

Root canal filling Methods

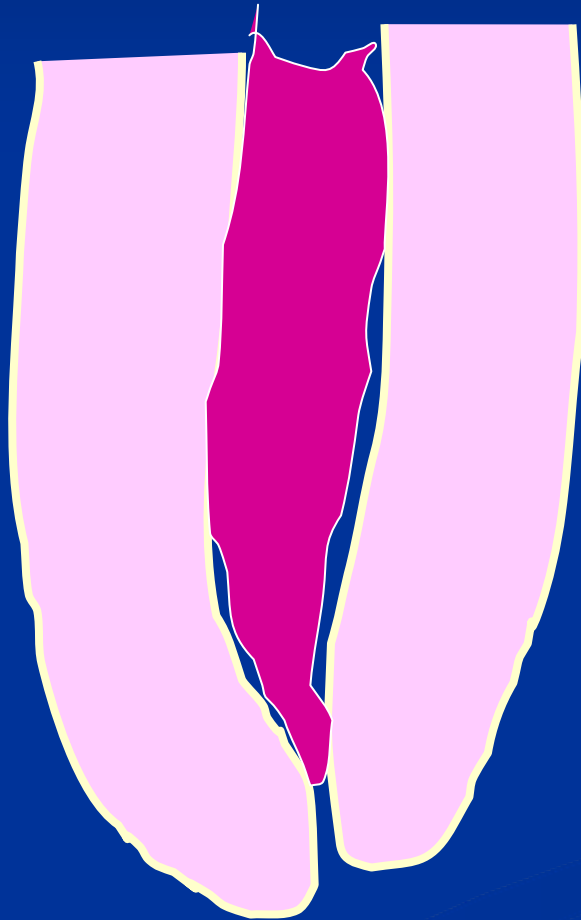
Filling

Always combination

- Plastic material – sealer
- Guttapercha

Paste only

No good seal, today only temporary filling using calcium hydroxide

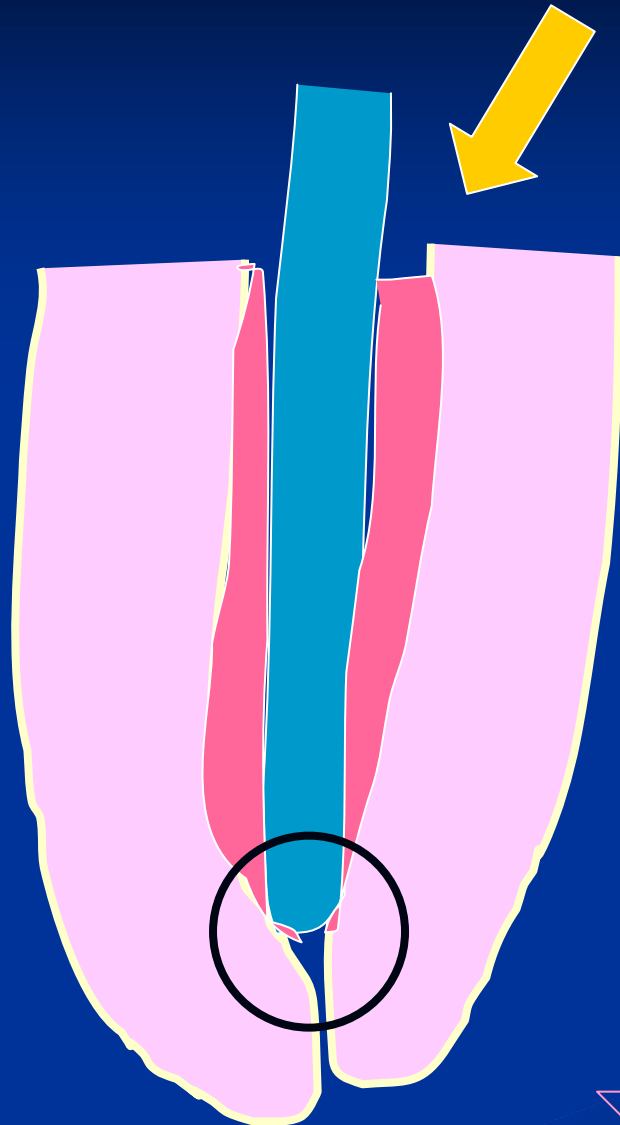


Cold techniques

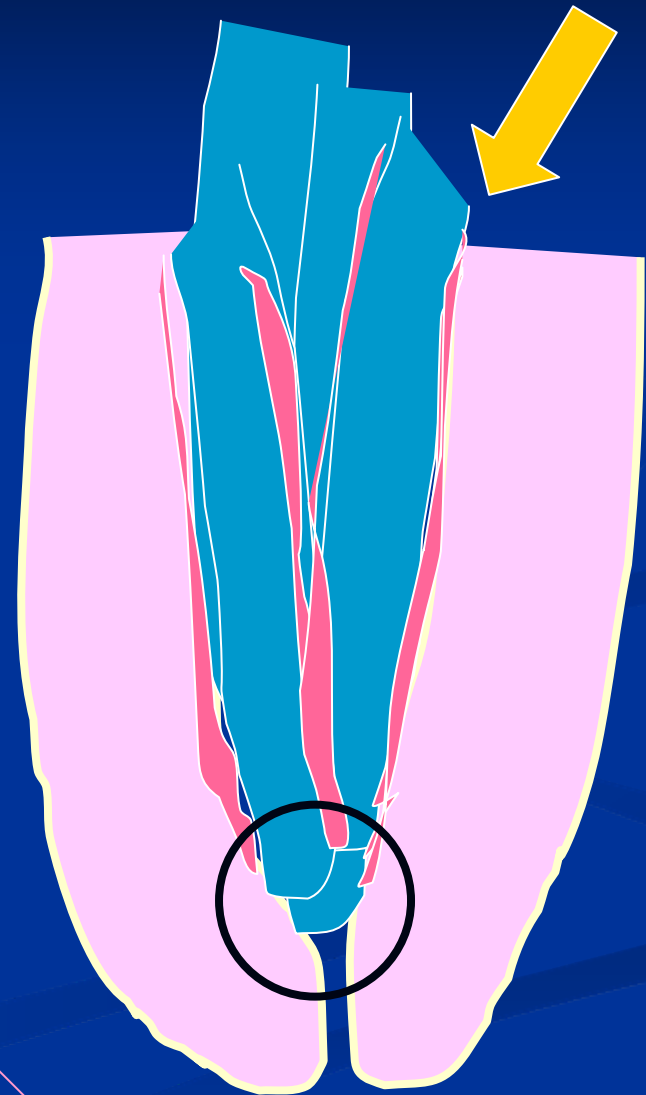
- Single cone technique
- Lateral condensation

