

## **Radiographic Policy**

\*ALL RADIOGRAPHS ARE TAKEN FOR DIAGNOSTIC PURPOSES ONLY

### Safety Regulations

All Patients having dental radiographs must wear a leaded apron and all operators must wear monitoring badges.

1. A dentist must authorize all radiographic examinations in the clinic.
2. A complete set of periapical and bite-wing radiographs may be taken on any patient provided the patient has not had a complete series taken within the last three years or at the discretion of the authorizing dentist's evaluation of the individual patient.
3. Bite-wing radiographs may be taken every year, unless the authorizing dentist would feel a different frequency was indicated for the particular patient.
4. Retakes must be approved by a faculty member. Individual films should not be retaken provided other films permit a good diagnosis. The student should, however, understand the effort has been less than desired and graded accordingly. When a good diagnosis cannot be made from the student's first effort, the student's effort should be constructively criticized. Suggestions will be made on how to overcome the technical faults noted on the first effort. Should the second attempt also be unacceptable, an instructor will take the last retake with the student observing.

Students questioning the patient should determine:

1. If head and/or neck radiation therapy has been given the patient. Patients having had radiation therapy to the head and/or neck should have their therapist consulted prior to the taking of any radiographs.
2. Whether the patient has recently had a complete series of radiographs and undergone dental treatment.
3. Last date of dental radiographs and type taken.
4. The patient's present dental condition.

All patients should be examined by the authorizing dentist before any taking any radiographs. All radiographs are sent to the dental office requested by the patient with the exception of those radiographs or copies retained and utilized by H. Councill Trenholm State Community College. The patient's record indicates the date, name and address of the dental office where the radiographs were sent.

## **Policies and Procedures for Ionizing Radiation Hygiene and Protection**

### **Selection of patients for Full-Mouth Series of Radiographs:**

Patients selected for full-mouth series of radiographs in Radiology must not have had a full-mouth series of x-rays within the last three years. X-rays will be for diagnostic purposes only, not just to meet the Radiology course requirements.

Full-mouth radiographs will be on adult permanent dentition. Patients must be fourteen years of age to qualify for adult dentition.

A patient history and chart must be completed prior to taking the films and an instructor must give the student permission that the patient is acceptable prior to the student exposing radiographs. The instructor's signature must appear on the patient's chart. Students will be responsible for writing up the chart.

No grade will be given unless the patient chart and health history are completed in its entirety. This includes the radiology health history. The health history must be signed by the patient or the guardian of the patient. A patient waiver, HIPAA and patient's rights form must be signed prior to any treatment or x-rays on a patient.

Following preliminary procedures (health history, etc.) The student will complete the exposure of the surveys within sixty (60) minutes for each survey meeting all of the criteria below.

### **Criteria:**

1. 100% if the time the student will review the medical/dental history and oral inspection prior to treatment at each appointment (or ascertain that this has been accomplished) checking for information. This information will be noted either in writing or verbally and will be acted upon appropriately (i.e., dentist consultant, treatment altered, etc.).
2. 100% of the time the student will assemble all of the armamentarium required for the procedure prior to beginning.
3. 100% of the time throughout the procedure the student will use aseptic technique according to the criteria established in the procedure "Sterilization and Disinfection."
4. The student will physically and psychologically prepare the patient for treatment by seating and positioning him comfortably, placing protective drapes, removing and safely storing such items as glasses and dentures and by explaining the procedure and providing psychological support as needed. (Pass/Fail)

5. The student will follow the instructions of the dentist supervisor or evaluator regarding this procedure. (Pass/Fail)
6. 100% of the time throughout the procedures the student will use techniques which minimize patient discomfort and anxiety during the procedure, such as selecting film size appropriate to patient's mouth size, placing film gently in position without jamming tissue, or sliding across palate, positioning patient comfortable for procedure, etc.
7. 100% of the time throughout the procedure the student will select a radiographic technique which will accommodate the patient's oral conditions, the restriction of the machine and which will provide and meets the criteria for acceptability. (Listed below)
8. 100% of the time the student will turn on the machine and throughout the procedure select the exposure factors desired for the technique prior to the film placement.
9. The student will produce a complete intraoral radiograph survey which meets all of the following criteria with minimal retakes (See Criterion 10e):
  - a. Films are of diagnostically useful density as determined by:  
On an ordinary view box the shadow of a pencil tip placed between areas on a film that do not show calcified structures should be difficult to see.
  - b. Films show diagnostically useful contrast and detail (i.e., a defined difference in density between adjacent areas or tissues, and sharp distinct image).
  - c. Image is accurately reproduced - no distortion (e.g., a change of shape, increase in size).
  - d. Entire film is exposed.
  - e. Interproximal surfaces are clearly visible in at least one projection without excessive separation of buccal and lingual cusps (when anatomically possible). At least 1/8" of crestal bone interproximally must be visible:
    - (1) In the maxilla, the upward curve of the tuberosity is visible.
    - (2) In the mandible at least one (1) inch distal to the up-slop of the ramus is visible.

