Radiation Safety Requirement for Persons Using Radiation-Producing Machines

SafetyNet #: 78

Those authorized by the State of California to operate diagnostic radiation-producing machines are required to comply with the following list of regulatory standards and good health physics practices. All occupationally exposed workers should make every effort to maintain their radiation exposure As Low As Reasonably Achievable (ALARA).

The following procedures should be followed:

- Always be aware of the location of your hands with respect to the x-ray beam. Never place your hands in the useful beam.
- An x-ray worker should not hold a patient or a film except in an emergency [Section 30308(b)(1)*].
- The operator is responsible for clearing the x-ray room of non-essential people before generating x-rays [Section 30308(b)(2)*].
- Keep dosimeters dry, contamination-free, and away from sources of extreme heat.
- The operator of a mobile unit should stand at least six feet from the patient and well away from the useful beam [Section 30309(a)(2)*].

Whole body dosimeters should be worn as follows:

- Single-badge workers - on the collar, outside lead apron
- Double-badged workers - on the collar, outside lead apron and at the waist, under lead apron
- If you are issued a finger ring dosimeter, wear it on the hand most likely to receive the highest dose.
- Wear your assigned dosimeter (film badge or TLD) any time you work with or near radiation-producing machines [Section 30305-9)* and 10 CFR 20.1201]. It is a good idea to wear your dosimeter throughout the workday. Do not take it home since that will increase the chances of misplacing it or throwing it in the laundry.
- If your dosimeter is exposed to heat, radiation, becomes contaminated with radioactive
materials, or is exposed to a radiopharmaceutical that your physician prescribed such as for a nuclear medicine scan, inform the Office of Environmental Health and Safety (EH&S) or UC Davis Health (UCDH) Health Physics as soon as possible.

- To expedite the reporting process, exchange dosimeters during the first week of each exchange period. It is very important to turn in your dosimeter promptly so exposure levels can be assessed and problems can be identified. Contact your department's dosimetry coordinator or EH&S for additional information.
- A dosimeter that is lost or returned damaged will result in a dose estimate being made and added to the worker's exposure record.
- If you work with radiation sources outside of UC Davis, be sure to contact EH&S or UCDH Health Physics so a total exposure dose for the year can be tracked.

**Contact**

**Research Safety**
researchsafety@ucdavis.edu 530-752-1493
FAX: 530-752-4527

**More information**