Guttapercha cone (cones) and sealer

Single cone

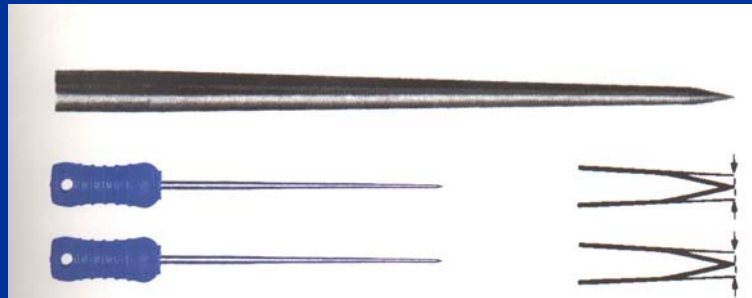


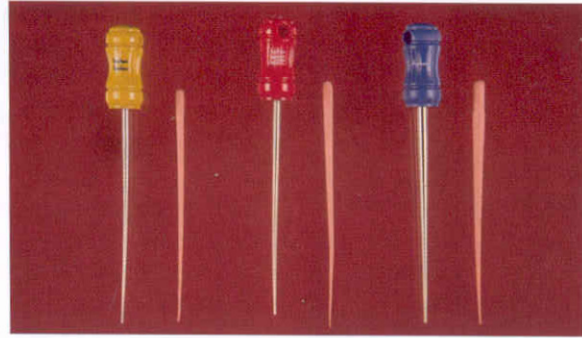
Lateral condensation



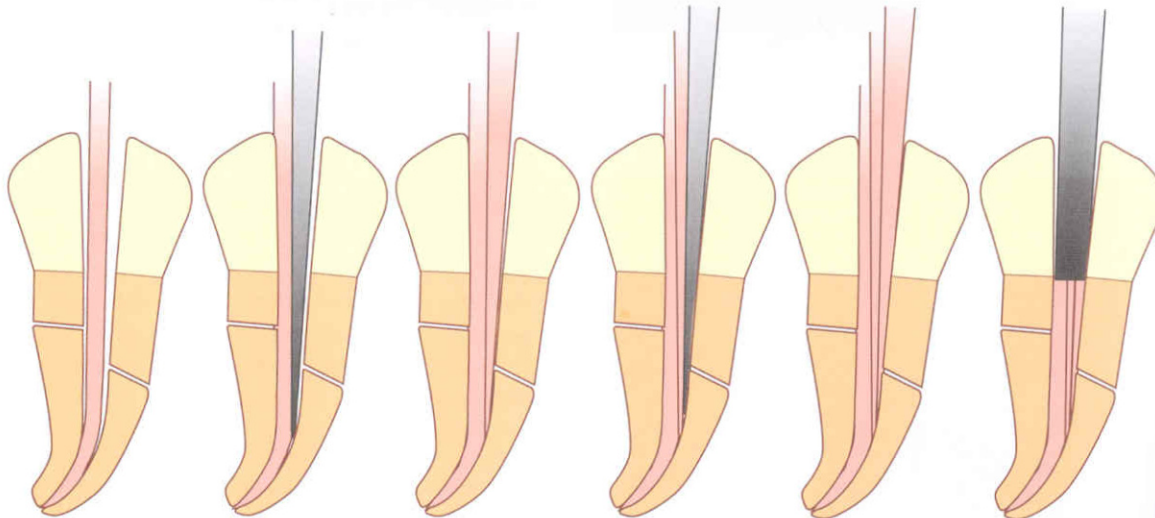
Compactor for lateral condensation

Spreader

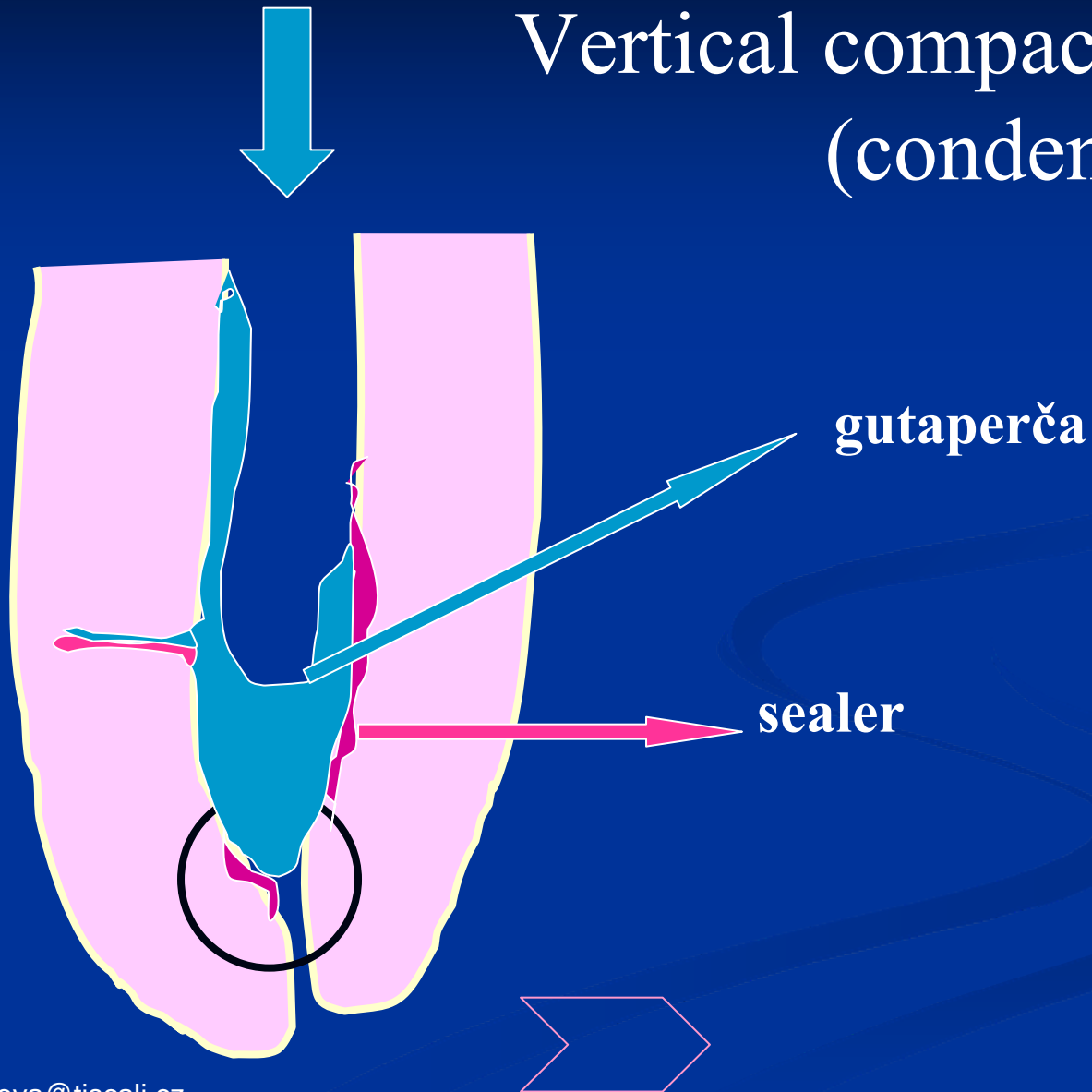




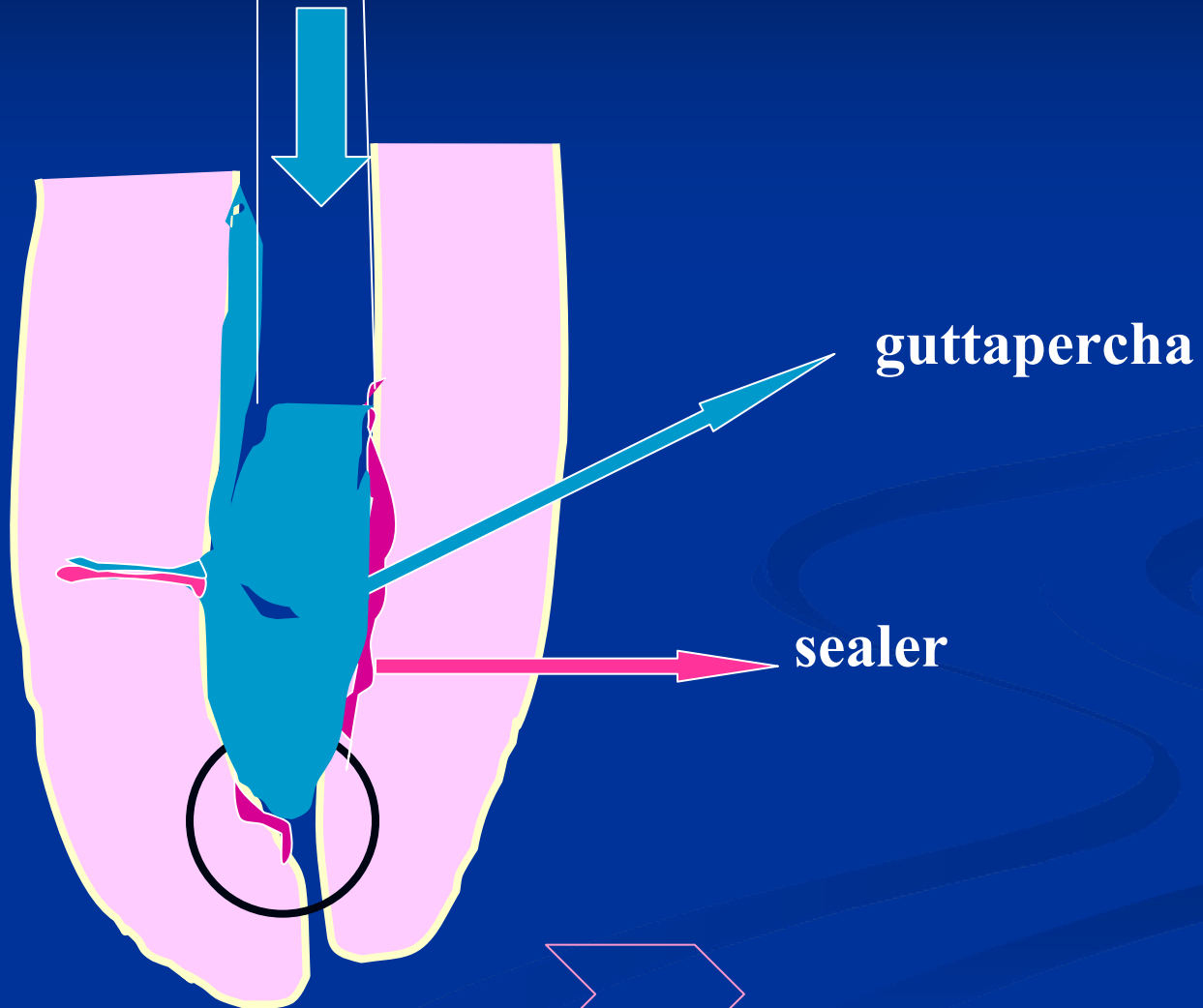
A



