

Endodontics II.



Healing potential of dental pulp



Dental pulp



Inflammation

Acute

Chronic

Necrosis

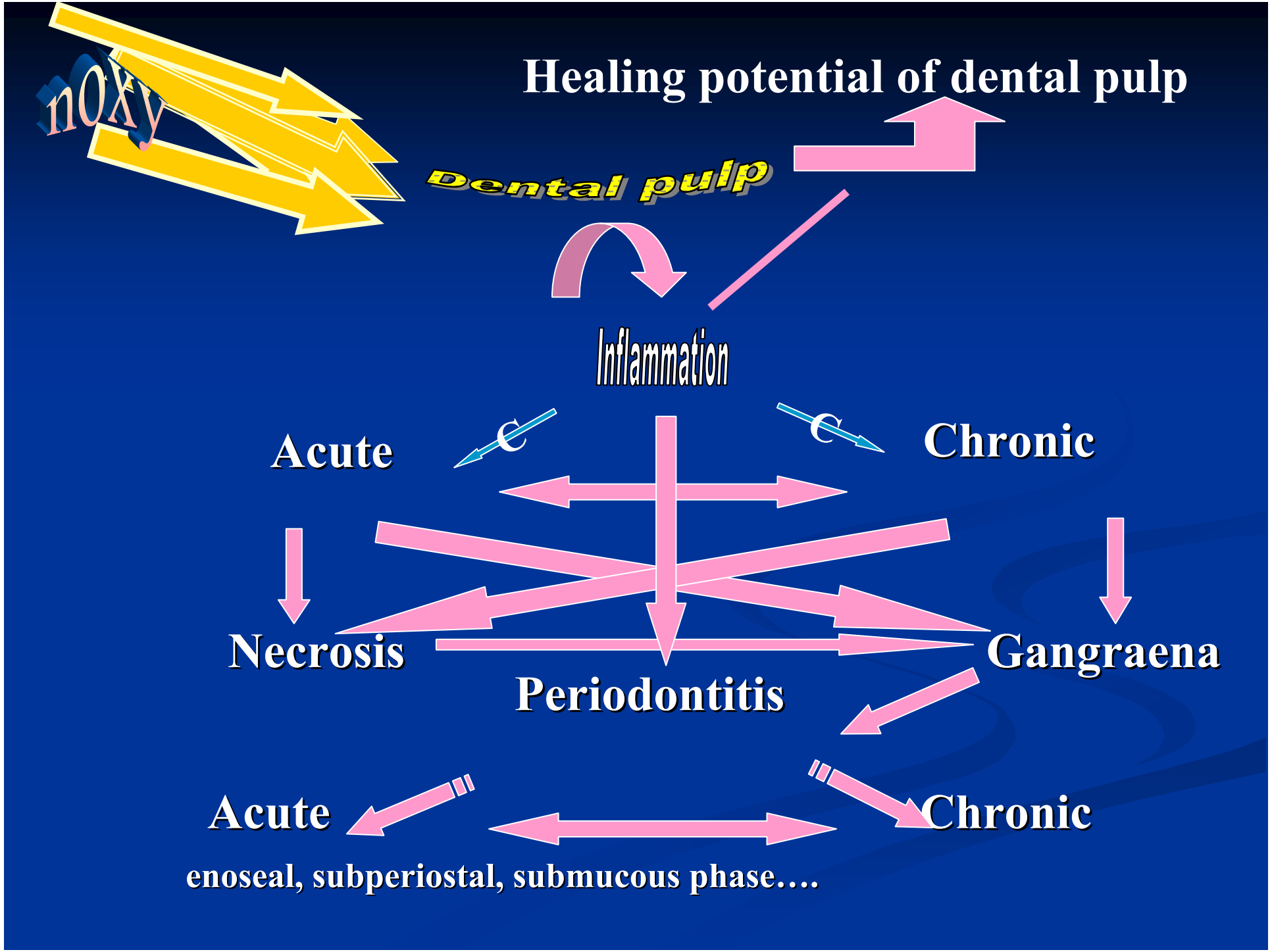
Gangraena

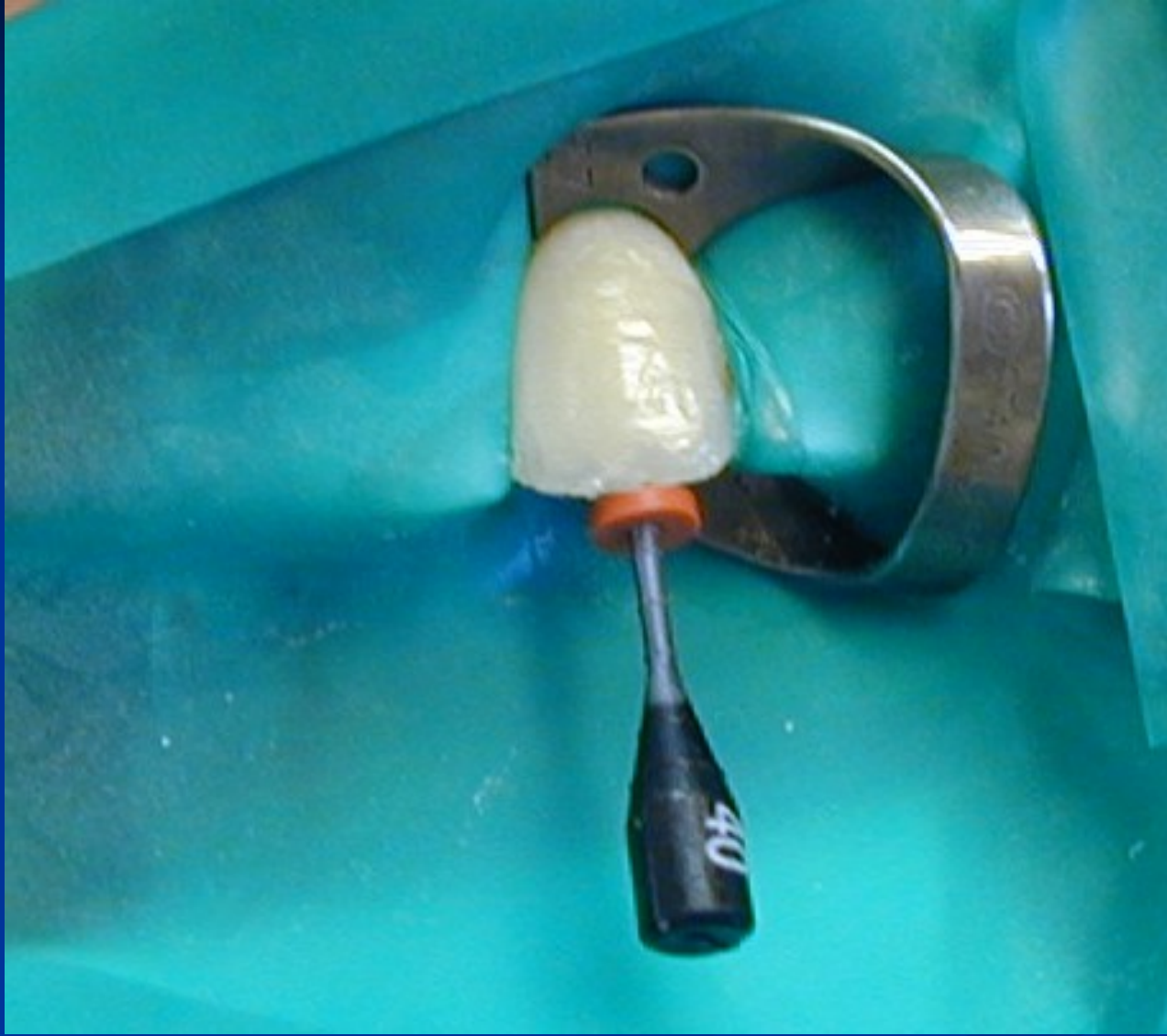
Periodontitis

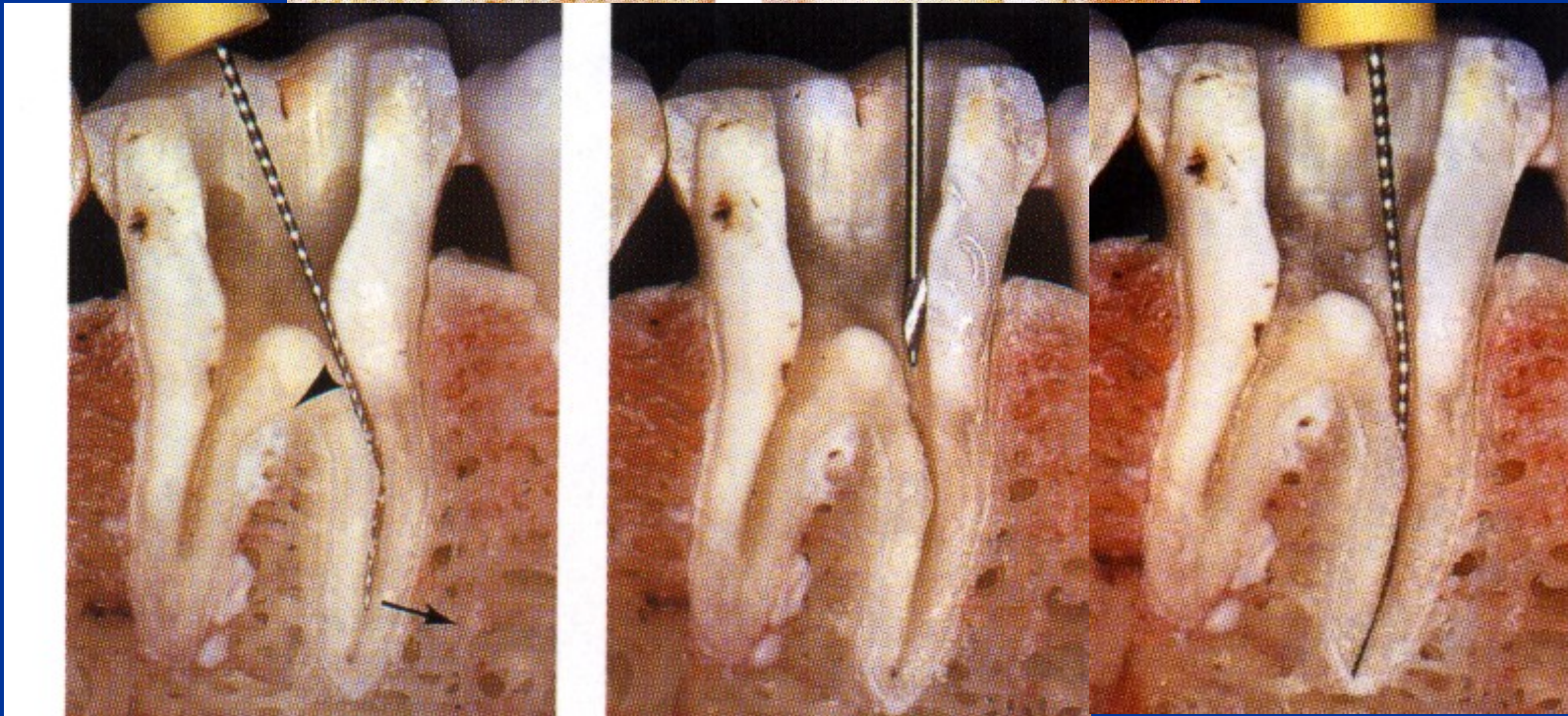
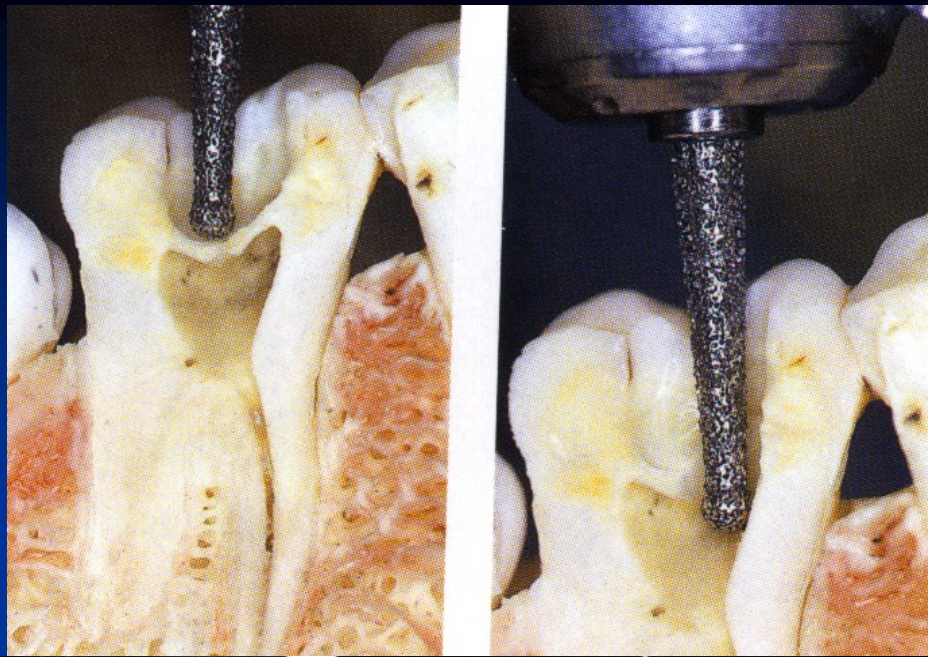
Acute

Chronic

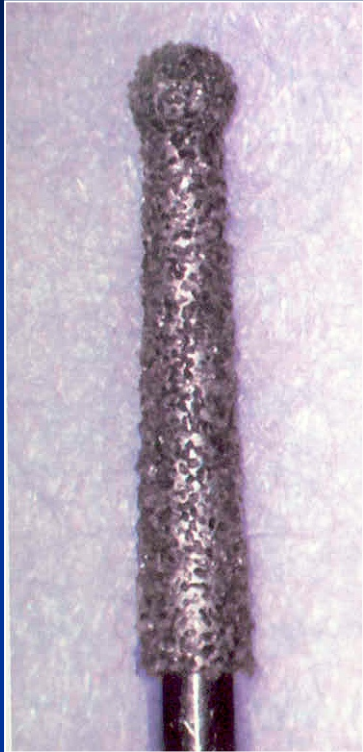
enoseal, subperiostal, submucous phase....







Access



Dia trepan



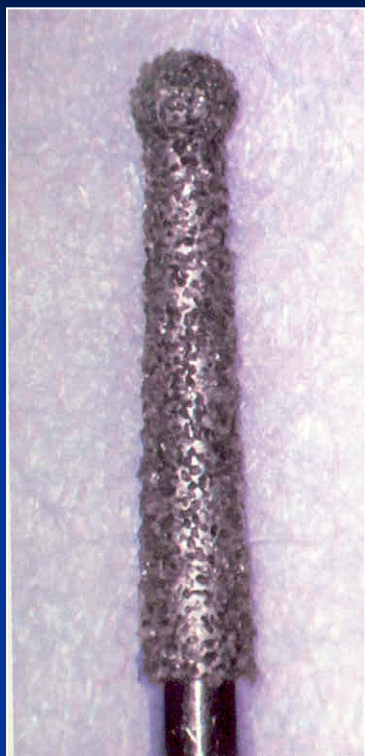
