DEN7433 Evidence-based Endodontics
Spring 2021

Course Description:
This course brings together the knowledge gained from previous endodontic courses. This will broaden the ability to analyze diagnostic data, identify and plan a broad scope of endodontic treatment and to relate this treatment to other disciplines utilizing an evidence-based approach utilizing critical thinking to facilitate clinical decision making.

I. General Information

Course Director: Clinio Cerrud

Office:  
Email: ccerrud@dental.ufl.edu  
Phone: (352) 273-5438  
Course Credits: 1  
Semester: Spring

Contributing Faculty

Eleonora Bakiri  (352) 273-5440  EBakiri@dental.ufl.edu  
James Haddix  (352) 273-8482  JHADDIX@dental.ufl.edu  
Melissa Marchesan  (954) 599-4314  MMarchesan@dental.ufl.edu  
Roberta Pileggi  (352) 283-0440  rpileggi@dental.ufl.edu

Support Staff

Katherine J Bratton  (352) 273-7846  KBratton@dental.ufl.edu  TA / Grade  
Administrator

Administrator  
Connie Darlene Plasters  (352) 273-5440  CPlasters@dental.ufl.edu  TA / Grade  
Administrator
II. Course Goals

The goal of this course is to further advance the biological and clinical decision making foundation for endodontic treatment and relate this treatment to other dental disciplines. Within this context, this course aims to enable the student to become a competent endodontic practitioner by integrating biology and case-based scenarios with clinical principles and techniques including critical thinking and evidence-based practice.

III. Course Overview

DEN7433 Evidence-based Endodontics is a hybrid course which includes recorded lectures and case-based scenarios discussed in class.

In every topic a systematic review addressing evidence-based endodontics will be used as well an interactive approach with questions and answers. In all the classes with the exception of the Operative Component of this course, (Dr.Haddix's lectures) the student will be responsible for watching the lecture prior to class and read the assigned article to prepare for case-based discussions. This approach will facilitate student engagement and discussions during the case reviews with application critical thinking and evidence-base endodontics treatment decisions.

By learning the principles of evidence-based you will learn the use of best evidence in making decisions about care of individual patients. You will also be introduced to a computer emergency simulation scenario as part of this course.

During the Dental Trauma section of this course, a team-based (TBL) learning and problem solving approach in conjunction with an Automated Response System (ARS) will be utilized to further motivate interaction among students.

IV. Course Outline

1. Evidence-Based Endodontics:
   Students will be introduced to the four levels of Evidence and to four relevant core steps:
   1. Develop a clear and answerable question for each topic: diagnosis, treatment, side effects and prognosis.
   2. Read the assigned literature to assist in how to search literature in the futur
3. Critically conduct an appraisal of this evidence
4. Apply an intervention based on the "best evidence".

2. Endodontic Emergencies—Management of Acute Exacerbations of the Pulp and/or Periradicular Tissues
   1. Understand the challenges of pulpal anesthesia and techniques to facilitate the procedure
   2. Understand what a "true emergency" implies. Manage emergencies associated with:
      1. Irreversible pulpitis
      2. Irreversible pulpitis with acute apical periodontitis
      3. Pulpal necrosis with acute periradicular involvement
      4. During the course of endodontic therapy
      5. Immediately after completion of endodontic therapy

3. Nonvital Tooth Bleaching
   1. Causes of discoloration of pulpless teeth
   2. Bleaching materials
   3. Patient preparation
   4. Bleaching techniques
   5. Expected results of bleaching procedures
   6. Bleaching after silver cone or paste obturations

4. Traumatic Injuries
   1. Luxation injuries
   2. Avulsions
   3. Resorptions
   4. Crown and Root Fractures

5. Endodontic Retreatments
   1. Silver cones
   2. Gutta percha
   3. Pastes

6. Surgical Endodontic Intervention
   1. Rationale for surgical intervention
   2. Periradicular surgery
      1. Indications and contraindications
      2. Anatomical considerations
      3. Immediate postoperative instructions
      4. Postoperative evaluation

7. Pulpal Revascularization
   1. Recognize the indications and contra-indications for pulpal revascularization.
   2. Describe the steps required for pulp revascularization.
   3. Understand the difference between pulpal revascularization and regeneration.
8. Restoration of the Endodontically-Treated Tooth
   1. Principles of restoration
   2. Operative techniques
      1. Pin amalgam build-up
      2. Pulp chamber-retained amalgams
      3. Slots and grooves
      4. Post and core

V. Course Material

Required:

Assigned articles, distributed in each lecture folder.