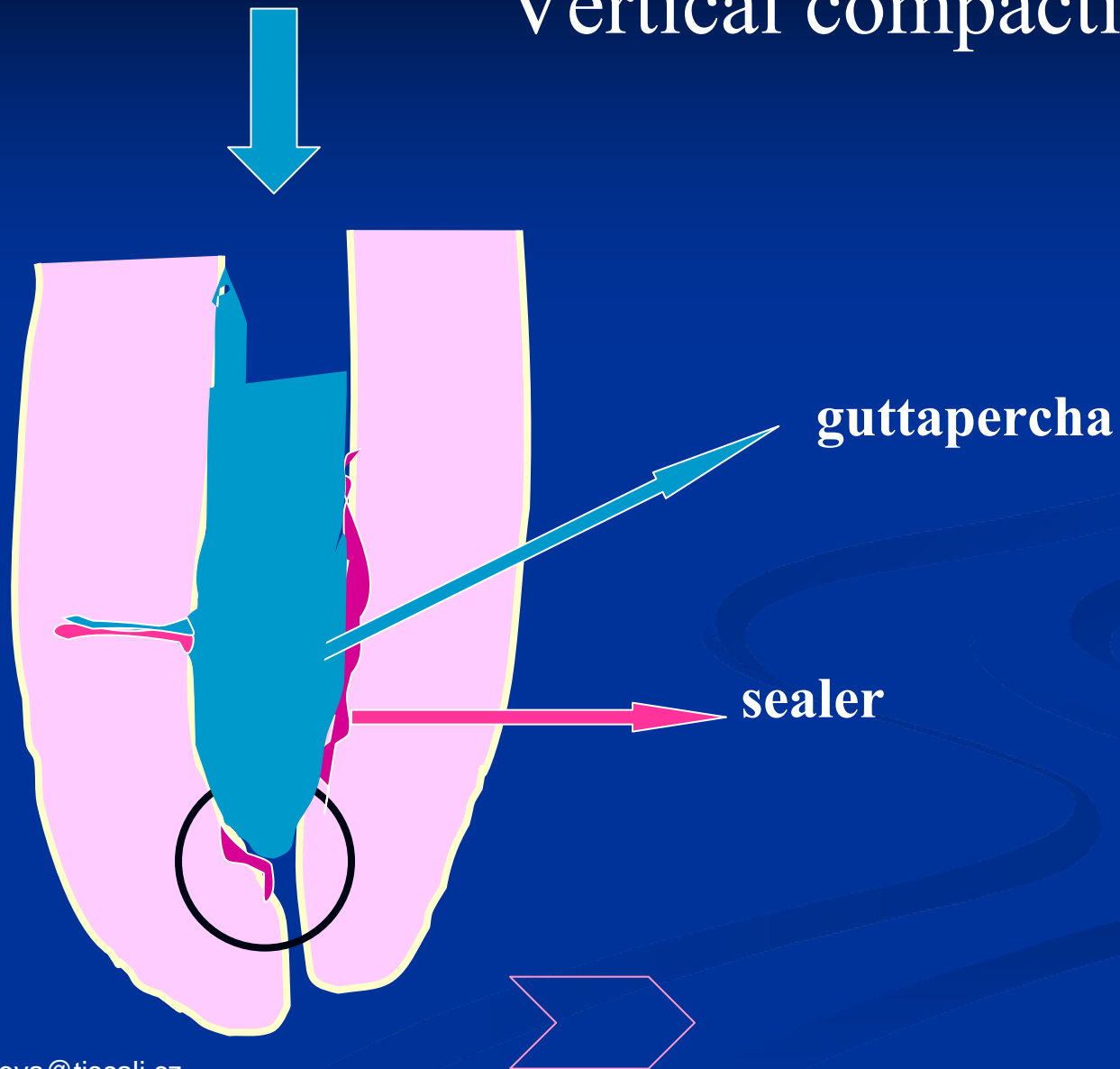
Vertical compaction (condensation)



Injection



Vertical compaction



Warm techniques – using heated guttapercha

Compactor
- plugger



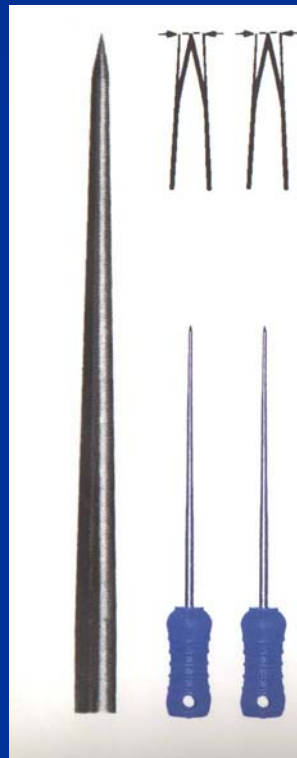
Paste carrier -Lentulo



- Delivers the plastic material forward
- 1,5 – 2 mm before the front
- Most often for $\text{Ca}(\text{OH})_2$