Dia balls



Burs



Snesení stropu dřevěné dutiny, vytvoření „usnadňující formy“



Dia trepan



Batt
(safe ended tips),

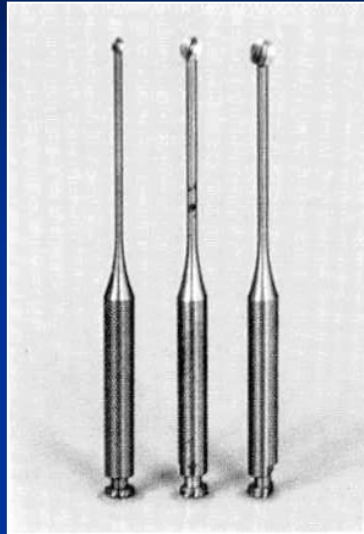


Fissure bur

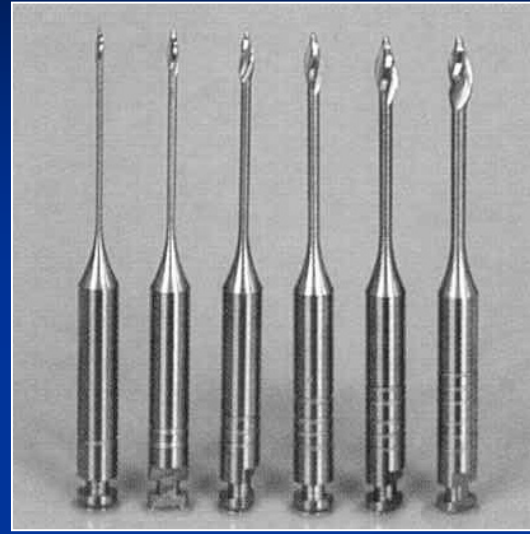
Location of root canals



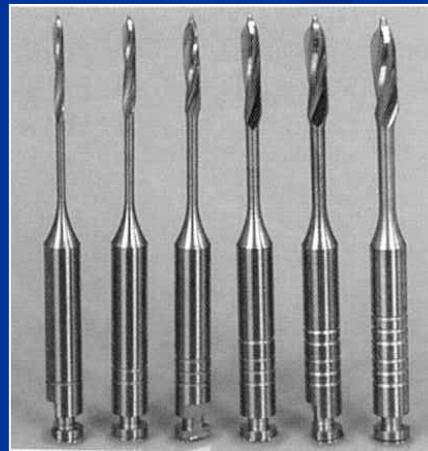
Ball burs



Miller's burs

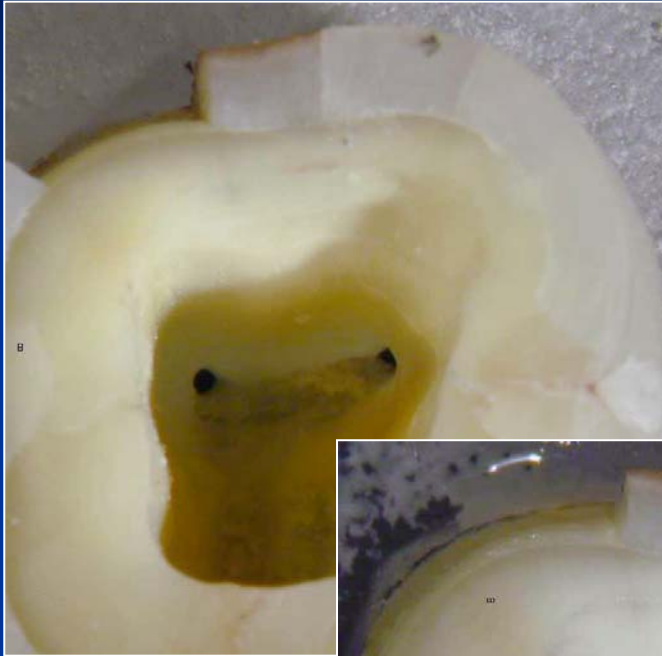


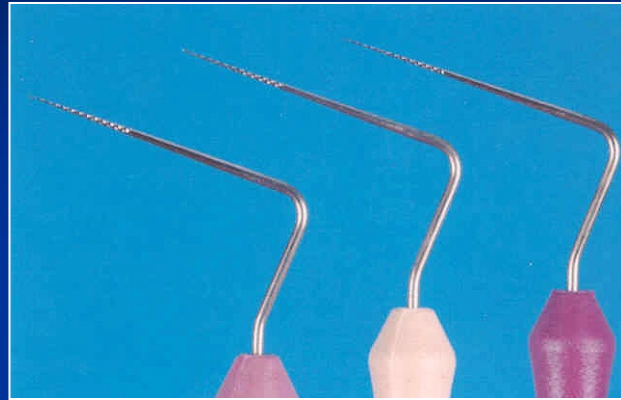
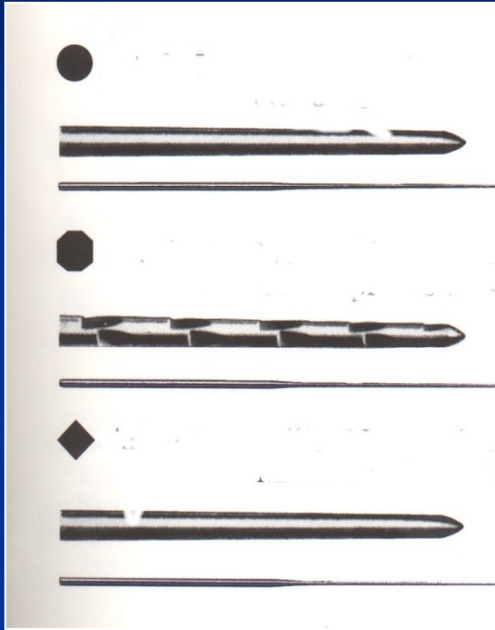
Gates Glidden



