Department of Endodontics

Loma Linda University
School of Dentistry

LOMA LINDA
UNIVERSITY

CLINIC INFORMATION

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ENDODONTIC CLINIC PERSONNEL

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ENDODONTIC CLINIC POLICY

1. **Consultations**: The endodontic clinic faculty is available for consultations. Consults to other clinic areas may be obtained if there is more than one instructor in the endodontic clinic at the time; if not, it will be necessary for you to bring the patient to the endodontic clinic to complete your consult, or schedule it for a later date.

2. **Scheduling Patients**: The endodontic operatories are scheduled through the endodontic clinic office. Please reserve an operatory as soon as you know that you will need one; if your patient cancels, notify the endodontic clinic immediately. The window opens at 7:45 am and 12:45pm to facilitate set up and efficiency. Check in with the endodontic clinic office by 8:15 a.m. or 1:15 p.m. to avoid having your chair given to a student on the waiting list.

    a. If you schedule a start time later than 8:00 am or 1:00 pm and another student on stand-by is prepared to start with a patient, you may lose your chair. Please book your chair reservations at normal starting time to avoid problems.

    b. If your patient requires nitrous oxide analgesia, inform the staff person when booking your chair. A resident operatory with x-ray equipment available chair side are only available at certain times when they are in class. It is prudent to utilize one of these rooms to avoid moving the patient once the procedure is started.

    c. Department regulations and liability concerns require that patients needing I.V. sedation may **NOT** be treated in the endodontics department unless a person licensed in I.V. sedation is **present throughout the procedure**. Do not schedule I.V. sedation unless your patient is aware of the extra cost for licensed supervision, as well as making sure arrangements for supervision have been made prior to scheduling.

3. **Pulp Exposures Outside Endodontic Clinic**: If you are in the Main Clinic, Pediatric Clinic, Urgent Care, or elsewhere and encounter an exposure, the following steps are recommended:

    a. Place dental dam.

    b. Determine the extent of treatment to be performed - not all exposures need endodontic consult.

        1. A direct pulp cap can be performed if it is the result of a mechanical exposure in a previously asymptomatic tooth, and oral contamination has been minimized.
        2. A pulpotomy can be performed in clinics other than the endodontic clinic, if it is a vital exposure and the tooth is not percussion sensitive.
        3. If the tooth is percussion sensitive, a pulpectomy should be performed.

    c. You will be asked to move your patient to the Endodontic Clinic if files are needed for the procedures to be performed.

4. **Pediatric Endodontics**

   a. All pediatric patients requiring pulp therapy on permanent teeth should have a written consult completed by the attending pediatric and endodontic instructors prior to start of treatment.

   b. All primary teeth requiring pulp therapy will be completed in the pediatric clinic.

   c. Permanent teeth requiring treatment (other than pulp capping) will be completed in the endodontic clinic, if the patient is cooperative. If the patient requires sedation, general anesthesia or special management, arrangement should be made through the pediatric dentistry clinic.

   d. Treatment and follow-up of traumatic injuries for patients assigned to predoctoral students is often complicated. Pediatric, endodontic, and oral surgery consults and assistance may be required.

5. **Operatory Management**: Cleanliness, neatness and organization constitute part of your clinic grade. You are expected to leave the operatory in a clean, debris-free and disinfected condition when you finish your treatment procedure.

6. **Instruments**: The Department provides the basic instruments and supplies. You are responsible for the proper care of these instruments; damage through carelessness means that you must replace the damaged instrument. Instruments and supplies that you need to bring to the clinic are described on page 20.

7. **Radiographs**:

   a. Radiographs may be exposed in operatory #19. Please be sure to escort your patient back to your cubicle **as soon as the film is exposed** and wipe down the chair for the next patient.

   b. Infection control procedures are posted and should be practiced for all patients.

   c. When exposing working films, **DO NOT** remove the dental dam frame. Check with an instructor if you need help with this technique.

   d. Radiographs are developed as per your radiology training.

   When you have completed the endodontic procedure, arrange all the films in a chronological order for case review with an instructor.

