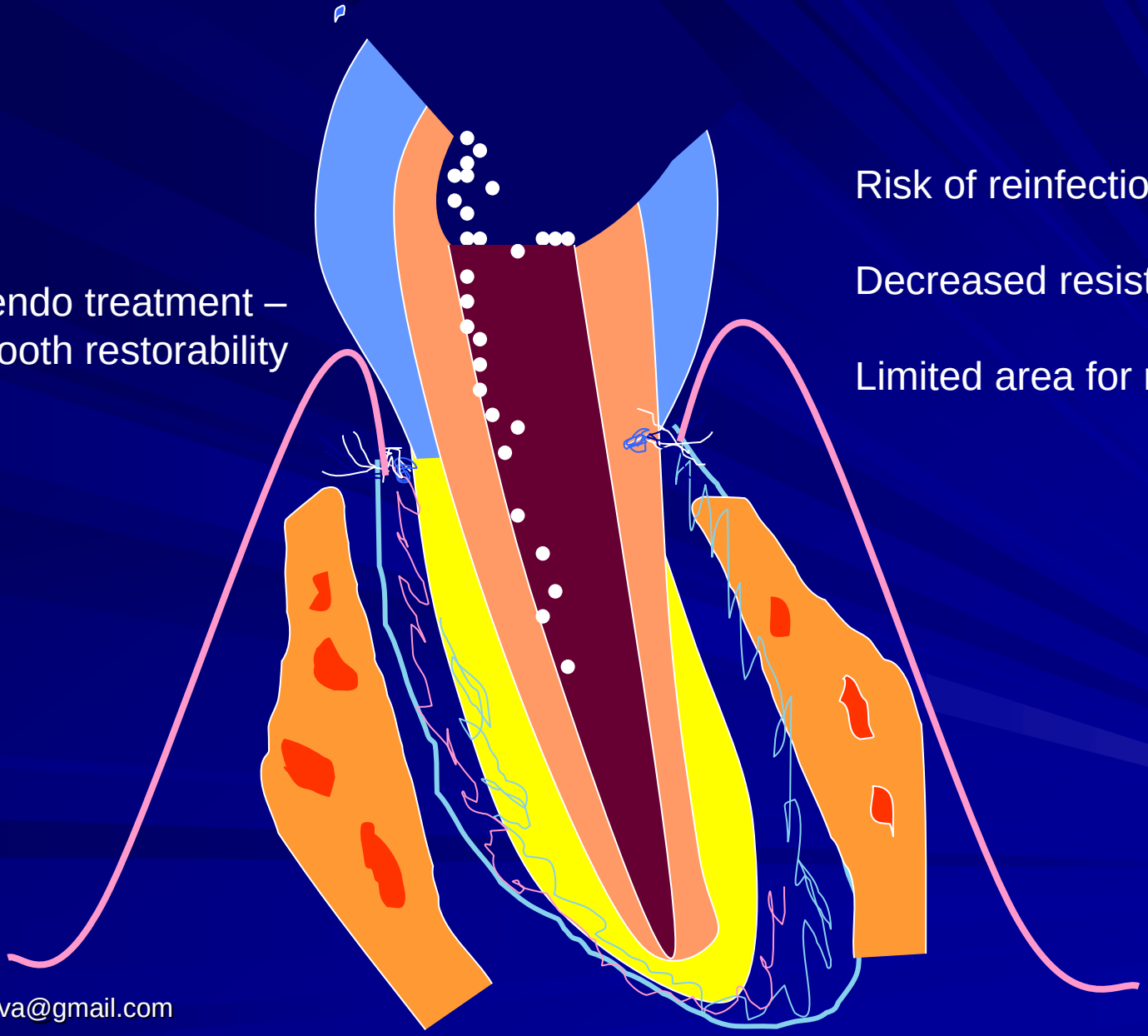
Tooth crown reconstruction

- Postendo

lroubalikova@gmail.com

Endodontically treated tooth

Consider endo treatment –
Consider tooth restorability



Risk of reinfection

Decreased resistrance

Limited area for retention

lroubalikova@gmail.com

Aim of postendodontic treatment



- Prevent reinfection