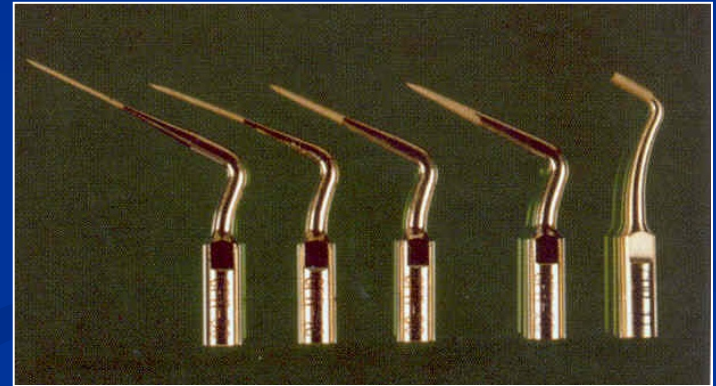
Peeso – Largo

Location and shaping





Endodontic probes
Microopeners



Uz tips

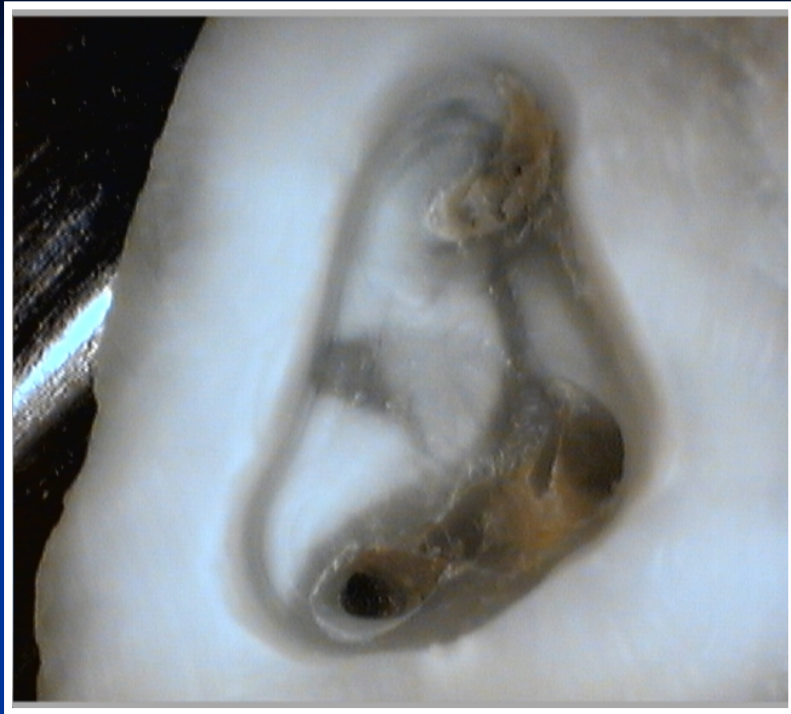


Dye

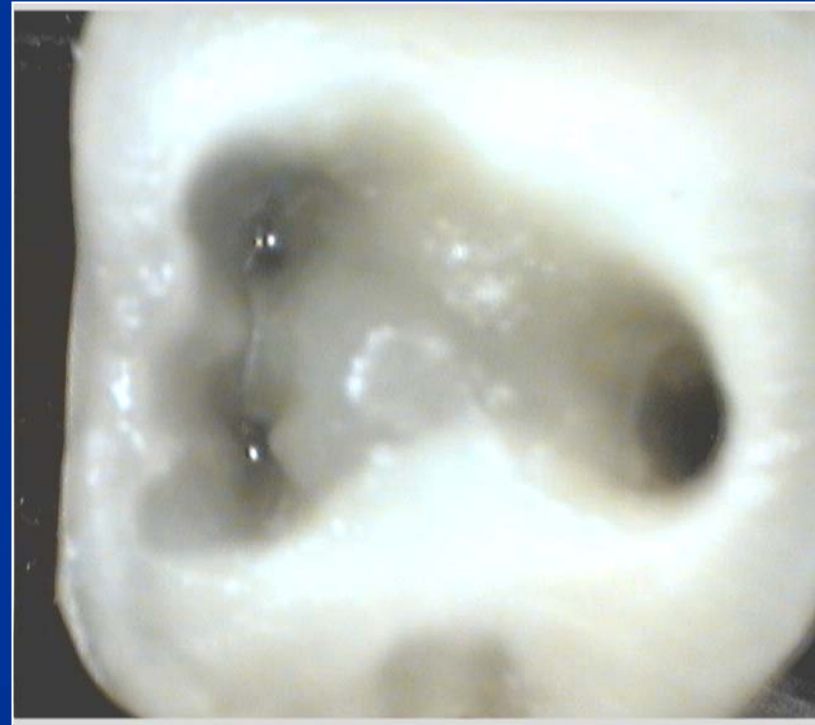


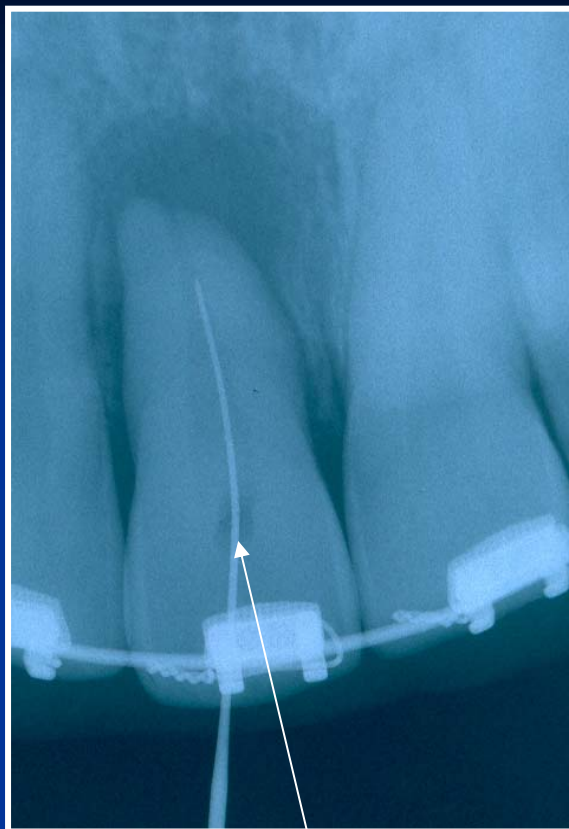




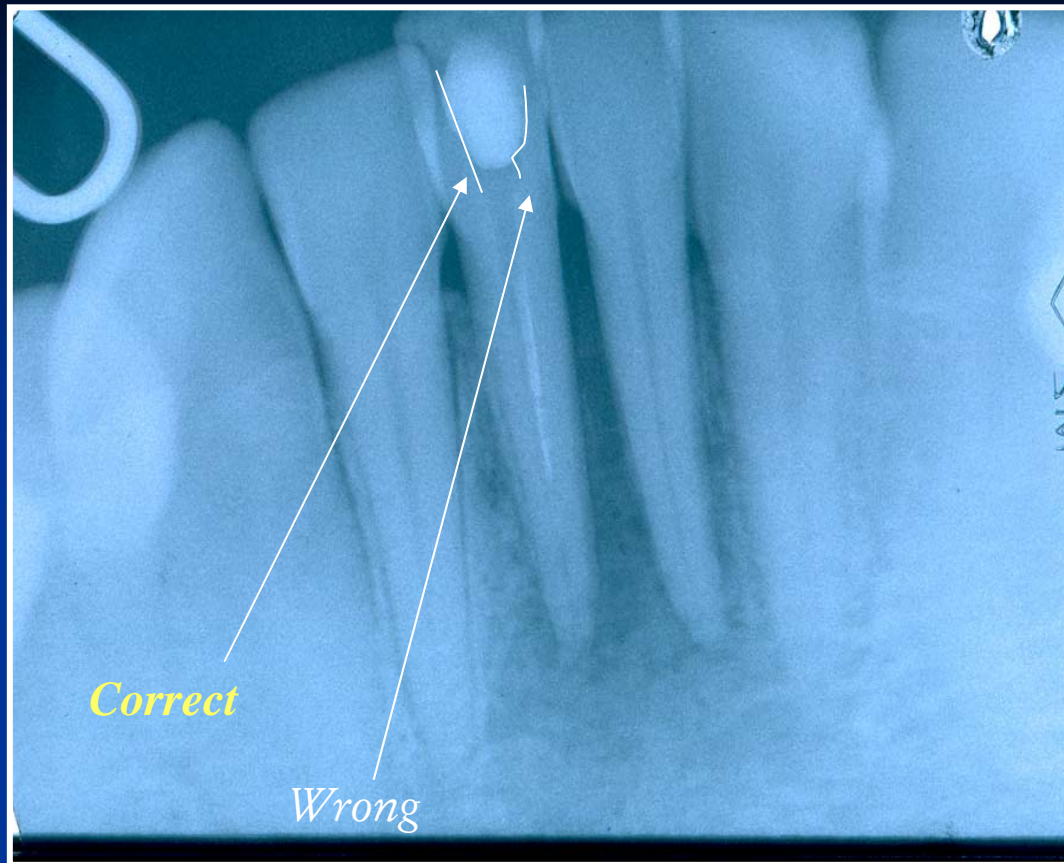


➤ *Reading of the bottom*



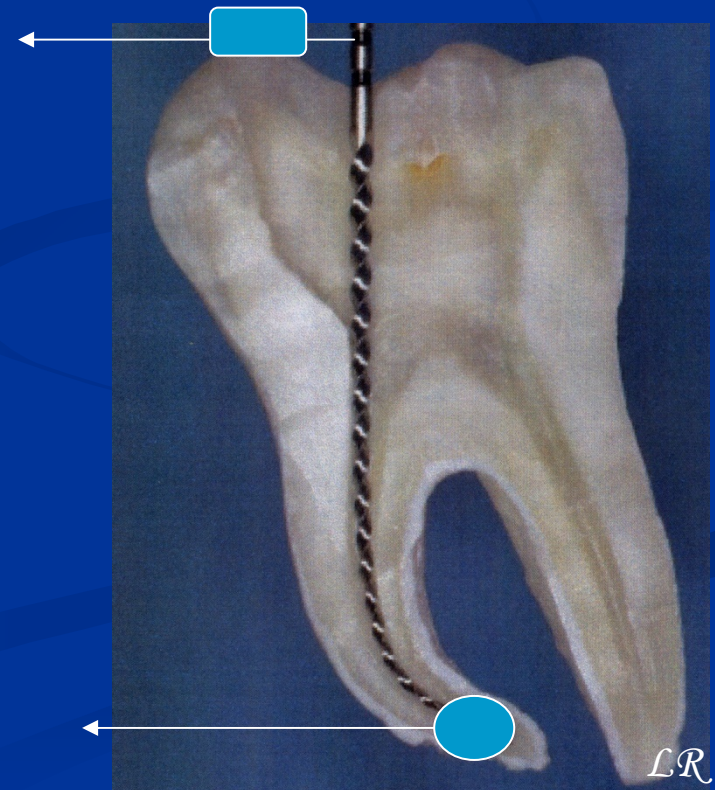