8. **Permission to Proceed**: Permission to proceed must be requested from the covering instructor prior to starting any treatment.

   Before requesting permission to proceed, have the following ready:

   a. Open Patient Encounter on computer
   b. Treatment Plan/Patient Record/Medical History
   c. Patient Assessment Form
   d. An updated pulpal and periapical diagnosis if it has changed since the patient was last seen.
   e. Current, diagnostic periapical radiograph of the tooth to be treated. (should not be over 6 mo.'s old)
   f. "Endodontic Performance Evaluation" form.
   g. All necessary equipment, instruments, and supplies.

   Upon discussing the procedure with an instructor, obtain permission to proceed. "Permission to Proceed" (PTP) is required every time you see a patient in the Endodontic Clinic, regardless of the stage of treatment and includes **any** patient contact; even visits for consultation or minor adjustments

9. **Post-Treatment Evaluation**: Before the Performance Evaluation is turned in to the Department for credit, review the case with an instructor. Review all images taken during the endodontic procedure and have them available for the instructor to view. As a general rule, the films required will be: Starting film (unless the starting film is part of the patient's FMX), length determination, length verification (with largest file to length), master cone and completed case film(s). **The endodontic grade sheet must be signed off in the computer by an instructor upon completion of treatment.**

10. **Referring Patients to Endodontic Advanced Education Clinic**

    a. After discussing with your primary/restorative attending instructor and determining the tooth is restorable, discuss with an endodontic instructor the reason for referring your patient to the Endodontic Advanced Education Clinic.

    b. Document the referral to the Endodontic Advanced Education Clinic in the main chart.

    c. Discuss the referral with your patient so he/she understands the change in treatment plan and is aware there may be a difference in the fee. The Endodontic Advanced Education Fee Schedule information is available in the clinic office and should be referred to when quoting fees to potential referral patients.

    d. Bring your patient and chart to the Endodontic Advanced Education Clinic office to make the referral. You will be requested to fill out a referral form and an appointment will be made for your patient with an endodontic post doctoral student.

    e. Clinic Attendance will be recorded for incomplete treatment patients that are referred to the Advanced Education Endodontic Clinic.

GRADING

1. **Specific for each case**. The salmon colored Performance Evaluation is used for the purpose of evaluating your endodontic procedure. It is criteria-based: you can evaluate each step yourself by checking the criteria listed. Do not hesitate to consult with an instructor regarding the procedure you are doing. However, when you believe the step is completed, check the criteria listed and if satisfied that they have been met, ask the instructor for evaluation. **IT IS YOUR RESPONSIBILITY TO MAKE SURE THAT YOU OBTAIN ALL NECESSARY SIGNATURES**.

   It is also your responsibility to get each section checked before proceeding to the next section.

   "Competency Level" The student's level of clinical competency (ability to perform treatment without assistance) will be evaluated by the clinic instructor for each endodontic treatment done. This will be accomplished by the instructor indicating your competency level on selected sections of the Performance Evaluation Form. A competency level 1 means the student was unable to perform the required task and a level 5 means that the student performed the needed treatment at an exceptional level without assistance from the instructor. An average competency level will be recorded for each endodontic treatment completed.

2. **Overall clinic grade in Endodontics**.

   2.1 The clinic grade in Endodontics is given at the end of the D4 year *(ENDN 875) and is based on all your endodontic clinic procedures. **Included will be all applicable endodontic procedures completed during your D3 and D4 years.**

   2.2 Grades are based on production and competency. You can earn a higher grade by completing more cases than required. If you earn **110 or more endodontic points required for graduation**, you will be eligible for an A. In addition, you must show an average competency of 4 or higher in your last couple of cases to be eligible for the grade and graduation. Listed below is the breakdown of Basic Endodontic Points and their corresponding grade.

