

## Endodontics I.

### Questions with the framework

#### 1. Characterization and morphology and of the endodont.

What is endodont, pulp chamber, root canals and their variety, apex, apical foramen, apical constriction, periodontal space, ramifications, histology of dental pulp, dentin, cementum and periodontium. Macro and micro canal system.

#### 2. Dental pulp and its healing potential, importance of calcium hydroxide.

Primary, secondary and tertiary dentin, reparative dentin, characterization, intratubular dentin, dentinal sclerosis, role of calcium hydroxide.

#### 3. Pulpal response to irritation, pulpitis.

The reaction of dental pulp is non specific inflammation – description of inflammation from hyperemia to total pulpitis. Degeneration of dental pulp, denticles.

#### 4. Classification of pulpitis, reasons

Histopathological and clinical classification. Reversible and irreversible changes, differential diagnosis. Microbiological and chemical reasons, ways of the infection.

#### 5. Symptomatology of pulpitis, principles of the treatment.

Description of symptoms of pulpitis, remember spontaneous pain, treatment.

#### 6. Differential diagnosis of pulpitis

Papillitis, apical periodontitis, headache,

#### 7. Apical periodontitis – reasons, classification

Mostly infection and chemical irritation, classification according to course and pathology.

#### 8. Symptomatology of acute periodontitis, principles of the treatment.

Heavy pain, esp. for percussion and warm and hot well located. Decompression – opening of the root canal system, RCT (= root canal treatment) afterwards.

#### 9. Symptomatology of chronic periodontitis, principles of the treatment

Almost no symptoms, in the case of the acute exacerbation the same symptoms like in acute periodontitis. X-ray picture.

#### 10. Diagnosis and differential diagnosis of acute periodontitis

Pulpitis, papillitis, periodontal abscess (parodontitis)

#### 11. Necrosis and gangrene of dental pulp, their reasons, symptoms and principles of the treatment.

Histopathology and clinical symptomatology (almost no symptoms, in case of gangrene pain on warm and hot, special smell), RCT.

#### 12. Internal and external resorption – reasons, principles of the treatment.

Internal resorption – a form of chronic pulpitis, external resorption – from periodontium. In early stages is possible to use calcium hydroxide and RCT afterwards. X-ray picture

#### 13. Calcium hydroxide and medicaments in endodontics.

Esp. short, middle and long term action of calcium hydroxide in the root canal)

#### 14. Diagnosis in endodontics, case selection and treatment planning.

Patient history, importance of the tooth, local investigation – depth of the carious lesion, condition of the supportive tissues, morphology of roots and root canals. Size of the periapical lesion.

#### 15. Phases of the endodontic treatment, importance of X-ray investigation, working length.

Access to the pulp chamber, opening of the root canals, cathetrization with thin instrument, negotiation of the working length, root canal shaping, root canal cleaning, canal filling. X- ray for diagnosis, working length, control.

16. Access to the pulp chamber – instruments, step by step procedure, location and form of endodontic cavities.

Dia trepans, Batt's instruments (burs and diamonds with the blunt, safe ended tips), form and location of the endodontic cavity in all teeth.

17. Root canal shaping – instruments, techniques of instrumentation

Reamer, K- file and modification, C- file, H-file. Description and principles of the instrumentation.

18. Root canal shaping – methods

Circumferential filing, balanced force technique, reaming action.

19. Irrigation of the root canal

Principles and importance of irrigation, irrigants, instruments. Lubrication.

20. Root canal filling – materials

Guttapercha, sealers – resin based, kalcium hydroxide based, cement –based. Solid, semisolid, pastes.

21. Root canal filling – preconditions for the filling, methods, instruments.

Preconditions: Shaping (at least 3 sizes bigger in comparison to first apical size), dry root canal without bleeding and exsudation, no clinical symptoms. Filling methods: Cold: Single cone technique, lateral condensation. Warm: warm laterál condensation, vertical condensation, injection, thermafill and similar techniques, MC Spadden technique. (Warm technics – only overview)

22. Complications of the endodontic treatment.

Local (ledge, stripping, zip and elbow effect, transportation, perforation, fracture of the root canal instrument, overfilling), regional (necrosis, damage of gingiva, mucosa etc), systemic: allergy, aspiration or swallow of the instrument. Safety in endodontics.