Kompaktory

Kořenové cpátko
- spreader



Hladký povrch, špička

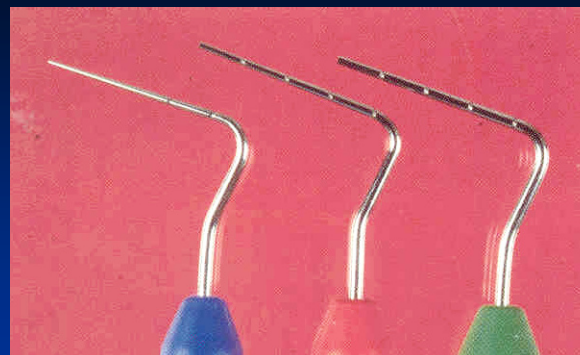
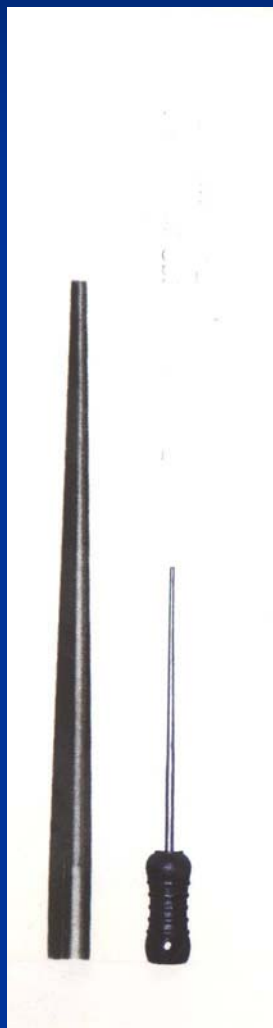
Zasunutí do kořenového
kanálku vertikálně



*Laterální kondenzace
gutaperčových čepů*

Kompaktory

Kořenové cpátko
- plugger



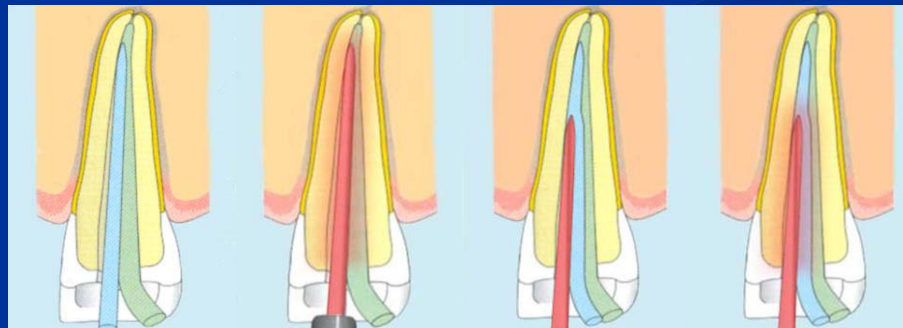
Hladký povrch, rovné čelo

Zasunutí do kořenového
kanálku vertikálně

*Vertikální kondenzace
kondenzace gutaperči*

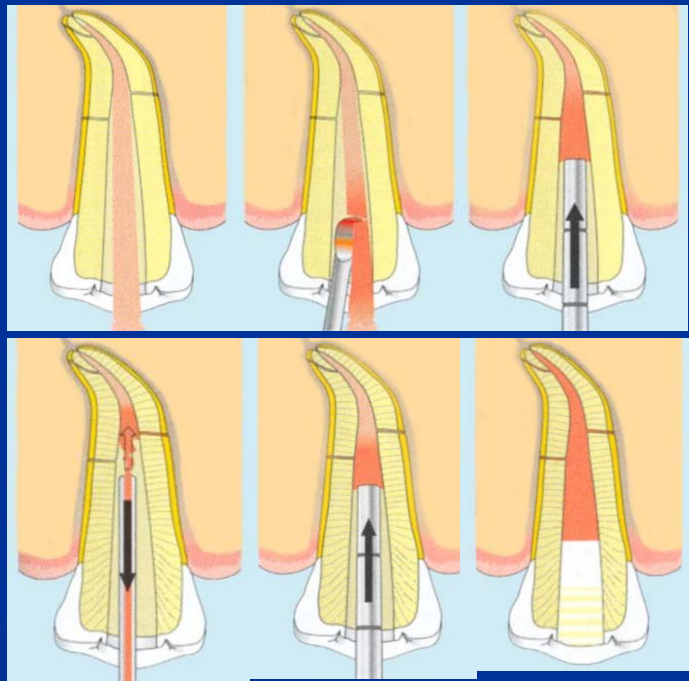
Teplá laterální kondenzace

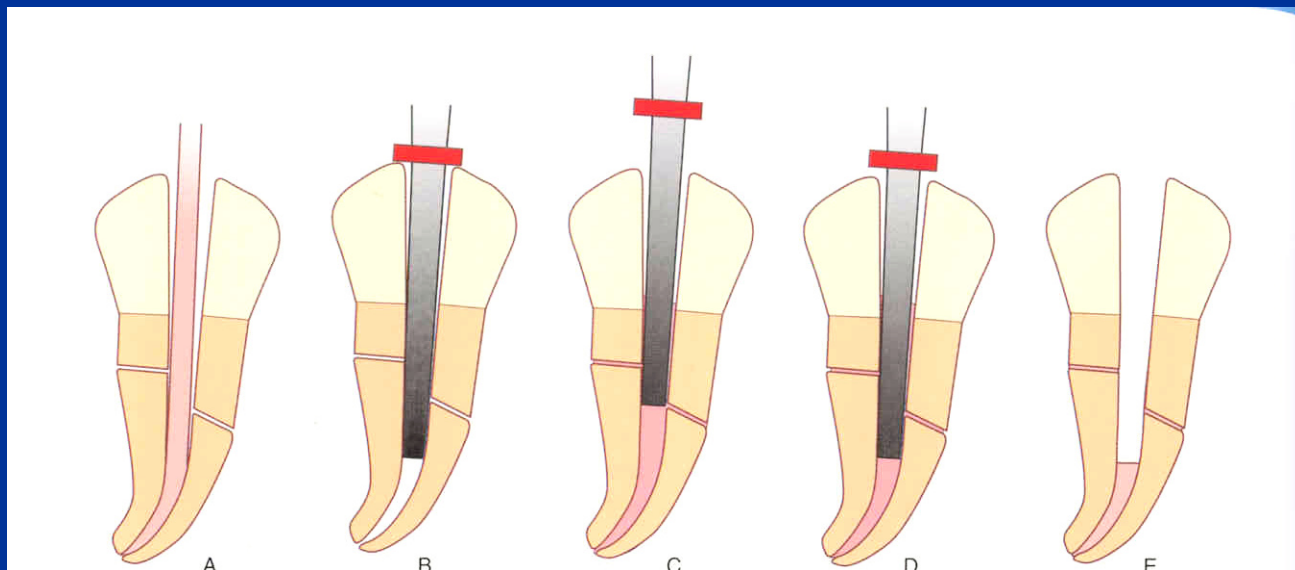
- Horší kontrola pracovní délky
- Časová náročnost
- Teplo



Vertikální kondenzace

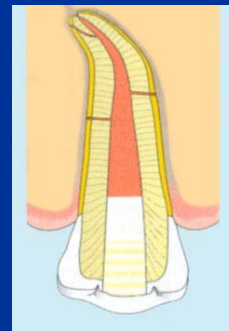
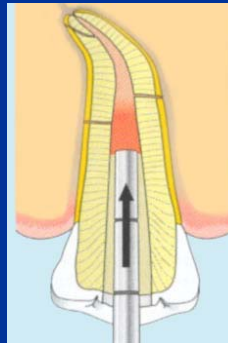
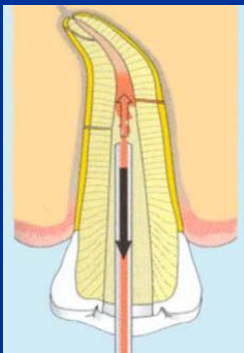
- Obtížnější kontrola pracovní délky
- Možná extruze sealeru
- Teplo