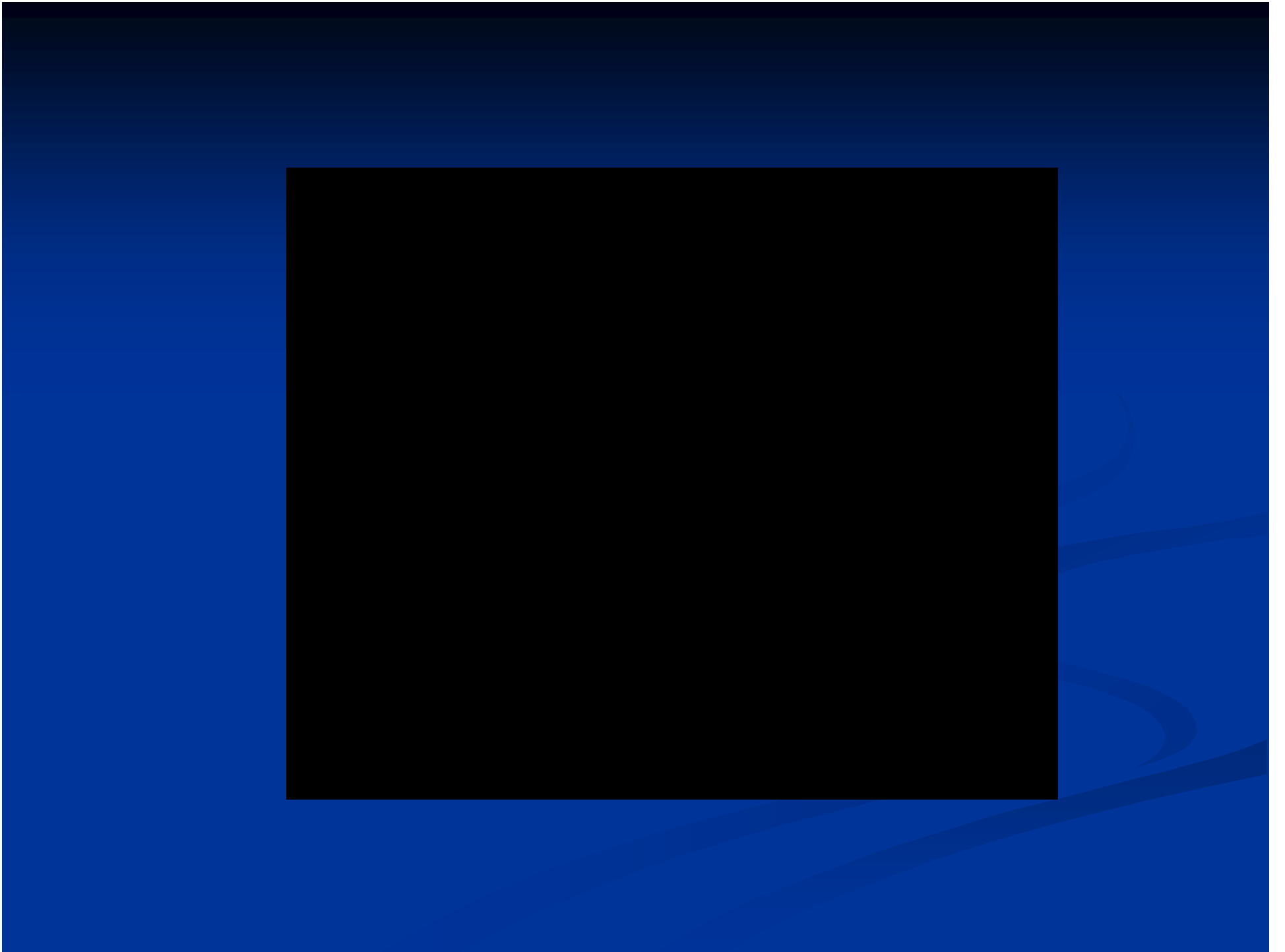
Wrong



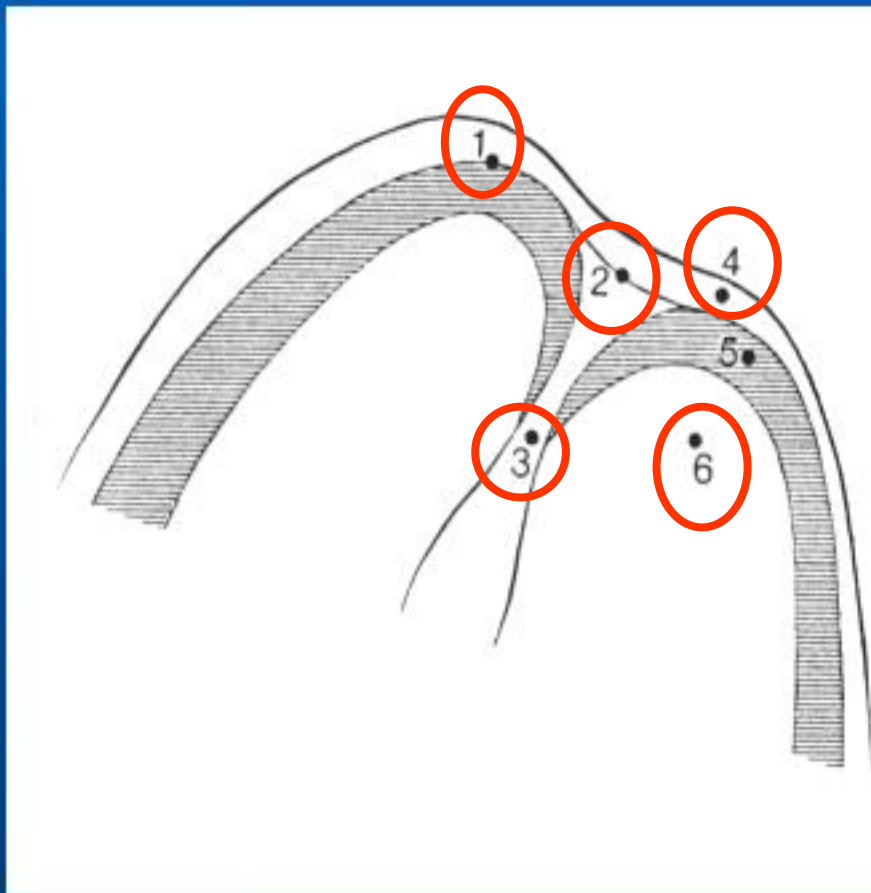
Working length

- Distance between referential point on tooth crown and apical constriction



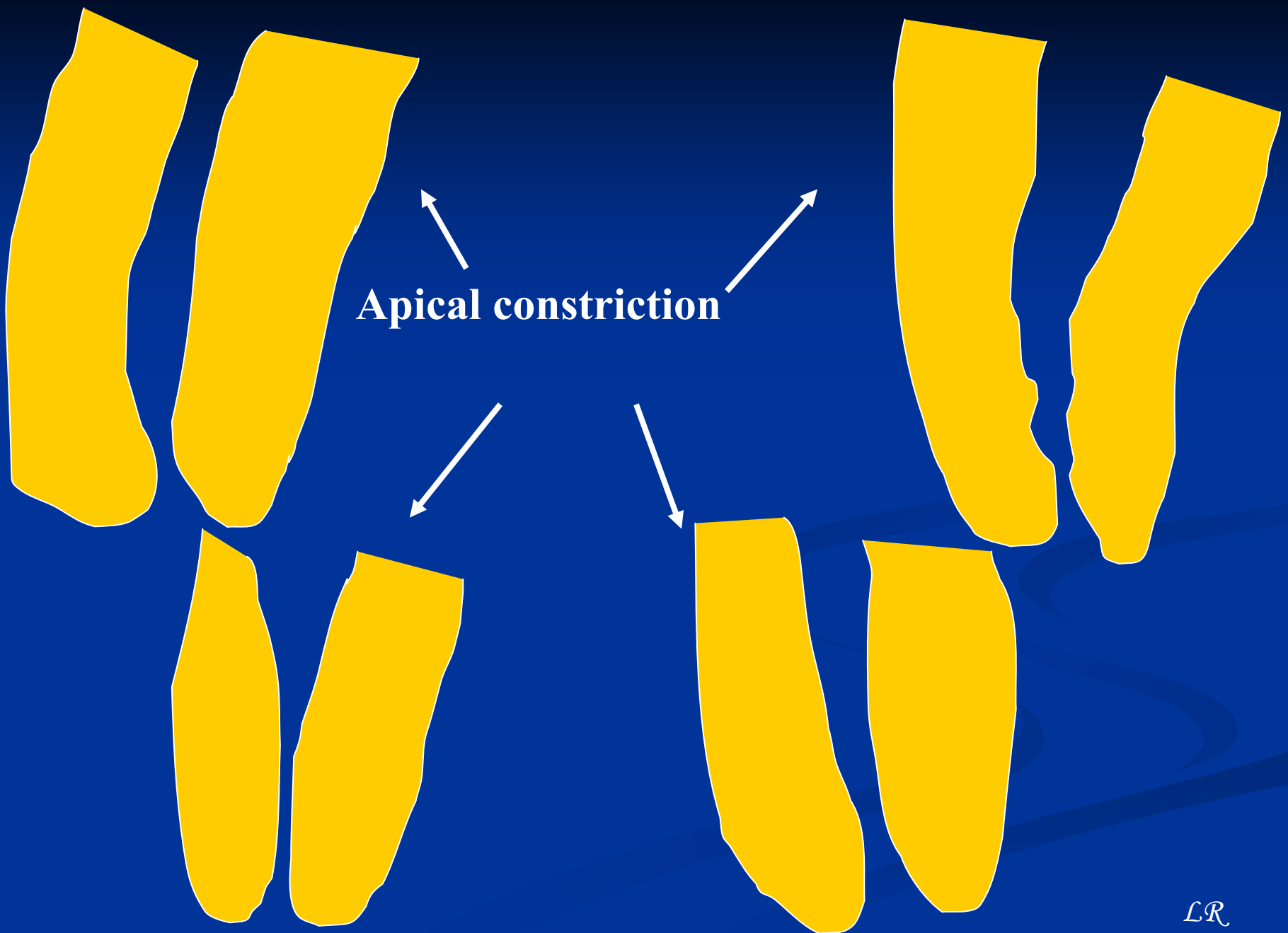


Apical morphology



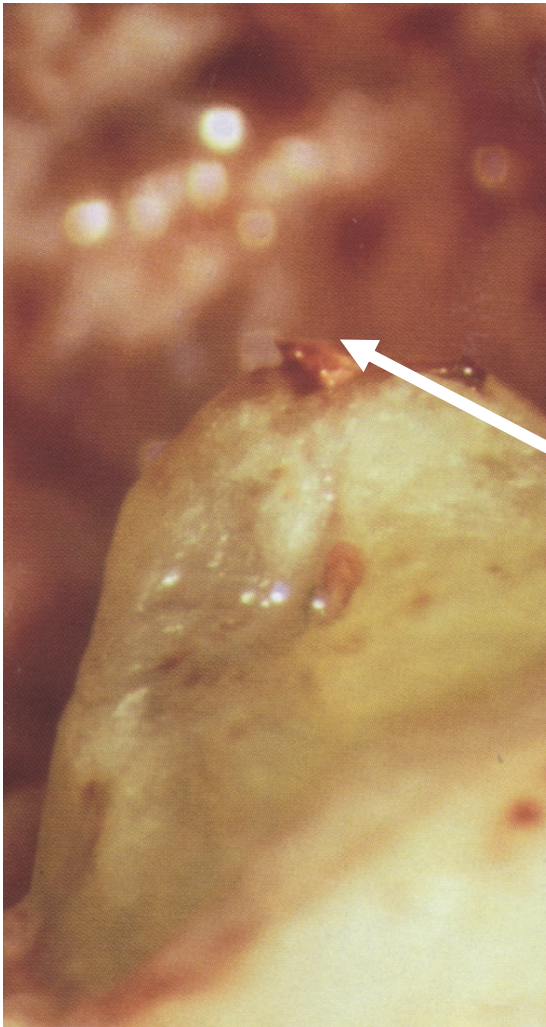
1. X-ray apex
2. Apical foramen
3. Apical constriction
4. Periodontal ligament
5. Root cementum
6. Dentin

Apical constriction



Why RTC terminates in apical constriction?

- Small apical communication
- Less risk of damage pof periodontium
- Prevention of overfilling
- Prevention of apical transport of infected metarial
- Possibility of good removal of debris
- Good compaction of guttapercha