- Longevity of crown reconstruction

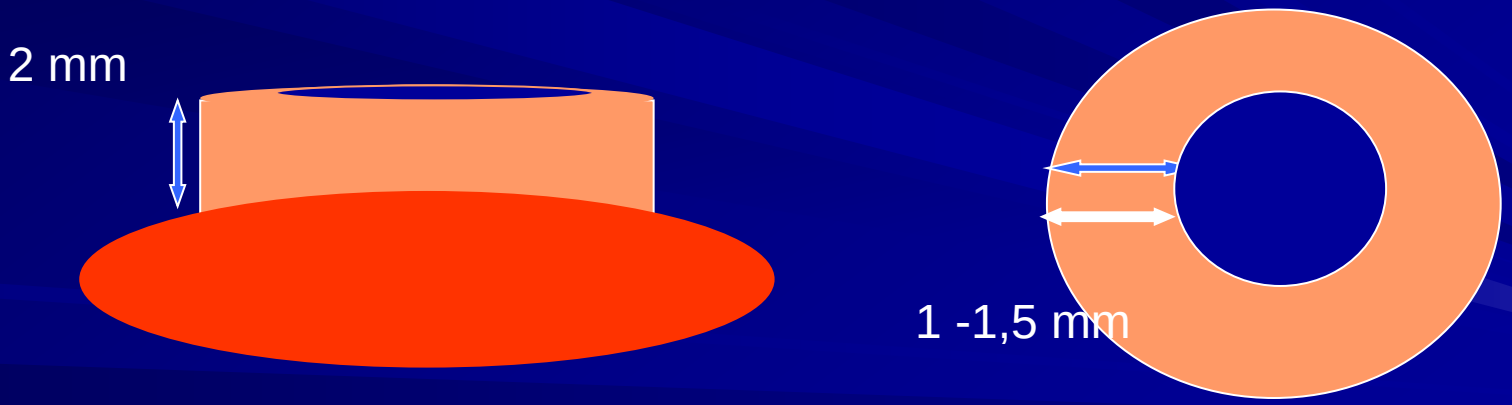
Contemporary trends

Adhesive materials

Less indication of root canal posts



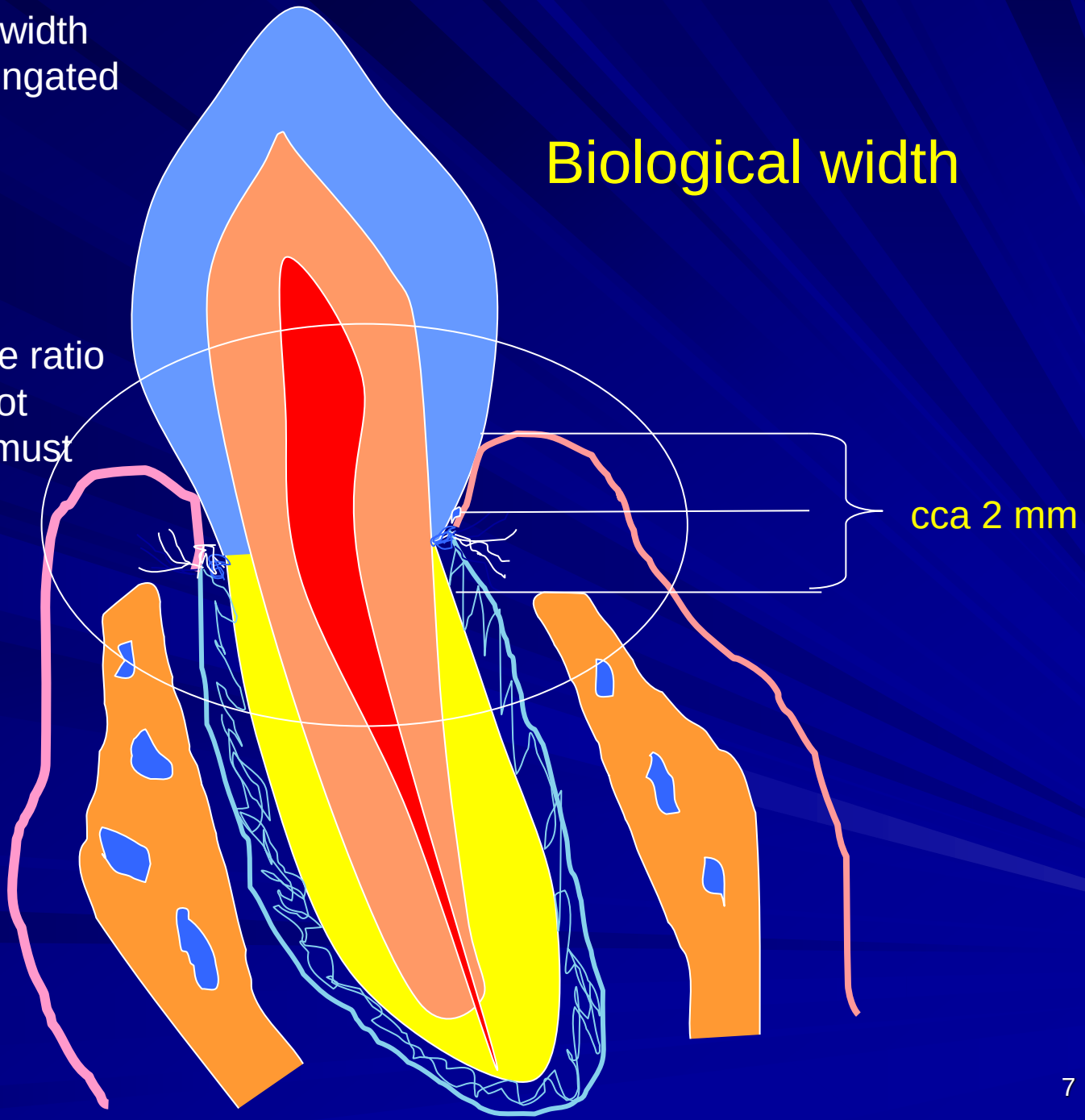

Indication – loss of the crown – minimal requirements



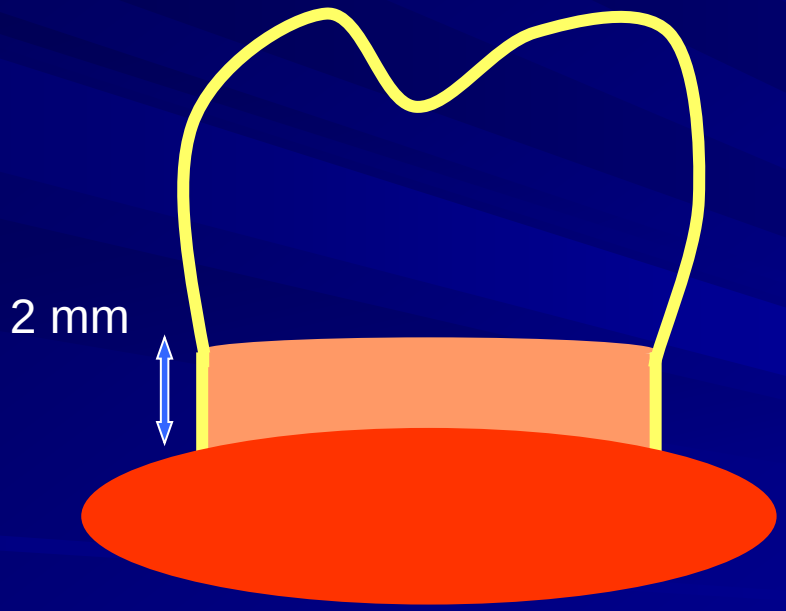
Within the biological width can be the crown elongated using gingivectomy.