Injekční aplikace rozehráté gutaperči

- Rychlá technika
- Možná extruze sealeru
- Teplo

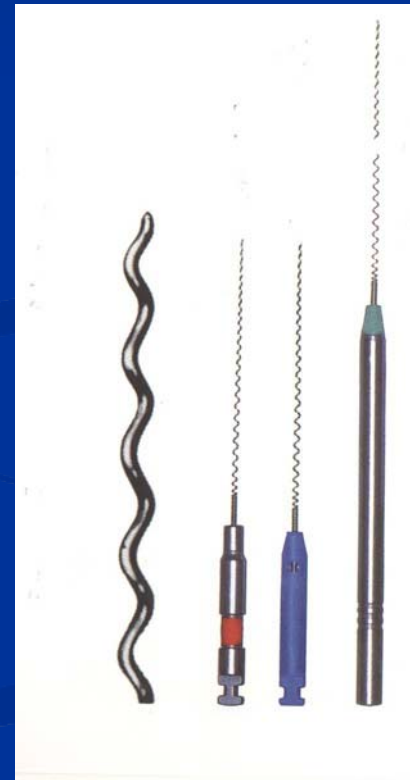
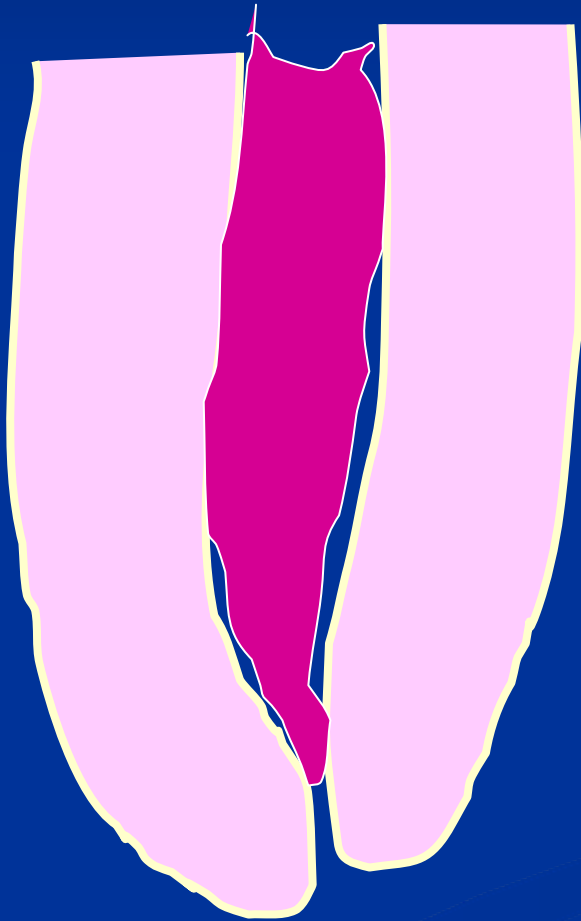