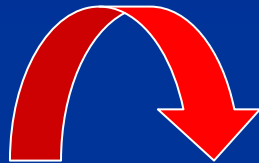
Skutečnost

X-ray apex

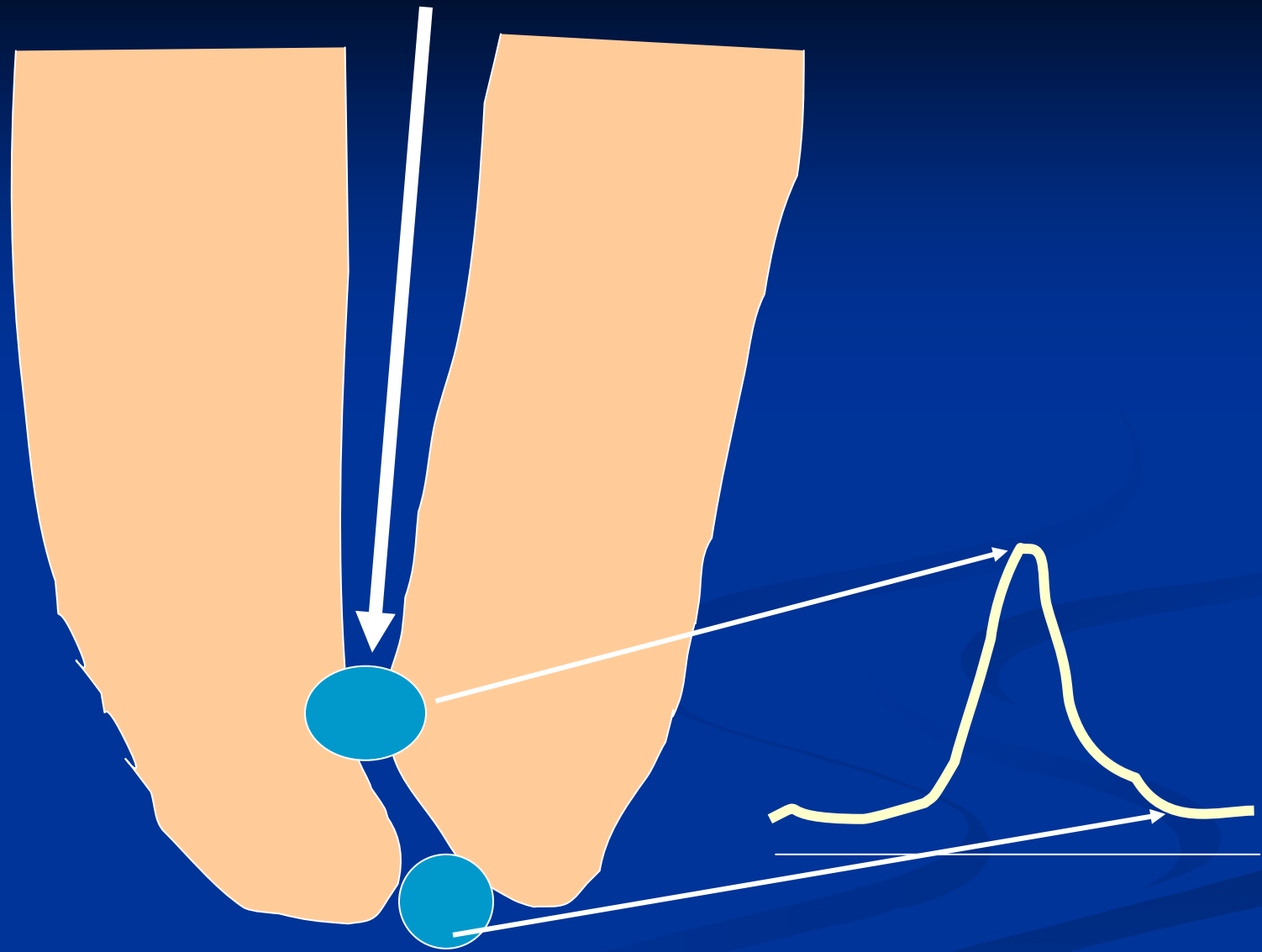


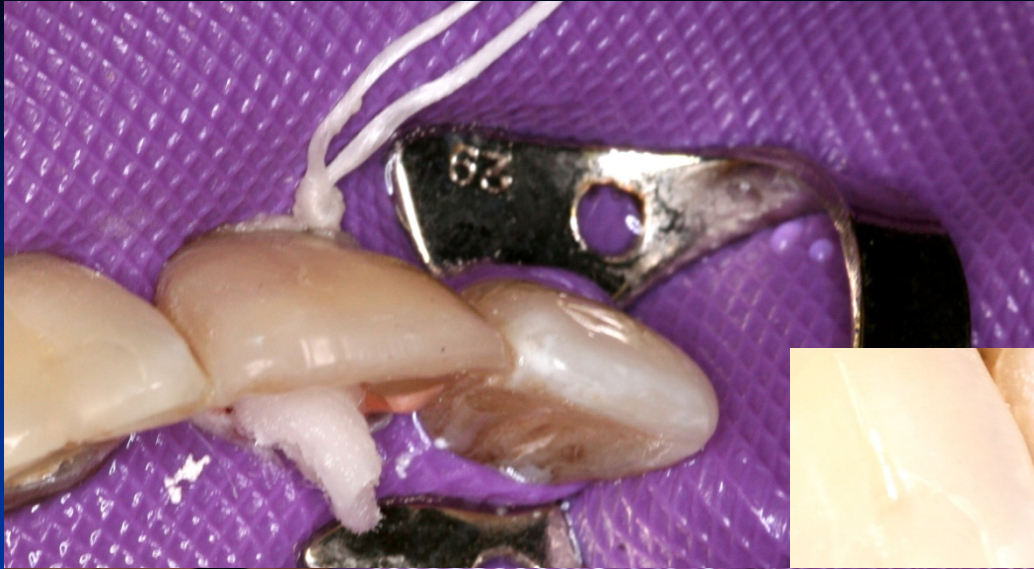
Principle of apexlocators

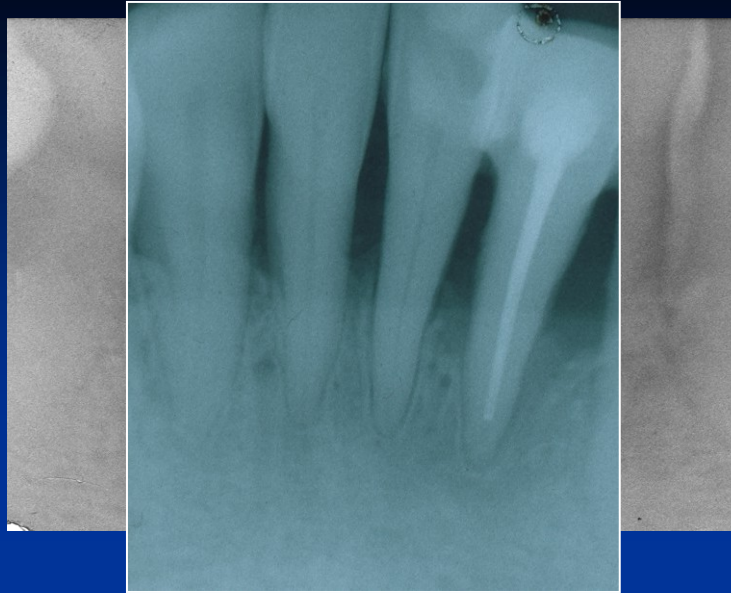
- Endometrie



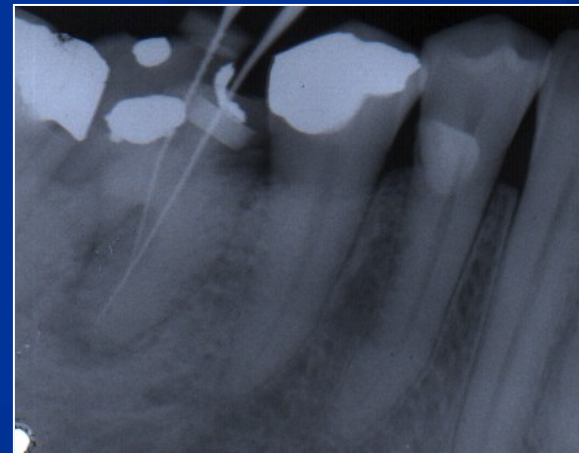
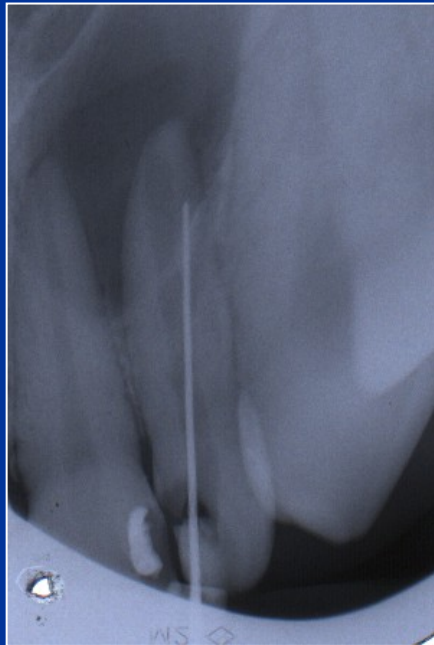
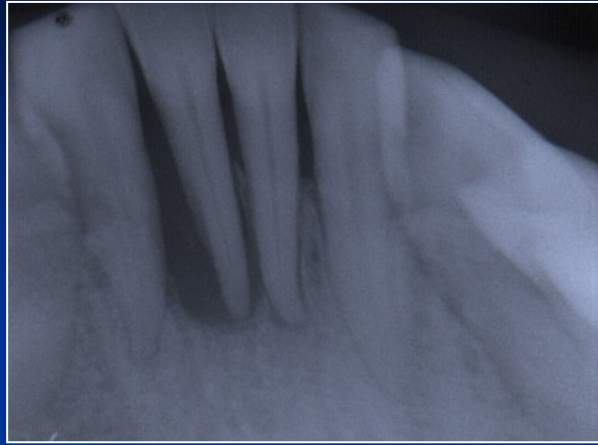
mearurement of impedance

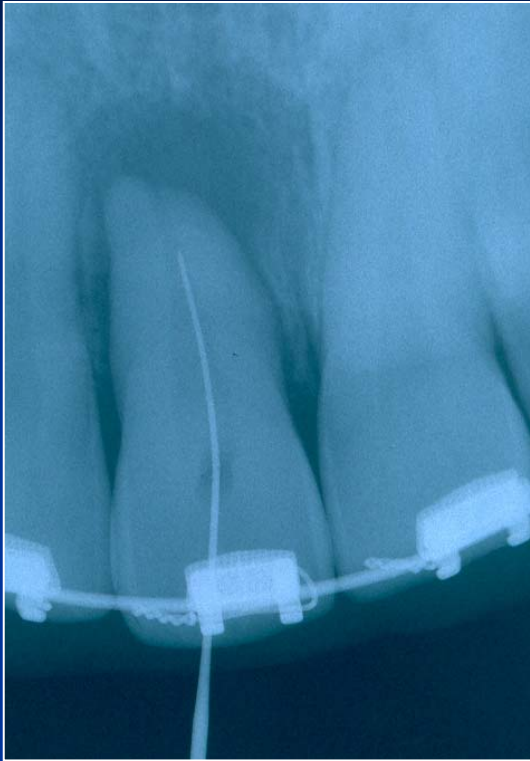












Root canal shaping

- Hand instruments
- Power driven instruments
- Material – stainless steel
 - nickeltitanium alloy

■ Nickel-titanium alloy

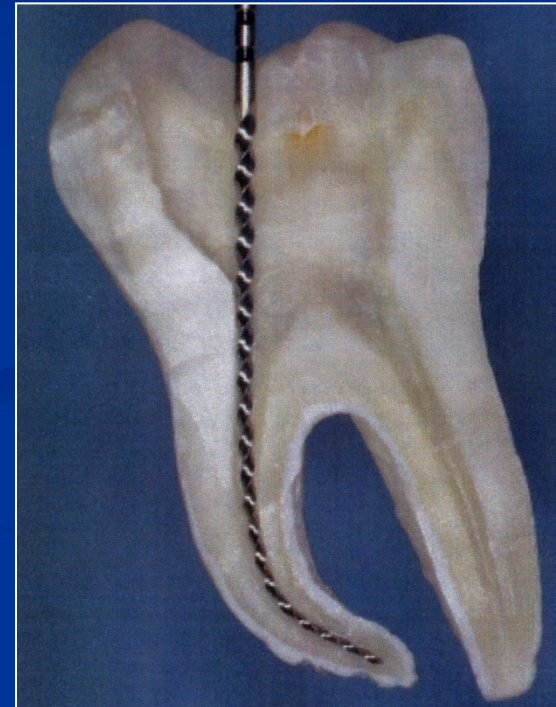
56 % nickel, 44% titanium,
60% nickel, 40 % titanium