ENDODONTIC CLINIC GRADE *(ENDN 875)

Points (Criteria met or better)	Grade
40-64	B
65-89	B+
90-109	A-
110 and more	A

CLINICAL REQUIREMENTS IN ENDODONTICS

General

1. **Clinic Eligibility**: **Successful completion of the courses ENDN 831 and ENDN 832 qualifies you to start treatment of patients in the Endodontic Clinic.** Use of the Endodontic Clinic is a privilege which may be suspended for unsatisfactory clinical or didactic performance both in the area of specific endodontic procedures and in general performance (Professional attitude and action and patient management). Reinstatement of clinic privileges is dependent on satisfactory completion of assigned remedial work.

2. **Clinic Orientation**: There is a two part process required before treating your first patient. The first part is completing the block assignment orientation. This assignment is through clinic administration and attendance is mandatory. Failure to attend will make you ineligible for clinic privileges and the second part of orientation.

   The second part of the orientation involves completing an endodontic procedure on a tooth mounted in a manikin in the endodontic clinic. The manikin head can be checked out from the main clinic supply window. You will provide the articulator issued to you in the lab. Students must mount their tooth in the appropriate sextant. Additional sextants can be purchased in Dental Supply. Treatment on the manikin is meant to mimic a real patient and treatment must be performed to acceptable clinical standards. Failures to do so will require completing an additional tooth (or teeth) until the covering instructors are satisfied.

Specific

1. **Point System**:

   1.1 **All Endodontic Clinic Points must be earned in the LLUSD Endodontic Clinic**;

   There are two types of points that can be earned in Endodontics: **Required for Graduation Points, and Additional Endodontic Points.**

   1.2 **Endodontic Points**

   Earned for **completed treatments ONLY.** Point credit as listed on next page

   ONLY THESE POINTS FOR COMPLETED TREATMENTS ARE CREDITED FOR GRADUATION REQUIREMENTS.

Graduation Point Credit Procedures

Anterior teeth	-	6 pts
Premolars	-	8 pts
Molars	-	12 pts

1.3 **Additional Endodontic Points**

Awarded as listed below.

These points do not count toward the basic 40 point graduation requirement.

Additional Endodontic Procedures

Bleaching	-	2 pts
Emergency pulpotomy/pulpectomy	-	2 pts
Assist for endodontic procedures	-	0 pts (clinic attendance credit)

2. **Graduation Requirements**. A minimum of 40 points must be earned in **completed** root canal treatment procedures. Try to earn at least 20 points during your D3 year, which will leave 20 points for the D4 year.

3. Additional endodontic points are credited toward your overall point clinical requirement (as miscellaneous clinical points), but **do not** count toward the 40 point basic Endodontic graduation requirement.

*** Eligibility to take WREB is dependant upon your points obtained. A minimum of 20 points is required. This is needed by Winter Quarter at the latest.**

ENDODONTIC PATIENT ASSESSMENT FORM

GUIDELINES FOR COMPLETION

The purpose of the Endodontic Patient Assessment Form is for the student to learn to evaluate and identify the risks and complications involved with endodontic treatment. The identification and classification of these risks is divided into three main categories:

a. Minimal difficulty
b. Moderate difficulty
c. High difficulty

Minimal difficulty is defined as straight forward minimally complicated with low potential to adversely affect treatment.

Moderate difficulty is defined as moderately complicated or potential for complications that will adversely affect treatment.

High difficulty is defined as highly complicated or a high potential for complications that will adversely affect treatment.

In the identification and classification section a list is provided to aid in the process. It is not all inclusive and there may be other factors not listed that could also affect treatment. The intent of this form is to develop your ability to recognize the risks involved with endodontic treatment as well as identifying those cases that require referral. Remember this form is a learning tool.

The item in bold is what is being evaluated for a risk factor. The items listed below are suggestions (and are by no means all inclusive) which will help in evaluating the item.

Medical History

1. ASA classification?
2. Multiple allergies, latex allergy?
3. Recent myocardial infection?
4. Recent organ transplant, immuno-suppressed?
5. Cardiac condition?
6. Complicated history requiring MD consults, antibiotic prophylaxis, or short appointments?
7. Other medical or emotional factors?

Local Anesthetics

1. Difficulty in obtaining profound anesthesia?
2. An allergy to anesthetics?
3. Past history of complications?
4. Vasoconstrictor limitations?