Root canal filling Methods

Filling

- Plastic material – sealer
- Guttapercha

Paste only

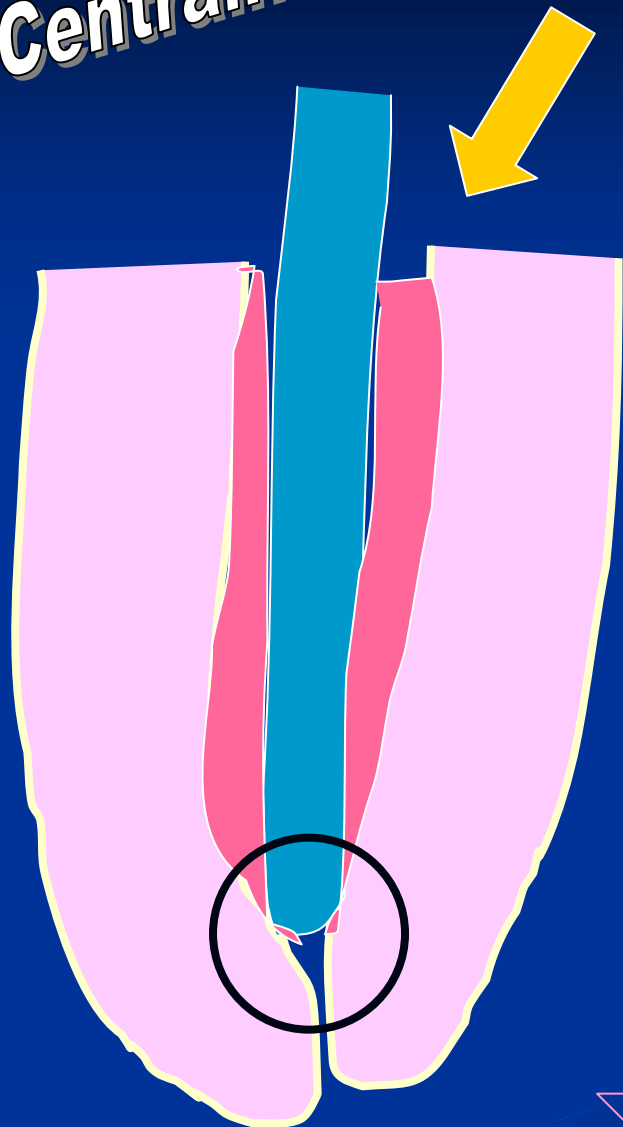




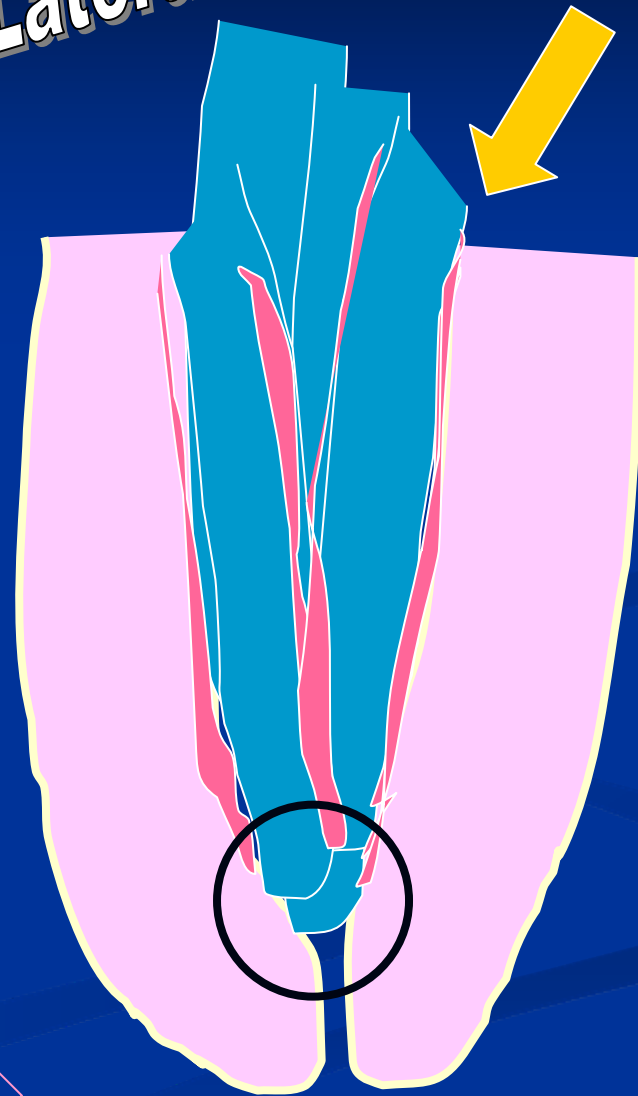
Cold techniques

- Single cone technique
- Lateral condensation

Centrální čep

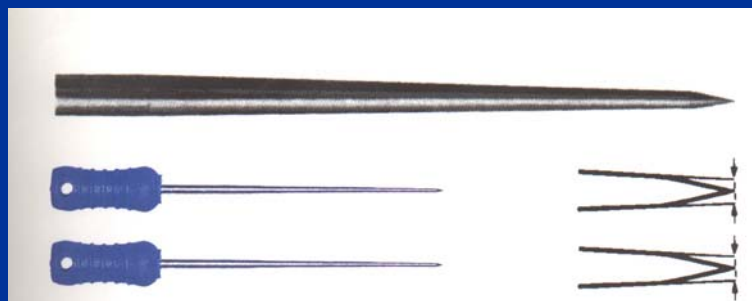


Laterální kondenzace



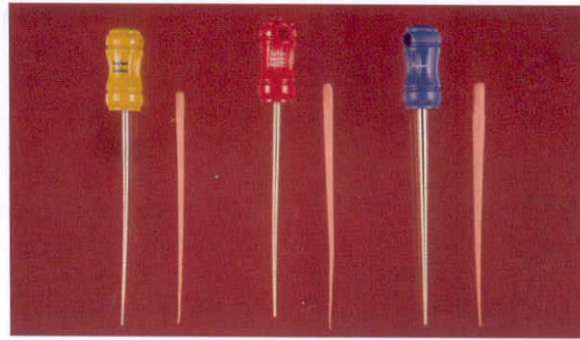
Compactor

Sperader

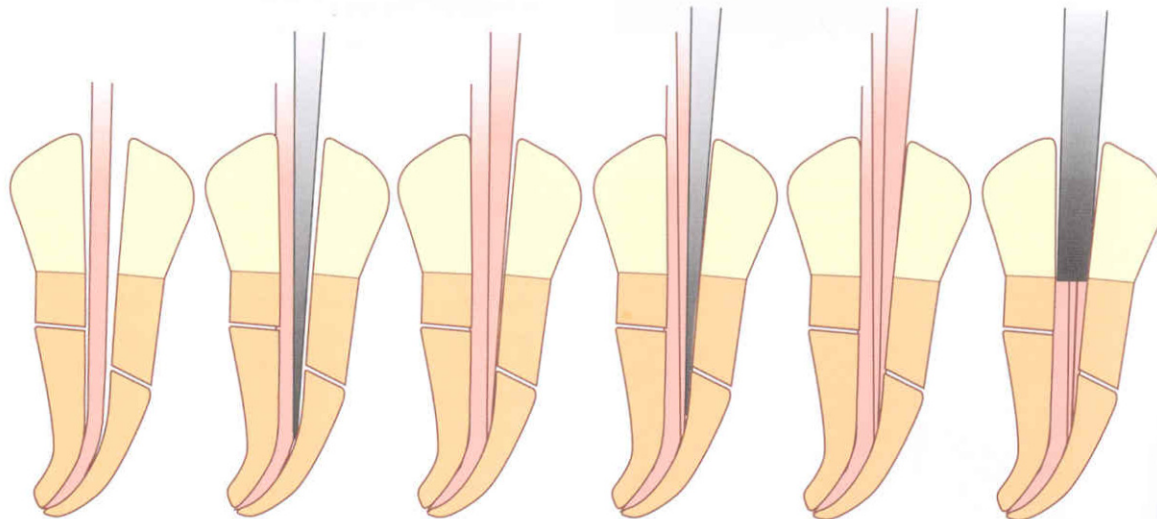


Warm techniques

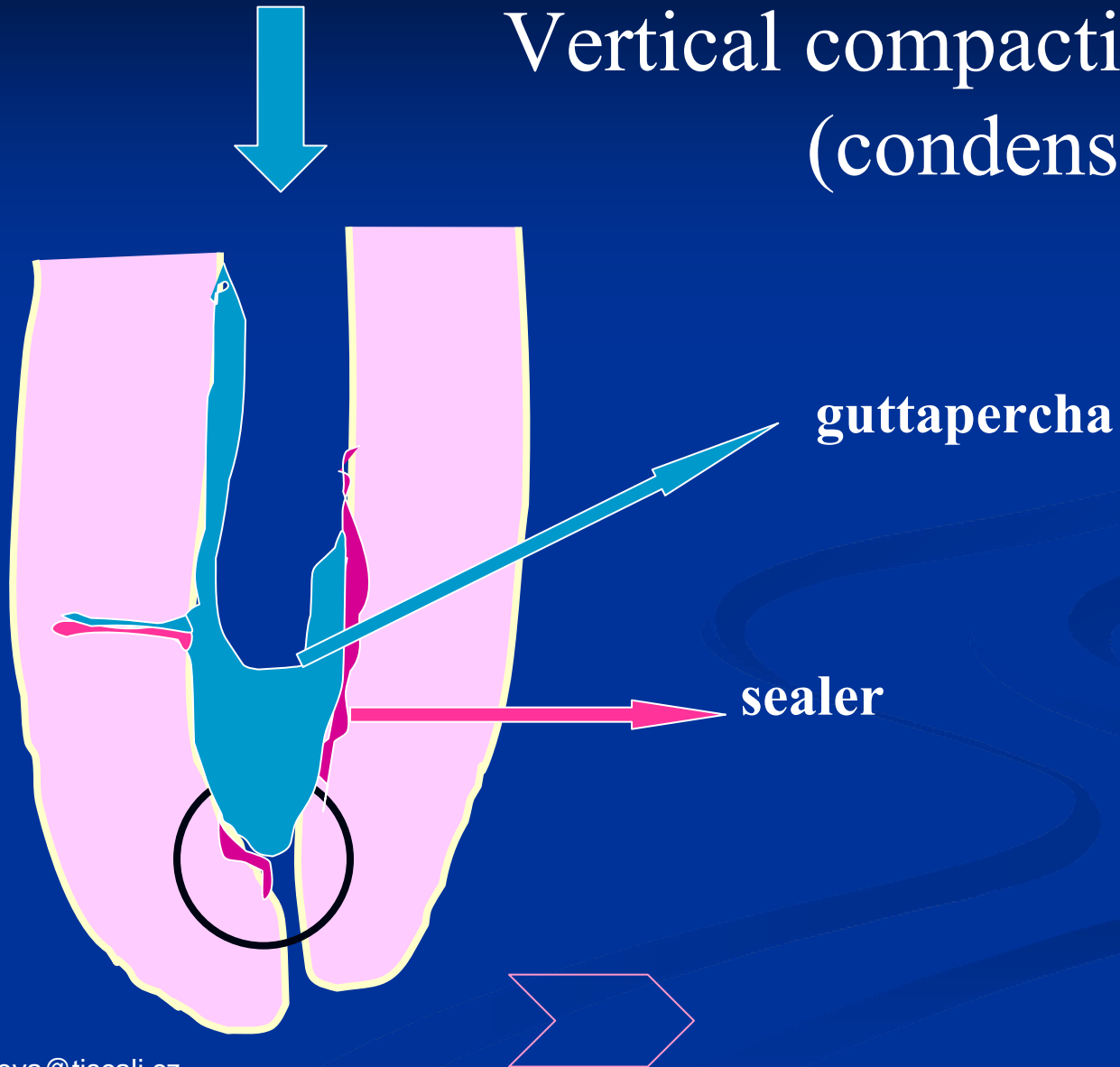
- Vertical condensation
- Injection
- Thermafil
- Thermomechanical condensation – Mc Spadden



