Class V. Cavity Preparation
Characteristic

• Cervical defects

Anatomical x Clinical crown
Anatomical x clinical crown

- Anatomical crown - cementum- enamel junction
- Clinical crown – gingival border
anatomical x clinical crown
Cervical area

- Predictable dirty place
- Nearness of gingiva - possibility of its injury, bleeding, inflammation
- Flow of the sulcular liquid

Difficulties with the maintenance of the dry field

- Specific ordering of the hard dental tissues
Ordering of the dental tissues

On the surface can be

Enamel
Cementum
Dentin

Risk of opening of the pulp chamber
Access to the cavity

- Elimination of the undermined enamel
  - Burs or diamonds (pear), tapered fissure bur

- Separation of the gingiva—temporary filling guttapercha, fermit, clip, zinkoxidsulfate cement, cavit, provimat).

- Ablation of ingrown gingiva—surgical (scalpel, laser, high frequency current)
V.Class Amalgam

- Posterior area
Determination of cavity borders (outlines) and extension for prevention

We do not follow Black´s rules exactly!
Gingival: axial depth of 0.5 mm inside the DEJ.
Extention of the preparation incisally, gingivally, mesially and distally until the cavosurface margins are positioned in sound dental structure. Total depth: 1 – 1.25 mm. If on root surface -0.75 mm
Incisal border

Mesial
Distal border

Gingival border
Retention

- Box 0.75 – 1.25 mm deep, undercuts, coves (larger cavities)
Resistance

Elastic deformation during the biting
Excavation of carious dentin

Round bur

Excavator
Finishing of cavity borders

- Fine diamond bur of a chisel
Filling

- Portion of amalgam are condensed using a condensor (stamen) and finished using a spatula or a carver.
Class five - composite

- Aesthetic reasons
Contraindication of composites

- Bad hygiene
- Subgingival cavities
- Root caries (outside of enamel)
Access to the cavity

• Elimination of the undermined enamel
- Burs or diamonds (pear), tapered fissure bur

• Separation of the gingiva– temporary filling guttapercha, fermit, clip, zinkoxidsulfate cement, cavit, provimat).

• Ablation of ingrown gingiva – surgical (scalpel, laser, high frequency current)

Composite must not be subgingival!!!
Determination of cavity borders outlines

Cavity is limited on the caries defect only – no extention!!!!

The depth usually 1 mm
Retention

- Micromechanical retention
  Enamel: Retentive border – 1 – 2 mm wide and the angle 45°
  Cementum: only finishing with the fine diamond bur.
Retention

Retentive border:
- removing of the aprismatic enamel
  – better condition for micromechanical retention
- better aesthetics
Retention

Acid etching (phosphoric acid): 30 s dentin, 30 s enamel

Rinsing (washing off) 30s
Priming, bonding, light curing.
Filling

Spatula

Matrix
- Polyester strip, wooden wedges
- Special cervical matrix
Matrix

Anatomical form
Class five - glasionomer

- Cavity outside of enamel
Properties

- Chemical fixation to tooth structure
- Fluoride release
- Favorable thermal expansion
- Acceptable aesthetics
Determination of cavity borders

Cavity is limited on the caries defect only – no extension!!!!

The depth usually 1 mm
Retention

- Box
- Chemical
Finishing of cavity borders

Fine diamond bur
Filling

- Conditioner 20 s
- Washing off
- Wet cavity
- Filling material
- Matrix
- Varnish
Class V. – Sandwich principle

Base of galsionomer – replace of the lost dentin

Thin layer of composite – replace of the lost enamel
Bond:
GIC - Tooth
Chemical

Composite – Tooth
Micromechanical

Composite - GIC
Micromechanical