PER836: Endodontics Clinic I

1. Course Directors
Dr. Carole T. Pantera
240E Squire Hall
Department of Periodontics & Endodontics
829-3847
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Office Hours: By appointment

2. Administrative Details
Primary Course Designation: Clinical
Secondary Course Designation:
Course Type: Required
Year/Semester: D3/1 (3rd Year/Fall)
Credit Hours: 0.5

3. Participating Faculty
Dr. Satish Bhambhani
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4. Keywords
Endodontics, Root Canal Therapy, Pulpotomy, Pulpectomy, Dental Pulp Test, Dental Pulp Diseases, Periapical Disease

5. Course Meeting Days, Times & Locations
Monday, Wednesday and Friday (9:00 a.m. – 12:00 p.m.; 1:00 p.m. – 4:00 p.m.
First Floor Clinic – Endodontic Bay

6. Course Description
This course is part of the combined third and fourth year integrated clinical program, specifically addressing the endodontic needs of the patients of the School of Dental Medicine.

7. Course Purpose
This course is part of the combined third and fourth year integrated clinical program. The overall goals, objectives, and methods of evaluation may be located in the “Policy and Procedures” section of CLD-832, Comprehensive Care Clinic, as “Clinical Assessment Protocol”. Also refer to this syllabus for additional information.

8. Course Goals
a. Differential Diagnosis: Prepare the student to differentially diagnose conditions of the pulp and periradicular tissues
b. Etiologic Factors for Pulp and Periradicular Diseases: Identify and distinguish etiological factors responsible for pulpal and periradicular diseases
c. Identification and Prevention – Pulp and Periradicular Disease: Identify and use appropriate measures to prevent diseases of the pulp and periradicular tissues
d. Factors Affecting Treatment: Identify factors which may affect the proposed treatment
e. Standard of Care: Provide a standard of care consistent with the Quality Assurance Guidelines of the School of Dental Medicine, University at Buffalo
f. Adjunctive Treatment Modalities: Familiarization with current endodontic technology including rotary instrumentation
g. Adjunctive Procedures to Endodontic Treatment: Identify the need for appropriate adjunctive procedures to endodontic treatment
h. Prognosis for Cases Selected for Treatment: Determine a prognosis for cases selected for treatment
i. Evaluation of Treatment: Assess completed endodontic procedures and ascertain the adequacy of completed treatment during endodontic recalls
j. Assess Patient’s Endodontic Needs: Prioritize the endodontic needs of the patient in relationship to the overall treatment plan
k. Requirements in the Restoration of Treated Teeth: Identify special requirements in the restoration of endodontically treated teeth

9. Learning Objectives

**Diagnosis:**
The student should be able to:
- a. Identify and record the patient’s chief complaint
- b. Review or update the patient’s medical history
- c. Record the history of the tooth in question
- d. Record subjective symptoms
- e. Conduct a systematic visual and tactile extra and intra-oral examination
- f. Perform and record results of appropriate clinical tests
- g. Take and interpret radiographs
- h. Diagnose conditions of the pulp and periradicular tissues
- i. Identify the etiology of any pulpal and periradicular pathosis
- j. Determine a reasonable prognosis

**Treatment Planning:**
The student should be able to:
- a. Assess the general health of the patient; periodontal condition and restorability of the tooth; treatment difficulties such as root dilacerations, pulpal calcification, internal/external resorption and previous root canal therapy; and the strategic value of the tooth in the total treatment plan
- b. Assess the patient’s desires, motivation and economic concerns
- c. Present alternate treatment plans
- d. Obtain informed consent
- e. Identify and manage the following clinical conditions:
  - i. Normal pulp
  - ii. Hypersensitive dentin
  - iii. Reversible pulpitis
  - iv. Irreversible pulpitis
  - v. Necrotic pulp
  - vi. Apical periodontitis
  - vii. Acute apical abscess

**Procedural Errors:**
At the end of the course, the student will be able to:
- a. Recognize and develop applied skills to avoid procedural errors during root canal treatment
- b. Determine the effect on their prognosis
c. Select the appropriate procedure and communicate the situation to the patient if such an error occurs. Refer for specialty treatment if indicated.