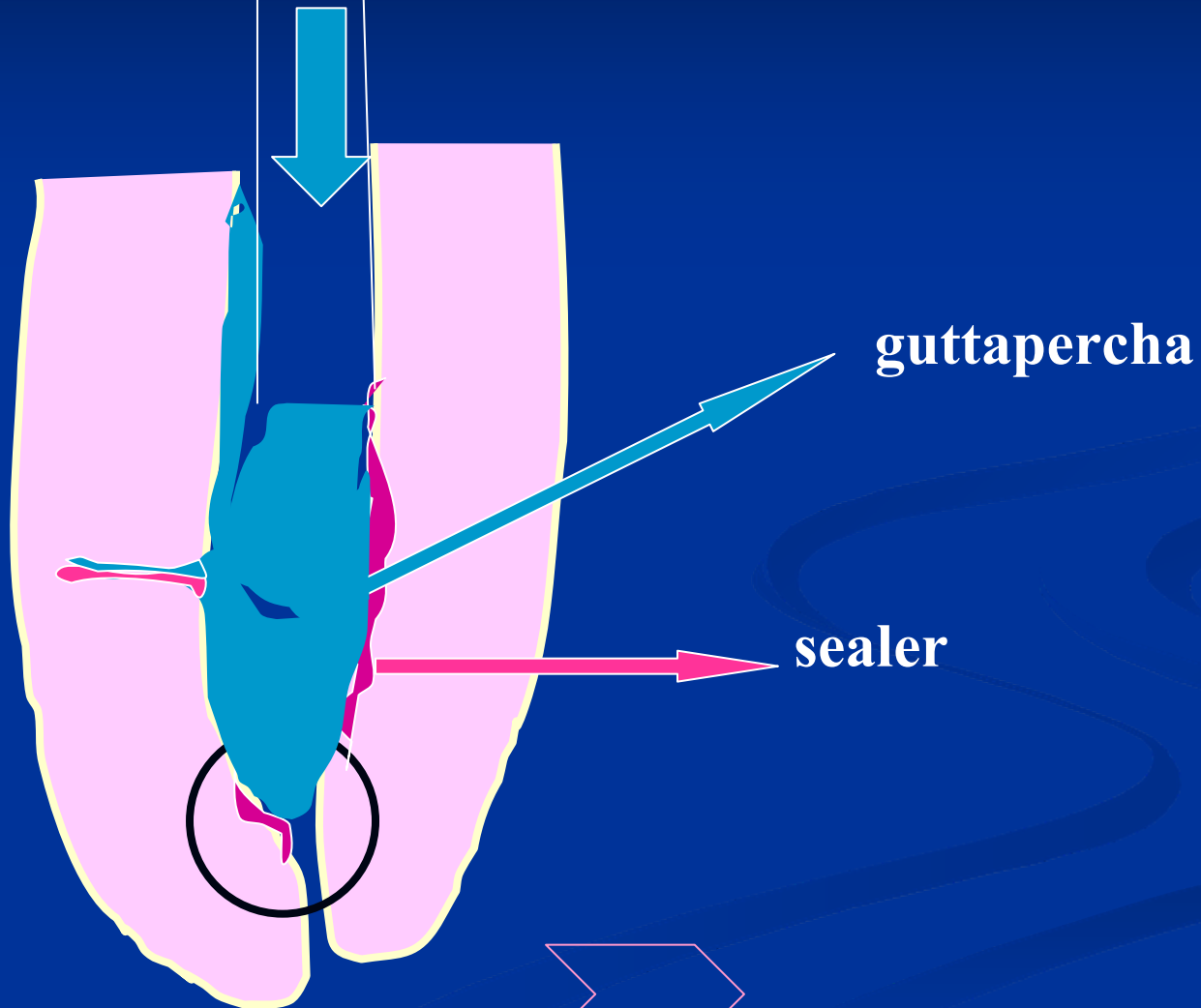
A



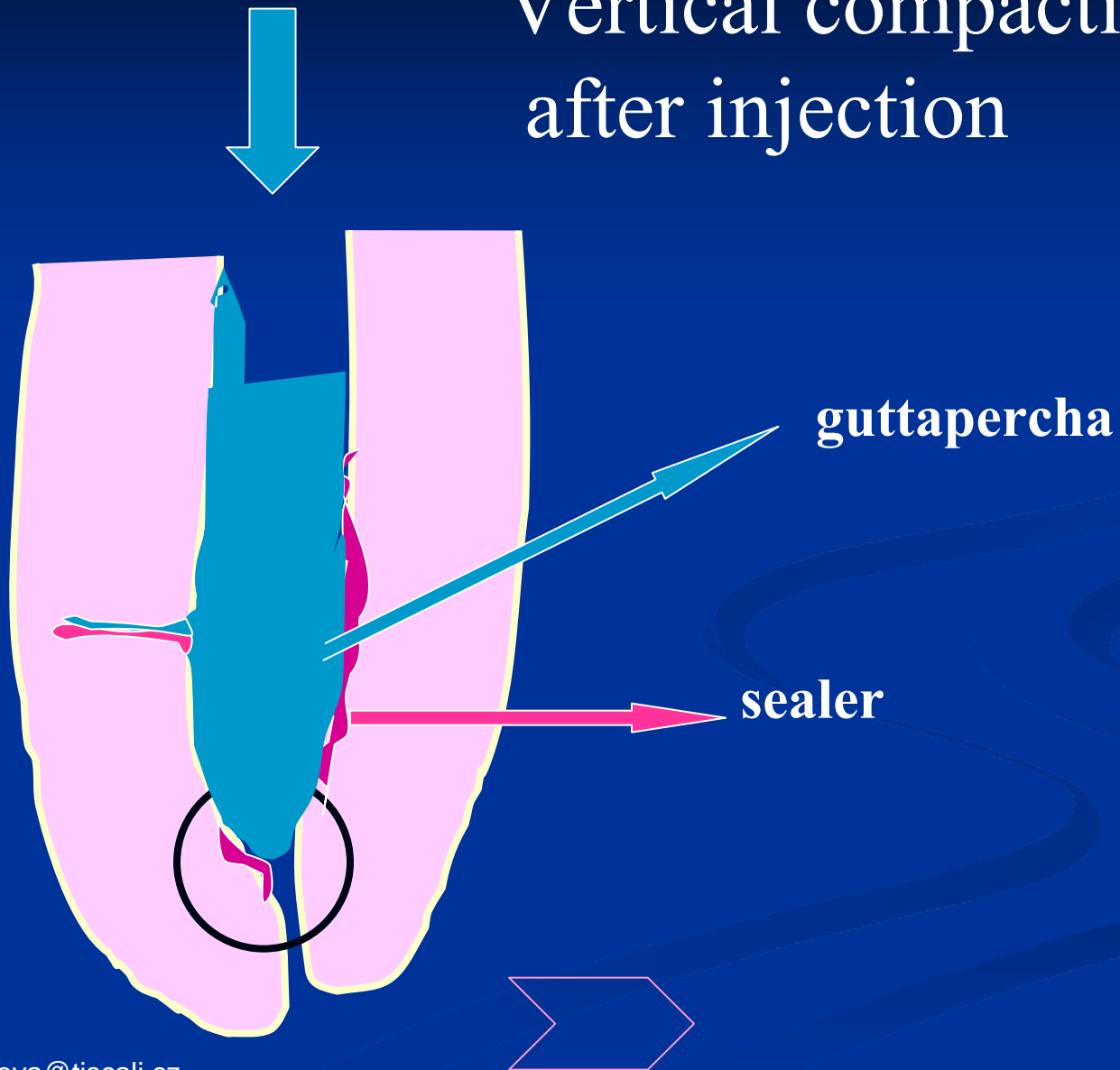
Vertical compaction (condensation)