Patient Considerations

1. Limited opening / size of mouth?
2. Does gagging pose a problem, rubber dam placement?
3. Fear of dentistry, claustrophobic?
4. An inability to recline?

Diagnosis

1. Conflicting tests?
2. Is the diagnosis difficult enough to require referral?
3. Is the pain diffuse; not localized to a specific tooth?
4. Is the pain pulpal in origin or a chance of a different etiology?
5. Does the tooth in question have a full coverage crown, making vitality testing difficult?

Radiographs

1. Does gagging pose a problem in film placement?
2. Anatomically low vault, large tori?
3. Is your patient cooperative?

Pulpal Space

1. Is the pulp space visible radiographically?
2. Are there pulp stones present, calcification?
3. Evidence of resorption?
4. Narrow canals?
5. Canal obstructions, large B restoration, etc.?

Root Morphology

1. Does the canal have >20 degrees of curvature?
2. Does the canal bifurcate, dilaceration?
3. Is the root long, short?

Apical Morphology

1. Does the tooth require apexification or apexogenesis? An open apex is considered an extreme risk and should be referred to the endodontic clinic.

Tooth Position

1. Is the tooth rotated, tipped?
2. Is the apex location close to sinus, inferior alveolar canal?
3. Is it a second or third molar?

Previous Endodontic Treatment

As a rule teeth requiring retreatment are considered more complex and are likely to be referred to the Endodontic Clinic. They are usually classified as high risk or extreme risk.

1. Are the canals filled short, long?
2. Is there a post present?
3. Is the canal obstructed, blocked, or ledged?

Restorability

1. Is the rubber dam isolation a problem?
2. Gross cavies?
3. Is crown lengthening likely; extrusion?
4. Is a root amputation necessary; hemisection?

Existing Restoration

1. Is there a full coverage crown on the tooth?
2. Is the tooth an abutment for a fixed prosthesis?
3. Long axis of crown versus long axis of root?
4. Post and/or core present?

Resorptions

1. Does the tooth have apical resorption?
2. Can you see internal or external resorption present?
3. Is replacement resorption occurring?
4. History of orthodontics?

Endo - Perio conditions

1. Is the tooth mobile; degree?
2. Is the furcation involved?
3. Perio prognosis?
4. Sinus tract, deep probing, vertical root fracture?

Trauma / Fracture

1. Crown or root fracture?
2. Range of jaw movement affected?
3. Tooth luxated; avulsed?

It is important to note that follow-up is critical in traumatic injury patients. Fractured roots tend to be complex to treat and are commonly referred to the Endodontic Clinic.

GUIDE FOR ENDODONTIC PROBLEM WORK-UP (S.O.A.P.)
(Back page of Endodontic Patient Assessment Form)

The goal of the endodontic evaluation of pulpally involved teeth is to develop a treatment plan based on accurate diagnosis. Follow the steps listed below; record the pertinent information which will form the basis for arriving at the correct diagnosis.

(Also see sample Endodontic Problem at the end of this section)

S - SUBJECTIVE (SYMPTOMS AND HISTORY OF PRESENT ILLNESS)

1. **Chief Complaint**: This should be stated in the patients own words if possible.

   The following are examples:

   I have a toothache (patient points to tooth #30)
   My tooth had a root canal started
   My tooth feels uncomfortable when chewing

   If a possible pulpal problem were discovered during radiographic examination: Tooth #30 has apical radiographic changes.

   If endodontics is for prosthetic reasons, state so.

2. **Pain**

   How long; or when did the pain start: Days; Weeks; Months.

   Description: Localized; Diffuse; Radiating; Unprovoked.

   Duration: Seconds; Minutes; Hours; Intermittent; Continuous.

   Type: Throbbing; Sharp; Dull; Severe.

   Provoked by: Cold; Heat; Pressure; Mastication; Sweets; Lying down; Exercise.

   Relieved by: Cold fluids; Pressure; Analgesics.

3. **Other**: Sensations or complaints other than pain, e.g. loose tooth; swelling; elongated tooth; discolored tooth; 'gum boil'; etc.

