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UC San Diego Policy Statement  
Use of Fluoroscopic Equipment

This Policy is to be included in the UCSD Radiation Safety Manual, Section 3: Medical Use of Radioactivity, as 3.10 "Use of Fluoroscopic Equipment."

Scope

This policy applies to all individuals who operate fluoroscopic equipment.

Definitions

1. Fluoroscopy means a radiological examination utilizing fluorescence for the observation of a transient image.
2. Direct Supervision means the supervising physician is physically present in the same room and is able to observe, and correct as needed, the individual who is performing the procedure.
3. General Supervision means the supervising physician is physically present at the procedure facility, and is immediately available either in-person or by telephonic/electronic modalities to provide guidance during the procedure.
4. Oversight means the supervising physician is available to review procedures and provide feedback after the procedure has been performed.

Required Licenses, Certificates, and Permits

1. Physicians
  - a. A current and valid Radiology Supervisor and Operator certificate or Fluoroscopy Supervisor and Operator permit (both called SupOp) shall be required of any physician who does one or more of the following:
    - i. Actuates or energizes fluoroscopy equipment;
    - ii. Directly controls radiation exposure to the patient during fluoroscopy procedures (e.g. determines when the administration of radiation to the patient is appropriate, directs the operation of the fluoroscopy equipment, determines the appropriate exposure factors);
    - iii. Supervises the use of fluoroscopy by one or more persons who hold Radiologic Technology Fluoroscopy permits (CRT-F);
    - iv. Supervises the use of fluoroscopy by individuals (i.e. residents and fellows) under an approved medical training program.
  - b. Physicians of equal stature may participate in a procedure as a collaborative activity; however, the individual(s) directing the use of fluoroscopy during the procedure shall possess a valid SupOp.
2. Residents and Fellows without a SupOp
  - a. Individuals in a medical training program may use fluoroscopy on human beings prior to obtaining a valid SupOp, provided the following:
    - i. Individuals in a training program shall have fluoroscopy privileges as defined by a written training program;
    - ii. The training program shall include, for each procedure, a written description of the required competencies and level of supervision necessary for the individual to operate x-ray equipment in a fluoroscopy mode;

- iii. The successful completion of competencies shall be documented, and available for inspection, prior to the use of fluoroscopy by the individual.
- iv. Unless otherwise documented in writing, all procedures conducted by a trainee shall be under Direct Supervision.
- v. Regardless of i-iv, no individual using fluoroscopy shall direct a CRT-F unless said individual possesses a valid Sup/Op.

### 3. Technologists

- a. A current and valid Radiologic Technology Fluoroscopy (CRT-F) permit shall be required of any certified radiologic technologist who does one or more of the following:
  - i. Exposes patients to x-rays in a fluoroscopy mode
  - ii. Positions the patient
  - iii. Positions the fluoroscopy equipment
  - iv. Selects exposure factors (e.g. mA, kVp, exposure time)

#### Weekly Fluoroscopic Output Monitoring

1. Non-certified, non-permitted personnel may operate x-ray equipment in a fluoroscopy mode, solely for the purposes of weekly fluoroscopic output (i.e. tube current and potential) monitoring, provided the following:
  - a. The person performing the monitoring has received appropriate training prior to operation of the fluoroscope. Training shall include hands-on instruction using the same make/model of fluoroscope that will be monitored. The individual performing the testing must be familiar with the equipment used, operating and emergency procedures, and documentation requirements. This training shall be documented and records must be readily available for inspection.
  - b. Only the phantom is exposed to the useful beam of the fluoroscope; human exposure is not allowed.
  - c. If monitoring results indicate that the tube current or potential vary in such a way that could increase the patient radiation exposure rate by more than 25% from the most recent annual exposure rate measurement, the person performing the monitoring will promptly notify all operators of the fluoroscope and the medical physicist, or designee, responsible for the annual exposure rate measurement as appropriate.
  - d. Personal dosimetry is available and worn as indicated.
  - e. The individual responsible for the fluoroscopy equipment retains all responsibility for ensuring that testing is performed correctly.

#### Supervision

1. Residents and Fellows without a SupOp
  - a. Individuals in a medical training program shall only operate x-ray equipment in a fluoroscopy mode under the supervision of a physician who possesses a valid SupOp.
  - b. The required level of supervision, as listed below, shall be determined by the program director and faculty members and included as part of the written training program description.
    - i. Direct Supervision
    - ii. General Supervision
    - iii. Oversight
  - c. Faculty supervision assignments should be of sufficient duration to assess the knowledge and skills of each resident/fellow and delegate to him/her the appropriate level of patient care authority and responsibility. Written documentation of supervising faculty assessment and review of resident/fellow performance and competency to perform specified fluoroscopic procedures shall be maintained by the training program director, and made available for inspection, prior to use of x-ray equipment in a fluoroscopy mode.
  - d. Absent a written description of the required level of supervision in the training program, and absent written documentation of the resident's competency to perform a specific procedure, residents and fellows shall only operate x-ray equipment in a fluoroscopy mode under Direct Supervision.
  - e. Residents and fellows without a valid SupOp shall not supervise the use of fluoroscopy by a CRT-F.

### 2. Technologists

- a. Certified radiologic technologists with a fluoroscopy endorsement (CRT-F) shall not operate x-ray equipment in a fluoroscopy mode except under the Direct Supervision of a physician who possesses a valid SupOp. Prior to the initiation of each fluoroscopic exposure by a CRT-F, the supervising physician with a valid SupOp shall be responsible for reviewing the set-up, making any necessary adjustments to the patient or equipment, and confirming exposure factors.
  - i. Exception: The CRT-F may use fluoroscopy under the General Supervision of a physician who possesses a valid SupOp only if performing a standardized procedure or protocol (e.g. barium swallow) for which there is a documented procedure available, and in which case, no deviation is permitted.
- b. The CRT-F shall be directly supervised by a physician with a valid SupOp for the length of the fluoroscopic procedure, which is defined as beginning with the initiating exposure in a fluoroscopy mode and ending with any one of the following: the final exposure in a fluoroscopy mode, or the CRT-F leaving the procedure room, or the fluoroscopic equipment leaving the procedure room.

#### Radiation Safety

1. Only individuals required for the fluoroscopic procedure shall be in the room during the exposure; individuals shall wear aprons of at least 0.25 mm lead equivalent or stand behind a leaded shield during the procedure. Thyroid shields and leaded glasses are strongly recommended for individuals working within a few feet of the fluoroscope.
2. A whole body dosimeter shall be worn by all individuals operating x-ray equipment in a fluoroscopy mode. The dosimeter shall be worn on the collar, outside of the lead apron.
3. No individual shall be permitted to hold patients during fluoroscopy, except during emergencies, nor shall any individual be regularly used for this service.
4. The fluoroscopic field shall be restricted to the area of interest.
5. Fluoroscopic units shall be secured to prevent unauthorized use.