Dental Lib Guide: http://guides.uflib.ufl.edu/dental

VI. Course Objectives

L-01: Evidence-Based Endodontics

   1. Review the importance of evidence based dentistry.
   2. Describe the four levels of evidence.
   3. Differentiate between statistical vs clinical significance
   4. Interact and communicate with patients using psychological, social, and behavioral principles (avatar) to understand patient preferences.

L-02: Endodontic Emergencies: Management of Acute Exacerbations of the Pulp and/or Periradicular Tissues

   1. Identify the possible causes of emergencies, prior, during and after treatment.
   2. Differentiate between emergency and urgency.
   3. Define flare-up and how to manage it.
   4. Complete an avatar exercise to assess a medically complex patient with severe oral pain and language barriers.

L-03: Bleaching of Discolored Teeth

   1. List the probable causes for discoloration of the crown of a tooth.
   2. Briefly describe the materials employed for bleaching teeth. State what precautions should be taken with these materials and how to prolong their shelf life.
4. Given specific causes of discoloration of endodontically-treated teeth, state the potential prognosis or success rate.

**L-04: Traumatic Injuries (Luxations)**

1. Describe the different types of Luxation injuries.
2. List the challenges on diagnosing traumatic teeth.
3. List the treatment modality for each type of luxation injuries.
4. List the prognosis and complications following trauma.
5. Complete an avatar exercise to assess a medically complex patient with oral trauma and financial limitations.

**L-05: Resorption**

1. List the different types of resorption.
2. Discuss the treatment modalities of all types of resorption.
3. Discuss the prognosis of different types of resorption.

**L-06: Avulsions**

1. List the prognosis associated with an avulsed tooth.
2. List the storage media advocated prior to reimplantation.
3. Provided with a case, utilize the guidelines for treating an avulsed tooth with closed and open apex.
4. List possible complications associated with the treatment of an avulsed tooth.

**L-07: Crown and Root Fractures**

1. List the different types of crown fractures.
2. Discuss the prognosis of crown root fracture.
3. List the different types of healing following a horizontal root fracture.

**L-08: Nonsurgical Retreatment**

1. Summarize the rationale and success rates for retreating a tooth non-surgically.
2. List the indications and contraindications for nonsurgical retreatment.
3. Describe the materials utilized for retreatment.
4. Describe the evidence of success rate on retreatments.

**L-09: Surgical Endodontic Intervention**

1. List and discuss the indications for a surgical approach to root canal therapy and describe the rationale for a surgical approach.
2. List and discuss the contraindications for surgical endodontics.
3. List the requirements for an ideal flap.
4. List the various flap designs which are employed in surgical endodontics, and state their indications and/or contraindications.
5. List the reasons and objectives for beveling the apex in the apical resection.
6. Describe the definitive operative steps to be followed in a surgical root-end fill procedure.
7. Provided with a list of radiographs and clinical finding, you will determine the best manner of treatment.

**L-10: Pulpal Revascularization**

1. Recognize the indications and contra-indications for pulpal revascularization.
2. Describe the steps required for pulp revascularization.
3. Describe the difference between pulpal revascularization and regeneration.

**L-11: Review of Restoration of the Endodontically Treated Tooth**

1. State the indications for a post and core in restoring the endodontically-treated tooth.
2. State the clinical conditions in which chamber-retained amalgam or pin-retained amalgam restorations will be adequate in lieu of cast restorations.
3. Compare and contrast the several types of posts which may be used in restoration of the endodontically-treated tooth.
4. Describe why the post should fill the prepared post space completely.
5. Describe the optimum criteria which must be satisfied in fabrication of the core portion of the post and core.
6. In teeth with multiple canals, describe why a particular canal is selected as the post site.
7. Discuss the complications that may occur when a rotary instrument is used to create the post space.
8. State the ideal termination and post length for a post preparation.
9. State the MINIMAL amount of root canal filling that should be left to ensure the apical seal of the canal systems in a post preparation.
10. Discuss how rotation of the post may be prevented.
11. State the one group of endodontically-treated teeth that should always receive cuspal coverage and the reason for this.
12. Given a weakened and broken-down endodontically-treated posterior tooth or teeth, describe the technique for restoring the tooth or teeth to original anatomical form and function using amalgam retained by grooves, pins, or slots.