4. **Previous History**:

Trauma: History of trauma (Date and type if possible)

Restorations: Extensive; Pulp cap.

Emergency treatment: Treatment filling; Pulpotomy; Opened for drainage (I and D); Occlusal/Incisal reduction.

Medication (For this complaint): Antibiotics; Analgesics; Other.

O - OBJECTIVE (SIGNS, CLINICAL TESTS, AND RADIOGRAPHIC INTERPRETATION)

1. **Objective Signs**:

Swelling: Intraoral; Extraoral; Local; General; Fluctuant; Hard.

Soft tissue: Gingivitis; Sinus tract (Facial or lingual).

Lymph nodes: Lymphadenopathy (Submental or Submandibular).

Clinical crown: Fractured; Carious; Restored; Pathologic or Mechanical exposure.

Discoloration: Discolorations (pink, grey, yellow).

Other: Luxation; Traumatic occlusion.

2. **Clinical Tests**

Tooth #: Use numbering system 1 - 32 to indicate tooth (teeth)tested. Test at least two adjacent or contralateral teeth in addition to the one(s) in question.

EPT (Electric Pulp Tester):

NR or 80 = No Response **or** document the number at which there was a response (e.g. EPT + 43).

Percussion / Palpation:

WNL/- = Sensitivity within normal limits
\+ = Slightly sensitive
++ = Very sensitive / Painful

Cold / Heat:

WNL/+ = Responds within normal limits, sensitivity, but no pain
++ = Elevated sensitivity, but not lingering
+++ = Elevated sensitivity, and lingering
- = No response

Mobility:

0 = Normal
1 = Slight mobility
2 = Marked mobility
3 = Mobile and depressible
AR = No mobility-ankylosed

Perio: Record significant (> 3 mm) pocket depths.

Temp: (Systemic temperature):

Normal, Elevated (in degrees C or F).

3. **Radiographic Interpretation**

This section is particularly useful in helping you to determine the degree of difficulty in each case. The complexity is decided between you and the instructor; however, you should indicate what you think the degree of complexity is before getting the instructor's opinion.

Crown: Caries; Deep restoration; Dens-in-Dente.

Pulp chamber: Calcified; Pulp stones; Internal resorption; Apparent pulp exposure; Chamber filled.

Pulp canal: Calcified; Internal resorption; Open apex; Straight or curved; Previous root canal filling.

Roots: Curved; Fractures; Resorbed (apical or external); Dilaceration (twisting, pending or other distortions of the root).

Periodontal ligament space (PDL): Thickened.

Lamina Dura: Obscure or broken.

Alveolar bone: Apical (or Lateral) radiolucency; Apical (or Lateral) radiopacity; Crestal bone loss.

A - Assessment (CLINICAL DIAGNOSIS OR IMPRESSION, AND ETIOLOGY)

1. Diagnosis

The clinical diagnosis is determined for both the pulp and the periapex in each case. The following are the terms accepted in the Loma Linda University School of Dentistry Endodontic Clinic (SEE CLINICAL CLASSIFICATION OF PULPAL AND PERIAPICAL CONDITIONS)

Pulpal:	Normal pulp
	Reversible pulpitis
	Asymptomatic irreversible pulpitis
	Symptomatic irreversible pulpitis
	Necrotic pulp
	Previously initiated
	Previously treated
Periapical:	Normal apical tissues
	Asymptomatic apical periodontitis
	Symptomatic apical periodontitis
	Acute apical abscess
	Chronic apical abscess

In addition to the above conditions it may be necessary to add:

Hyperplastic pulp
Internal/external resorption Fracture
Condensing osteitis

(e.g. Irreversible pulpitis with internal resorption; Reversible pulpitis with fractured crown; chronic apical periodontitis with condensing osteitis)

2. Etiology

"Why do I need root canal treatment?" your patient will often ask. Try to determine what produced the current status of the pulp and periapex. Caries and trauma from repeated restorative procedures most often are responsible. The following are examples of causes.
Caries, Trauma, Iatrogenic (dentist), Idiopathic (can't determine cause), Chemical (i.e. from composites, etc.), Extensive restorations.