If it is necessary to achieve more – the ostectomy can be performed. But the ratio clinical crown /the root after this procedure must remain at least 1:1

Biological width

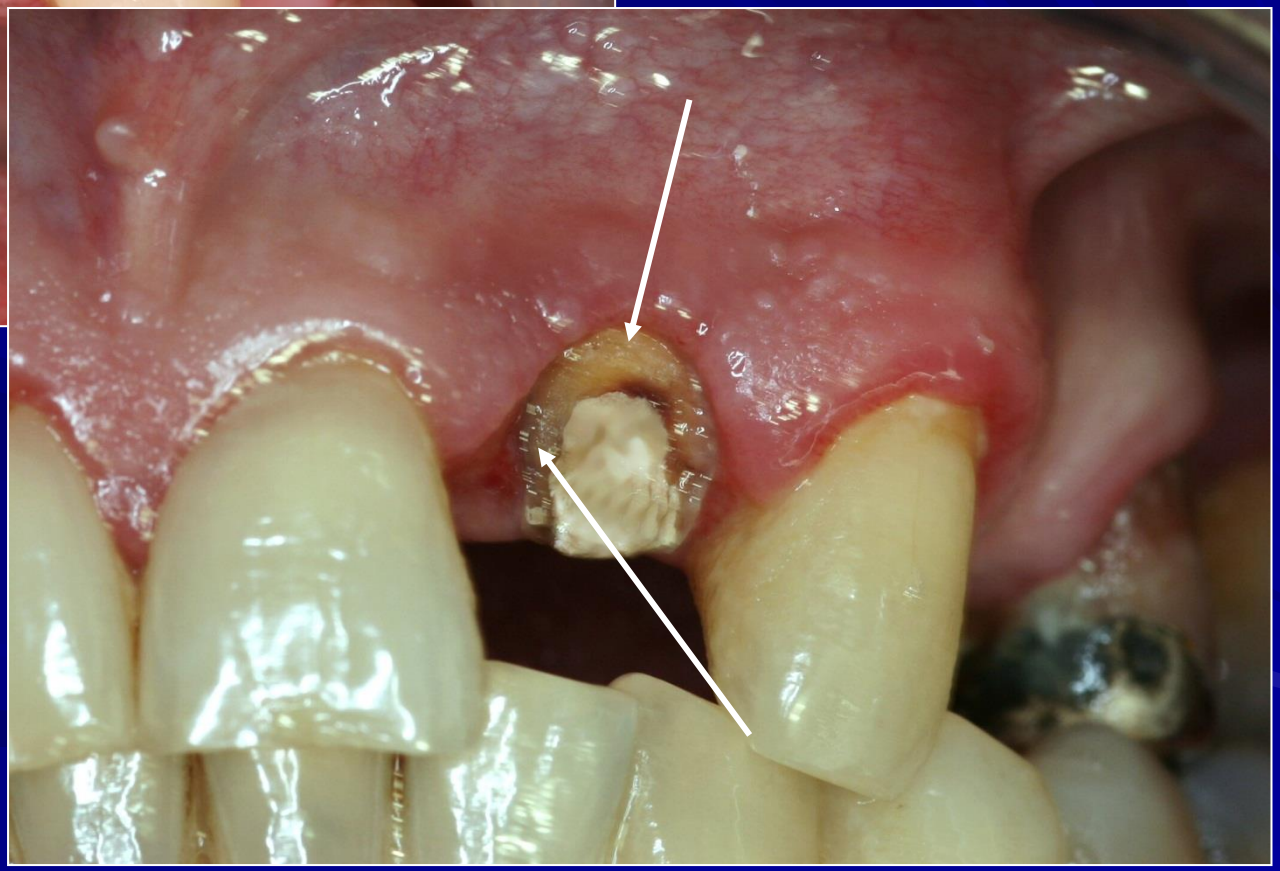


Ferrule effect



Retention