**Team Based Learning**

Provided with a case-based scenario,
1. Employ peer learning and knowledge exchange in treatment planning.
2. Utilize clinical reasoning and evidence-based knowledge to determine treatment options, patient care outcomes, prognosis and complications.
VII. Course Competencies

This course teaches the following competencies in the “Competencies for the New Dental Graduate”.

Domain I: Critical Thinking

2: Evidence-Based Patient Care: Access, critically appraise, apply and communicate scientific and lay literature as it relates to providing evidence-based patient care.

3: Apply biomedical science knowledge in the delivery of patient care.

Domain II: Professionalism

5: Legal Standards: Apply legal and regulatory concepts related to the provision and/or support of oral health care services.

Domain VI: Patient Care

A. Assessment, Diagnosis, and Treatment

12: Patient Assessment, Diagnosis, Treatment Planning and Informed Consent: Provide oral health care within the scope of general dentistry to include patient assessment, diagnosis, comprehensive treatment planning, prognosis, and informed consent.

B. Establishment and Maintenance of Oral Health

14: Assessment of Treatment Outcomes: Provide oral health care within the scope of general dentistry to evaluate the outcomes of treatment, recall strategies and prognosis.

15: Patient Management: Provide oral health care within the scope of general dentistry to patients in all stages of life.

16: Emergency Treatment: Provide oral health care within the scope of general dentistry to include dental emergencies.

21: Provide oral health care within the scope of general dentistry to include local anesthesia and pain and anxiety control, including consideration of the impact of prescribing practices and substance use disorder.

24: Provide oral health care within the scope of general dentistry to include pulpal therapies.

VIII. Evaluation

Grade Weights are as follow:
Examination

Two multiple choice examinations will be given in this course. The exam items will be focused on student knowledge, application, and analysis. The dates of these examinations are on the course schedule. The first exam will cover material from the lectures (1-6); and the second exam will cover lectures (7 - 13).

Exam 1: 50%
Exam 2: 50%

Students must pass both exams with a score of 72% or they have one opportunity to take a retake exam. The highest score obtainable on the retake examination is 72%. If a student does not score >72 the score attained will be averaged.

Team-Based Learning Session

Students will receive 3 points for participation in the mandatory Team Based Learning sessions

Quizzes

ONLINE HOME quizzes: 1 point (if all quizzes taken)

Remediation:

Students that receive an E grade must 1) meet with the course director to discuss deficiencies. A remediation exam will be developed and the student must score 72 or higher to receive a remediated D. See the Administrative Practices section of the syllabus for more detail.

Honorlock will proctor your exams this semester. Honorlock is an online proctoring service that allows you to take your exam from the comfort of your home. You DO NOT need to create an account, download software or schedule an appointment in advance. Honorlock is available 24/7 and all that is needed is a computer, a working webcam, and a stable Internet connection. To get started, you will need Google Chrome and to download the Honorlock Chrome Extension. You can download the extension at www.honorlock.com/extension/install.

When you are ready to test, log into the LMS, go to your course, and click on your exam. Clicking Launch Proctoring will begin the Honorlock authentication process, where you will take a picture of yourself, show your ID, and complete a scan of your room. Honorlock will be recording your exam session by webcam as well as recording your screen. Honorlock also has an integrity algorithm that can detect search-engine use, so please do not attempt to search for answers, even if it's on a secondary device. Good luck! Honorlock support is available 24/7/365. If you encounter any issues, you may contact us by live chat, phone (844-243-2500), and/or
email (support@honorlock.com. If you encounter issues within the LMS, you may contact Your School's Online Support Services team at their number.

IX. Administrative Practices

Administrative practices for all UFCD courses are universally applied. Exceptions to or deviations from these practices are stated in the individual syllabi by the course director. When not individually stated in the syllabus, course administrative practices default to those identified under "Course Policies" on the DMD Student Website:

https://dental.ufl.edu/education/dmd-program/course-policies/

X. Grade Scale

**DEN7433 Grade Scale**

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