P - PLAN OR PROGRESS (TREATMENT PLAN AND PROGRESS)

1. **Endodontic Treatment Plan**

Describe the proposed endodontic treatment for this tooth, e.g.

Emergency pulpotomy
Endodontics
Endodontics for prosthetic reasons
Endodontic and pre fabricated post and core
Endodontic and post space preparation
Apexification
Bleaching
Root end surgery and filling
Root amputation / hemisection
Incision and drainage
Pulp protection (Caries removal, pulp capping)
To be referred to...

2. **Restorative Treatment Plan**

Indicate the type of restoration that will be placed following endodontics, e.g.

Post / core and full crown
Onlay to protect cusps
Access cavity: Amalgam
Access cavity: Composite resin
Attachment for RPD

3. **Prognosis and Patient Education**

The patient needs to know what you plan to do. Many are curious about dental procedures and will ask questions; the following guide is the **minimum** amount of information that you need to provide for your patient. (The instructor may ask the patient if the procedure has been explained.)

Patient Information:

- Need for treatment (What will happen if no treatment)
- Risks and benefits
- Fee
- Procedure explained

<u>Prognosis</u>: (Enter under P in S.O.A.P.)

Good: means that there is nothing apparent now that would indicate that the treatment will fail.

Fair: means that there are some problems - explain these to the patient.

Poor: means that there is less than 50% chance for success - explain this to the patient.

<u>Follow-up</u>:

Patient needs to be informed of need for final restoration and periodic recalls.

<u>Pre-treatment Evaluation</u>:

Before endodontic treatment is started, the above evaluation will be reviewed with an endodontic instructor. If, in the opinion of the endodontic instructor, re-evaluation is needed due to the length of time between original evaluation and the treatment, or for any other reason, parts or all of the above steps may need to be repeated.

An accurate and complete S.O.A.P. must be entered either on the problem list sheet, in the progress notes, or on the patient assessment form.

NOTE: If you have accepted the patient from another student, or treatment was done elsewhere, you must re-S.O.A.P. the patient **<u>as it exists</u>** before you are ready to start endodontic treatment.

S.O.A.P. recording is done electronically

GUIDE FOR ENDODONTIC PROGRESS NOTES

1. The progress notes should contain information regarding:

   1.1 - Endodontic treatment

   1.2 - Re-evaluation of previous diagnoses and treatment plans, if indicated

   1.3 - Recall evaluations

   1.4 - Consultations

2. Specifically regarding endodontic treatment the following information should be recorded when applicable. (See Sample of Progress Notes following this section).

   2.1 - Tooth number and problem

   2.2 - Sequentially, the steps in treatment and materials and medicaments used

   2.3 - Note the rubber dam clamp used for subsequent appointment

   2.4 - Use rubber stamp on initial canal prep visit to record file sizes and lengths. Once stamped, the same spaces can be used for the rest of the treatment of that tooth.

   2.5 - Record the number of radiographs taken each visit.

ENDODONTIC RADIOGRAPHY

Radiographs are essential for proper endodontic treatment. You will be using digital radiography for any and all aspects of patient treatment. Sometimes, digital radiography may not be available and analog radiography needs to be used. Please note the following recommendations when using analog films.

1. **Pre-operative films**.

   It is recommended that you have two recent preoperative films - prior to treatment.

   If you have accepted a patient whose emergency treatment (i.e. opening of tooth) was done by someone else, you must take your own pre-op film before starting treatment.

2. **Treatment films**.

   The number of treatment films will vary with each case; do not hesitate to ask for advice from your instructor. Treatment films are taken with the rubber dam in place, using a hemostat for film placement. **Do not remove rubber dam frame.** If you are unsure of angulation, film placement etc., please ask for instructor assistance. This will reduce the number of retakes and unnecessary patient radiation exposure.

3. **Post-operative films**.

   As you did for the pre-operative radiograph, it is recommended that you have two different angled postoperative films. These films are to be taken after the tooth has been temporized and the rubber dam has been removed.

4. **Post-treatment evaluation**.