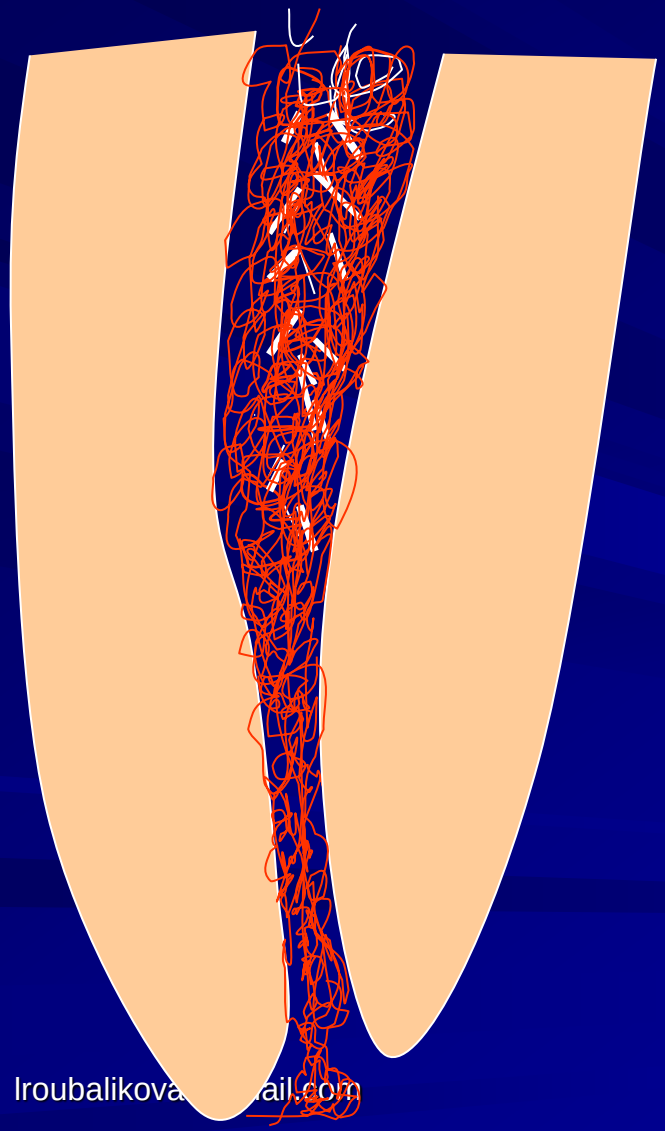
Transfer of masticatory forces

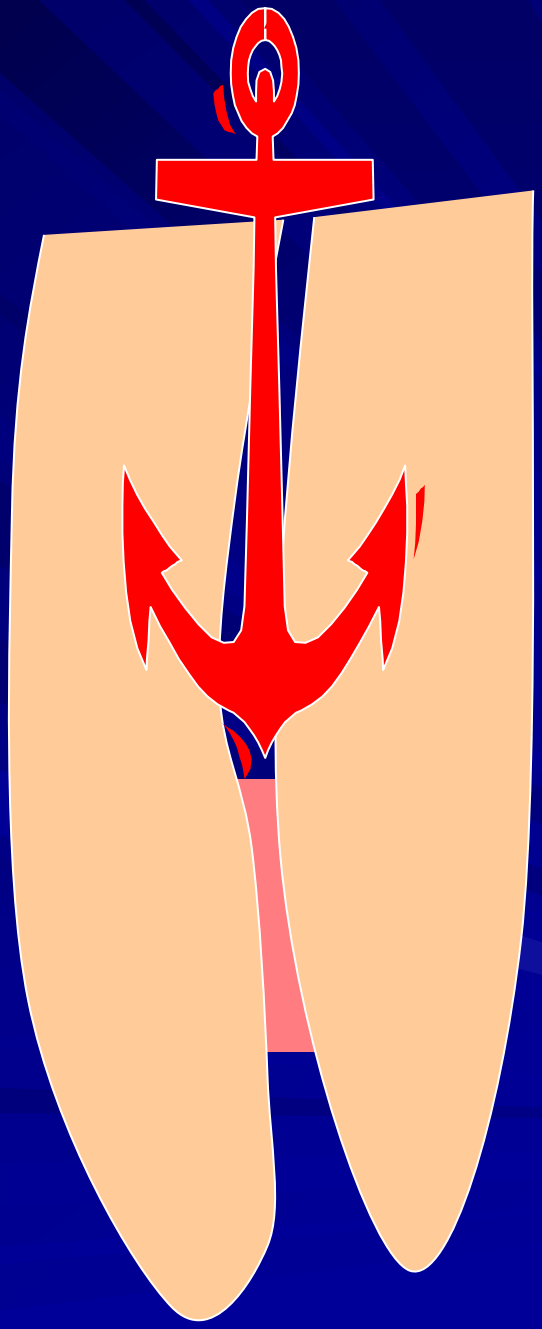


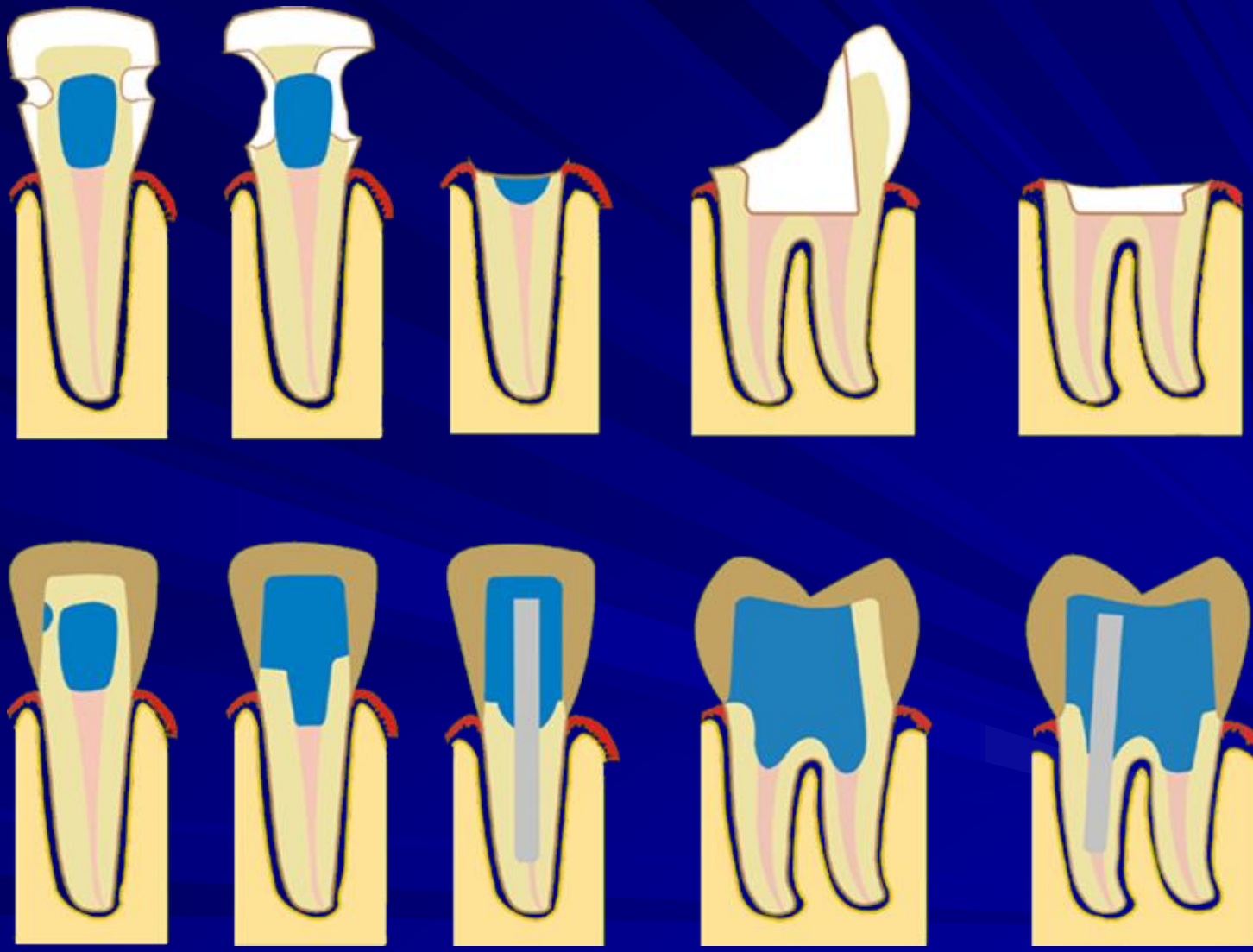
When post

Depends

- How much hard dental tissues is lost







In frontal area:

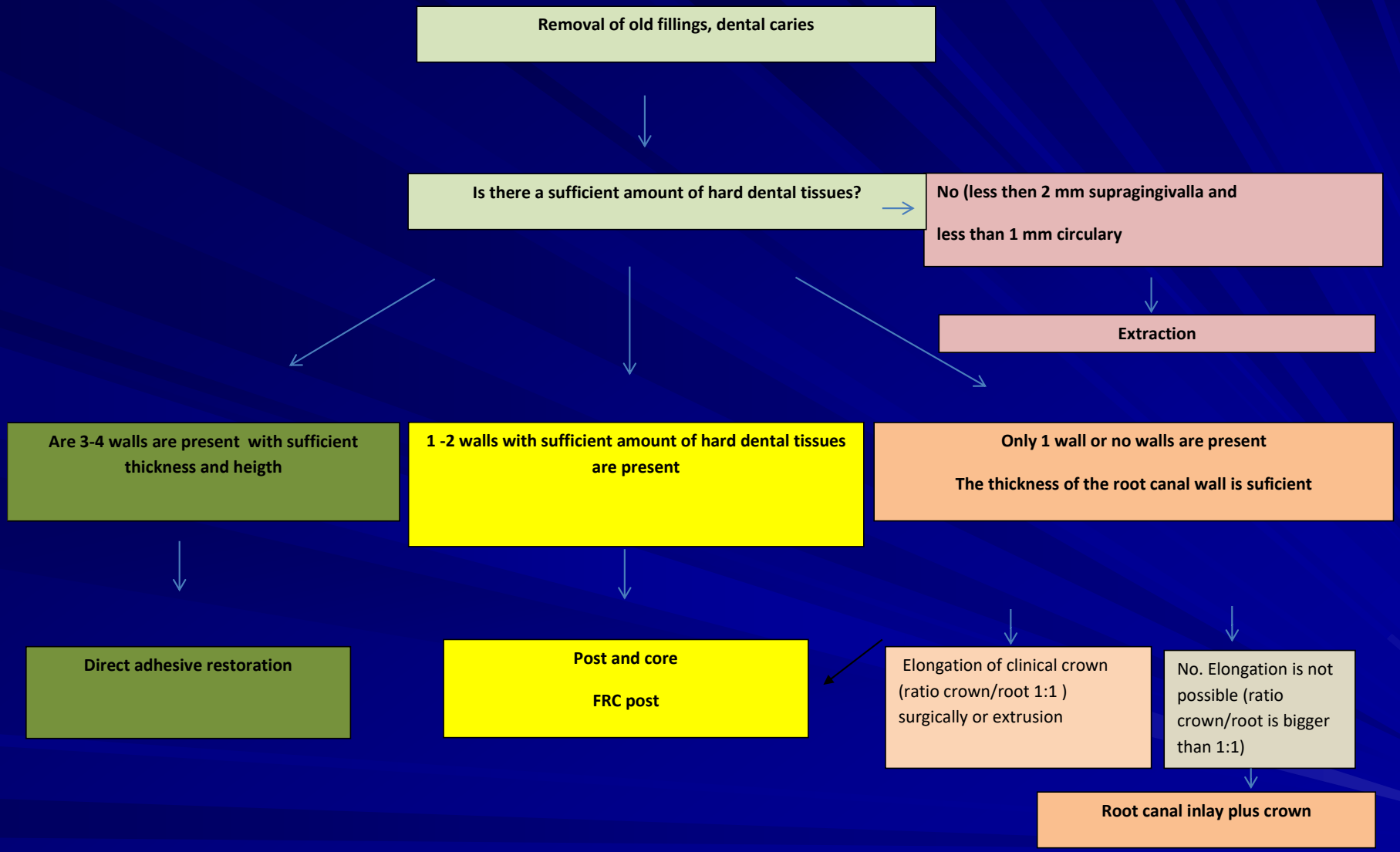
- when two marginal ridges are lost plus access cavity

- When only one marginal ridge is lost plus access cavity plus heavy loading (e.g deep bite)

In posterior area – when both proximal ridges are completely lost

Frontal area

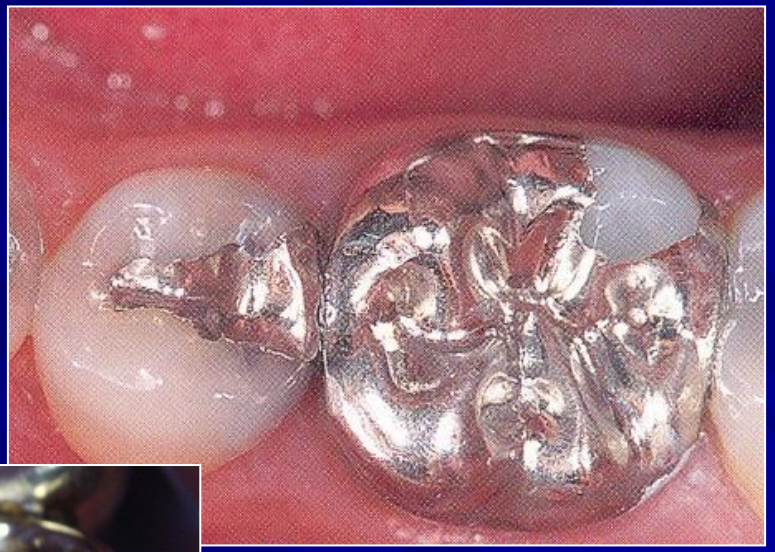
- Bigger loading with transversal forces
- Smaller area for retention


Removal of old fillings, dental caries
Is there a sufficient amount of hard dental tissues?
No (less then 2 mm supragingivalla and
less than 1 mm circulary
Extraction
Are 3-4 walls are present with sufficient thickness and heigth
1 -2 walls with sufficient amount of hard dental tissues are present
Only 1 wall or no walls are present
The thickness of the root canal wall is suficient
Direct adhesive restoration
Post and core
FRC post
Elongation of clinical crown (ratio crown/root 1:1) surgically or extrusion
No. Elongation is not possible (ratio crown/root is bigger than 1:1)
Root canal inlay plus crown

Posterior area

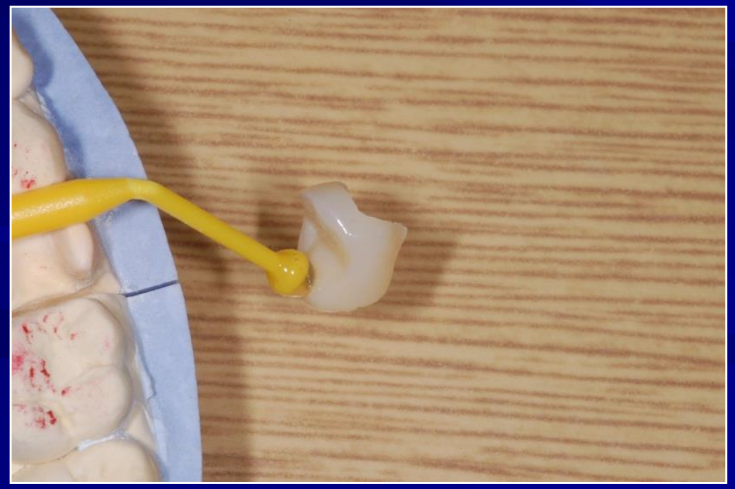
- Loading more in axial direction (less amount of transversal loading)
- Overlay is considered without any post in most cases