**Determination of Success or Failure of Endodontic Treatment:**
At the end of this course, the student will be able to determine the success or failure of endodontic treatment by observing and interpreting the following:
   a. Pretreatment conditions
   b. Change in size or appearance of a periradicular lesion
   c. Presence or absence of pain, soft tissue swellings or a sinus tract
   d. Development or resolution of periodontal lesions
   e. Mobility

**Adjunctive Treatment:**
The student will be familiar with and recognize the need for referral for:
   a. Apexification/apexogenesis procedures
   b. Need for crown lengthening procedures

**Emergency Endodontic Treatment:**
The student will:
   a. Understand and be competent in providing the appropriate emergency treatment for the relief of preoperative, inter-appointment and postoperative symptoms associated with pulpal and periradicular pathosis, including: pulpotomy, pulpectomy, drainage through the tooth and supportive therapy (analgesics/antibiotics).

**Root Canal Treatment:**
The student will:
   a. Provide adequate anesthesia and/or analgesia for the procedure
   b. Prepare the tooth and field of operation for a controlled environment including application of the rubber dam
   c. Gain access to the pulp chamber
   d. Irrigate the root canal system
   e. Determine the root canal length
   f. Clean and shape the root canal system
   g. Place and remove an appropriate provisional restoration
   h. Obstruct the root canal system

**10. Associated Competencies**

<table>
<thead>
<tr>
<th>Learning Objective</th>
<th>SDM Competency from Appendix 1</th>
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</thead>
<tbody>
<tr>
<td>Diagnosis: See Section 9</td>
<td>16-19, 21, 23, 24</td>
</tr>
<tr>
<td>Treatment Planning: See Section 9</td>
<td>1-5, 16-24, 28</td>
</tr>
<tr>
<td>Procedural Errors: See Section 9</td>
<td>10, 19-22, 29, 34, 38</td>
</tr>
<tr>
<td>Determination of Success or Failure of Endodontic Treatment: See Section 9</td>
<td>1, 2, 19, 21, 29, 38</td>
</tr>
<tr>
<td>Adjunctive Treatment: See Section 9</td>
<td>1, 2, 19-22, 24, 29, 38</td>
</tr>
<tr>
<td>Emergency Endodontic Treatment: See Section 9</td>
<td>1-3, 5, 7, 10, 13-25, 27-29, 35, 36</td>
</tr>
<tr>
<td>Root Canal Treatment: See Section 9</td>
<td>1-3, 5, 7, 10, 13-24, 27-29,34, 35, 38</td>
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</tbody>
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11. Student Evaluations Methods
Evaluations are based on the following major clinical areas:

- Endodontic diagnostic workups
- Endodontic treatment
- Clinical Practical Examination (CPE)

There is no designated minimum requirement for PER 836 due to the limited availability of suitable endodontic patients and the subsequent possible delay in assignment. It is encouraged that the student completes the two endodontic screenings and one non-molar endodontic case in the Fall semester. PER 837 is a direct continuation of the Junior Endodontic Clinic and all minimum requirements must be completed by the end of this course.

The minimum requirements for Junior year which must be met for passing the endodontic course PER 836/837 include:

a. Satisfactory completion of the endodontic clinic orientation
b. At least two endodontic screenings prior to CPE
   - Reviewed and signed by an endodontic instructor for CPU credit

c. Satisfactory completion of endodontic diagnostic workup CPE (4)*
d. Satisfactory completion of a minimum of two non-molar endodontic cases

e. Completion of a minimum of 52 CPU’s
   - CPU’s are assigned as follows:
     - 03310 Anterior Root Canal – 24 CPU’s
     - ii. 03320 Bicuspid Root Canal – 36 CPU’s
     - iii. U0461 Endodontic Screening – 2 CPU’s

f. Additional CPU’s may be awarded for completion of extra cases, some emergency endodontic treatment, etc.

*NOTE – The faculty must be asked prior to beginning the CPE in order to determine if there is time available and to determine where the CPE is to be conducted. The student must review and be knowledgeable of the patient’s medical history, dental history, intra-oral evaluation and endodontic evaluation. The Endodontics Record must be completed and submitted to the faculty for evaluation in order to allow the faculty time to evaluate and confirm the students’ diagnostic findings while the patient is still present in the clinic. A pulpal and periapical diagnosis must be written on the diagnostic sheet. At this time the faculty may orally examine the student on any of the procedures and/or diagnostic criteria utilized in their clinical assessment and diagnosis. They may also wish to reconfirm by examining the patient.

Grades:
A grade of S or U will be given for PER 836, based on the student’s successful completion of assignments made to date.