   Arrange the films used in this case on to a single screen and review the treatment with an instructor.

REQUIRED INSTRUMENTS AND SUPPLIES

The specific instruments for endodontics are issued to you in the Endodontic clinic; some instruments and supplies are necessary for you to bring to the clinic:

1. High and low speed handpieces

2. Instruments and supplies that may be needed for any restorative procedure .

3. Glasses (student and patient)

INFECTION CONTROL PROTOCOL FOR THE ENDODONTIC CLINIC

The Infection Control Committee has completed the updating of the School's Infection Control Protocol. It was implemented the beginning of Winter Quarter (1990) and it applies to all clinical departments and sections in which patient contact occurs.

The following are special areas of concern in the Endodontic Department.

1. **Endodontic instruments (before seating patient)**

    a. Cover top of mayo stand and counter tops with patient bibs.

    b. Arrange **all** instruments in the cassette and place with supplies needed for the procedure on the bib covered work area.

    c. Cover instruments in the cassette and supplies on top of the mayo stand with another patient bib and seat patient after which that bib is placed on the patient.

2. **Endodontic radiograph room protocol**

    a. **Operatory preparation:**

        1. Obtain the following supplies:

            - Phosphorous plates and dark boxes
            - latex or vinyl exam gloves.
            - plastic wrap barriers.
            - head rest cover.

        2. Use plastic overgloves or clean gloves when entering the operatory.

        3. Remove debris (cotton rolls, film, etc.) from the floor and counter tops and disinfect the following surfaces with caviwipes:

            - patient chair - headrest and arms.
            - front **and** back surfaces of lead apron.
            - x-ray tube head and yoke.
            - (PID) position indicating device (cone).
            - control panel and knobs including exposure switch should be carefully disinfected.
            - counter top surfaces.
            - any additional surfaces which may be touched during the course of the a anticipated procedure.

        4. Remove and dispose of soiled overgloves.

5. Wash hands; seat the patient; reglove.

6. Place paper towel on working counter surface. Cover exposure switch and timer dial with plastic wrap, place x-ray barrier cover over PID (cone). Place head rest cover. Set-up other supplies on counter.

7. Expose phosphorous plate.

b. **Operatory clean-up:**

1. Use plastic overgloves when cleaning the operatory.

2. Place contaminated film holding instruments (XCP, Snap-a-ray, etc.) in the sink.

3. Place all used surface barriers, cotton rolls, and trash in waste container.

4. Return and wipe down the following surfaces:

- patient chair - headrest and arms.
- front and back surface of lead apron.
- x-ray tube head, yoke, and PID.
- control panel and knobs including exposure switch.
- any additional surfaces which have been touched during the course of the procedure.

5. Remove overgloves, gown, and wash hands.

3. **Protocol for using rapid developing boxes** (in case of digital radiograph problems)

a. Only films which have been placed in a plastic film sleeve prior to intra-oral use may be processed in rapid developing box.

b. Open contaminated film cover packet and drop clean film on to clean paper towel or cup.

c. Dispose of contaminated packet while removing contaminated gloves.

d. Insert clean film, the film clip, and ungloved, clean hands through light baffles and into developing box.

e. Unwrap clean film and develop as usual.

f. Remove ungloved hands from box; lift lid, and remove film wrapper. Leave lead foil in box. Remove fixed film.

g. Wash hands thoroughly, and re-glove.

4. **Darkroom and Processing** (in case of digital radiograph problems)

   a. Overgloves must be worn when entering the darkroom.

   b. Place two paper towels on counter next to automatic processor. One will be a "**CONTAMINATED"** work area, and the other a "**CLEAN**" work area.

   c. Remove overgloves prior to handling contaminated film packets.

   d. With exam gloves on, remove one film at a time from paper cup and unwrap carefully without touching film itself. Allow the film to drop onto the "CLEAN" paper towel. Discard film packet, paper wrapping, and lead foil onto "CONTAMINATED" paper towel.

   e. Unwrap **ALL** films prior to processing.

   f. Dispose CONTAMINATED paper towel and its contents into hazardous waste container in darkroom. Wipe surface with disinfectant.

   g. Remove overgloves and exam gloves and dispose in hazardous waste container.

   h. You may now process all unwrapped films from CLEAN paper towel.

