

The Hebrew University of Jerusalem

Syllabus

Endodontics - 97755

Last update 24-10-2018

HU Credits: 4

Degree/Cycle: 2nd degree (Master)

Responsible Department: Dental Medicine

Academic year: 0

Semester: Yearly

Teaching Languages: Hebrew

Campus: Ein Karem

Course/Module Coordinator: Dr. Shahar Menashe

Coordinator Email: shaharmenashe@gmail.com

Coordinator Office Hours: Sanday 10:00-12:00

Teaching Staff:

Dr. Itzhak(Tsachi) Abramovitz
Dr. Shahar Menashe
Dr. roni diker
Dr. Boaz Shay
Dr.

Course/Module description:

The theoretical part of the course provides the students with an in-depth knowledge regarding clinical and radiographic diagnosis, case management, access cavity preparation, introduction to pulp histo-pathology and an introduction to endo-perio diseases. In Addition the students are introduced to up to date knowledge regarding root canal preparation techniques root canal filling materials and techniques, endodontic instrumentation, rotary instruments and irrigation techniques.

The clinical course provides the student with basic clinical training of primary treatment that is expected to be performed by an undergraduate student. The course is given in the phantom lab on extracted teeth. Students are trained in: difficulty assessment, endodontic treatment planning, following thorough analysis of the data with an assigned instructor and case discussion the student is allowed to start the treatment. Endodontic treatment includes root canal preparation using state of the art rotary instruments and root canal filling using lateral compaction technique.

Course/Module aims:

To train the 4th year student to diagnose endodontic needs, and teach him/her to provide basic endodontic treatment in cases that do not require special endodontic proficiency with special attention on organization.

Learning outcomes - On successful completion of this module, students should be able to:

- Apply proper endodontic terminology to pulpal and periapical diseases
- Identify the anatomy and explain physiology of the pulp and periapical tissues
- Interpret radiographic patterns of endodontic disease
- Explain the concepts involved in endodontic success and failure
- Explain how newer technologies integrate in the practice of endodontics

Attendance requirements(%):

Mandatory throughout the specified time dedicated to endodontic curriculum.

Teaching arrangement and method of instruction: Lectures are provided by the department staff. The clinical teaching in the phantom clinic is provided by senior doctors and graduate students from the specialist program. The instructor-student ratio is 1:5. At least 4 senior endodontists are present during the teaching session.

Course/Module Content:

- Epidemiology*
- Dental anatomy: Recognise morphology, average length, number of roots, root curvature of all teeth, recognize variation in root and pulp anatomy and errors that may cause difficulties or failures in root canal treatment.*
- Access cavity: Preparation of the access cavity with straight-line access and removal of pulp horns, opening the dental crown and removing caries or restorations during access preparation that permits cleaning, shaping, disinfection and three-dimensional obturation of the root canal.*
- Equipment and material in root canal treatment: Basic set of instrumentation, general physical properties of endodontic instrument, describe the design of the more common canal preparation instruments and their mode of use.*
- Cleaning and shaping root canal systems: Objectives for cleaning and shaping, techniques for shaping in round, oval and ribbon shaped canals. Techniques and step-by-step instruction of standardized and step-back preparation.*
- Root canal obturation: Purpose of obturation and the reason why inadequate obturation may result in failure, what is an ideal obturation material, advantage and disadvantage of the obturation materials. Lateral condensation technique.*
- Endodontic Radiography: Importance of radiographs in endodontic diagnosis and treatment, reasons for limiting number of exposures. Identify normal anatomic features in the maxilla and mandible on radiographs, varying horizontal and vertical angulations on working radiographs, determine the third dimension on angled radiographs "SLOB" rule.*
- Diagnosis and treatment planning: Define the differences between subjective symptoms and objective findings and the identification of pulpal and periradicular diseases. Commonly used clinical examinations for extraoral and intraoral soft and hard tissues, clinical pulp and periapical tests and identification of the pain aspect as being the most important in aspect diagnosis.*
- New Endodontic instruments-Pro- taper: Describe physical properties and their mode of use, explain the basis for size and taper, proper use and prevention of file breakage within the canal, describe techniques used and sterilization.*
- Pulp pathology: Portals of microorganism entry into the pulp tissue, endodontic microbiology, reaction of the pulp tissue to bacteria, infection control as applied to endodontic practice, rationale of root canal system debridement.*
- Periradicular pathology: Portals entry of microorganisms into the periradicular tissue, predominant bacteria associated with endodontic infection. Reaction of periradicular tissue to bacteria, rationale of root canal system debridement.*
- Sterilization: Advantage and disadvantage of techniques used for sterilization. Select appropriate sterilization methods for each instrument type.*

Required Reading:

*Cohen's Pathways of the Pulp Expert Consult
11th Edition*

Authors: Kenneth Hargreaves Louis Berman

- 1. Diagnosis*
- 2. Radiographic Interpretation*
- 3. Case Assessment and Treatment Planning*
- 4. Pain Control*
- 5. Tooth Morphology, Isolation, and Access Prep*
- 6. Cleaning and Shaping of the Root Canal System*
- 7. Obturation of the Root Canal System*
- 15. Pathobiology of Apical Periodontitis*
- 18. Management of Endodontic Emergencies*
- 21. Cracks and Fractures*

Additional Reading Material:

course manual

Course/Module evaluation:

End of year written/oral examination 30 %
Presentation 0 %
Participation in Tutorials 0 %
Project work 0 %
Assignments 0 %
Reports 30 %
Research project 0 %
Quizzes 10 %
Other 30 %
practical examination

Additional information:

Theoretical grade - 30%
o End course examination - 100%
Clinical grade - 70%
o Clinical skills (During the semester careful examination after each root canal treatment and at the end of the year clinical solo case) - 70%
o Behavioral and organizational assessment of the student by the
Minimal requirements should be accomplished for a clinical grade.
A higher than 65 grade is required for each of the above mentioned components and sub components.

Minimal requirements: 6 treated teeth: 2 teeth with one root, 2 teeth with two roots, 2 teeth with three roots.