

## **POLICY ON THE EXPOSURE OF INTRAORAL AND EXTRAORAL DENTAL IMAGES**

It is the policy of the SUNY Broome Dental Hygiene Department to produce radiographs / dental images of the best diagnostic quality with minimum radiation exposure to the patient.

Implementation of the ALARA Concept will include:

1. Utilize photostimulable phosphor plates (PSP) or digital sensor, and select appropriate receptor size for maximum coverage of the area.
2. Utilize restricted beam of radiation. Circular beam with 2.75" collimation for all digital dental images. PIDs will be open and lead lined. A 12" or 16" focal receptor 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), 70 KVp 8mA (Planmeca, Preva Progeny machines)
  - c. Electronic timers (Impulse Timers)
  - d. Stationary remote exposure buttons
  - e. Exposure lights and beepers
4. Digital Full Mouth Series and Bitewing Series with sensor or PSP will utilize paralleling technique with receptor holders and circular PID.
5. Utilize lead aprons with thyroid shields. Barrier material is .3 mm's thick. Inspect monthly for tears, folds and cracks.
6. Complete x-ray output test on each x-ray machine every clinic session to assure quality.
7. Utilize correct PSP (ScanX) scanning procedures; digital image printing procedures.
8. Impress on the student the importance of the consistently accurate technique to minimize the need for retakes.
9. Digital Panoramic – utilize digital panoramic images
10. Policy on Thyroid Collar:

At the SUNY 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 and directly supervised by the supervising dentist and/or clinical 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 Dental Image (Dental Image has severely limited diagnostic value)

#### Bitewing

Overlap past DEJ

Incorrect PSP/sensor placement (i.e. distal half of canine excluded)

Severe cone cutting, bent PSP

Severe unequal distribution of arches (crest of alveolar bone not visible)

Severe scanning errors

Incorrect density, contrast

Movement -- patient, equipment

Double Exposure

#### Periapicals

Overlap past DEJ

Severe cone cut, bent PSP  
Severe image distortion  
Incorrect PSP/sensor placement  
Missing apices  
Incorrect density, contrast  
Movement-patient, equipment  
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

#### Patient Selection for Radiographs / Dental Images

1. Patient selection is determined after completion of Patient Assessment and Radiographic History is obtained. See SUNY Broome Radiographic History on page 3 and 4.
2. Guidelines for Selecting Patients
  - a. Following are the guidelines from the American Dental Association, US Department of Health & Human Services (Public Health Services, Food & Drug Administration) which SUNY Broome 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 and or indicated by the guidelines.**