

# **GUIDELINES AND POLICIES REGARDING THE USE OF IONIZING RADIATION**

The policy of Lawson State Community College Dental Assisting program regarding the use of ionizing radiation follows the American Dental Association, American Association of Dental Schools, and Alabama Department of Public Health, Radiation Safety.

## **INTRODUCTION:**

Radiographic examination(s) must be ordered only after a complete review of the medical, oral and dental histories and following a thorough clinical examination. Diagnostic radiographic examinations provide essential information for diagnosis, treatment and prevention of oral and dental diseases. Diagnostic radiographs are thus an indispensable and integral component of dental practice authorized at the discretion of the dentist to benefit the patient based on specific selection criteria.

The use of x-radiation for diagnostic purposes carries with it the responsibility to ensure that our patients, co-workers and the public-at-large are protected. In simple terms, this means that no one should receive any unnecessary radiation, and that the patient receives only the minimum amount of radiation necessary to obtain required diagnostic information not reasonably available through other safe means. All College members must strive to keep exposure to radiation at ALARA (**A**s **L**ow **A**s **R**easonably **A**chievable) levels.

Radiographs may only be requested by a licensed dental or medical practitioner, and only for conditions that he/she might treat or refer for treatment. No radiographs are to be made solely for administrative or teaching purposes. Guidelines for exposure are posted by each unit, but do not relieve the operator from considering factors that might require change

The purpose of this manual is to limit radiation exposure and ensure the proper and safe utilization of all radiographic equipment in the Dental Assisting Program. It will promote safety awareness of the faculty, staff, and students and benefit the patients by instructing all associated dental personnel in the applicable rules for protection from unnecessary exposure and overexposure to ionizing radiation.

## **RADIATION SAFETY POLICIES & PROCEDURES**

In the interest of safeguarding faculty, staff, students and patients the following policies and procedures have been developed. These policies and procedures must be strictly followed for the safety of everyone.

### **ALL FACULTY, STAFF, AND STUDENTS WHO EXPOSE AND PROCESS RADIOGRAPHS IN THE DENTAL ASSISTING FACILITY MUST:**

1. Read and practice the Safe Operating Procedures
2. Read and follow this Radiation Safety and Instruction Manual
3. Tour and receive instructions for using the LSCC Dental Assisting Program's x-ray facility
4. Verify compliance with all of the above by placing a signature on file.
5. Hold and maintain current CPR certification.

### **CHANGE IN MEDICAL CONDITIONS(S)**

Clinicals are an integral part of your learning experience. Therefore, the importance in attending clinicals is very important. If you have a change in your medical condition since acceptance into the program (for example, pregnancy, infectious disease, interference with mobility, emotional instability, etc.), we need to make sure it is medically safe for you to return to clinicals.

**Before returning to clinicals, you will be required to submit a letter from your physician/healthcare provider stating no limitations (the letter must be on the healthcare provider's letterhead) AND a signed copy of the Essential Functions/Eligibility Criteria document from your physician to both the program director and the clinical practice supervisor.**

*Further details in Dental Assisting Student Handbook*

## **ALARA Policy:**

Exposure to the patient and operator can be kept to a minimum by keeping the exposures “As Low As Reasonably Achievable” (ALARA) using the following Safe Operating Procedures:

## **Safe Operating Procedures (SOP):**

1. Study the standards and the program’s safe operating procedures prior to initially operating the x-ray machine.
2. Use digital sensors or the fastest film speed available.
3. Use proper filtration (2.5mm when over 70kVp)
4. Use proper collimation for small beam size
5. Use only open-ended, lead lined position indicating device (PID)
6. Use the long position indicating device when possible
7. Use a film holder (no human finger)
8. Pregnant Patient - No radiographs will be exposed on a pregnant patient or one suspicious of being pregnant unless those radiographs are deemed absolutely necessary for emergency treatment.
9. In every case, final determination for prescribing radiographs is by the authority of a licensed dentist and is based on the patient’s needs.
10. Lead Apron Use - Shielding is required for all intraoral exposures on all patients regardless of age or number of exposures. The thyroid collar must also be used. Since lead is a very soft metal, care should be taken when handling and storing lead aprons. Avoid bending, creasing or folding these shields. Aprons must be hung and inspected on a routine basis for cracks.
11. During each exposure, the individual operating the x-ray machine will stand at least six feet from the patient, outside of the enclosed radiology room. Only the patient will be in the useful beam. When exposing radiographs in the Dental Clinic, the operator must exit the radiography operatory. The exposure switch location for all x-ray equipment prohibits activation inside the room.
12. Dead Man Switch – The dead man switch is located outside the radiology room on the wall. The switch is designed to be on only when pressed by the operator. If the switch is not being pressed, the equipment is on standby and not generating x-rays.
13. Each individual operating the x-ray machine will read for themselves and be instructed in the applicable provision of the Alabama Public Health Dental Radiation Safety Procedures.
14. Exposure of a student’s ‘real ‘patients will be performed only under the direct supervision of a licensed dentist. Exposures on a manikin may be under direct supervision of a licensed dental health professional.
15. The American Dental Association (ADA) Guidelines will be followed regarding exposure of radiographs on patients (after review of the current medical and dental history). In all cases, final determination for radiographs will be based on individual patient needs and the principles of ALARA.
16. An exposure technique chart and additional notices are posted in each radiography room.

17. In the case of an unusual event, the program director and radiation protection supervisor should be notified immediately. These same individuals should be notified in an employee or student has questions concerning these policies.

### **Alabama Department of Public Health Radiation Safety Procedures for Use Of x-rays in a Dental Practice**

1. No x-ray exposure will be permitted of any patient unless ordered directly or verbally by a practitioner of the dental arts. Routine standing orders are acceptable if approved by the practitioner.
2. The clinician shall position the x-ray tube and the patient so that the x-ray beam will not be pointed at the clinician when the exposure is being made.
3. The clinician will stand behind a protective barrier or a minimum of six feet away from the patient when any x-ray exposure is being made.
4. No clinician shall hold a film in the patient's mouth, or the x-ray tube during any x-ray exposure.
5. Patients will be shielded with a lead apron whenever possible during x-ray exposures.
6. No one other than the patient, shall be allowed in the room during x-ray exposures.
7. All x-ray films will be processed either manually by the time temperature method or in a properly maintained automatic processor.
8. All darkrooms will be lightproof and if safelights are present, they must emit light only in the wavelengths that the films used are not sensitive to.
9. The dentist shall be informed of any pregnant patients that x-ray examinations are ordered on. At this point the dentist will decide if the x-ray examination will be performed, modified, delayed, or cancelled.