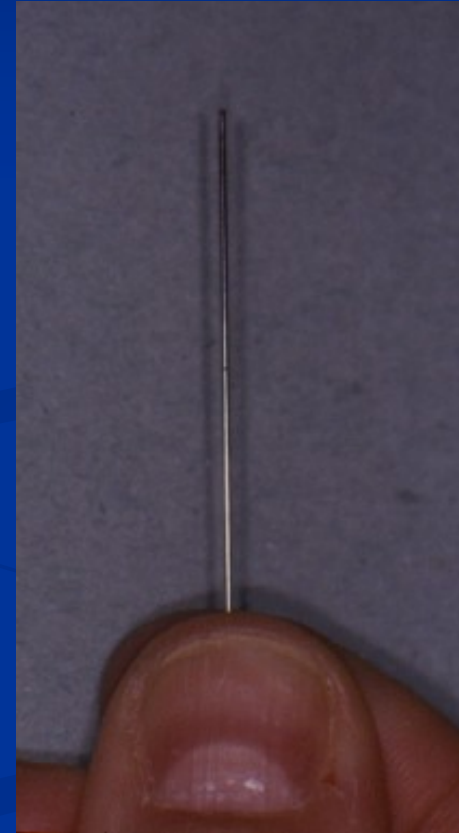
Flexibility

Memory effect

Cutting effect

Fractures





Taper 6%

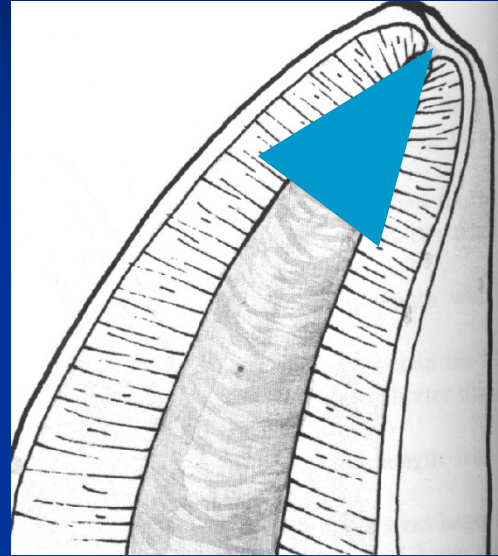
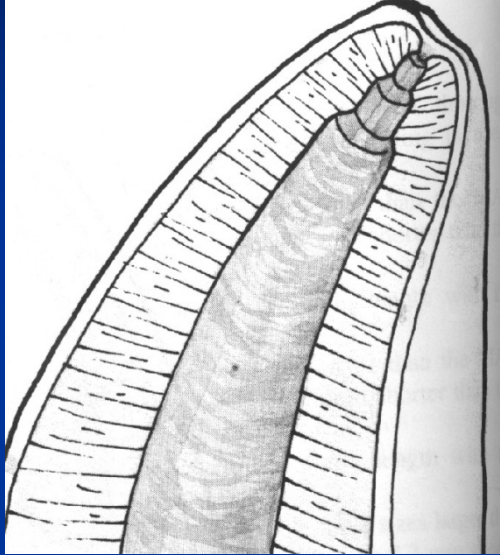


$$d_2 = d_1 + 0,96$$

d_1

d_2

0,06mm na 1 mm



2% taper

30	0,30 mm
35	1 mm 0,35 mm
40	2 mm 0,40 mm
45	3 mm 0,45 mm

6% taper

30	0,30 mm
30 1 mm	0,36 mm
30 2 mm	0,42 mm
30 3 mm	0,48 mm

Apical size and taper

Bigger taper

Flaring

Irrigation effectivity

Good approach to apical area

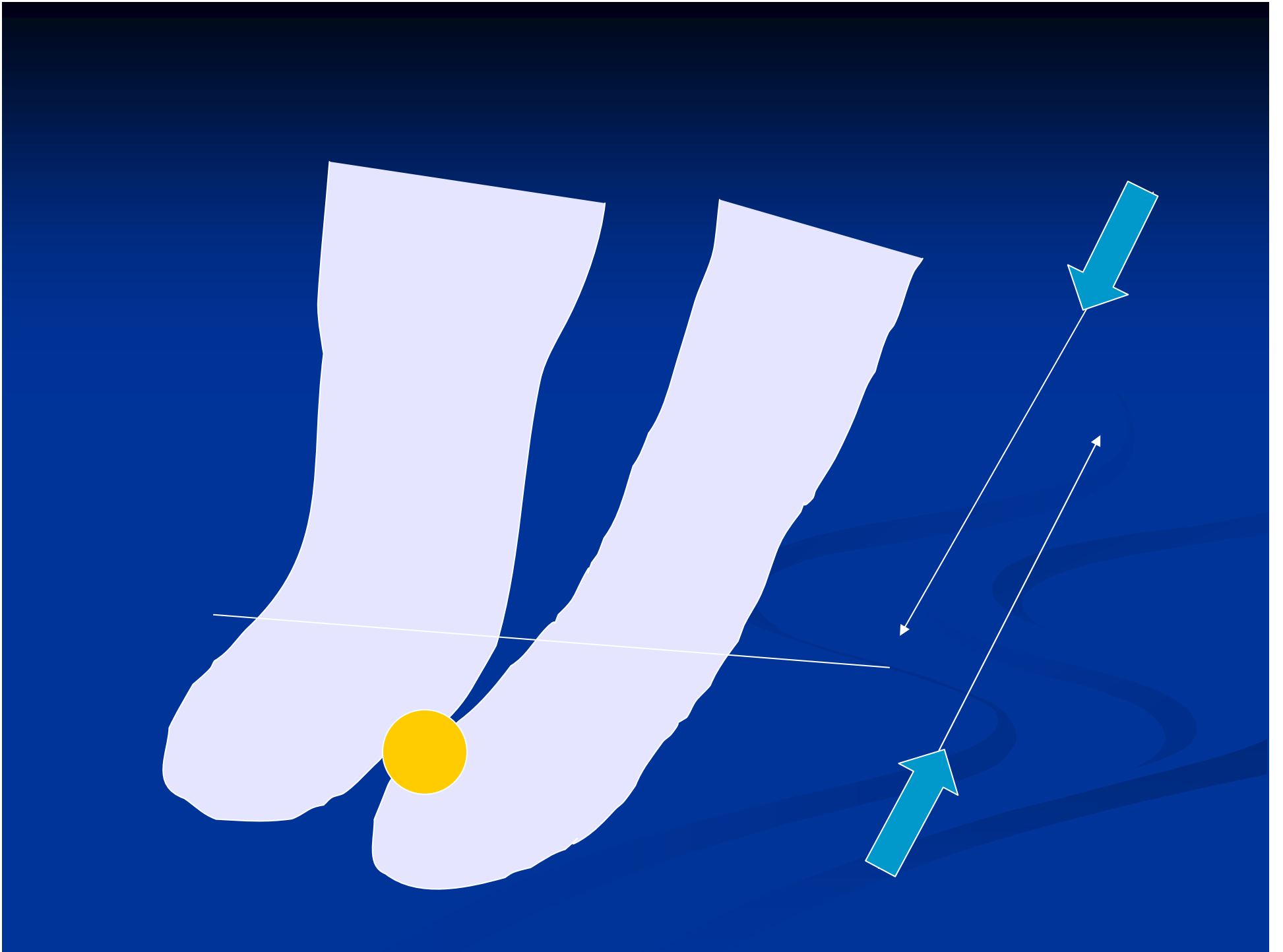
**Good conditions for 3D root
canal filling**