Techniques without posts



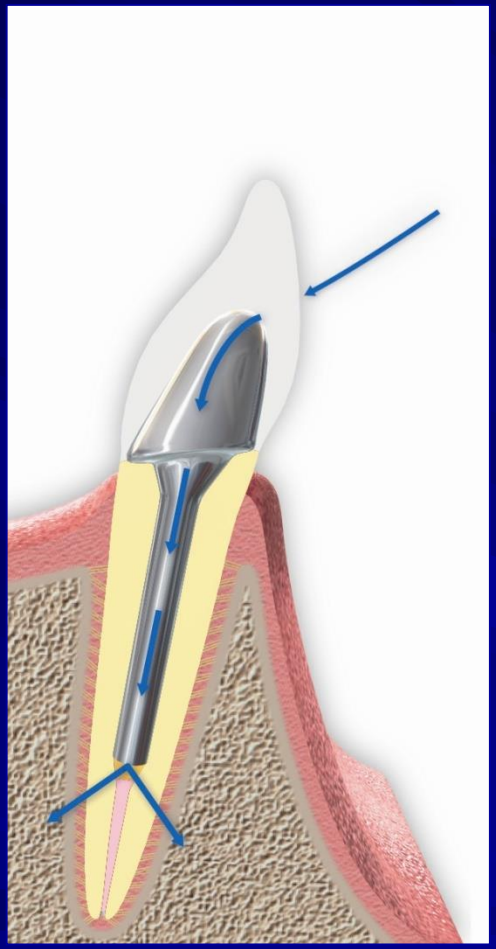
Amalgam overaly
Metal overlay

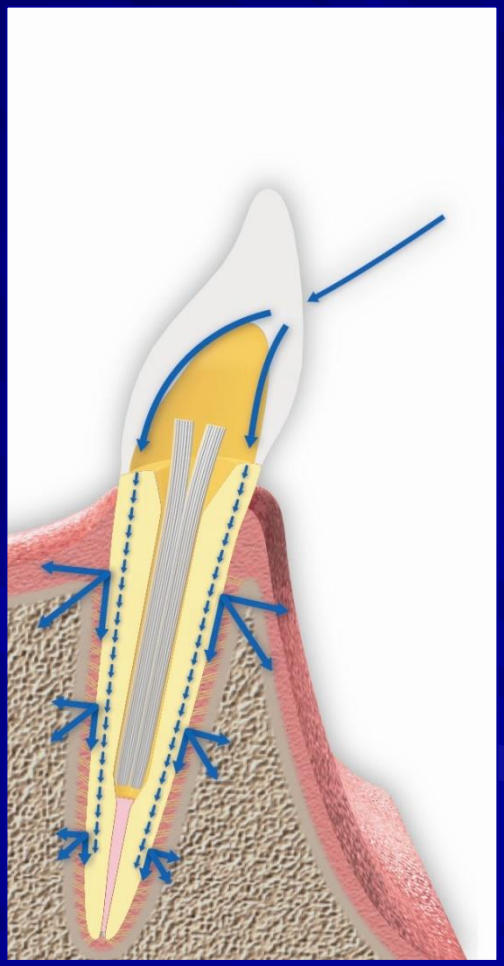
Composit or ceramic overaly
- Endodontic crown



