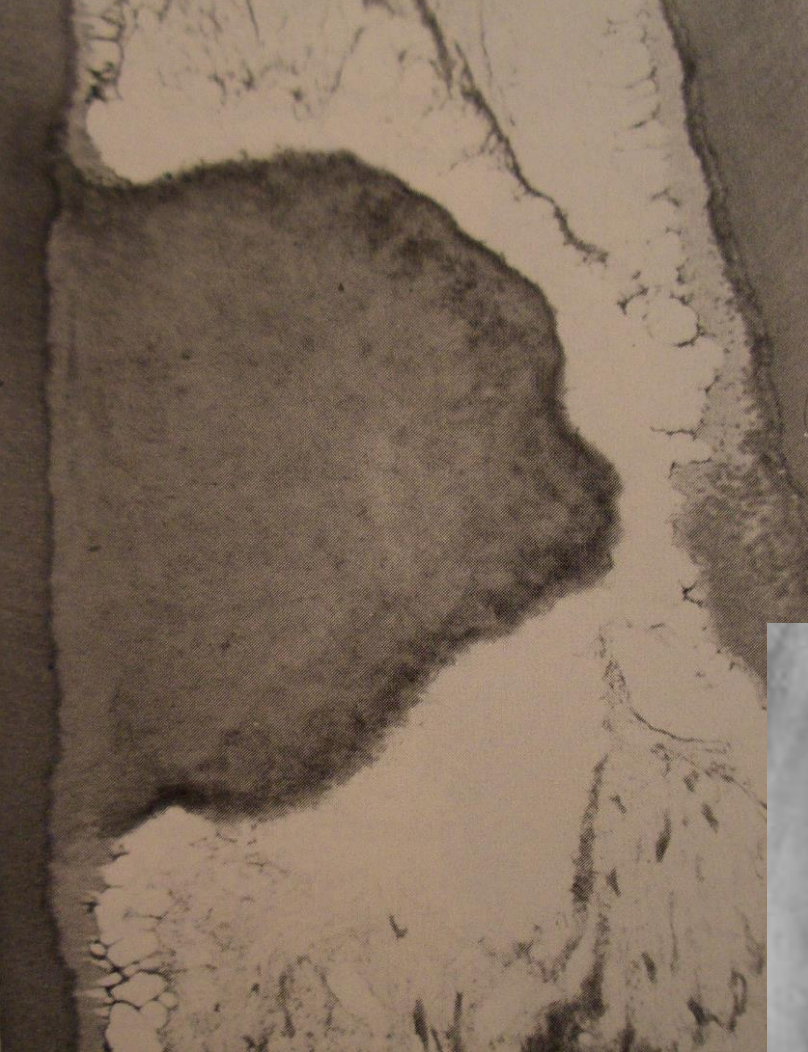




# Caries media



**Lokalizált  
irreguláris  
ingerdentin képzés**

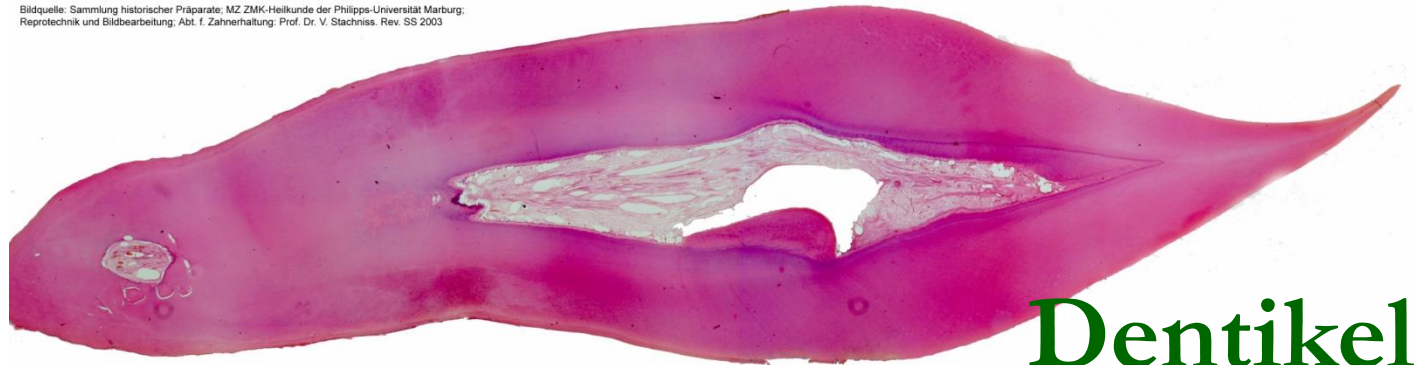


# Dentikulus



Bildquelle: Sammlung historischer Präparate, MZ ZMK-Heilkunde der Philipps-Universität Marburg; Reprotechnik und Bildbearbeitung; Abt. f. Zahnheilkunde, Prof. Dr. V. Stachniss; Rev. SS 2003

Bildquelle: Sammlung historischer Präparate, MZ ZMK-Heilkunde der Philipps-Universität Marburg; Reprotechnik und Bildbearbeitung; Abt. f. Zahnheilkunde; Prof. Dr. V. Stachniss; Rev. SS 2003



# Dentikel

# Fogak jelölése

- **Zsigmondy-Palmer, Chevron,  
Set-Square szisztéma**
- **The FDI two-digit system  
(nemzetközi rendszer)**
- **European, Scandinavian,  
Haderup szisztéma**
- **American (universal) szisztéma**

**FDI Federation Dentaire Internationale**

**WHO World Health Organization**

**IADR International Association for Dental  
Research**

# Zsigmondy-Palmer, Chevron, Set-Square szisztéma

8	7	6	5	4	3	2	1		1	2	3	4	5	6	7	8
---	---	---	---	---	---	---	---	--	---	---	---	---	---	---	---	---

---

8	7	6	5	4	3	2	1		1	2	3	4	5	6	7	8
---	---	---	---	---	---	---	---	--	---	---	---	---	---	---	---	---

Right

Left

V	IV	III	II	I		I	II	III	IV	V
---	----	-----	----	---	--	---	----	-----	----	---

---

V	IV	III	II	I		I	II	III	IV	V
---	----	-----	----	---	--	---	----	-----	----	---

# FDI

18 17 16 15 14 13 12 11

21 22 23 24 25 26 27 28

---

48 47 46 45 44 43 42 41

---

31 32 33 34 35 36 37 38

Jobb

Bal

55 54 53 52 51

61 62 63 64 65

---

85 84 83 82 81

---

71 72 73 74 75

**European, Scandinavian,**

**Haderup system**

8+ 7+ 6+ 5+ 4+ 3+ 2+ 1++1 +2 +3 +4 +5 +6 +7 +8

Jobb

Bal

8- 7- 6- 5- 4- 3- 2- 1-

-1 -2 -3 -4 -5 -6 -7 -8



# USA

**1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16**

**32 31 30 29 28 27 26 25 24 23 22 21 20 19 18 17**

**Jobb**

**Bal**