Grading
A=100-90   B=89-80   C=79-70   D=69-65   F=below 65

<table>
<thead>
<tr>
<th>Grading Criteria</th>
<th>Evaluation Types*</th>
<th>% Weight</th>
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<tbody>
<tr>
<td>Diagnostic Competency</td>
<td>Clinical practical examination (CPE)</td>
<td>20%</td>
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<tr>
<td>Completion of Class/Diag</td>
<td>Clinical Productivity Units (CPU)</td>
<td>40%</td>
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<tr>
<td>Evaluation of Cases</td>
<td>Chart audits (CA)/Patient record review</td>
<td>40%</td>
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*Evaluation Types (see Appendix 2 for full descriptions)
12. Learning Resources
Technique Manual on Website; DVD Textbooks – Pathways of the Pulp; Principles and Practice of Endodontics; SDM Intranet

13. Instructional Media
a. Instructional Modes: Verbal – auditory 20%  Visual 20%  Psychomotor/Tactile 60%
b. Instructional Tools: Handouts/Manuals
c. Instructional Methods: Live Demonstration, Other method (Individual Supervised Clinical Cases)

14. Course Schedule

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<thead>
<tr>
<th>Date</th>
<th>Time</th>
<th>Day</th>
<th>Topic</th>
<th>Assignments/Readings</th>
<th>Faculty</th>
<th>Location</th>
</tr>
</thead>
</table>

Schedules for this course are available each semester on the SDM Intranet website.

15. Course Policies & Procedures
Policies and procedures of the course are written in accordance with the Faculty Handbook and Academic Policies. Course Policies are written to clarify expectations of the course director regarding attendance, behavior, grading, academic integrity, professionalism, disabilities, remediation, etc. Refer to the student handbook for more detailed information http://intranet.sdm.buffalo.edu/student/handbook/.

A. Course Failure and Remediation
Students who earn an "F" grade in this course may be given the opportunity to remediate. Remediation will be permitted only at the discretion of the School of Dental Medicine's Executive Council.

If permitted, remediation will take the form of completion of remedial extracted teeth projects as well as successful completion of required clinical case(s). A grade of < C > on these projects/case(s) will be required to remediate this course. The resulting grade will be listed on the transcript as "F/P". Incomplete grades will be awarded under those conditions as described in the student handbook.

B. Disabilities
This institution supports the goals and requirements of Section 504 of the Rehabilitation Act of 1973, which mandates academic adjustments, commonly called reasonable accommodations, be provided for students with documented disabilities. If you have a disability and may require some type of instructional and/or examination accommodation, please contact me early in the semester so that I can provide or facilitate in providing accommodations you may need. If you have not already done so, you will need to contact the Disability Services office, the designated office on campus to provide services for students with disabilities. The office is located at 25 Capen Hall and the telephone number is (716) 645-2608.

C. Attendance
Regular attendance in the clinic is the student’s obligation, and a student is responsible for all the work, including practical examinations (CPE’s).

D. Canceled Classes
If, for any reason, a scheduled session is not held, the scheduled event will occur at the next session unless otherwise announced.

E. Course Evaluation
Comprehensive evaluation of this course will be administered online at the end of the course through the
Office of Academic Affairs. Eliciting feedback and constructive criticism is important so that Course Directors may take action to improve the course. Students are expected to participate fully in this important process.

F. **Changes in the Course**
No changes have occurred in this course since the last time it was offered.

G. **Distractions in the Classroom/Behavioral Expectations**
As students in a health professions school, students are expected to display conduct consistent with their status as entering members of the profession. Specifics of expected conduct are listed in both the university "Student Conduct Rules, University Standards and Administrative Regulations" and in the School of Dental Medicine "Student Handbook". In recent years, cell phones, pagers, and other electronic devices have been sources of disruption in classrooms. All electronic devices except those specifically required by the course director or lecturer are not permitted in class. If these devices go off during class, the student with the device will be asked to leave.

H. **Professional Conduct**
The University has a responsibility to promote academic honesty and integrity and to develop procedures to deal effectively with instances of academic dishonesty. Students are responsible for the honest completion and representation of their work, for the appropriate citation of sources, and for respect for others’ academic endeavors. By placing their name or student identifier on quizzes and examinations, students certify that the work is theirs and theirs alone. Students may not refer to any material or look at other student's papers during quizzes or examinations. Students observed so doing will receive a grade of zero for that quiz or examination. In addition, such incidents of academic dishonesty will be addressed as described in the university "Student Conduct Rules, University Standards and Administrative Regulations" the complete text of which can be found at http://www.student-affairs.buffalo.edu/judicial and as described in the School of Dental Medicine Student Handbook, the complete text of which can be found at: http://intranet.sdm.buffalo.edu/student/handbook/.