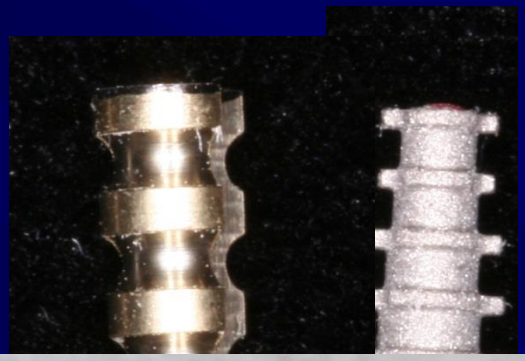
lroubalikova@gmail.com

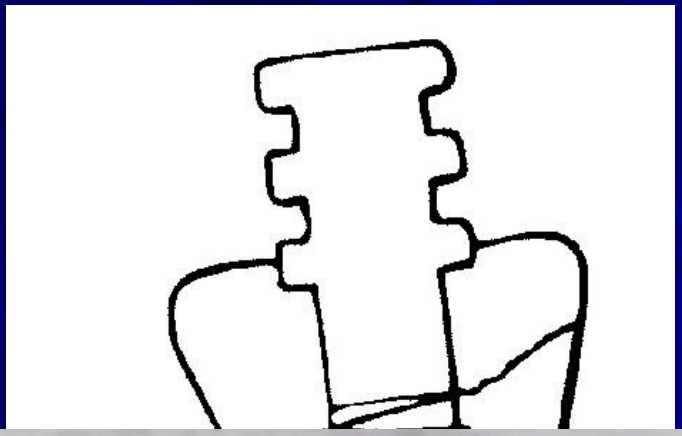
Metal versus FRC post





lenka.roubalikova@tiscali.cz





Available posts

Kov

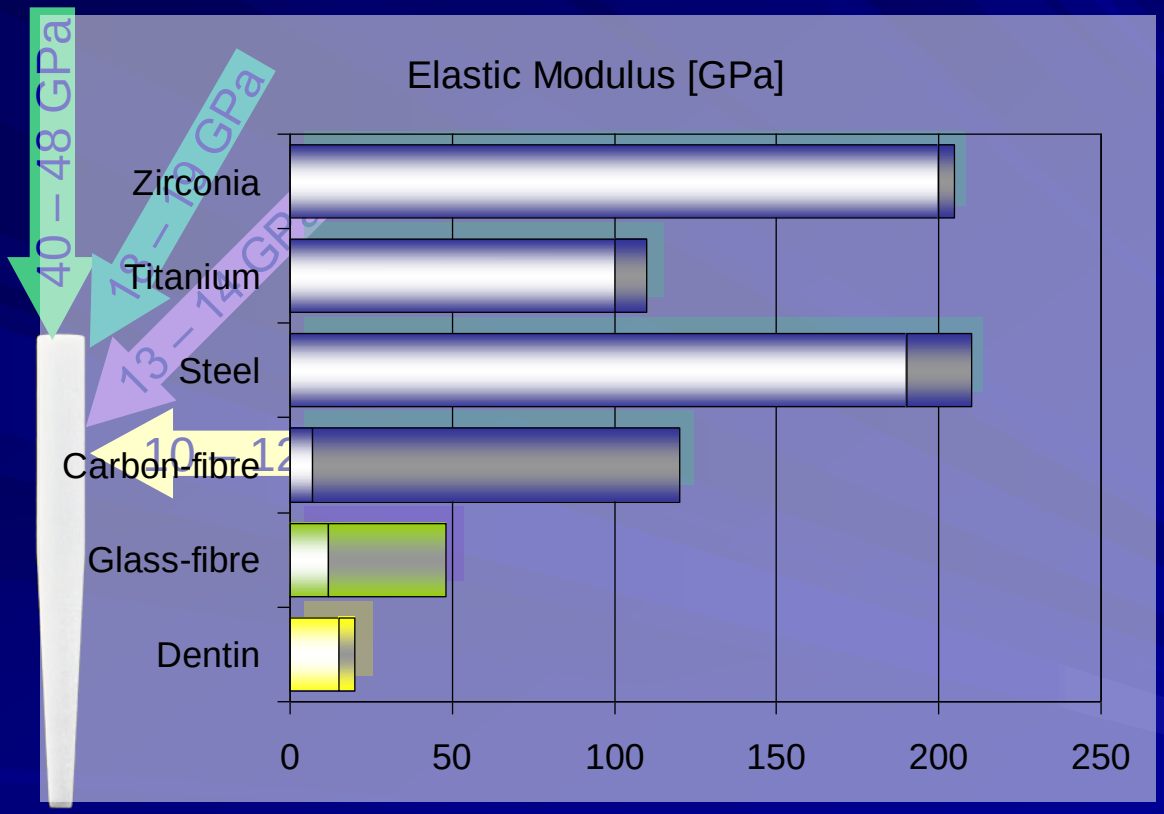
Vláknový uhlík

FRC

Zirkon

Benefits of FRC posts

- Elastic modulus similar to dentin
- Good seal – adhesive technology
- Aesthetics
- One visit less (dental lab no need)



Source: Materials Science and Engineering: An Introduction, 6th edition, 2003

Supragingival tissues

Ferrule

Good adhesion

Risks – only when technology is not properly followed

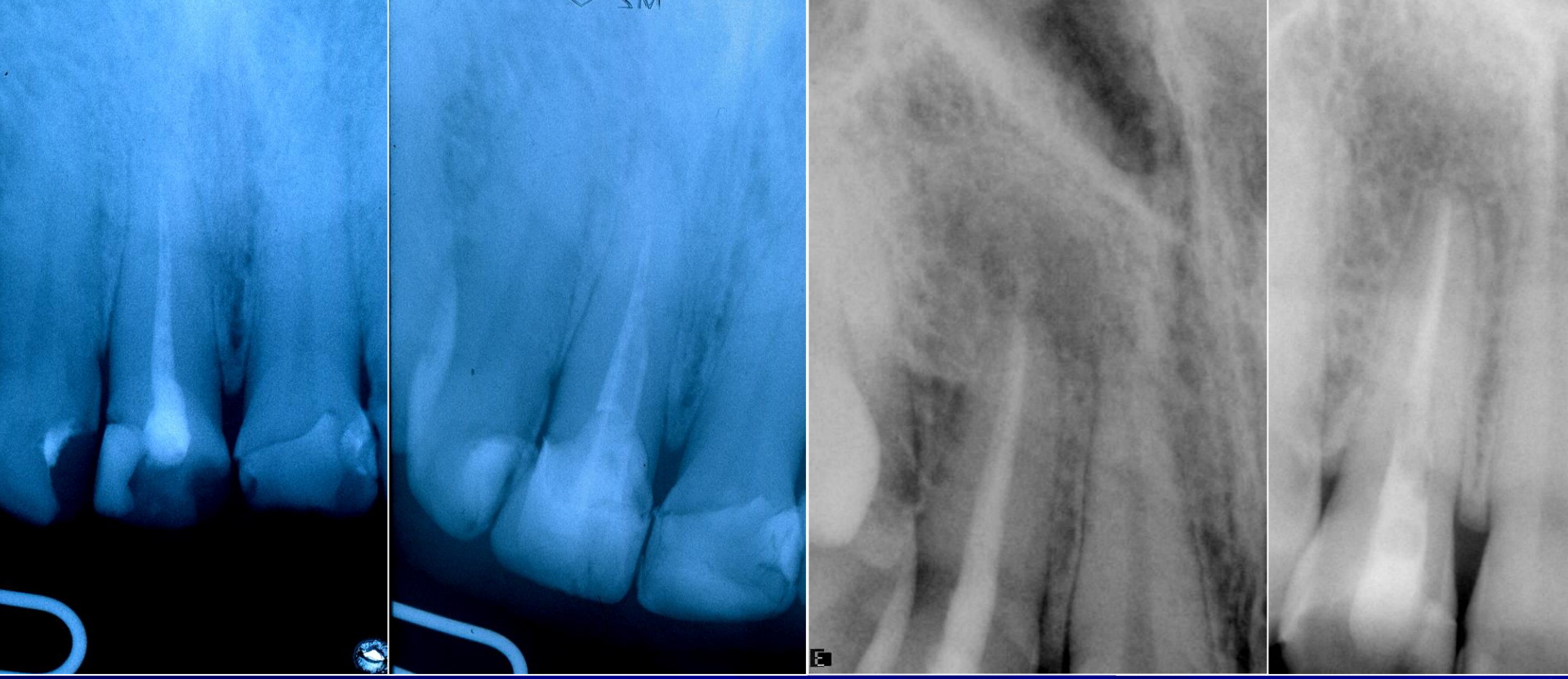
- Decementation
- Fracture of the post
- Fraktura of the root
- Gap