- g. Apices of all teeth are visible in at least one projection with a least 1/8" of alveolar bone surrounding them.
  - h. All areas of pathology are included.
  - i. The films must be free of processing and handling errors which interferes with diagnostic procedures.
- 10. 100% of the time throughout the procedure the student will practice all principles of radiation safety applicable to the actual exposure of radiographs including:
  - a. Place lead apron on patient.
  - b. Stand in most protected area available during exposure and assure that others are out of exposure area.
  - c. Do not hold film for the patient.
  - d. Use properly stored film of fastest speed available.
  - e. Take the absolute minimum number of films which will provide a survey which meets the criteria, taking no more than five (5) retakes in an adult FMS, (2) retakes in primary films and three (3) retakes in a mixed dentition FMS.
  - f. Use any other procedures available (e.g., film badges).
- 11. The student will evaluate both full mouth surveys taken
  - a. To determine if they meet the above criteria, and
  - b. To indicate ways to improve or modify own technique.
- 12. 100% of the time the student will explain the procedure to the patient at the patient's level of understanding.
- 13. The student will meet all legal and ethical requirements for this for this procedure. (Pass/Fail)
- 14. The student will make 100% complete and accurate chart entries regarding the procedure.
- 15. The student will disinfect the treatment area and sterilize all armamentarium according to OSHA Guidelines. (Pass/Fail)

#### Critical Requirements for Exposing, Processing, Monitoring, and Critiquing Radiographs

##### Exposing:

1. The student assembles appropriate equipment.
2. The student seats the patient correctly for x-ray examination.

3. The student properly handles films for correct processing and operator protection.
4. The student properly processes the films.

#### Processing:

1. The student checks the processing tanks for correct temperature.
2. The student uses proper illumination in the darkroom.
3. The student properly handles films for correct processing and operator protection.
4. The student properly processes the films.

#### Mounting:

1. The student selects the correct mount.
2. The student identifies patient name and date on mount.
3. The student correctly mounts x-rays from the facial.

Criteria for Evaluating Radiographic Film Quality: A complete mouth radiographic survey (or single film) is satisfactory when:

1. The films are of reasonable density when used with conventional viewing devices.
2. The apices of all teeth can be demonstrated.
3. All suspicious areas at the apices of the teeth demonstrate peripheral normal bone.
4. Each interproximal space can be observed at least once without accessing separation of buccal and lingual or palatal cusps. Films must demonstrate the interproximal areas of the teeth without undue distortion and loss of definition.

#### Manual Processing Procedures:

##### A. Preparation

1. Fill rinse compartment with fresh water.
2. Check solution levels.
3. Stir developing and fixing solution with appropriate stirrer.
4. Determine temperature of water and developer (68 degrees F.)
5. Wash hands and clean work area.
6. Select film hanger (s) and label.
7. Select developing time (see chart) and set timer.
8. Put on clean gloves.
9. Close darkroom door, turn on red light, turn on safe light and off white light.

##### B. Processing

1. Gloved, unwrap the film packet, and place x-rays in a clean cup. Remove gloves.
2. Secure film on film hanger.

3. Immerse film slowly in the developing solution and agitate gently 2 or 3 times.
4. Start timer.
5. Discard gloves, cup and wrappings in contaminated waste. Wash hands.
6. Remove film from developing solution at the completion of time, tap lightly on the tank to remove solution.
7. Rinse films and hanger by agitating gently several times in rinse compartment and tap lightly on tank to remove excess water.
8. Slowly immerse films in the fixing solution and agitate gently 2 to 3 times.
9. Set timer for 10 minutes.
10. Remove the film from the fixer solution at the completion of the 10 minutes, tap lightly on tank to remove excess solution.
11. Place film and hanger in wash compartment for 20 minutes.
12. Remove film from wash compartment, tap lightly to remove excess water.
13. Hang film on hanger on drying rack to dry.
14. Disinfect darkroom.