   I. Wash hands and exit darkroom.

   j. Mount films, make chart entries, get instructor's signature.

   k. The patient is ready to be dismissed. Proceed to cashier. Return to clean up operatory. Alternatively, the patient may wait in reception area while operatory clean-up is completed.

5. **Operatory Clean-Up**

   a. Use plastic overgloves or clean gloves when cleaning the operatory.

   b. Place contaminated film holding instruments in sink.

   c. Place all used surface barriers, cotton rolls, and trash in disposable bag. Seal bag and discard in trash container.

d. Return and wipe down the following surfaces:

- patient chair - headrest and arms
- front and back surface of lead apron
- x-ray tube head, yoke, and PID
- control panel and knobs including exposure switch
- any additional surfaces which have been touched during the course of the procedure

e. Remove overgloves, gown and wash hands.

6. **Endodontic instruments following patient dismissal**

a. Clean all of your own instruments and place in cassette for delivery to the gray endo cart located outside the student window.

b. Clean your own friction grip burs and place in appropriate container for sterilization.

c. Discard all worn and damaged endodontic files in the "Sharps" container.

d. Clean all re-usable endodontic files, replace in file stand or medicine cup. Clean and return all other instruments and burs received from the endodontic clinic dispensary and place in the gray cart. Clean operatory according to the Infection Control Protocol for the Dental Clinics - which appears below:

7. **Operatory clean-up after dismissing patient**

a. After dismissing your patient and returning to the operatory, put on a pair of overgloves or clean gloves.

b. Discard needles, blades, ortho wire scraps, worn-out burs and used anesthetic carpules in the special red "**SHARPS"** box located throughout the clinical areas.

c. Place all disposable items in the debris bag (gloves, rubber dam, cotton rolls, saliva ejector, etc.).

d. Put amalgam scrap into receptacles provided by the endo clinic.

e. Carefully clean all instruments that are to be sterilized. Clean one instrument at a time. They must be free of blood, saliva, cement, impression materials, wax, etc. Put them into cassette(s), and place them in gray cart next to the student window.

f. Operate the air/water syringe, high speed handpiece, and Cavitron (without tip) for 2 minutes in order to flush the system.

g. Burs and diamonds must be cleaned and returned to burblock for heat sterilization in cassette.

h. Remove all coverings from chair, light, cart and counter tops and place them in a waste container.

i. If the high volume vacuum hose or the saliva ejector has been used, flush each of the used hoses with one full plastic bowl (or equivalent) of water, then clean the inside of the connector down through the valve with a Q-tip saturated with disinfectant solution. The low vac needs to be unscrewed from the hose and the filter cleaned or replaced and the hose reattached.

j. Clean and disinfect any equipment borrowed from the dispensary by wiping with caviwipes.

PREDOCTORAL ENDODONTIC CLINIC PROCEDURES

Code #	Fee	Procedure	Points
		ADDITIONAL POINTS	
D9430	0	NO FEE EXAM OR CONSULT .	0
D7510	63	INCISE & DRAIN	1.0
D3220	91	THERAPUTIC PULPOTOMY	2.0
D9110	60	EMERGENCY PALLATIVE Tx	1.0
D3110	38	PULP CAP DIRECT	1.0
D9974	107	BLEACHING (complete)	2.0
		ASSIST (2 Hr BLOCKS ONLY)	
3000	N/A	ENDODONTIC ASSIST	Clinic attendance credit
3003	N/A	ENDN 875 CLINIC ORIENTATION (REQUIRED)	Clinic attendance credit
		GRADUATION POINTS COMPLETED RC Tx	
D3310	286	RCT ANTERIOR	6.0
D3320	342	RCT PREMOLAR	8.0
D3330	435	RCT MOLAR	12.0
D3346	286	RETx RCT ANTERIOR	6.0
D3347	342	RETx RCT PREMOLAR	8.0
D3348	435	RETx RCT MOLAR	12.0

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