lroubalikova@gmail.com

lroubalikova@gmail.com

Core made of composite material

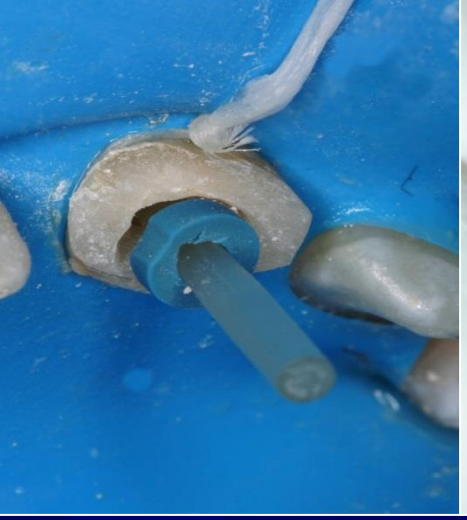
Step by step procedure

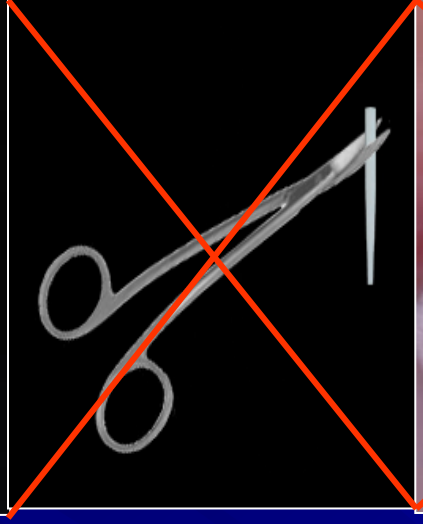


Check root canal filling



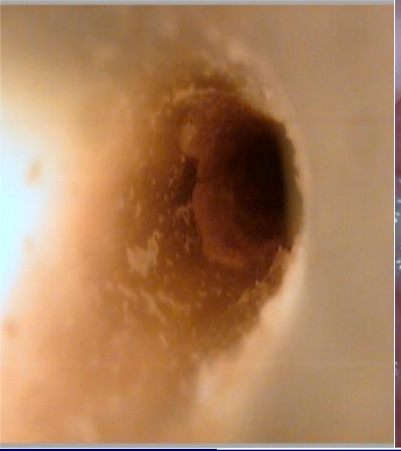

Preparation





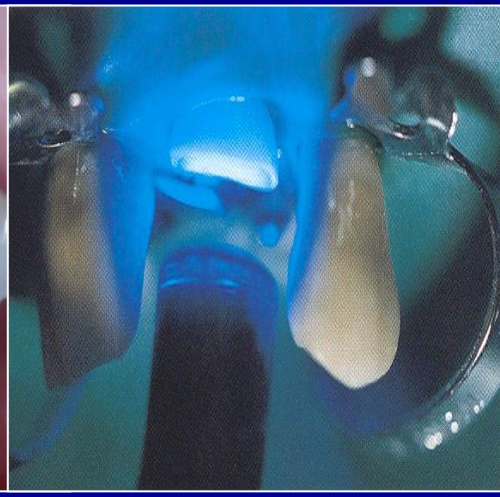

Try the post

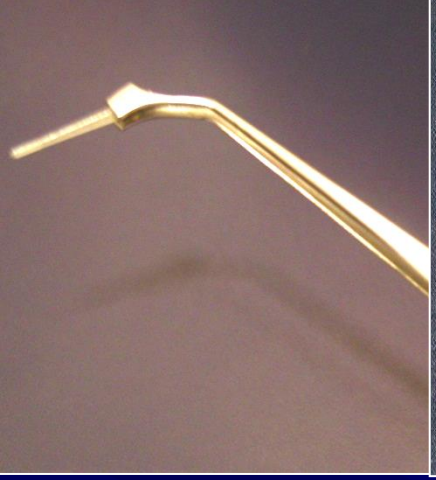
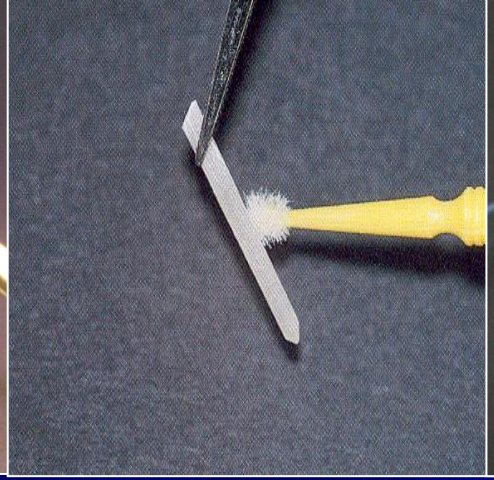
4 mm of root canal filling is left



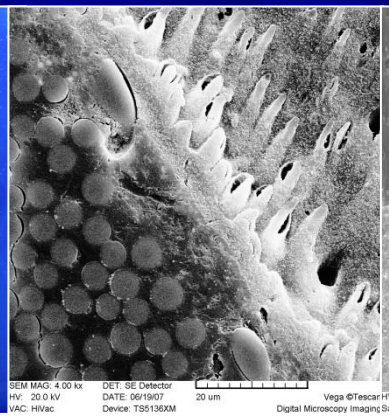

Adhesive procedure

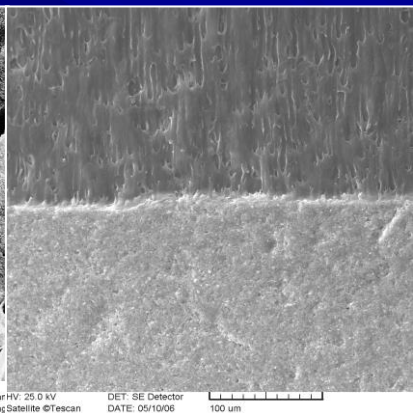


Cementation using a dual or chemically curing composite cement




Variolink® II Catalyst
Variolink® II Base
Excite® DSC
Advanced Adhesive Technology
Soft Touch™ Single Dose
small/endo
ivoclar vivadent


3M ESPE


maxcem

Cements


PANAVIA 21
KURARAY MEDICAL INC.
OXYGUARD II
CLEARFIL
ED PRIMER


ivoclar vivadent


DUOLINK



Core

Special materiál

Filling composite materiál

Post and core materiál – one materiál

- **for post cementation and core**