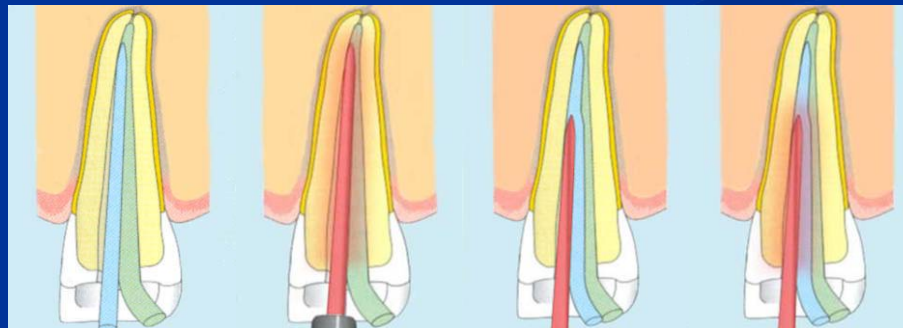
Injection



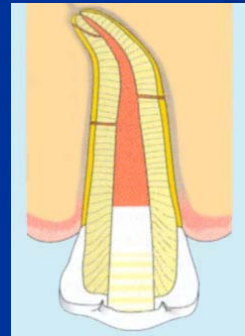
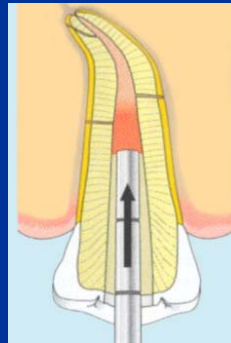
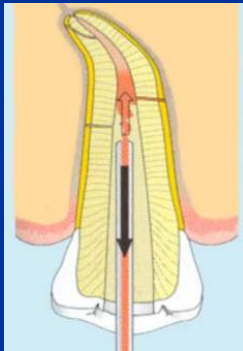
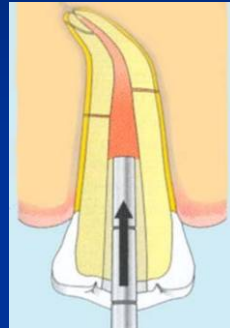
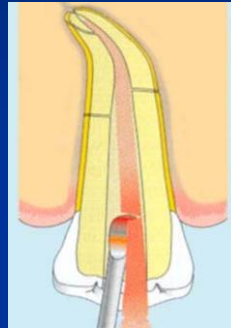
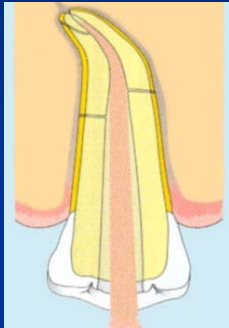
Vertical compaction after injection

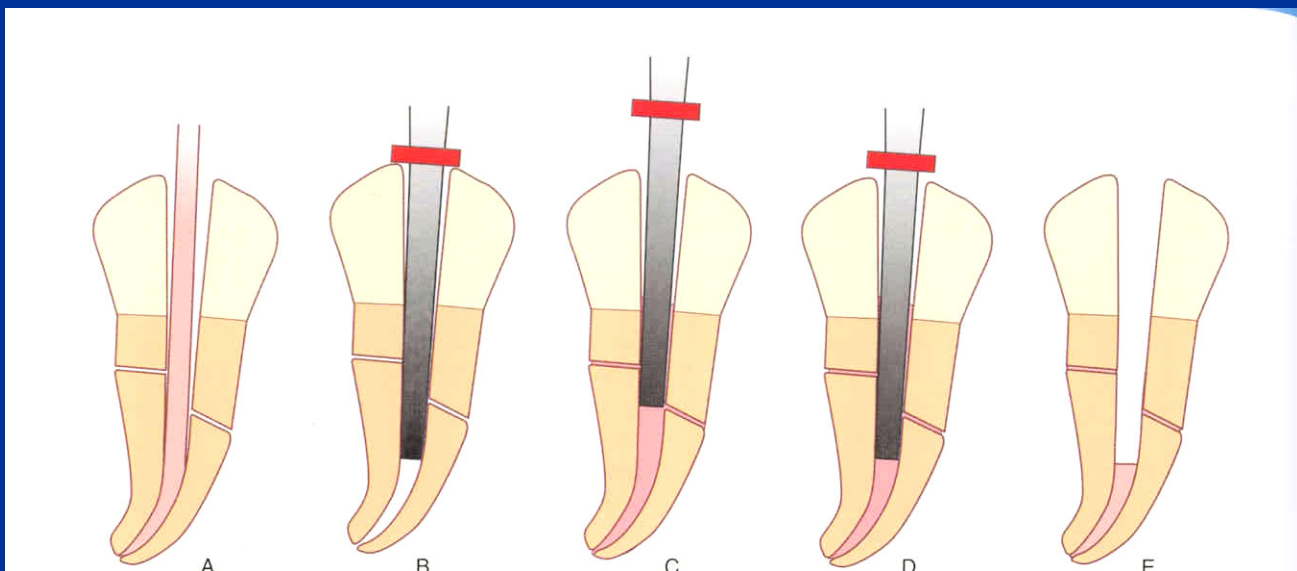
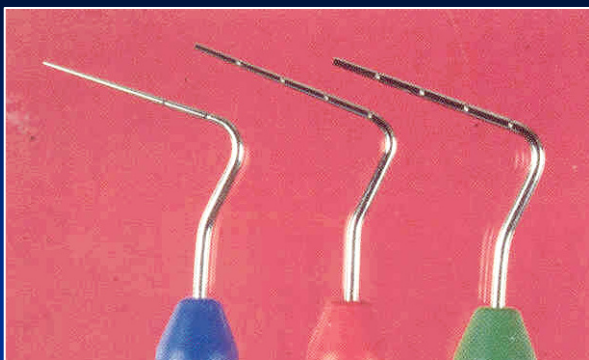


Warm lateral condensation

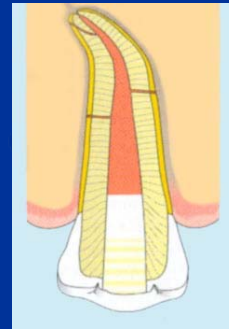
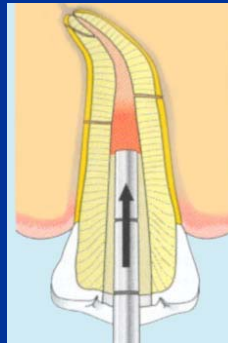
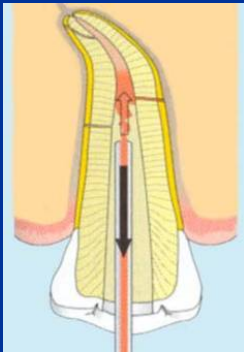


Vertical condensation



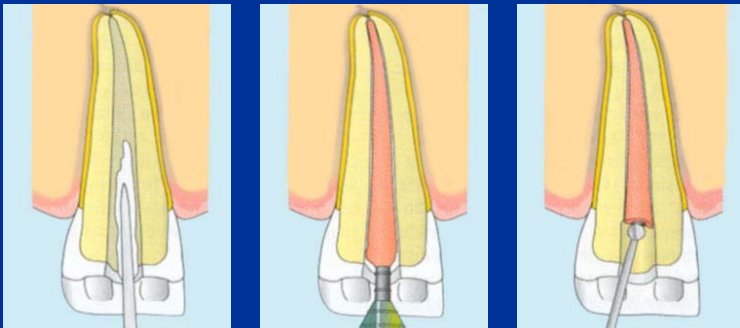


Injection of heated guttapercha



Thermafil

- Guttapercha on plastic carrier is heated in a special oven and put into the root canal.



Compactor for vertical condensation - plugger



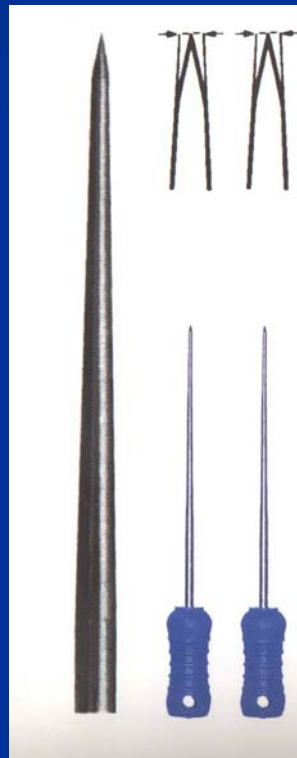
Power driven filling - lentulo



- Delivers the paste forward
- 1,5 – 2 mm before the front
- Mostly for $\text{Ca}(\text{OH})_2$

Compactors

Spreader



Pointed instrument

Lateral condensation



Compactors

Plugger



Straight front

Vertical action - condensation