Disadvantages

Loss of hard dental tissue

Higher risk of stripping







Crown down

Apical – coronal direction



Controlled rotation

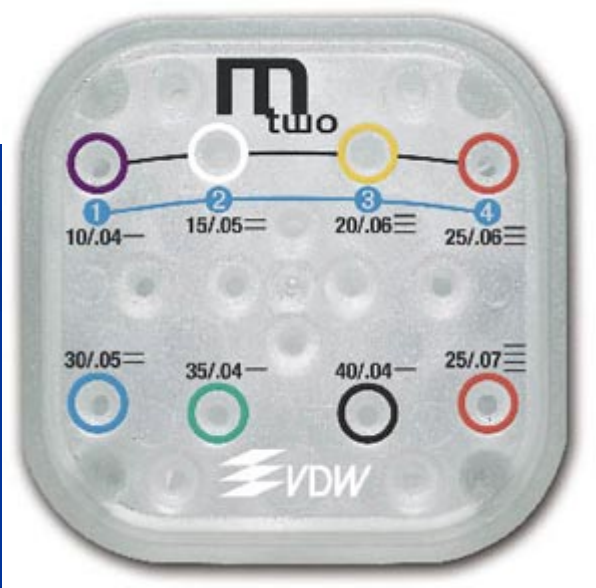
Low rpm

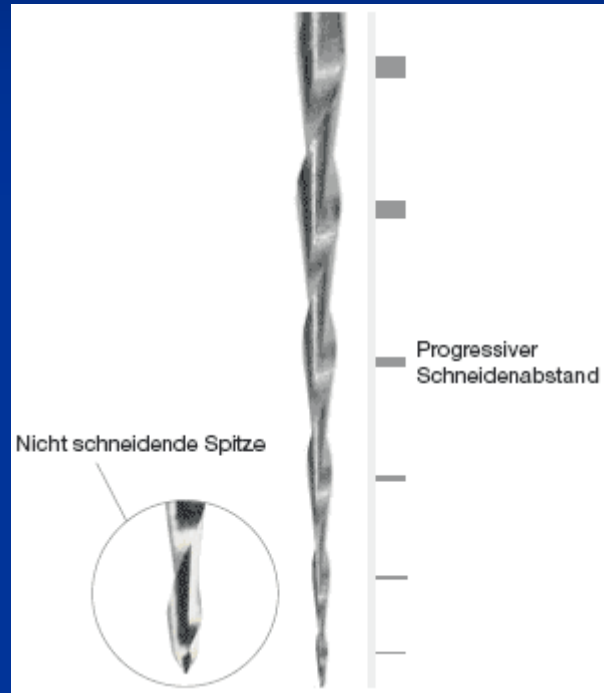
Moment of rotation

Torque control

Motor,
handpiece









Systems of power driven endodontics

- ProTaper

- MTWO

- Wizard

- Revo S

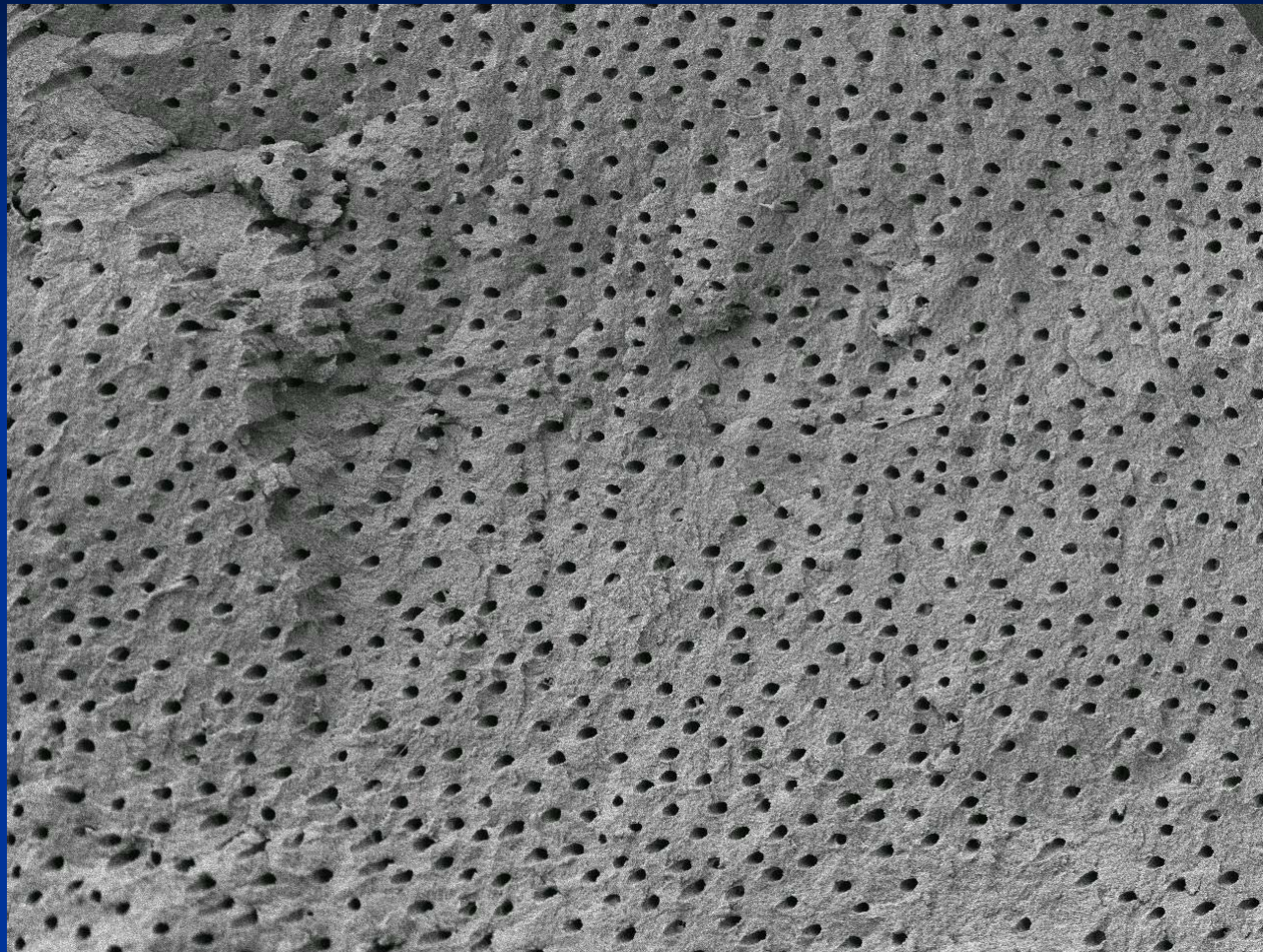
} Rotation

- Tilos

- Reciproc

} Oscillation

} Reciprocative movement



ISI

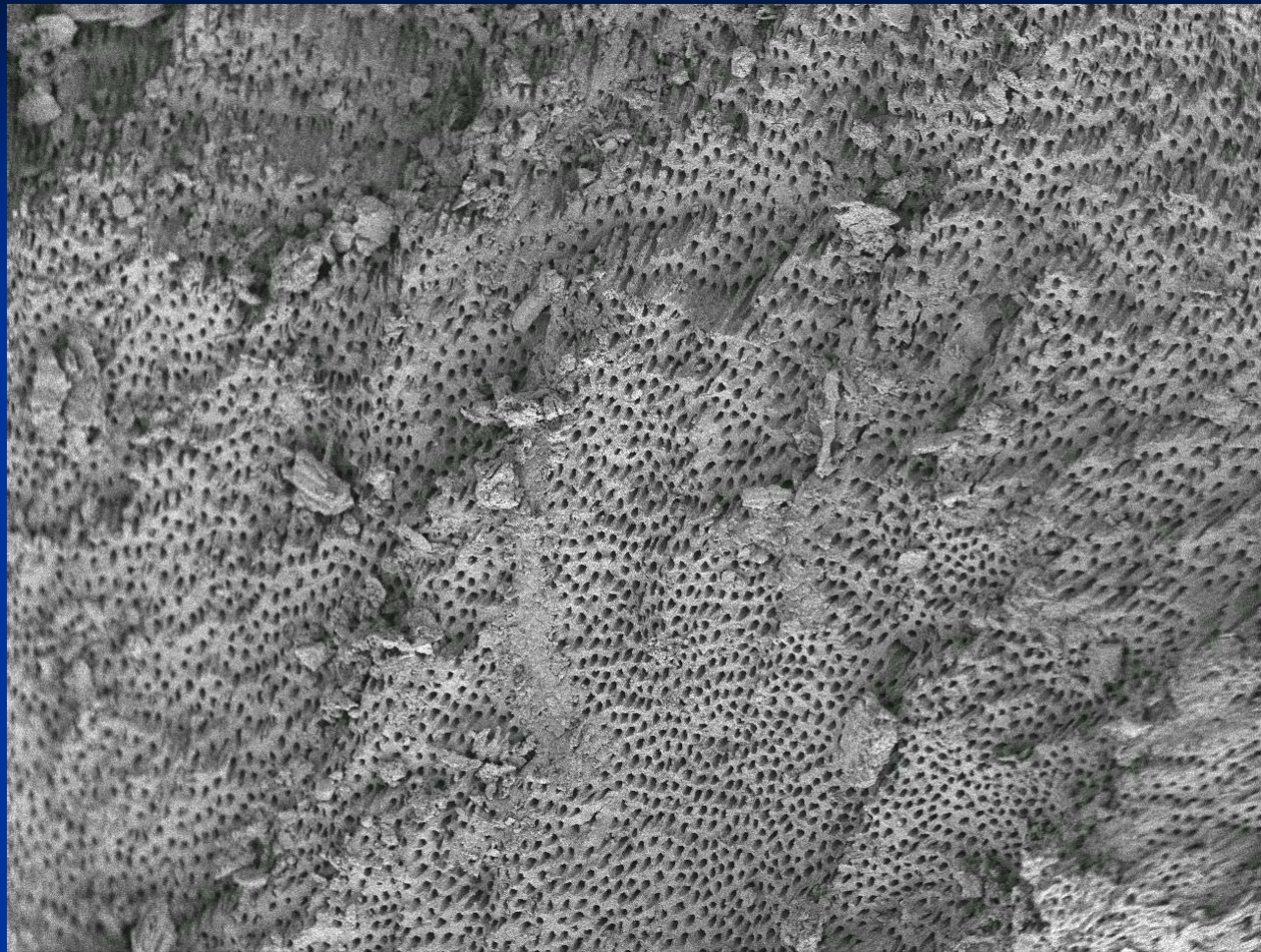
LEI

5.0kV

X600

10 μ m

WD 9.0mm



ISI

LEI

5.0kV

X300

10 μ m

WD 7.8mm



ISI

LEI

5.0kV

X300

10 μ m

WD 8.1mm

Basic rules of power driven endodontics

Controlled movement

Keep the sequency

The instrument moves befor ingoing to the root canal

Irrigation, lubrication

No pressure

Movement up and down

Working cycle 10 – 15 s

Irrigation

□ debridement



□ desinfection



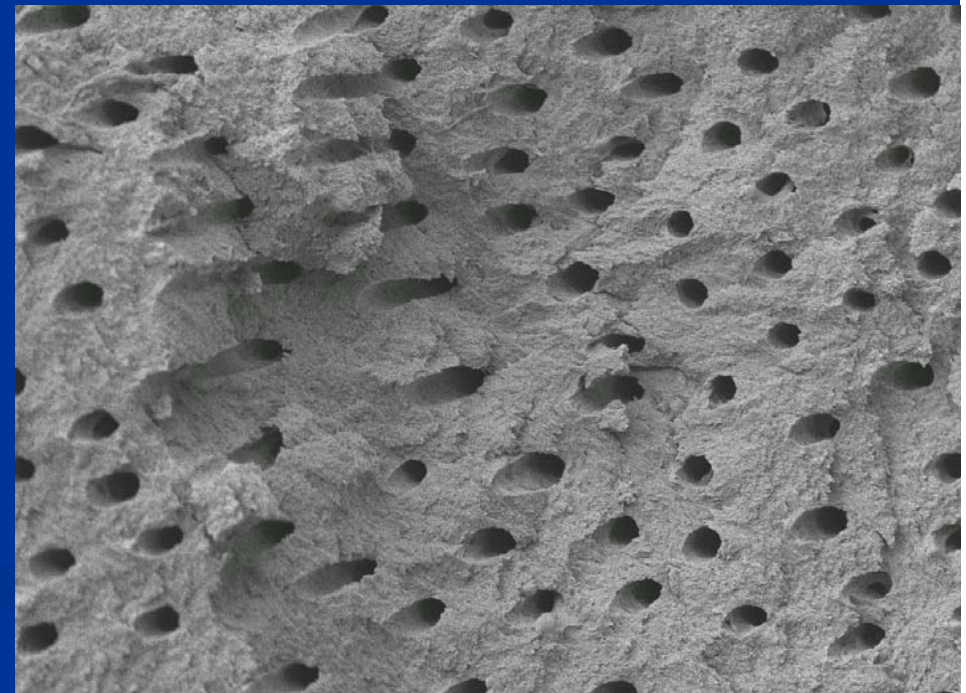


CANTATORE G.

Irrigation Canalaire: avantages
potentialisation et sequence operateire

Endo Contact 1999 - 5:13-21

Irrigation NaOCl



ISI LEI 5.0kV X2,000 10µm WD 9.0mm

