

POLICY ON THE EXPOSURE OF INTRAORAL AND EXTRAORAL DENTAL RADIOGRAPHS

It is the policy of the BCC Dental Hygiene Department to produce radiographs of the best diagnostic quality with minimum radiation exposure to the patient. Implementation of the ALARA Concept will include:

1. Utilize Insight-F Speed Super Polysoft Intraoral film and select film of appropriate size for maximum coverage.
2. Utilize restricted beam of radiation. Rectangular beam for paralleling films and circular beam with 2.75" collimation for bisecting angle bitewings and digital sensors. PID's will be open and lead lined. A sixteen inch (16") focal film distance will be used.
3. Utilize machines which have appropriate safety features:
 - a. Aluminum filter which is 2.5 mm's thick
 - b. 70 KVp 7mA (Gendex Machines) 8mA (Planmeca Machines)
 - c. Electronic Timers (Impulse Timers)
 - d. Stationary exposure buttons
 - e. Exposure lights and beepers
4. Utilize Paralleling Technique for Complete Radiographic Series. Patient bitewing series for DEN 102 will be exposed using the bisecting angle technique, circular beam and sticky tabs. Digital FMS and bitewings will utilize circular beam.
5. Utilize xenolite aprons with thyroid shields. Barrier material is .5 mm's thick.
6. Complete x-ray output test on each x-ray machine every clinic session to assure quality
7. Utilize correct film processing procedures
 - a. Use of automatic processor for patient bitewing series and manual tanks for FMS.
 - b. Darkroom free from light leaks
 - c. Appropriate safe light – GBX₂ filter, 15 watt bulb, 4 feet from work area
 - d. Maintain immaculate darkroom
 - e. Quality control tests with sensitometer for automatic processor and manual tanks when utilizing the darkroom.
 - f. Weekly maintenance of automatic processor, manual tanks changed when daily Quality Assurance Test Films indicate
 - g. Test safelights annually.
8. Impress on the student the importance of the consistently accurate technique to cut down on retakes
9. Digital – utilize intraoral sensor with 16" lead-lined, open, circular beam
10. Digital – utilize digital panoramic images
11. Policy on Thyroid Collar:

At the Broome Community College Dental Hygiene Department Radiographic Lab, dental hygiene students will place the thyroid shield to protect the thyroid gland when intra-oral radiographs are exposed. The thyroid shield will not be placed during extra-oral, panoramic exposures. However, if the supervising dentist determines that placement of the thyroid collar for any radiographs is inappropriate, it will not be placed.

Retakes

Retakes are authorized directly supervised by an instructor
Retakes may be taken only when severely limited diagnostic value is present
Retakes for a full mouth series will be limited to three exposures

Criteria for Retake Films (Film has severely limited diagnostic value)

Bitewing

Overlap past DEJ
Incorrect packet placement (i.e. distal half of canine excluded)
Severe cone cutting, bent film
Severe unequal distribution of arches (crest of alveolar bone not visible)

Severe processing errors
Incorrect film density, contrast
Movement-patient, equipment
Tiretracking
Double Exposure

Periapicals

Overlap past DEJ
Severe cone cut, bent film
Severe image distortion
Incorrect packet placement
Missing apices
Incorrect film density, contrast
Movement-patient, equipment
Tiretracking
Double exposure

***The retake log is filled out by the x-ray assistant or FMS operator for each retake and signed by the instructor.**

Facility Design

All operatories have lead-lined walls which are 1/32" thick and lead impregnated viewing windows

All operatories have barriered maze design to absorb radiation to protect student dental hygienists/faculty from radiation exposure when at the exposure window and in hallway and Prep/Viewing Area

A. Patient Selection for Radiographs

1. Patient selection for radiographs is determined after a thorough radiographic history is obtained. See BCC Radiographic History on page 3 and 4.
2. Guidelines for Selecting Radiographic Patients
 - a. Following are the guidelines from the Center for Devices and Radiological Health (DRH), which BCC Dental Hygiene Faculty and Supervising Dentist will use when selecting the appropriate series for patient categories (see pages 5 and 6).
 - b. Patients who are pregnant or suspect they are pregnant will not have radiographs exposed.
 - c. **FMS may be exposed once every three to five years.**